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21ST CENTURY SHIPPING – HOW WILL THE INDUSTRY EVOLVE?

➔ The maritime industry faces a decade of rapid and comprehensive change in trade, vessels, crewing and many other areas, according to speakers at The Nautical Institute's London Branch seminar in Bristol last month.

The detail of what form that change will take is not clear, although participants in the two-day meeting, drawn from all sectors of the industry, came away with the message that they will have to manage it.

Delegates, who included 20 cadets from Warsash and Fleetwood, were positive about the future of the industry as they heard of fleets increasing in numbers and ship sizes growing. This was particularly the case with the younger generation, who obviously relished the chance to join in a major debate on the issues and get their voice heard.

Opening a conference with a look at the scale of growth the industry faces, Captain Robert Hone MNI, Chairman of the Institute's SW England Branch, emphasised the industry expansion taking place in China. The country now has 71 marine colleges and other maritime training institutes – up from 20 in 2000. In 2012 over 28,000 cadets were enrolled and nearly 58,000 certificates of COC, both coastal and international, were issued.

In all, nearly 400,000 international and 150,000 coastal seafarers were now registered in China. Of these, some 40% expect to work abroad for foreign shipping companies, said Captain Hone. Trainers there acknowledge that the biggest problems they face are delivery of quality training, examinations and assessment.

Mentoring

One solution to help with the new intake of seafarers was indicated by Capt. Kevin Slade FNI, Director Stena/Northern Marine Management – mentoring. He described mentoring as 'supporting and encouraging people to manage their own learning in order that they may maximise their potential'.

Praising the Institute's book *Mentoring at Sea* by André Le Goubin as an 'excellent book' he said there was an increased need for mentoring, as the entire industry is built on the transfer of experiential skills. This is increasingly important in times of rapid promotion and decreasing sea time requirements: 'The lack of sea time cannot be over-stated; it makes the need for mentoring even more necessary. A cadet cannot afford to have a bad trip where learning is not properly supported – time is ever more precious.'

Companies had a responsibility to encourage mentoring by establishing a structure that allows mentoring to take place as a matter of course, he

said. An important change would be to identify 'key' mentoring periods where the practice was most needed – such as just before the promotion to third mate – and concentrate resources there.

Wider industry mentoring, such as that provided by The Nautical Institute and its branches, was key. However, it was not a one-way practice and he urged those in training to question what they are being taught if they do not understand.

Likewise, there is also a considerable benefit for the mentor, who is encouraged to sift through and reflect on their own experience in order to pass on their knowledge. The company's own experience has been that 'upward mentoring has dramatically improved our safety rates on board,' he said.

There was wide support from delegates for the extension of mentoring in the industry, although one cadet pointed out that more support needs to be given to potential mentors, who may not always be familiar with the task and what is involved. 'In the case of my second training officer, we had to tell him what to do.'

IT and communications

The maritime industry was urged to 'embrace' IT and use it by Filip Vanheer of Orange Business Services. Crews will benefit as calls to and from vessels get cheaper and the benefit to management of vessels include increasing use of digital updates for ECDIS and other systems.

He said containers could be monitored by RFID so if cargoes were misdeclared the ship would know immediately. 'The shipping industry is keeping the IT industry at bay,' he said. 'It is the wrong approach not to invest in crews as you face higher costs if the retention rate is low and you face more operational risks.'

In addition, better communications would improve business processes, making it possible to operate more efficiently, and more cheaply, than at present. In order to do so, however, the shipping industry will have to completely rethink its attitude, he said. 'We have to move away from looking at communications as a cost and look at it as an investment.'

Making the transition

'Regular shore postings to promote ship to shore understanding would help those who made the transition from working on vessels to working ashore,' said Ian MacLean MNI, of Hill Dickinson.

He said that mentoring was as important ashore as it was at sea. It is vital that the industry identifies talent at an early stage and takes steps to promote it; for example by making sure that seafarers also get experience of shore roles. This has the added benefit of promoting better ship/shore understanding.

Long-term thinking

Ivy Fang of Lloyd's Register strategic research group gave a report on the organisation's major research into the future of the shipping industry, which concentrated on three core scenarios:

- Continuation of the status quo, which would mean an increasing demand for offshore investment, as demand for fossil fuels continues to rise;
- Greater global cooperation; meaning accelerated globalisation, increased trade and more call for shipping;
- Increase of protectionism; requirement for international shipping reduced.

The likely outcome is a combination of elements from all three scenarios; which are intended to help companies stress test their future business models, rather than provide concrete predictions she said.

Regardless of which scenario prevails, ship sizes – and fleet capacity – will continue to increase in all sectors, while regulation will only become stricter.

Some of the greatest interest from delegates was in the presentation from Diane Gilpin, Managing Director of the B9 Energy Group.

The company is developing square rig sails to use on feeder cargo vessels – which she estimates at 25% of the total fleet – against the background of increased consumption that is feeding shipping demand and uncertainties around fuel price and availability.

Under test conditions Ms Gilpin estimated a 50% reduction in fuel use against a comparable vessel on the same route. For the time the vessel was powered it would use methane for fuel. Return on capital would be achieved in five to six years. Crew costs were uncertain as it was not yet known how many would be needed.

Systems for loading and discharging cargoes needed to be developed. Still she hoped a ship would be built for the renewable sector in the 'next few years.'



It was encouraging to hear the emphasis Gilpin placed on the need for crew input in the design process before any model can be considered feasible. 'If we're going to introduce change, all players must have buy in. Crews and captains need to be engaged at an early stage if we're to create solutions that are going to work,' she said.

Navigation and positioning

Following an excellent dinner and challenging and entertaining speech from Adm Sir Mark Stanhope FNI, the former First Sea Lord, the conference resumed on Saturday morning with a look ahead to changes that will take place in positioning over the next 20 years – many of which are already in evidence. Professor Andy Norris FNI predicted the main source would be multi-system GNSS receivers, with at least two separate multi-system receivers being fitted to every ship.

These will have automatic comparison and jamming/interference detection. He added that satellite-based augmentation systems will inevitably become available over a wider area and will probably become favoured for maritime use. He expects the jamming of GNSS by individuals to become a major crime if it ever truly threatens maritime and aircraft safety.

And he said there would be some regional uptake of eLoran, which he described as 'a good solution,' but added that it would need multi-government funding and good regional cooperation to bring in. The real change, however, will be the introduction of inertial systems based on accelerometers, which are unjammable.

AIS will become the main collision avoidance tool – as it already is for aircraft – with radar used mainly to identify other hazards. 'Radar currently meets our expectations, but not our needs,' he said. 'Existing technology can do an awful lot better than it does – and can now do it affordably.'

Automation at sea

Expanding on the NI's research on mariner's reactions to the prospect of unmanned vessels, (*Seaways*, July 2013) David Patraiko FNI, Director of Projects for The Nautical Institute, pointed out the many duties performed by crews including cargo care, commercial management, maintenance and engineering.

Seafarers are on the whole resigned to greater automation in some measure, but cynical about the extent to which this would be possible bearing in mind the poor investment and implementation of technology within the industry in the past.

However, the value of humans lies above all in their rapid adaptation to new situations, and the need for this will not go away. The role of the seafarer may change, but there will never be a time when humans will not have to be involved in the safe and efficient control and operation of ships.



ACCSEAS

A call for seafarers to get involved in a major navigation project was made by George Shaw of the General Lighthouse Authorities of UK and Ireland. Referring to the ACCSEAS project in the North Sea, he said there were two free seminars scheduled and he appealed for serving seafarers or their representatives to attend and let their voices be heard.

He said the ACCSEAS project, EU lead for the North Sea region, was looking at the implications of the larger vessels being built – pointing out that 20,000 teu ships were being designed. 'There are more ships and bigger ships all confined in congested areas and eNavigation has to provide some answers,' he said.

The project aimed at developing an eNavigation sustainability plan from 2015 to 2020. It was evaluating technology and human factors, including training needs, and hoped to set out a path for the future coordination of North Sea eNavigation.

He urged people to attend the workshops and annual ACCSEAS conference in Edinburgh from 4 to 6 March 2014.

Summing up

Capt Kuba Szymanski FNI, Secretary General of InterManager, summed up by saying: 'There are lots of challenges and few answers, but mariners are going to have to cope with that.'

Summing up for the cadets, a representative said that he had attended the conference after only eight weeks at Warsash, so he felt 'completely new.' He said he was interested in the B9 project presentation which looked at the use of sail on cargo vessels of the future. On the other hand, he expressed 'apprehension' about the prospects for unmanned vessels.

Conference chairman Capt Mike Barritt FNI said that many of the older generation had been cynical about the prospects of using sail for commercial trades, but urged delegates to think again commenting: 'It is capturing the imagination of the next generation.'

He noted the 'tremendous enthusiasm' generated by delegates in contrast to other conferences, despite the challenges professional mariners face. He said the meeting demonstrated there were 'plenty of opportunities and room for cross-fertilisation between shore management and ships.'

He added that he hoped proceedings would help to reduce the 'them and us attitude' in the industry and go some way to improve things. He urged those in the industry to 'do what we can to educate the wider world about how important the industry is and get out there to schools to bring in the next generation.'

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