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NAUTILUS
Federation
A Federation of Maritime Professionals

the global seafarer

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Alarm after rig grounds

A major salvage operation got under way last month after a semi-submersible rig ran aground off the west coast of Scotland.

The Marshall Islands-flagged Transocean Winner grounded on the Isle of Lewis after losing its connection to a Dutch support vessel.

The Maritime & Coastguard Agency (MCA) said a team of experts from Smit Salvage were undertaking damage assessments and transferring fuel oil above the waterline before planning the recovery of the rig.

Hugh Shaw, the secretary of state's representative for maritime salvage and intervention, told BBC Alba that it was likely to be several weeks before any attempt to refloat Transocean Winner is made.

The incident has sparked renewed calls for the UK government to reverse its cuts in the nationwide fleet of emergency towing vessels — see page 40.

Picture: Andrew Milligan/PA

Slump sparks rise in crew problems

Global seafarer support network says downturn is to blame for 17% increase in welfare casework

→ Nautilus has expressed concern at new figures showing a marked increase in seafarer welfare problems — including unpaid wages, bullying and harassment and repatriation and abandonment.

The annual report of the International Seafarers Welfare and Assistance Network (ISWAN) highlights a 17% increase in casework last year — and warns that crews are paying a heavy price for the downturn in the global shipping industry, with a 27% rise in the number of seafarers being assisted.

ISWAN runs the SeafarerHelp service and the Nautilus 24/7 assistance programme and says that both the number of cases and the number of seafarers helped have more than tripled since 2011.

Last year, its specialist teams dealt with 2,240 new cases involving a total of 9,786 seafarers of 86 different nationalities.

Part of the growth is the result of increased awareness of the services, ISWAN's report says, and seafarers also seem to be more confident in raising issues following the introduction of the Maritime Labour Convention.

However, it warns, cost-cutting by owners in response to the industry downturn is the main factor fuelling the increase in complaints from crew members. 'Unfortunately the economic outlook for 2016 does not look good for the maritime industry and so we expect that it will be a difficult year for seafarers as well,' it says.

Requests for information was the most common reason for con-

tacting SeafarerHelp during 2015 (17% of cases), followed by failure to pay wages (16%), help with seeking employment (15%) and problems with repatriation (10.5%).

ISWAN said that cases of bullying and harassment increased from 2.8% to 3.8% last year, while problems with living conditions onboard rose from 2.5% to 3%. Instances of abandonment of ships and seafarers increased from 0.6% to 0.9% of all casework.

The report notes that while such cases might appear numerically small, they indicate that large parts of the shipping industry had a difficult time last year. 'It seems that some owners and agents tried to keep costs down by cutting corners, and seafarers suffered as a result,' it adds.

The report suggests that reduc-

tions in the number of seafarers reporting health problems, making claims about compensation and reporting unfair dismissal may be a sign that they are reluctant to raise such problems with employers because of worries about job security.

It also notes that while there is now increased attention being paid to problems of social isolation, stress, depression and mental health, seafarers are often reluctant to mention these when seeking help — again reflecting a concern that it might harm their employment prospects.

If such issues are being hidden, they could result in worse situations for both the seafarer and the company, such as a long-term mental health issue, suicide or poor decision-making that puts

the ship or other seafarers at risk,' the report warns.

Nautilus general secretary Mark Dickinson commented: 'It is worrying to see an increase in the number of problems being experienced by seafarers and ISWAN is right to warn of the links to cost-cutting by operators. There certainly appears to be strong evidence of a rise in abandonments and unpaid wages, not to mention the increased fragility of the maritime labour market.'

'Taken together with the latest port state control statistics showing a sharp increase in the number of ships with deficiencies related to MLC requirements, it's clear that the support provided by SeafarerHelp and Nautilus 24/7 is more important than ever,' he added.

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A Japanese NGO is planning to build the greenest-ever cruiseshiprace — page 10



Our future starts today

Technology is transforming the way shipping operates — page 10

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'PARTY' ROW: the Swedish seafarers' union SEKO is preparing legal action against a ferry company, claiming harassment and bullying of crew members working onboard the Stockholm archipelago ferry Norrkär. They criticised management for calling police to break up what was described as 'a late-night party' onboard the vessel. The 'intruders' were the last passengers leaving the ship and the 'party' consisted of crew members eating an evening meal after their shift.

CRUISE CALL: the United Nations has warned that Venice could be placed on Unesco's list of endangered heritage sites if Italy fails to ban cruiseships and large tankers from transiting the city's lagoon and the Giudecca Canal by February 2017. The world heritage committee has expressed 'extreme concern' at the impact of cruiseships on the environment of the lagoon and the damage being caused to the cultural and historical legacy of the city.

FAKE DOCTOR: a nurse who posed as a doctor and treated more than 1,300 passengers while working on an Aida cruiseship for 10 months has been sent to prison for three years by a German court. Judges said that while the man falsely represented his credentials, he did not appear to have caused any harm to patients and one witness even testified that he was an exemplary ship's doctor.

SPANISH SERVICE: the Italian operator Grimaldi has deployed the 43-year-old ro-pax AF Claudia Prima into the Leghorn-Barcelona route. The 14,975gt vessel has been renamed Caribbean Galaxy. Meanwhile, rival firm Moby Line is considering a service from Italy to Barcelona as the first phase of its plans to expand ferry freight routes outside Italy.

GROUNDING PROBE: authorities in Norway have launched an investigation after the Maltese-flagged cruiseship Horizon grounded on a sandbank in Geiranger Fjord while entering the port of Stavanger. The 47,427gt vessel was reported to have suffered no damage but had to be re-floated with assistance from two harbour tugs.

ITALIAN APPEAL: the organisations representing Italian ship masters and officers have made a joint appeal with the national ship managers' association to the government to bring in a special benefits system for seafarers in recognition of the particular demands of the profession.

BOX MERGER: Germany's Hapag-Lloyd and the Dubai-based United Arab Shipping Company SAG (UASC) have confirmed a merger agreement that will create the fifth largest container shipping fleet in the world. The combined company will have 237 ships with a total 1.6m TEU capacity.

MEGA MARSEILLES: the French port of Marseille Fos will be able to handle the largest cruiseships following the completion of a €64m expansion project. Last year, more than 170 ships of 300m and above visited the port.

Greece urged to step up training

Report calls for upgrades of nautical colleges as Cyprus opens new centre

➔ A new report on Greek seafaring has urged the country's government to boost investment in maritime colleges to bring them up to date with technological developments in the shipping industry.

And the study has also called for the country's shipowners to launch a major new programme to combat a lack of interest by young people in careers in the shipping industry.

The report, published by the accountancy firm Ernst & Young, points to evidence that young people have a negative view of maritime employment. Only 6% of 1,000 people aged between 16 and 30 said they would like to work in shipping — even though 58% were aware of the industry's economic importance and 47%

described it as a dynamic sector. Despite high levels of youth unemployment in Greece, the research found that tourism was a far more attractive job prospect for young people. Reasons for not pursuing a career at sea included long absences from home and family (65%) and not wanting to be 'locked up in a boat' (40%).

The report said Greek owners should adopt 'best practice' recruitment policies to promote seafaring and to address negative perceptions of life at sea. It also urged the government to restore funding to maritime academies, warning that problems of understaffing and outdated infrastructure mean that training is failing to keep pace with the reality of modern-day operations.

➔ Cyprus has opened its first

nautical school in a drive to develop its seafaring skills base to meet the long-term demands of the island's shipping services sector.

The first students at the Cyprus Maritime Academy will begin their studies this month — following four-year degree programmes in nautical science, nautical engineering, and nautical electric engineering.

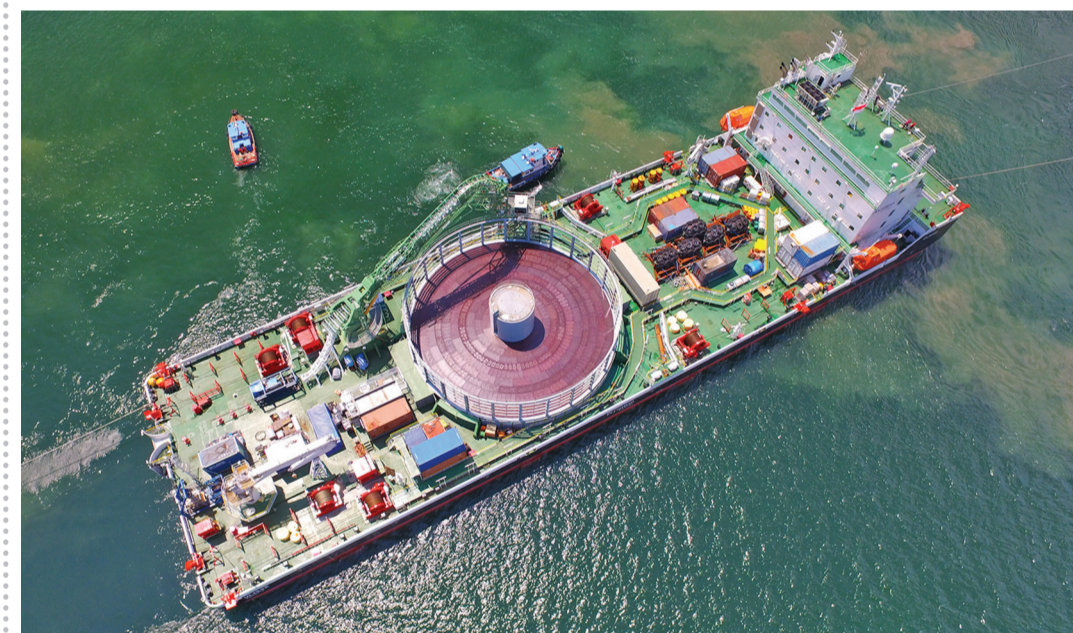
It is hoped that up to 40 students will be part of the inaugural courses, and during the second year of their studies they will undergo practical training with Cyprus-based shipping companies.

Transport minister Marios Demetriades said the academy was 'an important milestone' for Cyprus. 'The availability of

skilled human resources is at the very core of economic growth and employment in the sector as more and more of maritime activities become knowledge dependent,' he added. 'Therefore, access to high quality maritime education and training should be on top of the national agendas of all maritime nations.'

The minister said students qualifying as junior officers will not struggle to find jobs in the Cyprus-flagged fleet of 1,677 ships and would have good long-term prospects in the maritime cluster ashore.

Mr Demetriades said his ministry had approved a €330,000 financial support scheme for training cadets and scholarships totalling €45,000 will be given for shipping-related degrees.



➔ Pictured above is the cable-lay vessel Ulisse, which has been converted from a flat top barge for the Italian energy and telecoms firm Prysmian Group.

The €20m conversion project on the 120m vessel was carried out by the PaxOcean shipyard in Singapore and included the installation of an eight-point spread mooring system that will enable Ulisse to operate in a wide range of conditions.

The vessel is capable of transporting 7,000 tonnes of cable in a 30m diameter carousel, and can be equipped with a carousel loading pick-up arm and a stern-mounted cable chute for loading and surface lay operations.

The first project to be undertaken by Ulisse will be part of a €90m contract to supply and install a 22km high voltage alternating current submarine cable system across the Guimaras Strait in the Philippines.

Seafarers protest at tax ruling

➔ Maritime unions in India have lodged protests against a tribunal judgment that threatens to end long-standing income tax concessions for the country's seafarers.

They have condemned the ruling by a tax tribunal in Kolkata that up to 100,000 merchant seafarers are liable to pay up to 30% of their income earned from working on either Indian or foreign vessels.

Although seafarers have benefited from non-resident tax status for decades, the tribunal ruled that any income received in India is taxable — except in cases where there is a double taxation avoidance agreement.

India's revenue department has begun sending out tax demands to seafarers — and there is a warning that it may also seek to recover arrears dating back six years.

The Maritime Union of India (MUI) and the National Union of Seafarers of India (NUSI) are jointly opposing the decision. 'If this judgment is not challenged, then it will snatch away the income tax benefits presently received by thousands of seafarers working on Indian or foreign flag ships. This will lead to payment of heavy income tax on the whole income even when the seafarer is non-resident, whether on Indian or foreign flag ships,' they warned.

The unions have organised petitions against the judgment and have also taken the issue up at the statutory National Shipping Board meeting in New Delhi.



➔ Pictured above is the 192,237gt newbuild containership MSC Sveva, which was christened in the French port of Le Havre at the end of July. The latest in the Mediterranean Shipping Company's Oscar class, the 19,224TEU vessel

was built by Daewoo in South Korea and has been deployed on the Asia-Europe services, with calls including Dalian, Busan, Qingdao, Ningbo, Shanghai, Xiamen, Yantian, Tanjung Pelepas and Le Havre.

The Panama-flagged ship is LNG ready and equipped with a new generation G95 engine, which is said to put MSC Sveva well ahead of the 2025 emission control standards.

Picture: Eric Hourri

'Whistleblower' awarded US\$1m

Company 'unlawfully retaliated' against master following safety complaints

➔ A 'whistleblowing' US shipmaster has been awarded more than \$1m damages after a judge ruled that he had been victimised by his company for reporting safety problems to the authorities.

The Boston administrative law court said Horizon Lines had 'unlawfully retaliated' against Captain John Loftus and had constructively discharged him for reporting violations of maritime safety law to the US Coast Guard and the ABS classification society.

Describing the company's actions as 'reprehensible', Judge Jonathan Callianos ordered it to pay the master more than \$655,000 plus interest in back pay, as well as \$225,000 punitive damages and around \$200,000 in legal fees and costs.

Capt Loftus — who had 42 years of seagoing experience, and more than 20 years as a master — was demoted to the rank of chief mate by the company after

a disciplinary panel ruled that he had 'exercised poor judgement' in sending a crew member onto the deck of the containership Horizon Trader in bad weather to lash down garbage bins during a voyage between New Jersey and Puerto Rico in March 2013.

The ship's chief mate had to be airlifted ashore after being injured when a door swung open and struck him as he started to secure the bins.

The court found, however, that weather conditions at the time of the accident were moderate and the company had made no attempt to verify what they had been like.

The judge said Horizon's contention that Capt Loftus's decision-making had highlighted 'an inadequate safety culture' onboard the ship was 'overwhelmingly unsupported by the record' and was rejected as a fabrication.

'All of the experts in this case

are unanimous that Loftus was at the top of his game when it came to safety concerns,' the judgment adds.

The court heard that Capt Loftus — who had served as master of Horizon Trader since 2006 — had filed a series of complaints about the safety of the ship — including repeated power box fires.

Horizon had been fined \$1.5m in 2012 after admitting violations of the MARPOL Convention and the judge said the evidence showed that the complaints made by Capt Loftus had contributed to its decision to discipline him.

The company's 'persistent indifference' to the concerns raised by Capt Loftus was unreasonable, the judge said, and the master had been forced to contact the regulatory authorities 'as a last-ditch effort to bring the ship into compliance with regulations'.

The judge also determined that the company had construc-

tively discharged Capt Loftus by offering him non-permanent positions as a relief chief mate on completely different runs.

And the court also ordered the company to pay Capt Loftus an additional \$10,000 damages for 'emotional harm' — noting that he had suffered from anxiety, sleeplessness and humiliation as a result of his demotion.

Horizon had exacerbated this humiliation by refusing to allow him to return to the ship to retrieve his personal belongings and to instead order crew members to clear his cabin while he waited on the dock for the packed boxes.

The judge described the nature of the company's actions as 'extremely troublesome' and the 48-page ruling concluded by stating: 'The need to deter others from engaging in similar conduct is uniquely critical in the Seaman's Protection Act (SPA) whistleblower context.'

Italian unions warn of job threat as a result of STCW update delays

➔ Italian seafaring unions have warned of a massive threat to the jobs of their members as a result of the transport ministry's delay in revalidating certificates to the new requirements set down by the STCW 'Manila amendments'.

The Filit-CGIL, Fit-CISL and UILTrasporti unions warn that as many as 15,000 seafarers will have to stand a chance of gaining the necessary certification by the 1 January 2017 deadline.

They say that around 50 Italian jobs have already gone from the Carnival Cruise Fleet and a further 50 are expected to be lost by the end of the year. Carnival

employs around 1,815 Italian officers, and the unions fear that other operators may follow suit if the revalidation problems continue.

Italian certificates are issued by harbourmasters' offices and, as in other European countries, are valid for five years. But Italy's certificate renewal decree was not issued until December 2015 — barely a year before the January 2017 deadline — and further regulations, including those for seafarers serving on LNG-powered vessels, have not yet been issued by the authorities.

The problem is particularly acute for Italian cruiseship officers because of a dispute between

operators and the government over the interpretation of professional titles that are based on qualifications and not competence. Italian law stipulates that any second officer acting as a first officer loses the second officer qualification, meaning that employers would have to carry out mass promotions or temporary promotions for limited periods.

A further problem is that barely one-third of Italy's 64 recognised maritime schools can provide the new courses — and not all at the same time — meaning that seafarers have to attend at least two different colleges.

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SALARIES SLASHED: Nigerian seafarers serving with Nigerian LNG Ship Management have protested at proposals to slash their salaries by 50%. The company told the seafarers that they would have to accept the pay cuts by 1 September or risk losing their jobs. They accused the company of failing to consult properly and claimed non-Nigerian crews were not being faced with such severe cuts. Unions called for the government to intervene, warning that efforts to increase the employment and training and Nigerian seafarers are at risk.

SWEDISH APPEAL: maritime unions and shipowners in Sweden have made a joint appeal to the European Commission to give the green light to the country's proposed tonnage tax scheme. They have called for urgent approval of the package, so that it can go before the Swedish parliament in September and take effect in January 2017. Sweden is the last maritime nation in the EU to develop such a regime and unions hope the scheme will end years of flagging out.

CABLESHIP RAID: 16 pirates in two skiffs armed with rifles and a rocket-propelled grenade fired upon an un-named cable layer west of Jazirat al Hanish al Kabir island in the Red Sea. Armed guards on the ship fired warning shots at the gunmen before the skiffs moved away, but security experts warn that the incident is a sign of the continued presence of violent criminal groups in the area.

BOX BOOM: the fleet of the French containership operator CMA CGM has risen to 531 vessels of 2.3m TEU — with a further 24 ships of 226,000TEU due for delivery over the next 18 months. The fleet includes 24 ships flying the French reserve flag (RIF) and 47 vessels flying the red ensign.

CAPACITY WARNING: a record 150 containerships are expected to be scrapped in 2016 — but this will not be enough for an industry battling over-capacity, low demand and falling rates, the industry analysts Drewry warned last month.

ETV CALL: the union-backed French environmental group Mor Glaz has urged the government to upgrade its emergency towing vessel provision in the Channel, highlighting concerns over the safety of low-cost shipping operations.

CHANNEL EVACUATION: a French navy helicopter airlifted a sick seafarer from the Isle of Man-flagged LPG tanker Happy Bear in the Channel last month to enable him to be treated in a hospital in Calais.

TANKER SMASH: a clean-up operation was launched off the coast of Japan last month after a 465dwt oil tanker partially sank following a collision with a 5,025dwt chemical tanker near the port of Kebin.

SALES SLUMP: secondhand ship sales have almost halved over the past year, a new report has revealed. Spending totalled US\$1.6bn in July 2016, compared with \$3.1bn at the same time last year.

NAUTILUS AT WORK

The crewless future swiftly approaching



Autonomous ships could be a reality by 2020, according to a Rolls-Royce video

More than 120 Nautilus members, students and maritime industry experts attended the latest Netherlands branch symposium to discuss whether 'smart' — autonomous or self-propelled — ships would become a reality in the maritime sector, and what they mean for the future of seafaring.

Opening the meeting, deputy general secretary Marcel van den Broek said the first part of the question had already been answered. 'Autonomous ships are already a reality,' he noted. 'The United States Navy has already tested their autonomous warship, which can operate for months at a time without a crew. It uses AIS to find its bearings and avoid vessels. So the question is not if, but rather when.'

And possible answers to 'when' were presented by maritime students at Rotterdam Mainport University who are undertaking various research projects looking at different aspects of unmanned shipping operations. Their studies have covered issues including detection, interconnectivity, safety, liability and legislation, propulsion and maintenance, calamities, and organisational structure and manning.

The projects will all feed into the EU-funded Maritime Unmanned Navigation through Intelligence in Networks (Munin) project, which aims to develop and verify a concept for an autonomous ship, primarily guided by automated onboard decision systems but controlled by a remote operator in a shore-based control station.

Christian Drent and Coen van Iersel are researching the organisational aspects of autonomous shipping, which includes the future of the seafaring profession.

'There has already been a large amount of research published on the subject of the autonomous ship,' explained Mr Drent. 'But most of it covers the technical issues that might arise. There is hardly any research that includes the views of seafarers. We wanted to find out what seafarers had to say about the subject — and they are clearly very interested, as our survey was completed by over 500 people.'

The survey — which was completed by Nautilus members and the wider maritime community — asked seafarers what they thought the impact of autonomous shipping would be, and whether such ships would be a reality in their lifetimes.

Although the students are due to present the complete findings of their research at the end of the year, they gave the Nautilus symposium a preview of the information they had gathered.

The results showed that almost 70% of merchant seafarers are convinced that self-propelled (or minimum-manned) ships would become a reality in the sector, and more than 50% did not think this would be a positive development.

Safety was the main concern of respondents, with 65% saying that

Will 'smart' ships change the face of shipping for ever? Do seafarers think they will spell the end for maritime professionals? These were some of the questions addressed during an industry symposium organised by the Nautilus International Netherlands branch last month...

safety could not be properly maintained onboard a vessel without trained seafarers — and that this would also impact on the safety of other vessels sailing with a crew on the same routes.

Whilst most respondents did believe that smart ships were an inevitable development, most felt that the impact on their jobs would be low as the ships would be introduced after the majority of today's seafarers had retired.

However, the results did show that today's seafarers are concerned that new entrants to the industry should be properly trained so that they are ready for the jobs of the future. At the same time, many thought that the number of maritime-related jobs available in years to come would be vastly reduced.

The survey asked seafarers what they thought Nautilus could do about the issue, and most believed the Union had a clear role in ensuring that seafarers' voices are a part of the wider discussion — and that it should work with other organisations to minimise the impact of the many changes autonomous shipping operations would bring.

'The Union should ensure that seafarers' opinions are heard,' one respondent said. 'This is something that always

seems to be forgotten about in the development of new technologies, as we saw with ECDIS.'

Another argued that while unmanned ships might be good for efficiency purposes, and probably safety, it should be questioned if that was enough. 'What about the need for seafarers to have an income doing something they like? Do we really need all this efficiency? Is it safe to introduce [unmanned ships] without a proper vision on how to employ and feed the world? Without this, the introduction of unmanned shipping is an irresponsible, short-term policy.'

One respondent said that the underpinning technology still needs further development before he would trust it to run an entire vessel alone. 'When I see how many faults we already get onboard with the amount of electronics we currently have, I can't begin to imagine how many more there would be in a fully autonomous ship,' he noted.

'Automation is good, but the industry must take its time and do it properly. After all, they have been talking about automatic self-steering cars for years and they are still not ready. It is a false economy to trust in electronic devices too much. Nothing replaces good seamanship and experience, as only seafarers can examine a situation and judge what

is the best and safest course of action.'

Most respondents believed that self-propelled ships were at least 10 to 25 years away — a figure that starkly contrasts with the predictions made by Rolls-Royce that smart ships will be in operation in the world merchant fleet by the end of this decade.

The students showed the audience a video from Rolls-Royce which shows the company's vision of ship management in 2020 — where the 'seafarers' are all office-based and control the ship remotely. Computer data constantly feeds back information from the vessel and flags up any unusual activity which the 'crew' can then look into. When a problem arises, one staff member dispatches drone helicopters to the vessel to examine it in real time while an engineer plays back a recording of the engine sound. Within minutes the problem is diagnosed as an engine malfunction. All they crew have to do is decide if whether to send more drones with replacement parts (which will presumably self-install) or run the vessel slower using one engine until it arrives safely in port for a large repair.

The video was received with scepticism by most of the audience and many found it simply laughable, especially as

Rolls Royce had predicted this reality would come about in only four years' time. All agreed that this simplistic view of shipping would do nothing to help autonomous ships become a reality.

Frank Pot, a work and organisational sociologist, also spoke at the conference and said that the most important lesson from a hundred years of robotics in the labour market is that they can do a good job, but not an 'automatic' one — they need directing and guiding, as well as fixing. He said that the skills of the seafarer would be vital in the management of ships, whether they were managed onboard or remotely from an office.

'First you need to understand the human dimension, as it is central to any work application,' he explained. 'Second, you look how you can automate processes through robotics. However, it often happens the other way around.'

Mr Pot said that from a workplace environment point of view the Rolls-Royce view of the future was very strange — almost surreal. The employees hardly ever interact with each other and that's not how most people like to work,' he added. '[Rolls-Royce] seem to have ignored the human factor of work completely, which links in with the research the students did, which found that no one had asked seafarers what they thought about automation. The only thing Rolls-Royce got right was that employees will still drink tea in the future.'

In the open discussion that followed the presentations, one audience member raised the issue of regulation — pointing out that if autonomous ships were to enter the merchant shipping sector then pretty much all the international conventions would have to be re-written. This could mean that autonomous ships will take a very long time to become a reality, he suggested.

Another interesting aspect of the Rolls-Royce simulation was that three colleagues came together to decide what to do about the stricken vessel. 'Does this mean there is no longer a need for a master?' a participant asked. 'The point of the master is that sometimes decisions have to be made quickly; how can that happen if all employees have to come to this 'open space' to find a resolution together?'

Closing the seminar, Mr van den Broek assured members that the Union would be keeping a close eye on future developments and would continue to uphold the interests of its members, whether or not full automation takes place.

'Smart ships are likely to mean new and different jobs to the ones we have today,' he concluded. 'But we think there will always be a need for seafaring skills, so we have to make sure our members are equipped to take up the opportunities when they arise.'

To watch the Rolls-Royce video shown at the seminar, visit www.youtube.com and search for **Rolls-Royce future shore control centre**.

MARITIME WORKFORCE

Crews for the 21st century

The first results of a global project to tackle the gender imbalance at sea have been presented to the shipping industry. Nautilus members and officials contributed to a debate on the findings...



Nautilus member Sarah Stevens, left, and Council member Jessica Tyson were one of the panels at the GEM conference. Pictures: Paul Watts / PBWPX

The shipping industry needs to do more to make sure seafarer trainees are better prepared for their first trips to sea, new research has concluded.

Initial findings from the Gender, Empowerment and Multicultural Crews Project (GEM) were presented to a conference in London organised by the International Transport Workers' Federation Seafarers' Trust and attended by Nautilus members and officials.

Funded by the Trust and launched last year, the GEM research project is being carried out by universities in the UK, China and Nigeria, and is investigating the welfare needs of seafarers — particularly women. It is due to publish a report and recommendations later this year.

Project leader Dr Kate Pike, from Southampton Solent University (SSU), said the study aims to find ways to encourage more women to be seafarers — but the results will also have relevance for the entire industry.

'Our findings also question whether the industry is doing enough to prepare people adequately for a life at sea,' she explained. 'Mentors for cadets and new recruits have been highlighted as extremely valuable in terms of passing on experience and being there to help during the first phases of sea time. This is something that the industry should be encouraged to facilitate and adopt as part of the onboard culture.'

Women are usually in a small minority onboard ship, Dr Pike explained, and this could lead to bullying and harassment in some circumstances. Support groups and networks for women seafarers, along with training in gender issues for masters and senior officers, could go a long way to ease the problems.

Emma Broadhurst, from SSU, said the UK-based research had shown that while many cadets like the idea of working with multinational crews, the importance of understanding cultural differences had been highlighted. Communication is a big issue, she added, and it could be adversely

affected by factors such as hierarchy and isolation.

The researchers said there is an onus on shipping companies to make sure that appropriate recruitment is taking place — particularly concerning the placement of cadets and the mix of nationalities onboard.

Owners and masters have a duty of care to create a safe and inclusive onboard culture for all their crew — particularly for minority groups such as women, they conclude.

In a panel discussion on recruitment and awareness of shipping, SeaVision director Ewan Macdonald noted that seafarer training is expensive, and said shipowners should do more to encourage company loyalty and high retention rates.

Nautilus member Sarah Stevens told the meeting that it is also important for the industry to provide some good female case studies to show how women can succeed in shipping. 'The highest ranking female officer I have sailed with is a second officer, and while it may be a bit of a cliché, you can't be if you can't see,' she added. 'There is a dearth of role models to show where I want to be in 10 years' time.'

Nautilus Council member Captain Jessica Tyson said women seafarers often felt as if they were 'under a magnifying glass' because of being in a minority. 'You need a certain amount of self-reliance and confidence that this is a career you want to pursue,' she pointed out.

Caitlin Vaughan, from the International Seafarers Welfare and Assistance Network, said some 3% of calls to the 24/7 Seafarers Help hotline were related to abuse and bullying and 10% of the problems experienced by women seafarers were related to abuse and bullying.

Nautilus member Rebecca



GEM project leader Dr Kate Pike, from Southampton Solent University

“Mentoring can make a big difference to retention”
Capt Kuba Szymanski

“Female recruits would benefit from seeing women role models”
Sarah Stevens

Dr Minghua Zhao said the GEM research in China had revealed some of the recruitment difficulties in that country. Although there had been many Chinese women seafarers during the 1960s and 70s, there were no female cadets for much of the 1990s, and even now they account for a small fraction of the new trainees starting each year. Because of problems finding seagoing work, as many as 40% leave the industry for another job, and 'only a handful' of women are currently serving on Chinese merchant ships at present, she added.

Amos Kuje, from the Nigerian Maritime Administration and Safety Agency, said 20% of the 4,973 seafarers working in the country's cabotage trades are women. Around 250 female cadets begin training each year and 20% of shore-based maritime personnel are women. Many Nigerian women seafarers want to stay at sea for a long time, but a lot of cadets are not prepared adequately for life at sea and senior officers are not adequately informed about gender-related issues, the research had shown.

Helen Buni, from the International Maritime Organisation, said the agency is working with the World Maritime University to develop a global strategy to encourage member states to open up their maritime sectors to women.

Kimberly Karlshoej, head of the ITF Seafarers Trust, said the GEM project should help to secure a culture change in the industry. 'As long as discriminatory attitudes are accepted, things will not change,' she warned. 'By working together, companies and unions can make a difference, and gender variety onboard will make for a much more natural working environment.'

Morgan said there is sexism, racism and ageism in the shipping industry — but big strides are being made to improve the situation, with the Union doing a lot to progress policies to combat bullying and harassment.

Professor Claire Pekcan said the study had shown evidence of

'a laissez-faire' attitude towards cadets and their sea time and a need to properly prepare them for their first experiences at sea. Companies should consider whether trainees should be sent to ships in pairs and should ensure that they work on ships where other crew members can

Mentoring by senior officers could also make a big difference, he suggested. 'If you fail to learn, you learn to fail, but get a mentor and you will know precisely what you need to achieve.'

GREENER SHIPPING

Holidays with less harm

A Japanese NGO is planning to build the greenest-ever cruiseship — to serve as a flagship for a sustainable shipping industry and to show how operators can transition to a more environmentally-friendly future...

A Japanese organisation has revealed detailed plans to build a new 'green' cruiseship to spearhead its work to promote sustainable shipping and to operate educational voyages.

The Tokyo-based not-for-profit body Peace Boat has been using ships for more than 30 years to



Artist's impression of the planned Ecoship Picture: Peace Boat

promote its messages of 'positive social and political change' and best practices in responsible travel. The organisation presently operates one vessel — the 35,265gt Ocean Dream and runs three or four round-the-world voyages every year.

Now it is moving to build its own vessel — a 55,000gt 'Ecoship' that will use cutting-edge technology to minimise its environmental impact and to demonstrate how the shipping industry could transition to a low-carbon future.

Peace Boat has worked with

designers and engineers from around the world to produce detailed plans for the ship, and last month signed a memorandum of understanding with the classification society DNV GL to develop the project.

The organisation says it is currently in a tender process with a number of shipyards and is aiming to start construction early next year. The Ecoship's first world voyage is being scheduled for spring 2020, with plans to visit more than 25 countries over a 91-day period.

Peace Boat has been sailing

since 1983 on our educational and advocacy voyages for peace and sustainability,' says co-founder and director Yoshioka Tatsuya. 'We have used chartered ships to date and have become increasingly determined to close the gap between our message and the reality of operating a cruiseship.'

The global shipping industry is one of the major contributors to greenhouse gas emissions, he notes. 'While the cruise industry represents only a tiny fraction of world shipping, it must contrib-

ute to the agenda of solutions and also has the greatest potential to raise awareness and effect change.

'We know that cruising is very visible to the public and it therefore has both great potential and great responsibility to make changes that will accelerate sustainable innovation,' he adds.

'The cruise industry is growing so fast, particularly in East Asia, and the need to mitigate the environmental impact of such expansion is very important,' Mr Tatsuya points out. 'Through its technical characteristics and in the programmes that it carries out, we hope it will encourage a model for "green" cruising and further innovations in the cruise industry.'

Peace Boat says its 'future-proof' vessel will carry up to 5,000 passengers and around 600 crew. The ship will operate educational voyages around the world, as well as hosting exhibitions of green technology in up to 80 ports per year and serving as a floating laboratory to contribute to ocean, climate and green marine technology research.

Key requirements in the Ecoship plans produced by the Spanish naval architects Oliver Design were to develop a high-performance vessel with the lowest possible energy needs, a ship with no generator utility when alongside, and a vessel with better than standard air emissions and zero emissions into water.

The vessel's design was finalised last year after a three-year

power and up to 10% under optimal sailing conditions. Ten retractable wind turbines will deliver some 300kW with wind speed of about 12 m/s — and in good wind conditions, 30% of the in-port hotel services' energy needs could be supplied by wind power.

The ship will have 10 photovoltaic panel-covered sails and a 6,000 sq m top-deck solar farm which will generate more than 750kW of power in low-wind conditions. It is intended that this system will supply 100% of the electricity needed to light passenger cabins and exterior public areas.

There will be 'radical' waste heat recovery systems to recycle around 80% of the energy normally lost in the air and in the water, which aims to halve electricity load. The system will use smoke gas turbo generators, adsorption chiller plants, fresh water generators, domestic water heating and LNG-cooled HVAC chiller water circuits.

A closed-loop water system will purify and re-use water, and the ship will also incorporate kinetic floors and a self-sustained garden that uses recycled garbage and wastewater.

The Ecoship will have a hybrid engine which will use LNG as its main fuel but will also be capable of running on bio-fuels, including methane. The podded vessel will have an optimised cruising speed of 17 knots.

Overall, Peace Boat says the ship will emit 40% less CO₂ than conventional vessels, while also eliminating both NO_x and SO_x emissions.

The organisation says it is presently in negotiation with different shipyards and will decide the builder 'very soon'. As the tender process is underway, finalised costings are not yet available.

'The majority of the building costs will be organised conventionally, with some portion of the finance being also raised through impact investment and sponsorship,' it adds.

'Peace Boat is Japan's largest cruise organisation and has been running social business cruises for over 30 years, whereby passengers buy tickets for the voyages, and those sales cover the costs of running the ship as well as Peace Boat's additional activities. The same proven business model will be used for the Ecoship.'

Mr Tatsuya says Peace Boat has built up more than 30 years' experience of worldwide ship operation and this has fired his vision of building a ship to run as a 'floating planet' to demonstrate the possibility of a sustainable world.

'The success of Ecoship, with its CO₂ reductions and renewables use, will provide evidence that viable maritime transitional solutions to decarbonised economies exist,' he added. 'Public outreach — every time Ecoship sails into a port — will result in worldwide awareness of the necessity and financial feasibility of improving shipping's footprint.'

Our future starts today

Technology is transforming the way shipping operates — and, properly managed, could help to improve seafarers' lives by cutting out tedious paperwork, the head of a major ship equipment firm said last month...

An aviation-style system of ship traffic control is inevitable — and a shake-up in training and regulation is required to smooth its path, a former ship's officer told delegates at the SMM maritime trade fair in Hamburg last month.

Frank Coles, chief executive with the maritime equipment firm Transas, said there is growing demand for coastal surveillance of shipping movements — and this will develop into ship traffic control, with countries monitoring and managing the passage of all ships through their territorial waters.

'Security and safety are issues that have been raised, and the cyber-security and piracy risks are never far from discussion in the safe passage of a ship,' he said. 'Considering this alongside the need for environmental and monitoring, and the reality of a controlled ship traffic becomes a much more strident vision.'

Mr Coles — a master mariner who served at sea for 12 years — said shore-based fleet operations centres (FOCs) are growing in number and sophistication, increasing the potential for sharing or removing decision-making from ships.

As FOCs develop further, it is essential that training evolves to ensure that land-based control-

lers and the ship operators understand the dynamics and limitations, he warned.

'STCW regulations will have to consider the training requirements and the manning regulations to distinguish and consider ships that have an element of FOC control,' he added.

Mr Coles suggested there are still many regulatory, cultural and technological challenges to be resolved before the vision of crewless ships becomes a reality. 'We are not yet at a place where today's systems could provide for an autonomous ship in close-quarters situations,' he said.

Instead, he argued, technology can be used to make ship operations more efficient and safer — using automation to remove 'the monotony of administration' and to provide shore-based oversight and decision-support.

Mr Coles said there is a clear desire within the industry for shared decision-making and to have 'the paper-pushing tedious roles pushed ashore'. Transas research has shown that more than 70% of ship owners, operators and managers believe that it would be helpful to have shared input/operational responsibility between onboard crew and shore-based personnel at all times, he added.

Feedback gathered by the com-

pany over the past year showed 36% considered that shared operational decision-making would make crews feel more supported, against 20% who thought it might disempower them and 13% who felt it would de-skill them.

Only 4% reckoned that seafarers would never be willing to accept operational decisions from ashore, against 30% who thought they would be willing and 47% who felt they would only accept such decisions in certain circumstances.

Almost half the owners and managers surveyed considered that a ship traffic control system would probably improve safety at sea, while 29% were unsure and 15% were opposed.

Mr Coles said shipping is now 'awash' with technological innovation, big data and decision-support tools; and there is limitless potential for data sharing. However, he warned, there is a danger of an uncoordinated and fragmented approach to making the most out of 'mega data' such as ECDIS, ship stability, voyage planning, weather forecasts, fuel consumption, engine performance and bridge alarm systems.

In response to these developments, Mr Coles said his company has produced THESIS — the



Transas chief executive Frank Coles

Transas Harmonised Eco System of Integrated Solutions — a data infrastructure package which provides shared access and a practical information flow for users such as navigation and engineer officers, shore fleet operations, trainers, and port and flag state control authorities.

Mr Coles said the system would provide a single point of connectivity for the wealth of data being produced by sensors, alarms and other equipment and would help to deliver 'truly integrated operations that exponentially improve efficiency and safety throughout'.

Sharing this data will provide a complete oversight of operating parameters for all equipment onboard a ship, while also sharing knowledge and expertise across fleets and helping to ensure that early action is taken before small issues become large problems.

Automating key reporting, regulatory and performance criteria would cut the paperwork burden, Mr Coles promised. 'THESIS was not designed to de-skill crew,' he added. 'It helps to return crew focus to the specialist job role functions for which they were training and it gives the crew superior decision-support tools to enable them to perform their roles with greater knowledge and skill.'

“The cruise industry is growing so fast in East Asia that it is very important to mitigate its impact”

process, which took a whole-system integrated design approach on the basis that elements of a system work best when they are specifically designed to complement, rather than to compensate for, each other.

The ship's design utilises what are known as biophilic principles — using nature-based concepts such as a hullform based on the shape of a humpback whale and a non-toxic and anti-fouling hull coating that mimics a fish's skin.

The aerodynamic upper hull has been designed to conserve fuel while sailing, and an air bubble hull lubrication system will be used to reduce the resistance between the hull and seawater.

The vessel will also have 10 masts to harness wind energy, which will produce an average of 4% of the necessary propulsion