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NMU-IMEC MARITIME EDUCATION & TRAINING CONFERENCE

Orkney Isles, 29-31 May 2008

CONFERENCE SYNTHESIS

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INTRODUCTION

This paper offers a brief summary of many of the main points considered by the experts making presentations at the conference. For a more complete understanding of the complex issues surrounding the subject of maritime education and training we would refer you to the written papers and presentations provided by speakers.

Deputy Convener Councillor James Stockan officially opened the conference and welcomed delegates on behalf of Orkney Islands Council. He reminded delegates that even the small Orcadian island of Graemesay at one time produced 50 sea captains from a total population of just a few hundred people. Generations of Orcadians had taken to the seas giving the islands a significant planetary influence. The important relationship between islands with the sea all around them surely played a major part in such developments.

POLICY ASPECTS OF MARITIME EDUCATION & TRAINING

First keynote speaker **Mr. Emilio Martin-Bauza** of the **European Commission's EMSA (European Maritime Safety Agency)** based in Lisbon stated that over the years shipping had become safer, with fewer incidents, less spills and a reduction in ship losses, as well as lower ship detentions. But he raised the question of what will happen as a result of the ongoing global shipping boom? Recent data raises more cause for concern, with 760 vessel accidents in EU waters during 2007, which is as high as 1980 levels. Other concerns relate to the fall in EU seafarers, and an ageing workforce throughout the maritime industry. He also referred to EMSA's role in inspection of states' education and training compliance and initiatives to improve maritime safety.

Second keynote speaker **Mr. Milhar Fuazudeen** of the **International Maritime Organisation (IMO)** began by reminding delegates of the biggest challenge faced by the industry, which is to decrease the possibility of human error as much as possible. One mechanism employed to help achieve this is via the STCW convention revisions. The comprehensive review of STCW begun in January 2008 is expected to be completed by 2010, with introduction of amendments in 2012. Mr Fuazudeen asserted the need for improved leadership skills at all crew levels as well as with shore-based staff. He disclosed that studies for IMO showed that out of 70 issues considered by seafarers, being away from the family was regarded as the number one worst aspect of the job. This issue would need to be addressed if the shortage of seafarers is to be overcome. He concluded by suggesting that effective needs-based training is at the core of safety, and that this should also reflect the increase in the number of more sophisticated ships constantly entering service.



Dr. Jan Hoffmann of the United Nations (UNCTAD) based in Geneva reminded delegates that cargo (and hence trade) moves much faster through ports in developing countries than in less developed countries. More trade leads to and reflects the need for more investment in ports and logistics infrastructure and training. WTO data suggested two of the largest trades by volume were actually intra-Asia and intra-Europe cargo flows. A key trend has been the rising proportion of transport costs as a percentage of total logistics expense. Dr. Hoffmann reminded delegates of the importance of sea transport, with 90% of global trade flows by volume moving by sea, and 70% by value. Indeed, the maritime share of global trade has actually increased over the last seven years. Total costs associated with the global sea transport sector amount to some \$800 billion per annum. As demand continues to boom, the forecast is an upward trend for trade flows and related logistics activities, implying the maritime industry can expect to become even busier in future, therefore placing added pressure on human resource capacity and the need for adequate recruitment, training and education.

Over the past 20 years Ireland has come from being one of the poorest nations in Europe to one of the richest. The **Irish Marine development Organisation (IMDO)** has played a key role in this transformation, according to **Mel Krishnan**. The IMDO is a development agency with a focus on developing new shipping services, attracting foreign direct investment, promoting transnational projects, industrial development, and related logistics services. A comprehensive maritime strategy has been developed which benefits from Ireland's low corporate taxation and lower social costs for seafarers. A key pillar of IMDO strategy is Ireland's major investment of €51.3 million in the new National Maritime College in Galway, in addition to state grants for seafarer education, training and cadetships. The IMDO also has a legislative and regulatory role.

A key question raised by Mr. Krishnan concerned how we can make the seafarers career more attractive? The choice seems to be either to spend 3 months at sea or to take a comparatively well paid job in IT or the financial sector and go home each evening. While there is now a surge of new tonnage coming into the market, it is being met by a worsening seafarer shortage. The recent rise in the number of shipping accidents is a worrying trend. One solution to the recruitment crisis may be study loans being awarded to employees, but this has to be tied to loyalty to any employer making such a loan. Another barrier to recruitment however seems to be that seafarers are assumed to 'see the world', which seems attractive, but quite often the reality is that there is no shore leave, plus far higher levels of on-board paperwork and frequent visits in port by regulators etc makes port time rather more hectic than ever.

EUROPEAN MARITIME EDUCATION INITIATIVES

Promoting short sea shipping is the role of the **EC Marco Polo funded European School of Short Sea Shipping**. **Claire Marie Poncet** from lead partner the Port of Barcelona explained the role of the school and its activities, and where learning is concentrated on board large ropax ferries operating from the Spanish port to Genoa and Rome. The school's main emphasis is educating on the subject of 'Motorways of the Sea' (MoS) in line with the EU policy to shift more goods from road to sea transport. Funding for the school was awarded by the EC's Marco Polo programme as a Common Learning Action. Courses contain a well structured mix of lectures, workshops and case studies using lecturers from the shipping and ports sectors as well as from government and academic institutions. Claire Marie explained that the next phase of activity is expected to see the school developing a new Marco Polo project titled GLAD which has an emphasis on co-modality, with some lectures held on a specially designed train as well as further lectures on board the ships.

Another major recent education initiative is the highly innovative **Northern Maritime University (NMU)**, a concept originally developed by **Professor Thomas Pawlik** of **University of Applied Sciences Kiel**, himself a former Hapag Lloyd employee. Funded by



the EC Interreg IVB Programme, the NMU project is led by Edinburgh's Napier University TRi and includes partners from several major Northern European universities who already teach and research on maritime transport. Professor Thomas Pawlik (Kiel University) and **Gordon Wilmsmeier (Napier University)** explained that the NMU was about joining resources to benefit the maritime community. The NMU concept is soon to be extended from the North Sea Region to the Baltic Sea Region through a further application to Interreg, with scope for further extension to the Atlantic Arc region. The aim of the NMU is to develop ideas, to create a joint curriculum, and hence a virtual university delivering courses to undergraduates, postgraduates, and industry. A further aim will be to influence policymakers in highlighting the significance of the work of the NMU for the Community as a whole.

Developing a new Masters course is inevitably a major challenge, and more so when the course is a joint one run by two different institutions. This was the challenge faced by **Professor Kevin Cullinane of Napier University TRi** and his colleagues in designing an MSc Maritime Transport & Logistics course together with Heriot-Watt University. This collaborative Masters course is aimed at helping to meet rising international demand for postgraduate students, particularly from Asia and Mid East markets, in addition to Europe. Important issues to consider related to the opportunity for undergraduates to progress to the new MSc course as well as the potential for industry applicants to apply. The MSc will involve very strong linkages with industry and is to be lectured in Edinburgh by several internationally well known academics. Key challenges to overcome during the development stage included different credit rating systems of each of the partner institutions, issues to do with block mode teaching, and accreditation to professional bodies such as CILT and CIS. The MSc Maritime Transport & Logistics is initially being marketed through Heriot-Watt University and commences in September 2008.

Gareth Davies of Aquatera and Dr. Sandy Kerr of Heriot-Watt University introduced the **IMEC Project** which is funded by the EU Leonardo da Vinci Programme and led by Ramboll Storvik in Kirkenes, Norway. IMEC is tasked with developing a new International Marine Environment Certificate for the shipping and ports industry. The certificate aims to explain reasons (to students) why they should not pollute using accessible teaching material based around five modules. The modules cover all areas of maritime activity based on exploration and testing of key categories, issues and sub issues. The testing uses visual display web-based action points to identify that the person being tested is correctly receiving the point of the message. Test development was carried out by IT firm Datakortet who have extensive experience of online driving test examinations, with tests carried out in a controlled environment, and with results given directly to candidates upon completion of the test.

The question and answer session considered a range of issues such as the need to change the way the shipping industry is promoted in order to attract new entrants. On shorter sea transport routes it was suggested that more options need to be explored to see if seafarers could actually return home in the evenings, and this may be possible on for example shorter ferry routes (e.g. Western Isles ferry services).

EDUCATION & TRAINING IN SHIPPING AND PORTS

The ongoing revolution in cargo handling in seaports and the human resource implications of this was an issue explored by **Raiga Flodman of HHLA in Hamburg**. HHLA employs more than 4,500 staff and take on over 100 new trainees each year. The in-service training programme for gantry crane drivers was explained. Automation is used as much as possible but automation cannot offset the movement of ships during loading so gantry cranes still have to be manually operated. HHLA has its own crane simulator which allows trainees to develop their skills on different ship types and sizes as well as during different weather conditions. Gantry crane training is undertaken over a period of 25 weeks, of which 8 weeks are on the simulator and 17 weeks on a real crane, the latter always with an experienced operator in attendance. HHLA offers trainees a wide range of job types in logistics, IT, crane operations, and engineering. Entrants are normally graduate level and must have at least two



languages, German and English. Raiga Flodman concluded by referring to the anticipated shortage of labour in future due to demographic changes and the challenges this will bring for the ports and shipping industry.

The specific requirements of those filling Pilot positions were an aspect addressed by **Capt. John Evensen** of the **Norwegian Coastal Administration**. It was stressed that ship size does matter in navigation and that an effective VTS operator needs to have a 'captain's view' implying a pilot must have high level seagoing experience to undertake the job properly. To operate a VTS the operator must have 'a feeling of being on board ship' and for this, seagoing experience is vital. In Norway the number of pilot job applications has fallen by half since 2004. The Coastal Administration has sought to improve employment conditions in order to increase the number of applicants. Incentives used include free journeys home, and also family visits to wherever the employee is working. Other incentives used include free housing for staff, making the job more innovative/interesting (e.g. by allowing employees to attend industry conferences etc), and providing local education. Capt. Evensen concluded by stating that there is now a need to adopt a 'family profile' towards retaining and recruiting staff and that the added cost of recruitment and training was a price well worth paying, considering the very substantial consequences of shipping accidents.

Significant emphasis is placed on IMO rules on communication between seafarers and VTS operators. Reference was made to the example where a Chinese cook in a local restaurant at Milford Haven had to be urgently drafted in to translate with the master of a powerful tug during the Sea Empress grounding and subsequent spillage. Jose (Pepe) Diaz of the Jovellanos Maritime Safety Centre in Gijon explained his role in teaching SMCP via VTS simulator. The aim here is to help seafarers develop a specific form of communication and to ensure avoidance of misunderstandings in line with IMO recommendations.

It is now a major challenge for port operators to find employees with a Masters certificate, according to **Caroline Baumgartner** of Hamburg's **Maritime Kompetenzzentrum (Ma-Co)**. Ma-Co has its main focus on port-based activities including ship loading and planning. Success is due to teamwork in most cases but there is also a need to ensure support for more horizontal career move opportunities and life-long learning. Ma-Co applies its six modules to this task and these are: terminal operations; cargo/commodities; ship planning; ship types; on-the-job training; and English language; plus a final paper/exam. Ma-Co's approach therefore involves a 'coming together' of learning and working to give the employee the right skills. In 'learning by doing', problems tend to be grasped better by employees. Ma-Co has developed a 'monster' modular database to cover all its training needs. 'Competence' is defined by Ma-Co as including three essential ingredients – knowledge, skills, and proficiency. Caroline concluded by noting that a rapidly expanding world fleet and rising cargo flows in port meant ever increasing demand for more competent ship planners.

SHIP MANAGEMENT TRAINING & EDUCATION

The role of specialist ship management firms has also rapidly expanded as the boom in shipping continues. **V.Ships** of Glasgow now employs over 24,000 seafarers providing services on over 900 ships worldwide, and the company operates 14 training centres, according to **Training Director Martin Burley**. The greatest threat to any firm in this business however is its reputation. Training must therefore be of the highest priority and standards to ensure the company's reputation is maintained at the highest level. The global seafarer shortage is now a 'crisis', according to V.Ships. In addition, there is a fundamental need for clean and compliant ship operations, not least because of the massive costs involved for illegal discharges.

Julia Salton explained the in-house training programme developed by **Northern Marine Management–Stena**, also based in Glasgow. Currently the firm has 144 cadets, of which 50% are trained in Chennai, India and the remainder in Glasgow. These cadets are being trained on a wide range of different ship types as part of the HND in Nautical Studies. The company has experience in setting up various courses with effective career development in



mind. NMM-Stena stressed its strong brand image and the strength of their in-place global training programme. However, again the seafarer shortage is a major factor as there are still not sufficient recruits to meet global demand for seafarers.

Maritime safety is obviously vitally important in the context of the 400 vessels (excluding ferry movements) transiting the Dover Strait each day, as it is for the large numbers of ships entering and leaving major ports throughout the North Sea Region. **The MARTINS project**, also funded by the EC Interreg Programme, aimed to raise awareness of maritime transport as well as help further improve safety aspects. According to project partners **Jef Hostyn and Patrick Naeyaert** of Belgian government employment agency VDAB, the MARTINS partners have developed a series of 10 new safety course/modules via a transnational consortium of expert partners. These modules are now widely applied throughout the industry.

SUMMARY

The conference highlighted a wide range of innovative educational and training initiatives currently on offer in the maritime industry throughout Europe. These included in-house private company initiatives as well as major EU-funded transnational collaborative projects aimed at developing new courses and involving a wide range of educational institutions and industry partners.

The role of government was recognised as being vitally important in providing more adequate levels of state support for maritime education & training to better reflect the worldwide boom in shipping activity, with the state working in partnership with private actors and educational institutions to ensure effective delivery. The worsening shortage of seafarers and the lack of shore-based staff with the right skills and experience is nevertheless an area of considerable concern. These shortages will need to be adequately addressed as the anticipated expansion in world seaborne trade could be constrained due to labour shortages on ships as well as shortages within seaports and associated logistic activities, also resulting in safety implications.

The dramatic growth in trade by sea and the safe effective integration of sea transport into global supply chains means more people with the right skills are required both at sea and on land. Governments' cannot ignore this challenge as the adverse effects (of any acute labour/skills shortages) would mean both a loss of economic competitiveness as well as the possibility of having potentially significant implications in terms of safety.