

TRAINING JOURNAL

2021 EDITION



OF SHIP MANAGEMENT

PARTNER. SHIP. REDEFINED.

Marlow recruits new cadets from Escuela Nacional de Marina Mercante in Peru

WELCOME
ABOARD!

WELCOME TO REAL
PARTNERSHIP!

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TRAINING PARTNERS



All seafarers are key workers

"My training prepares me ahead and gives me the confidence to perform and excel"

WELCOME MESSAGE

Dear Readers,

Welcome to the 2021 edition of the **Marlow Training Journal**.

Firstly, we would like to extend our heartfelt thanks to all our clients, partners and associates for the continued support and backing over the years. We are also sure you join us in recognising all seafarers for their dedication, loyalty and patience and the immense sacrifice they have made to the world over this difficult period, no doubt further underlining their essential workers status. Likewise, our thanks to all our partner training centre personnel and instructors for their commitment in making sure training continued safely during this period.

It would be putting it mildly to say that the past year has been defined by significant challenges and changes, of course brought about by COVID-19. As the world experienced an unprecedented situation and all industries came to a standstill or close to it, shipping continued to keep the world supplied with all necessities, from the goods we have and use in our homes and workplace, to food, medicines, raw materials and energy. This also meant that all areas of operations, including training, had to continue at full steam, even under the most demanding and restraining circumstances.

One of the biggest challenges has been the enormous restrictions put on crew changes, worldwide. This also had an immediate impact on training. For starters, in upgrading existing crew. Whilst many were not able to disembark their vessel, others were simply not able to visit their nearest training centre. At the same time, training and inducting new and ex-crew back into the company was somewhat hindered. Both of these are undoubtedly crucial areas to ensure our crewing operations continue to source qualified and certificated seafarers.

The other main area affected was the company's structured training programmes, mainly in the Philippines and Ukraine. As a result, the regular curriculum and career path was disrupted, since there was great change to schedules and availability of berths, delays in allowing cadets to continue their onboard training component, as well as difficulties to get back in time to complete their planned examinations.

Overall, we moved quickly to protect our crew, seafarers and cadets alike, and to ensure training and learning could be maintained. Strict safety measures were put in place at our partner training centres and recruitment locations, as per local rules and regulations. Meanwhile, we pivoted with our expansion of remote learning to better support and reach seafarers, introducing a host of new online courses and training initiatives. Despite huge logistical and technological challenges, we have managed to successfully transform the training and education experience, moving thousands of seafarers and cadets, and our instructors online!

Although modernisation and digitalisation had always been on our agenda and was already being rolled out, the pandemic certainly fast-tracked it all. In fact, we were able to accomplish in a few months what we had planned to do in a couple of years. It is also true that today, there are a range of new robust tools and technologies far better than they were some years ago, together with highly advanced online programs that are just as good if not better than their traditional face-to-face counterparts. But of course, all these advancements were also spurred on by the global situation.

However, all of these tools are just one vital element. A great deal of credit must be given to the users, that is, our seafarers, partner training centres, all instructors, and personnel at our recruitment locations and management offices. Their dedication and versatility have allowed our company to continue to deliver the same high standards in training and education.

Finally, it is essential to highlight that even though we have all seen that a great deal of training and learning can happen efficiently online, we must also continue to look for ways of reinvigorating the conventional and ensuring the personal and human approach does not stray too far.

We hope you find this year's Training Journal informative and constructive, and we look forward to the continued improvement of the situation globally.

Stay well and stay safe!

Marlow Navigation Management

*Pre-departure briefing webinar
for all Filipino crew*



“ Our priority was to ensure that both our cadets and crew around the world could continue to receive the same high standard of education and training, with a smooth and effective transition to more online learning ”



*Prepping instructors
in Manila on best practices
with conducting online courses*

ADAPTING TRAINING TO A 'NEW NORMAL'

Marlow Navigation has continued its measures to transform education and training as part of a comprehensive response to the challenges created by COVID-19, but also for future prospects, moving students and instructors more online.

Since last year, this has primarily involved a full upgrade of the technology needed to conduct online courses and implementing a robust system. In parallel, instructors were prepped on best practices in online course delivery and how to adapt well to a virtual classroom environment.

A lot of the focus with this was substituting the lack of face-to-face communication with techniques better suited for the digital world. This included developing their skills in conducting lessons whilst at the same time moderating feedback with live chat, encouraging learners to get involved and interact with both instructor and peers, safeguarding discipline and accountability, as well as new methods of assessment.

Furthermore, mechanisms and a suite of tools have been established to support learners, including advice and interaction channels, tutoring and help-desk functions, as well as making course and training materials readily available. Together, these make up some of the key components of a purposeful tech and education stack, as part of the company's new Learning Management System (LMS).

"Our priority was to ensure that both our cadets and crew around the world could continue to receive the same high standard of education and training, with a smooth and effective transition to more online learning," said Joint Managing Director, Marlow

Navigation, Jan Meyering. "To achieve this, our instructors had to be just as good facilitators online so that they can deliver the same experience, if not better. Of course, the personal contact of a classroom or training environment cannot be fully replaced, however in the interim, it can be adequately replicated as best possible," added Meyering.

It is also true that online tools offer their own set of advantages. For instance, they allow learners to continue studying from anywhere and on demand, save a lot of time, and provide the option to repeat or go over the exact same lesson to better digest material. Meanwhile from a trainer's perspective, they offer accurate data-driven analytics, with sophisticated tracking and reporting, which then creates possibilities for greater personalisation in content and approach.

"No doubt, COVID-19 has created significant logistical challenges for the entire shipping industry, and the global economy. Adapting and progressing has been the only way forward," continued Meyering. "However, maritime education and training, as well as crewing operations overall, can also in turn benefit from these new approaches in the long run, better supporting distance learning, at sea or when in remote areas ashore."

The other positive news is that the modern seafarer and especially new generation cadets are very much digital natives and embrace these new technologies, even excel with them. When considering the advancements of maritime and its future prospects in automations, such skill and abilities - digital, multitasking and interactivity - will also certainly grow in importance.

Marlow's Training Consultant in the Philippines, Captain Peter Grunau conducting a training webinar for guidance to Port State Control



NEWS & EVENTS - YEAR IN REVIEW

MARLOW-KSMA PARTNERSHIP REMAINS STRONG

Marlow Navigation and Kherson State Maritime Academy (KSMA) have renewed their longstanding co-operation in the education and training of marine officers in Ukraine.

Each year, representatives from both Marlow and the Academy meet to sign the agreement, which normally takes place as an addendum to the official ceremony for welcoming new students to the Academy.

Although it was not feasible to meet in person due to strict travel restrictions, a virtual conference was organised in mid-October 2020, where the signing took place. Marlow's Chairman, Hermann Eden also provided a video message to the new KSMA students.

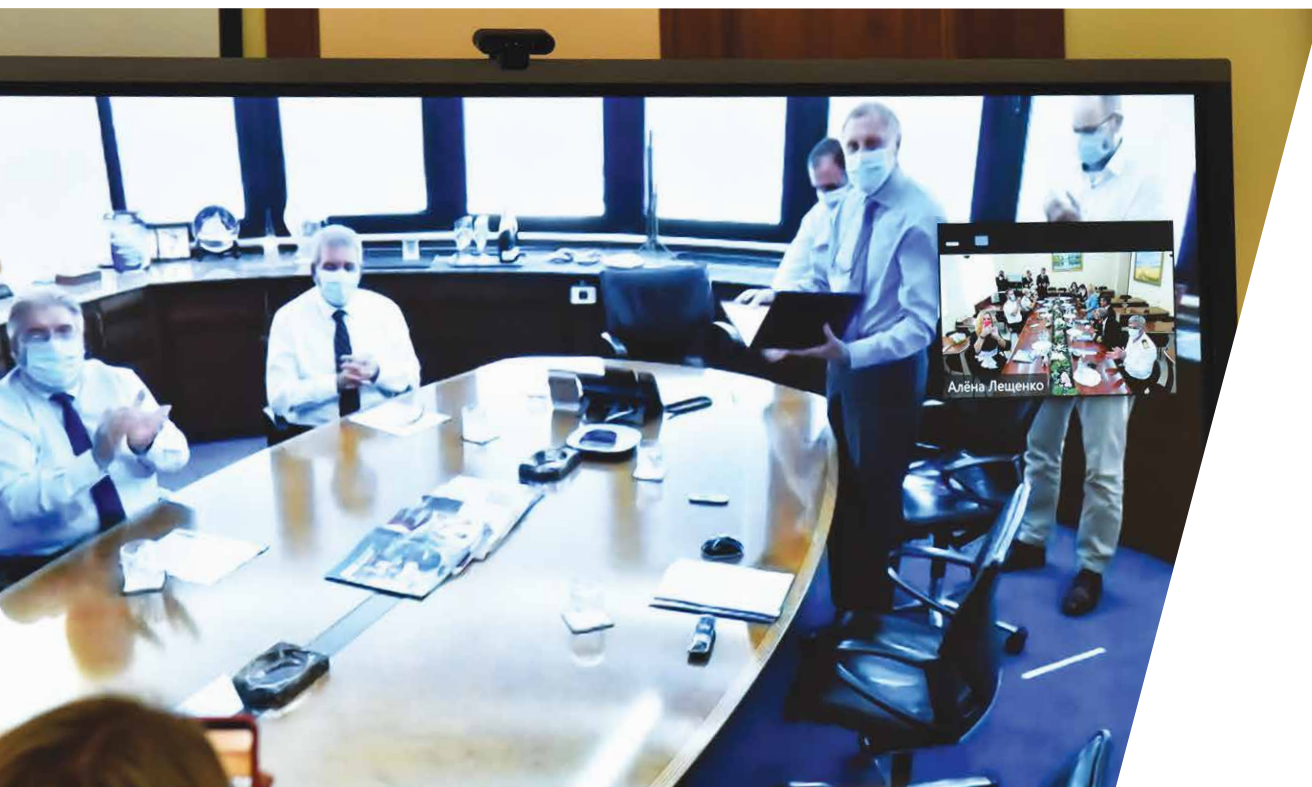
"It is my great pleasure to congratulate the new students. You have all worked hard to come this far and you should be proud of your achievements.

This is the beginning of your academic career and we wish you all the success and the necessary luck to achieve your goals," he said.



Rector, KSMA, Professor Vasyl Cherniavskiy signing the co-operation agreement with Marlow Navigation

Representatives from Marlow Navigation's Head Office in Cyprus present in the virtual meeting: Chairman Hermann Eden; Joint Managing Directors, Andreas Neophytou and Jan Meyering; together with Training Director, Joern Clodius





“The commitment of the faculty and the management of the Academy in finding practical solutions played an outstanding role. We cannot influence the situation but we can make the best out of it”

As to be expected, the studies of these new students will likely differ substantially from those of their predecessors. The Academy reacted quickly to develop and implement new teaching methodologies and techniques so to enable students to continue their studies even under social distancing rules. The flexible and effective approach of the Academy also ensured that the majority of the active students could undergo their annual exams.

“The commitment of the faculty and the management of the Academy in finding practical solutions played an outstanding role. We cannot influence the situation but we can make the best out of it,” continued Eden.

Similarly, it is this spirit that has guided Marlow to find solutions for crew being delayed on board or at home waiting for a prolonged period for their next assignment. Like many other shipping companies around the globe, Marlow has been navigating uncharted waters but has promptly found new ways to continue protecting and supporting its seafarers, as well as trainees through this global challenge.

Together with the Academy, Marlow has managed to bring cadets back home in time for their State exams. For those who were late, KSMA arranged the opportunity to hold their exams remotely, utilising the full range of communication technologies.

The successful operation further demonstrated the effective and productive co-operation between the Academy and Marlow, which has developed over the past 13 years, providing cadets with positions for their shipboard practical training.

“More than ever, we see that we are all in this together and we must also be ready and capable to apply changes in our lives during these uncertain times. Finally, I would also like to congratulate your teachers, parents and families and express our gratitude for the time and effort they have dedicated to your life and academic success to date,” concluded Eden.

Rector, KSMA,
Vasyl Chernyavskiy with the
signed agreement



NEWS & EVENTS - YEAR IN REVIEW

NEW SCHOLARSHIPS FOR KSMA CADETS

Marlow has granted 45 new scholarships to cadets at Kherson State Maritime Academy (KSMA).

25 of these scholarships are as per the company's annual co-operation agreement for the training and employment of marine officers. Those awarded were selected by the Student Council and based on the grounds of having faced difficult life circumstances or being in greater need of charitable support to pay for tuition fees, among a list of other criteria.

Also invited to attend the Student Council meeting that took place at the end of 2020 were Managing Director, Marlow Navigation Ukraine, Captain Boris Ezri and KSMA's Rector, Professor Vasyl Cherniavskiy, as well as the Marlow Group's Training Director, Joern Clodius and Training Manager, Captain Martin Bankov, who joined in virtually from Cyprus.

"We are pleased to continue helping cadets in Ukraine with these scholarships, as it goes a long way towards supporting their future career endeavours as marine professionals. We also appreciate the involvement of the Student Council in this independent selection process," said Clodius.

"Sponsoring students based on performance on the one part and as per the needs of those who have faced difficulties on the other, is both a fair and balanced approach, and certainly a good way forward to having as many students as possible benefiting from such programmes.

We congratulate all the selected students and we wish them every success in their studies," added Clodius.

Further to this, Marlow has granted additional scholarships to 20 new entrant cadets at KSMA to help subsidise their tuition fees in 2021.

This initiative comes as an extra support due to the economic hardships created by COVID-19.

Scholarships were awarded to those with the best baseline performance indicators in Maths, Physics and English, but could not obtain a state-funded placement to cover their first-year tuition or at least part of it this time round due to limited resources. Twelve scholarships were granted to students from the marine navigation faculty, five from marine engineering and three from electrotechnical.



Student Council meeting at KSMA to select cadets to participate in the annual scholarship



Marlow grants additional scholarships to 20 of the best new entrants at KSMA

Student Council meeting in December 2020 to discuss and approve annual scholarships for cadets in need of financial support



“ Sponsoring students based on performance on the one part and as per the needs of those who have faced difficulties on the other, is both a fair and balanced approach, and certainly a good way forward to having as many students as possible benefiting from such programmes ”

SUPPORTING NEW KSMA CADETS

Each year, Marlow donates laptops to cadets from Kherson State Maritime Academy (KSMA) who were previously selected to join the company’s structured training programme.

Unfortunately, quarantine restrictions prevented the traditional awarding ceremony from taking place last year. Nevertheless, laptops were still donated to students, this time to a total 36 new cadets from both the marine navigation and engineering faculties

at the Academy. The laptops were also installed with special software to assist them in their maritime education and training.

In a statement released by KSMA, the cadets thanked Marlow for this gesture and for the opportunity to further develop their skills and professional careers with practical training at sea on the company’s crew managed vessels.

Marlow continues ongoing support for new KSMA cadets





THE A-Z OF SHIP MANAGEMENT

FOR DIVERSITY

At Marlow, we celebrate diversity and inclusion, reward excellence and merit, and are always culturally and socially aware



PARTNER. SHIP. REDEFINED.

MARLOW CADET PROGRAM EXPANDS

Marlow's long-established training programme expands its reach, taking in a greater diversity of new cadets, including from Georgia, Egypt, Peru and Panama.

Marlow's training programme has broadened greatly, with new intakes coming from Georgia, Egypt, Peru and Panama over the last year, in addition to the already well-established system in the Philippines, Ukraine and Russia.

These new Deck and Engine cadets have been recruited to enter Marlow's structured training programme via partnerships with locally based maritime academies in each country, including: Batumi State Maritime Academy; Arab Academy for Science, Technology & Maritime Transport; Universidad Maritima Internacional



Cadets' formation at Marítima Internacional De Panamá

De Panamá; and Escuela Nacional de Marina Mercante - Peru.

With this, cadets are provided the opportunity to gain vital seagoing training on board ships under the company's crew management in tandem with their final year of study. On completion of their programme, cadets will also have the prospect to continue their careers at Marlow.

The industry at large has been predicting for some time that there will be a serious shortage of qualified seafarers in the years ahead, especially management and operational level officers.

Simulator training at the Arab Academy for Science, Technology & Maritime Transport in Egypt



NEWS & EVENTS - YEAR IN REVIEW

Marlow's training programme has been established since 1996 to better attract and foster new talent by developing them through a structured training programme. Critical to this development is the opportunity to provide cadets the invaluable seagoing practical experience, as well as to follow through a structured career path so to be promoted in good time.

"Our training programmes are all about a long-term vision and focus on the human element. They are set up to provide a holistic, constant and reliable option for supplying our crew managed vessels with well-trained, competent and skilled marine professionals," explained Training Manager, Marlow Navigation, Captain Martin Bankov. "This is all now further enhanced, with greater possibilities as a result of the new partnerships with maritime academies in various countries."

Over the last few years, Marlow has also seen a lot more interest from female applicants and has helped create the opportunity to take in those with adequate results during the screening process to begin their seagoing career with the company.

"It is also great to see that we have a growing number of female applicants interested to join our training programmes, both in the deck and engine departments. Our intention is to continue creating more awareness about our programme and of course a career at sea overall to all, and further build on this diversity and pool of new talent," added Bankov.

Well over a third of active seafarers at Marlow come out of the dedicated training programme, including around one third of all officers presently on board.



Further building diversity with Marlow's training programmes

CADET RECRUITMENT CONTINUES IN PHILIPPINES

Despite the logistical challenges created by restricted personal contact, the recruitment process of Marlow's Prospective Officers Training Programmes in the Philippines continued its course throughout last year and into 2021.

The first step is always to reach out and attract new talent to the company's programme. This is an ongoing process that is very much sustained by long-established and dependable recruiting channels, namely partner Maritime schools in the country and further fuelled by Marlow's own marketing and local offices.

"Further to those selected via our partner maritime schools, we maintained an open invitation policy, where students could still express their interest and apply online, since they were not always able to visit our offices. Our team in Manila subsequently reviewed and processed applicants in a smooth and timely manner," said Chief Executive Officer, Operations, Capt. Leo Tenorio.

Candidates then had the opportunity to undertake a qualifying exam remotely, moderated by both Marlow and its partner training centre United Marine Training Center (UMTC).



Marlow continues its cadet recruitment process, with exam and qualification process taking place online

EQUIPMENT & FACILITIES

STREAMLINING MARLOW TRAINING WITH NEW LMS

There has been a huge shift in the way many of Marlow's training courses are being coordinated and managed, transitioning to online tools.

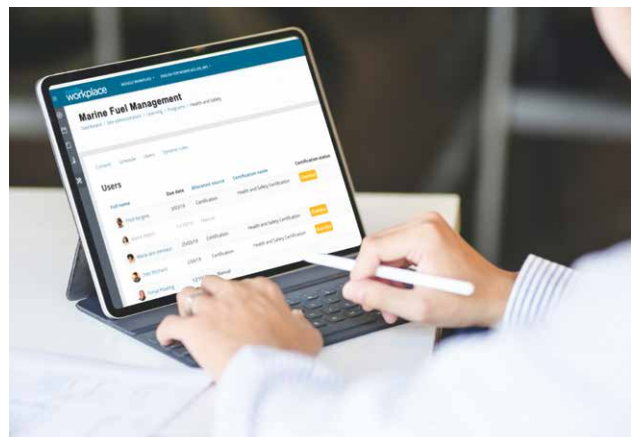
The company has integrated the world-class Moodle Workplace, part of a wider online Learning Management System (LMS). This customisable platform allows the company's training departments to assign and schedule courses and programmes for crew, share centralised content to facilitate the curriculum and encourage collaborative learning, as well as track learner progress and compliance.

Besides the necessity to provide remote access to learners, the system further enhances efficiency, with dynamic rules and automation of repetitive tasks, such as enrolments, feedback and certifications, as well as prompting reminders with push notifications and messaging.

Seafarers can access their profile on the workplace with a host of information at their disposal, including their courses or set of courses within a programme, viewing preferences, review due dates, material to prepare for their course in advanced, track their progress and complete requirements for certifications, as well as viewing results and any remarks from assessors. This can all be done easily across devices, including desktop, tablet and mobile.

Meanwhile, instructors at our partner training centres and our training management teams can create custom reports that incorporate a diverse range of conditions and filters that help provide a 360-degree on learning activities and participants, helping to track development, competency and provide feedback on improvements back into the learning ecosystem.

Moodle Workplace is integrated to external content repositories and other platforms, such as for conducting webinars and other eLearning and third-party training tools, as well as Marlow's internal crewing system and CrewCompanion mobile App.



Marlow's new Learning Management System for administering education and training

ENHANCING THE DIGITAL TRAINING EXPERIENCE

Both our partner training centres, UMTC in the Philippines and KMSTC in Ukraine have recently invested in a full upgrade of their equipment and tools to help enhance the online and digital training experience for seafarers.

This includes establishing dedicated studios and purchasing hardware for conducting online courses and webinars, such as: professional broadcast standard microphones and boom arms, webcams and displays, as well as lighting equipment and background screens, among other. Such equipment significantly elevate the audio and visual production quality and further improve the overall learning experience.

In addition, accompanying software has also been integrated to deliver professional-quality online courses and webinars. These platforms provide a multitude of possibilities to make courses more dynamic, maintain the highest level of data protection and security, allow for brand customisation, and offer a seamless audience experience on any device.

Oculus Quest 2 VR goggles and controllers to be used for Master-Pilot relationship training



Meanwhile, restrictions on physical training during the past year triggered alternative digital solutions, such as with the bridge simulator for Master-Pilot relationship. Together with the Bulgarian based marine simulator software development company NauticBlue, a VR ship simulation has been introduced, with the bridge team interacting like avatars.

The DNV certified, new generation simulator for education and assessment of Marine Navigators provides crew based in various locations the opportunity to interact as one bridge team, including live interaction with actual pilot.

One or two of the participants wear the all-in-one next generation VR goggles OCULUS QUEST 2 or Rift S and have the possibility to see the actions of the rest of the team as avatars, as well as to communicate with them with a 100% VR replication of the critical situations on the bridge. Other than stable Internet connection, the only equipment needed are the VR goggles and controllers, a PC with fast processor and a video graphics card suitable for PC gaming.

Training continues at Marlow despite the challenges; blending learning the way forward



“As we’ve all learnt to somehow adapt to this ‘new normal’ in digital learning, we also continue to ponder what truly lies ahead and when might things get back to the ‘old normal’.”



Physical training is not something that can be replicated digitally

SEAFARER TRAINING THE WAY FORWARD

COVID-19 has been a big wakeup call industry-wide, like it has been for the global economy and society at large. Perhaps the biggest lesson of all has been how fragile many of our regular routines can be and in turn a deeper appreciation of accepting change and fully modernising in advance to be best shielded. At the same time, we have also been reminded about the importance of conventional and personal approaches, especially in areas such as maritime education and training, and that despite all the conveniences of digital tools, many still yearn for it.

The need to transform

The shipping industry had been significantly affected by COVID-19 over the last year and more, and whilst the biggest challenge was seen to be crew changes, the impact on maritime education and training and the continued supply of qualified and certificated seafarers also quickly became a growing area of concern for the industry.

Certainly, training became more important than ever. Not only is it the basis for qualification, competency and safety at sea, but also the vital response to the seafarer recruitment issues caused by the pandemic. New talent is always available to source, but what is crucial is the process in how you train and develop people, whilst also integrating them within the company's culture.

Travel restrictions and social distancing immediately impacted training, since crew were not easily able to get to training centres to continue their upgrading or for new recruits to be inducted. Meanwhile, the standard curriculum and career path for cadets was also affected, such as to their academic year, schedules and availability of berths, delays to completing the onboard training component, and difficulties for cadets to get back in time for their regular examinations.

Solutions did, however, quickly come to the forefront and accelerated into application, namely with the assistance of eLearning and other digital tools. But as we've all learnt to somehow adapt to this 'new normal', we also continue to ponder what truly lies ahead and make every effort to put in place the conditions so to always be a step ahead.

Blended learning is the way forward for maritime training



Safe mooring training facility
at UMTC in the Philippines



A new digital ecosystem

Of course, the number one priority has been to enable more remote learning and training. Today, a whole range of innovative solutions and resources cater to this need. From cloud-based simulator training, interactive video and immersive role-playing and game-like training, the virtual classroom/workshop with synchronous video tools, to webinars and collaborative platforms.

Meanwhile at Marlow, a new Learning Management System (LMS) is integrating and administering most of these modules, including third-party content and the ability to develop and deploy our company's own material. This means comprehensive and blended formats of learning, therefore a wider and more diverse training library from which to choose and better adjust the syllabus as per the specific needs of the courses and curriculums. Furthermore, it provides the ability to customise the experience as per our company-specific material, as well as our culture and procedures, and that of our clients.

No doubt, there are significant advantages to these new innovative digital training tools. As mentioned, the accessibility factor is fundamental. This enables the delivery of instructor-led, simulator and other types of training experiences to a global audience, which is always useful, especially considering that many seafarers are located in provincial and remote areas, or of course at sea. It supports more immediate training and upgrading, saves travel times and costs, and allows seafarers to undergo training whilst off duty.

The other main advantage is their interactivity and that they can help bring a lesson to life. Such tools go far beyond the passive sit back and listen type learning, or click to proceed scenarios, therefore greatly help to improve comprehension of the various topics. They encourage engagement and collaboration on a different level and provide a frictionless skills development and assessment experience, as well as a wealth of insights and analytics for the instructors and training management.

Can digital fully replace the personal?

We have all seen that learning can happen anywhere and anytime. Even in a post-pandemic world, such approaches will continue, remaining functional and up-to-date so to act as a strong contingency plan for possible future disruptions, but also as a holistic solution and for genuinely complementing education and training for the modern seafarer. But does this really mean that the classroom environment is on its way out or that it will serve a less important role in the years ahead?

The short answer is "No". A personal approach in education and training will always be needed. Humans are social creatures and digital cannot fully replace the personal and physical contact we require. Consider the networking of face-to-face and body language, as well as just the overall presence of being around and engaging with other people – instructors, colleagues and peers collectively. What comes with this is the development of a host of interpersonal traits, communication and soft skills, as well as a sense of belonging and teamwork. All of these are primary virtues for a seafarer, helping to instil and nurture vital aspects such as comradeship and seamanship.

Then there are certain areas of training that simply demand physical skill development and hands-on learning, where only workshops, practical exercises and mission simulators can truly provide the best experience. Some amounts of these could still be done remotely, such as theoretical parts, but on the whole, when it comes to maritime training and quality assurance, there is no truer phrase than "practice makes perfect".

Similarly, there are many instructors who are far better suited to the 'hands-on' and practical training approach, as experts in the maritime field who draw on their extensive experience at sea. It is safe, and acceptable to assume that they also cannot relay the same teaching to their students virtually, and certainly not in a short space of time. This is the reality of our industry, very much closely aligned to the apprenticeship concept.

Meanwhile, the digital approach can and does isolate people, it limits openness and therefore a certain dimension in feedback, whilst also raising concerns in areas such as motivation, time management and discipline. At least to some of the older generations, computer illiteracy can also pose issues. The other obvious obstacle is to ensure that these new approaches are structured and standardised worldwide, and guided, if not regulated, at both a national and international level.

Whilst we absolutely rely on remote learning and training during these extraordinary times, and for sure it will play a significant and positive role in the years ahead, the conventional class- and workshop-based training is also itching to come back. Truth is, together they will make the education and training experience more complete, and help advance seafarer competency and safety to new heights. This is a true blended learning approach to maritime training.

Newly installed webinar equipment at UMTC in the Philippines



TRAINING COURSES & WEBINARS



KMSTC quickly adapted to the new situation, introducing a range of new courses, including online and classroom based

In response to the restrictions caused by COVID-19, all Marlow's partner training centres have forged ahead with new approaches to allow education and training to continue successfully.

This included strict safety measures at all training locations, as well as expanding remote learning, introducing a host of new online courses. This prompt and steadfast action has allowed Marlow's cadets and crew alike to continue their training safely and without major disruption to the standard curriculum and their career development path.

NEWLY INTRODUCED COURSES AT KMSTC

Online Training (includes webinars, eLearning and blended learning)

COURSE NAME	PILOT DATE
Digital Delivery BOSIET with EBS	FEBRUARY 2020
Guidance to Port State Control & RightShip Inspections Training for Seafarers	JUNE 2020
Bulk Carrier (including Draught Survey and Stability) training	OCTOBER 2020
Marine Fuel Management for Engine Officers	OCTOBER 2020
Safety Awareness Training Program	OCTOBER 2020
Commercial Admiralty Law	JANUARY 2021

Instructors-Led Classroom Training

COURSE NAME	PILOT DATE
CA-ABS Initial deployment	JULY 2020
HUET Course with CA-EBS	JULY 2020
BOSIET & FOET Course with CA-EBS	AUGUST 2020
Working at Heights Operator and Supervisor Training for Seafarers	JANUARY 2021

TRAINING COURSES & WEBINARS

NEWLY INTRODUCED COURSES AT UMTC

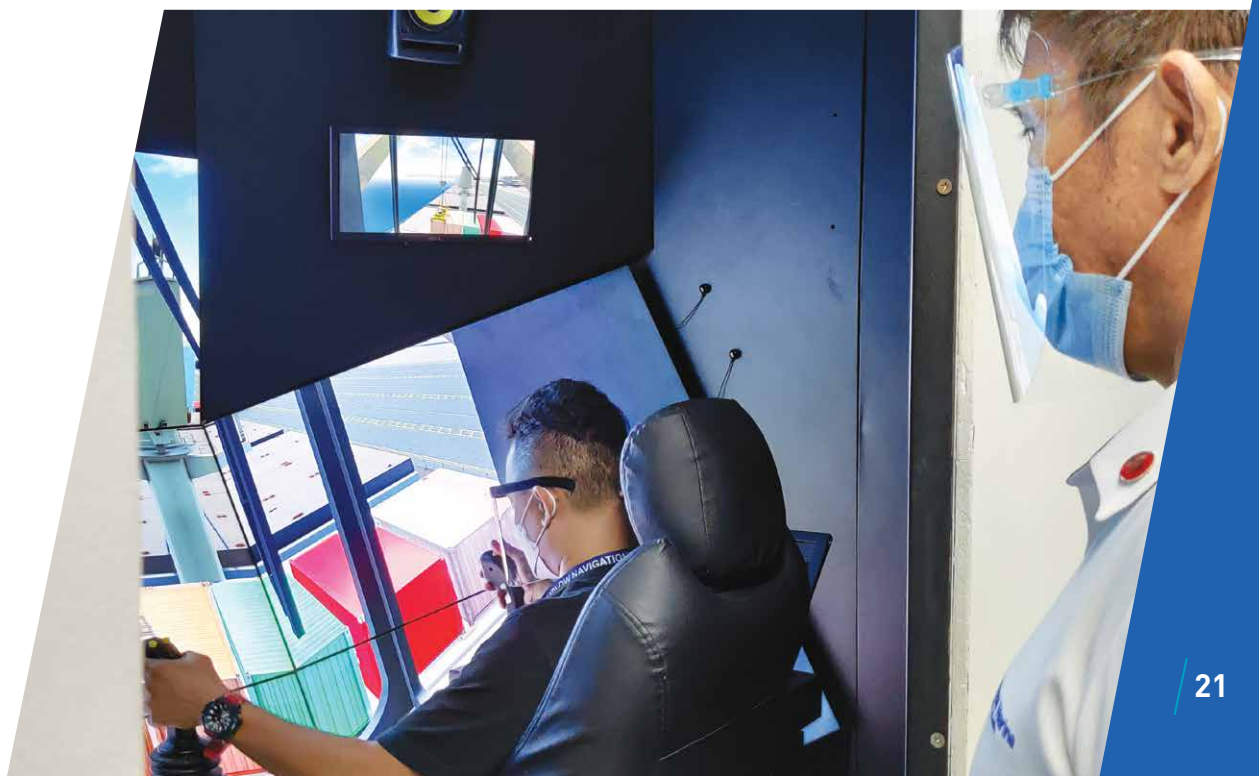
Online Training (includes webinars, eLearning and blended learning)

COURSE NAME	PILOT DATE
Guidance to Port State Control & RightShip Inspections Training for Seafarers	JUNE 2020
Anti-Piracy Awareness Training Course for All Crew	AUGUST 2020
Safety Awareness Training Program (SATPRO) for all crew	SEPTEMBER 2020
Marine Fuel Management for Engine Officers	DECEMBER 2020
Commercial Admiralty Law	MARCH 2021
Tropical Storm and Heavy Weather Navigation	MAY 2021
Container Webinar	MAY 2021

Instructors-Led Classroom Training

COURSE NAME	PILOT DATE
Ship Fitters Course	FEBRUARY 2020
Maintaining the Operation of Electrical Power Generation and Distribution Systems	NOVEMBER 2020
Leadership Culture On Board Merchant Vessels	DECEMBER 2020
Working at Height Operator and Supervisor Training for Seafarers	DECEMBER 2020

Crane driving training at UMTC Manila with health safety precautions



TRAINING COURSES & WEBINARS

CONVERSION COURSE CREATES JOB OPPORTUNITIES FOR CRUISE SHIP COOKS

Marlow Navigation has introduced a new dedicated cook training course in the Philippines for updating experienced cruise ship cooks to also be employable on all types of cargo ships.

This 19-day specialised training course is offered free-of-charge and includes board (meals) and lodging at our partner training centre in Manila, United Marine Training Center (UMTC). The pilot course kicked off in September 2020, with the first batch of graduates lined up and joined their vessel for assignment thereafter.

“Overall, the program has generated significant interest from applicants. COVID-19 has forced cruise ships around the world to suspend their operations. Even if some might slowly resume at a later stage, it is unclear how it will all develop, since travel restrictions are changing on a regular and spontaneous basis, but also as people’s sentiment to go on a cruise or even just travel in general remains rather low,” explained Training Director, Marlow Navigation, Joern Clodius.

“However, commercial shipping not only remains vital to world trade, but also critical to supporting

people and communities around the world, such as for supplying food, medicines, energy and other goods. Thus, this course helps provide cruise ship crew presently out of work the opportunity for continued employment at sea,” added Clodius.

Cargo ships, including container vessels, bulk, heavy-lift, multipurpose and tankers have of course a somewhat different approach when compared to cruise and passenger ships. This conversion training is focused on updating cooks with the necessary knowhow and practicalities for the change, whilst also enhancing areas such as European cuisine, baking pastries and cakes, as well as victualling and orientation on the differences between cargo and cruise ship.

Meanwhile, applicants of other ranks with experience on cruise ships were also invited to apply and given the opportunity to continue working at sea, including fitters, oilers, wipers, electricians, ABs and OS, subject to their qualifications and experience, as well as the requirements of available positions on the company’s crew managed vessels.



Cook conversion course taking place in Manila

KMSTC RESPONDING TO INDUSTRY DEMANDS

Kherson Maritime Specialized Training Centre (KMSTC) in Ukraine has launched a number of new practical and online training courses in response to the demands of the maritime industry.

One of the newly established practical courses is the two-day Working at Heights. This course looks at the potential hazards of working at heights and coaches participants on best practices in risk assessment and implementing proper measures for carrying out their work from such dangerous spots. The course also covers relevant theory, such as key responsibilities of the individual, applicable legislation, as well as statistics and case studies on incidents.

“It is excellent to see yet another example of how our partner training centres are responding to the needs of the industry by evaluating requirements and creating such new courses,” stated General Manager, Marlow Navigation, Captain Alfred von der Hoeh. “These are vital to help keep seafarers’ regularly updated with knowledge and hands-on training, of course all in an effort to ensure safe working conditions and prevent accidents and injuries at sea,” said von der Hoeh.

A fast-changing world and the ongoing requirements of the industry has also set new standards in training over the last year. However, KMSTC has managed to swiftly transform existing instructor-led training into online courses.

These courses at KMSTC are not just in a typical webinar style where a lesson is simply streamed, but far more dynamic and engaging. They incorporate a set of elements that require knowledge-base, but also technical and communication skills and practices, whilst allowing the instructor and participants to interact freely during the course. This then helps with both the delivery of content and for closely assessing comprehension and taking immediate action as needed.

The online curriculum is to be administered on the new learning management system Moodle Workplace, which will be implemented as part of the company’s global training unification initiative.

“Our team here at KMSTC has risen to the challenge and shown utmost professionalism and dedication to their work and responsibilities in maritime training, adapting quickly and very well to these new teaching



Working at Heights training course at KMSTC, Ukraine

methods. Our thanks also to all our clients and partners for their continued support along the way,” said Centre Manager, KMSTC, Captain Sergey Dudchenko. “Likewise, all seafarers must be commended for their versatility and focus to their training and upgrading during these exceptional times, whether attending class-based or online lessons.”

“Together with our clients and partners, we are regularly assessing the situation so to best plan and develop new online and practical courses,” added Dudchenko.

KMSTC is already working on adding new basic safety training courses in accordance with the Global Wind Organisation’s standards. This comes following recent developments and high demand for specialists in the offshore wind energy sector, particularly in the EU, as well the readily available equipment and expertise at KMSTC based on OPITO basic safety training.



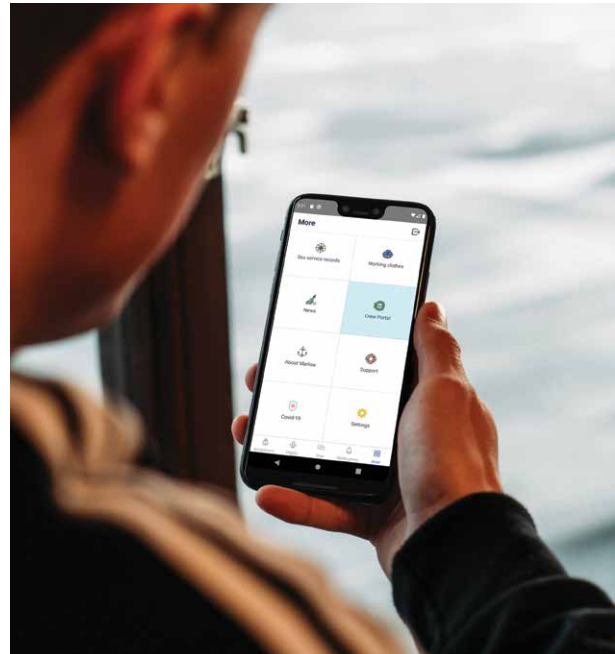
MARLOW PDB MADE FOR REMOTE LEARNING

The new edition of Marlow's Pre Departure Briefing (PDB) for crew has been created for better remote studying and made available via the Crew Portal or Webinar for crew preparing for their next assignment.

"Throughout the course of 2020 and into 2021, agency visits around the world were reduced to only what is necessary. Fortunately, we maintain several online platforms which allow our crew to access information and undertake the PDB from the safety of their home during pre-joining self-isolation or whilst on their assignment," said Crewing Director, Captain Frank Brodersen. "A lot of the content has also been created with the current global situation in mind," he added.

Once crew changes became possible, even if still logistically very challenging, it was of course extremely vital that the company's policies and procedures were strictly followed to ensure a safe and successful exchange.

This information was relayed in the PDB's animated instructive video *Preparing for your Assignment during the Pandemic*. These rules were implemented not only to facilitate crew changes, but to protect seafarer's health and that of their crewmates and other passengers.



Another important topic is promoting the physical and mental health of crew. To further address this matter, the PDB has a presentation with general guidance on COVID-19 safety and a video with suggestions and guidance for improving both physical and mental health whilst at sea. Meanwhile, since social gatherings are restricted, using technology to stay in touch has never been so important. As such, the PDB reminds crew about the chat feature in Marlow's Crew Companion App – an ideal channel for connecting with colleagues that are in a nearby vicinity.

Like with previous versions, the PDB also documents and analyses recent case studies from the fleet that cover a wide variety of topics. All cases are summarised with points designed to help prevent future similar incidents.

Staying healthy at sea video presentation, now available on the new PDB version



“ Fortunately, we maintain several online platforms which allow our crew to access information and undertake the PDB from the safety of their home during pre-joining self isolation or whilst on their assignment ”



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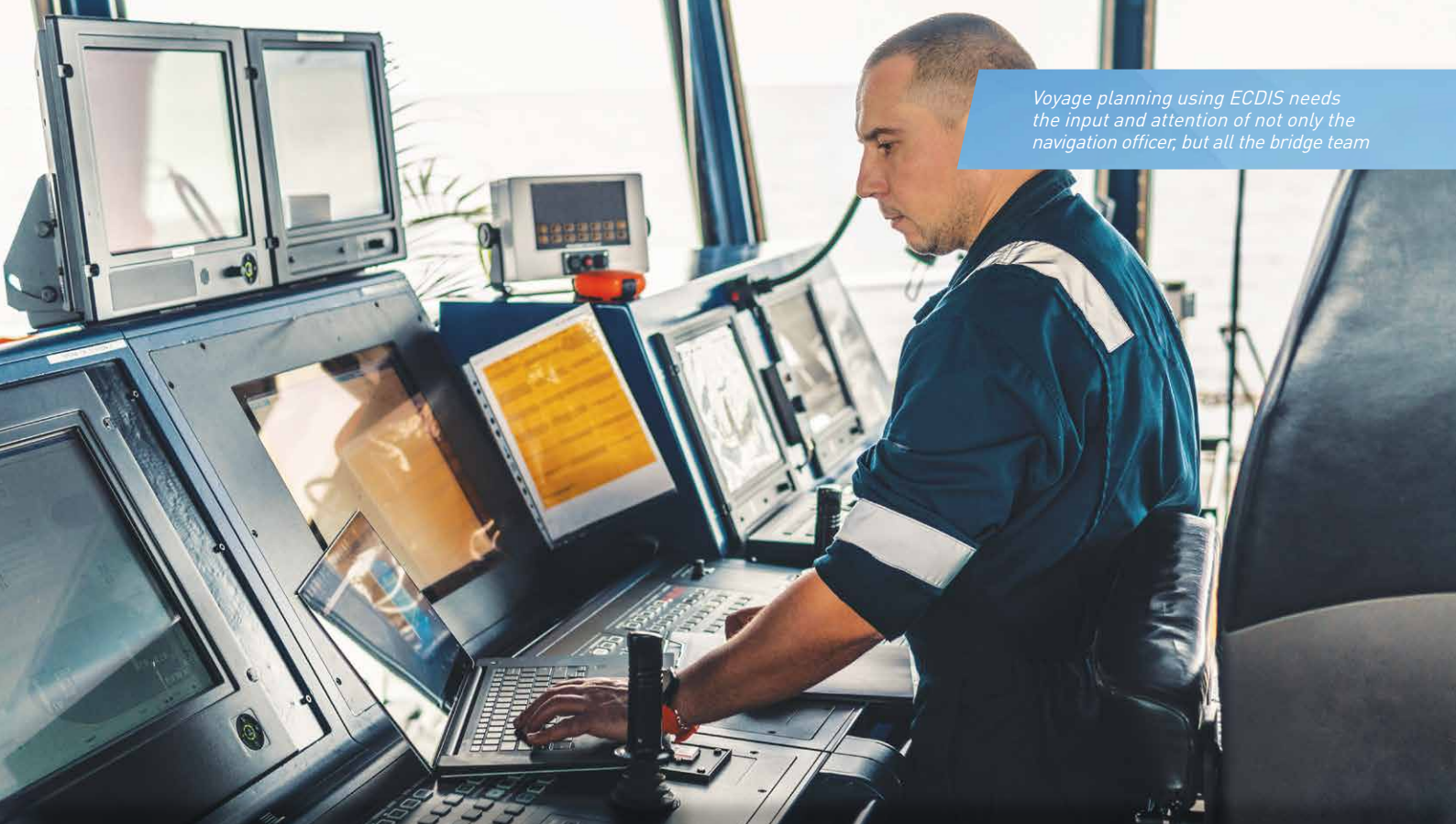
THE A-Z OF SHIP MANAGEMENT

FOR TRAINING

Training best ensures safety and quality. Despite all the technological advancements, new tools and equipment, the absolute best asset you can have on board is well-trained and committed crew.

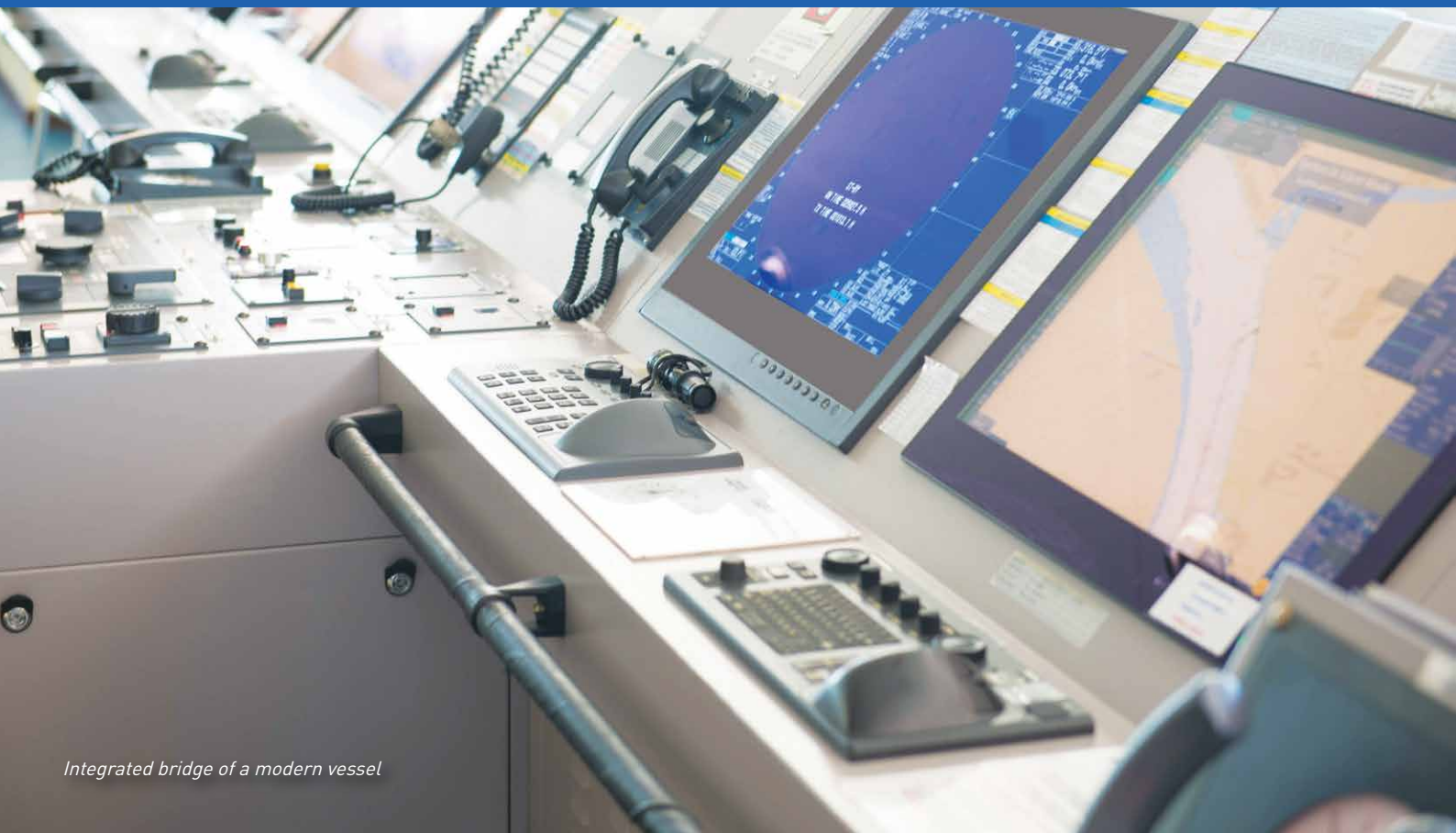


PARTNER. SHIP. REDEFINED.



Voyage planning using ECDIS needs the input and attention of not only the navigation officer, but all the bridge team

Advance Training Initiatives



Integrated bridge of a modern vessel

SAFE VOYAGE PLANNING

One of the most important procedures on a ship is that of voyage planning. It requires proper knowledge, planning and execution to navigate the ship safely to its known port of destination. In this analysis, **CEO, ChartWorld International Ltd., Steven Schootbrugge** describes the practical aspects of voyage planning with the use of electronic (software) tools and ECDIS on board SOLAS vessels, with a special focus on safety-related matters.

Voyage planning challenge

Despite the availability of dedicated software solutions such as ECDIS intended to make easier the voyage planning task, the process is still very time-consuming, requires a lot of effort from the mariner, and the risk of human error is high.

The reason for this is that the information in most cases arrives from different sources and coordination of different layers of information must still be done by the mariner.

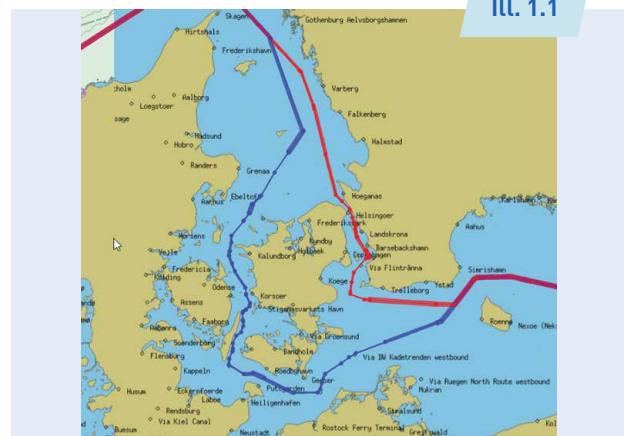
How to reduce the mariner's workload and prevent human errors

The solution to overcome the challenges of voyage planning is to provide fully digital data services to the mariner. These services must include digital data ready for processing by the voyage planning tools and ECDIS. In an ideal case, a fully compliant voyage plan should be generated by computer software that would take into account the safety aspects and information from various sources.

Software solutions and digital data services, such as those provided by us here at ChartWorld can resolve the route planning challenges. With the ChartWorld digital services, the voyage planning process could be automated and will consider all factors for the safe route.

ChartWorld My Route Appraisal (MyRA) software and shore-based routing service deliver a safe and compliant voyage plan for a specific vessel, cargo, and considering voyage parameters such as static draft and dynamic UKC. The Navigation Officer on board must enter the draft and safety margin for maintaining dynamic UKC for Berthing, Confined (pilotage), Coastal and Open Sea parts of the voyage. Other entered voyage parameters, such as vertical clearance and dangerous cargo are also considered in the automatic route calculations conducted by the MyRA Routing Service.

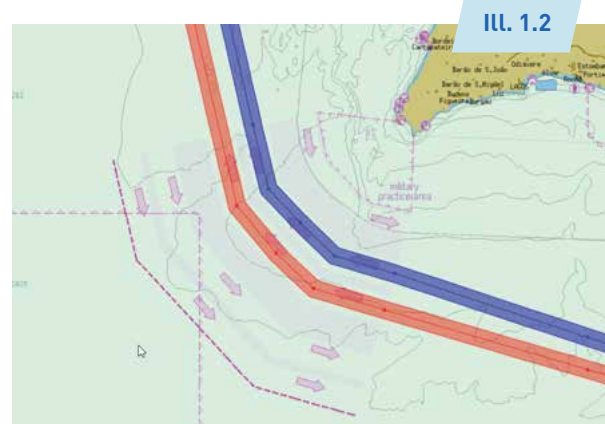
As an example of the automatic route calculations, **Illustration 1.1** shows the route alternatives for the voyage Gdansk to Rotterdam for the same vessel in laden and ballast conditions. Navigation via the Kiel canal was excluded from the calculations due to the vessel size (LOA) restriction. Then for the ballast voyage (low draft), the routing service selected a route passing the Sound while Great Belt was selected for the voyage with the deeper draft.



Voyage plans for lower (red) and the deeper draft (blue)

Another example is the selection of a right TSS lane depending on the type of cargo for another route along the Portuguese coast. If dangerous goods are selected as an input routing parameter for the voyage, the MyRA routing service automatically selects the outer lane (red) in the TSS off Cape Sao Vicente. And vice versa, if no dangerous goods are carried on board, the shortest inner lane (blue) is selected.

Illustration 1.2 shows that the automatic route planning considering specific vessel and voyage could be safer than human calculations.



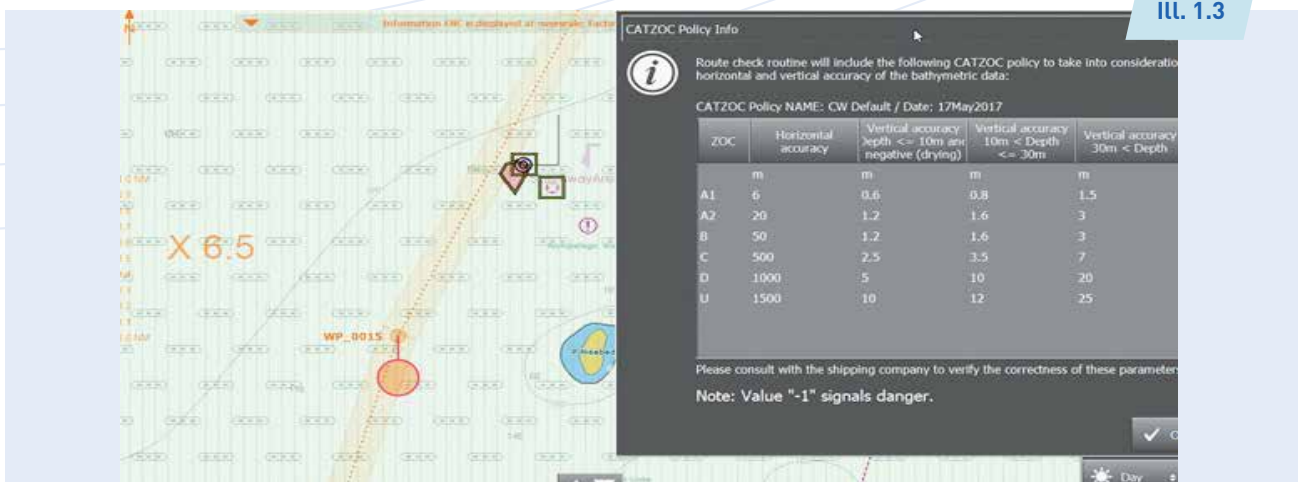
Selection of TSS lane with (red) and without (blue) dangerous cargo

ANALYSIS

Human related activities in the voyage planning

Although MyRA automatically provides the safest possible voyage plan, a final decision about taking the suggested route remains the Captain's responsibility. ChartWorld delivers software functionality and digital data that help the mariner to make the right decision according to regulations and safety policy.

The received MyRA voyage plan must be loaded to ECDIS and checked for safety. ChartWorld ECDIS eGlobe G2 considers ENC accuracy values (CATZOC) in the automatic route check according to the IHO recommendations. Results of the route check show dangers for every route leg and interactively highlight them on the ENC display when editing the leg position (see Illustration 1.3).



Highlighting dangers located out of the XTD according to CATZOC

ECDIS OVERLAYS IN THE VOYAGE PLANNING

Temporary and preliminary notices to mariners and navigational warnings

As it is shown in the recent legal investigation of the CMA CGM LIBRA case (vessel ran aground in 2011 exiting Xiamen, China), neglecting T&P notices in the passage plan was the reason for the grounding and "...a properly prepared passage plan is an essential document which the vessel must carry at the beginning of any voyage. There is no reason why the absence of such a document should not render a vessel unseaworthy, just as in the case of any other essential document".

Therefore, adding T&P Notices to Mariners to the ECDIS is an essential part of the voyage planning and the navigation officer on board must plot positions from a paper NtM booklet to the ECDIS user chart or use the ECDIS manual correction function.

To simplify this task for the mariner, ChartWorld Data Service delivers Information Overlay CIO+ that includes a set of

data files in the format of the ECDIS user chart. The CIO+ user charts include voyage-related ECDIS overlay of Temporary and Preliminary Notices to Mariners, Navigational warnings (NAVAREA, Coastal, NAVTEX) and indication for the voyage crossing areas with environmental regulations (Illustration 1.4).



Plotting T&P NtM and NAVAREA as an ECDIS overlay

HIGHLIGHTING DANGEROUS AREAS IN ECDIS

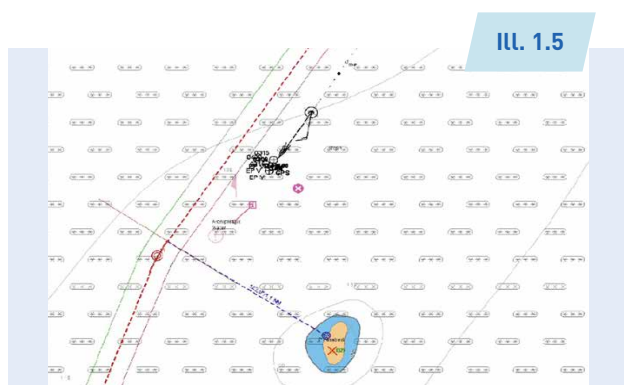
Stay away areas derived from satellite imagery

One more CIO+ ECDIS user chart overlay delivers Stay Away and No Go areas that provide an additional indication for shoals and underwater dangers.

Shoals are more likely to become visible if the visual perspective changes, e.g., to a bird's-eye view (i.e., seeing the object or area from a high elevation). Utilising satellite technology, pictures can be taken from space to generate aerial images at sub-meter resolution. Since satellite cameras have a wider visible spectrum, they can even detect such items invisible to the human eye.

The overlay of shoals and underwater dangers is based on a method that uses algorithms to derive bathymetry and detect underwater objects from multi-spectral satellite imagery. If the satellite image was made in good weather conditions (clear sky) the method developed by ChartWorld's partner EOMAP detects shoals and dangers in areas up to 30 metres of water depth and can cover big regions not properly covered by the classical hydrographic survey. EOMAP is a world-leading company for optical remote sensing of marine and freshwater aquatic environments and value-added reseller of satellite imagery and associated services.

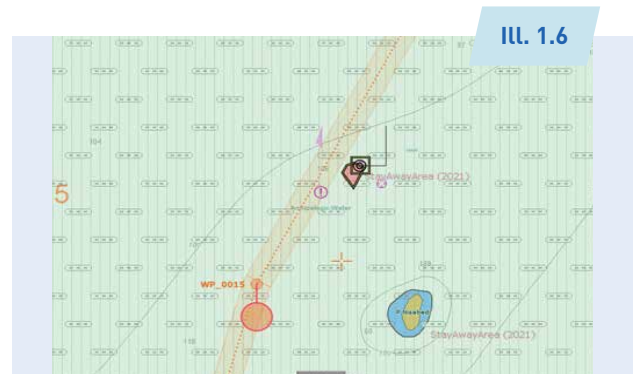
It's a fact that some areas are still not properly surveyed and uncharted underwater rocks or other shoals might occur. As an example, motor tanker Pazifik ran aground when navigating in the Indonesian Archipelago. This incident happened due to planning the voyage in close vicinity to a non-charted shoal between the islands of Komodo and Banta and then further deviation from the planned route during the voyage (Illustration 1.5).



Location of the grounding MT PAZIFIK shown in the onboard ECDIS

ChartWorld in cooperation with EOMAP processed satellite images for Indonesian Archipelago, created a map of the detected shoals and underwater dangers referred to as "Stay Away Areas" and delivered it as the ECDIS user chart (Illustration 1.6).

The Stay Away Area objects in the user charts are always highlighted in the ECDIS route check in planning mode and generate anti-grounding alarms in the route monitoring mode. With the Stay Away Areas overlay the ECDIS will automatically highlight the shoals even not charted on the ENC.



Stay Away Area overlay shown as a user chart and highlighted by route check in eGlobe ECDIS

Indication of NoGo areas based on ENC data

The NoGo Area overlay is generated from ENC information such as spot soundings, depth contours and isolated dangers. Normally the bridge team must draw this layer manually in the ECDIS, while CIO+ delivers this data generated by the shore-based Data Service and adjusted for a particular voyage and vessel parameters. The CIO+ No Go areas also take into account ENC data accuracy defined in CATZOC.



The red line shows the NoGo Area generated from ENC

The CIO+ service complements but does not substitute safety-related information, received from official sources like ENC data, T&P Notices to Mariners, Navigational warnings received by VHF, NAVTEX or SafetyNet. Therefore, the information loaded to the ECDIS as the CIO+ user chart should be cross-checked and validated against the official sources.

A combination of electronic tools such as automatic shore-based voyage plan and CIO+ ECDIS information overlays is intended to significantly reduce the workload for the bridge team and eliminate a factor of human error and increase the safety of navigation.

FACTS & FIGURES

ABSORBING THE SHOCKS

As to be expected, Key Performance Indicators (KPIs) with Marlow training activities in 2020 were impacted somewhat by COVID-19. Of course, travel restrictions and lockdowns throughout the world for almost the entire year prevented training from continuing as per 'normal'. This is especially true in a number of our major locations, namely the Philippines and Ukraine, but also other.

Upgrading training for crew was also affected. Initially, many seafarer colleagues were not able to disembark their vessel and travel back home. Even once able to, or for those that were already ashore, local travel restrictions continued to prevent them from being able to easily visit our training centre to undertake courses.

Nevertheless, we managed a total 56,675 course attendances for Marlow crew at training centres throughout the year, a drop compared to the previous year, but still decent when considering the extraordinary situation the world was facing (see figure 1.1). This was partly due to the dedicated work and speedy measures adopted by our partner training centres so to allow for some amount of training to continue safely. During various stages in the year, lockdowns were

also partially eased, allowing some seafarers the opportunity to travel back home and/or to catch up on their training.

To compensate the restrictions imposed on live training, our capacity to facilitate remote learning increased substantially in 2020, with almost 36,000 additional course attendances during the year. This number is expected to rise in the year ahead, in line with newly integrated online tools and programs, which have opened the door for more efficient remote learning and training.

Similarly, our dedicated prospective officer and other training programmes were affected, both in terms of training ashore and on board components, as well as academic schedules. Inevitably, the crew change challenges also prevented new positions opening at sea. As such, there were fewer promotions in 2020, whilst we also had to adjust the number of new cadet intakes, even if only slightly, reaching just over 700 for the year (figure 1.2).

Considering the scale of the situation and the tough restrictions imposed on our industry, both promotions and new intakes at Marlow remained upbeat.

UPGRADING TRAINING TOTAL COURSE ATTENDANCES IN 2020

Fig. 1.1

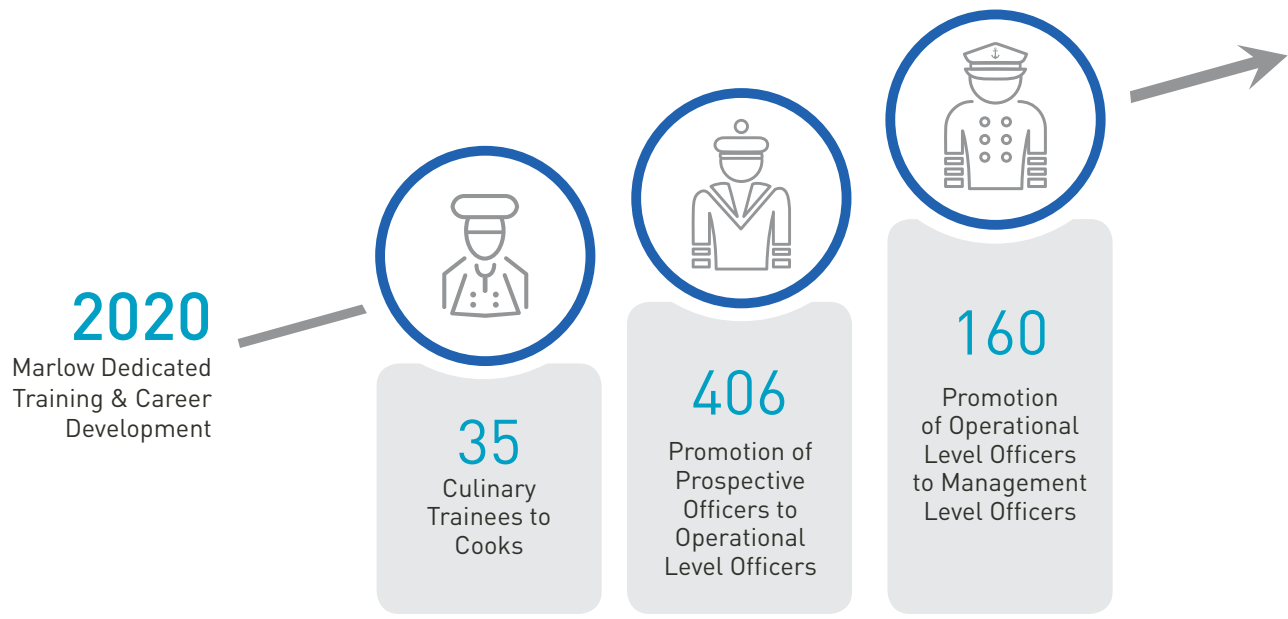


FACTS & FIGURES

TRAINING INITIATIVES INVESTING IN HUMAN CAPITAL

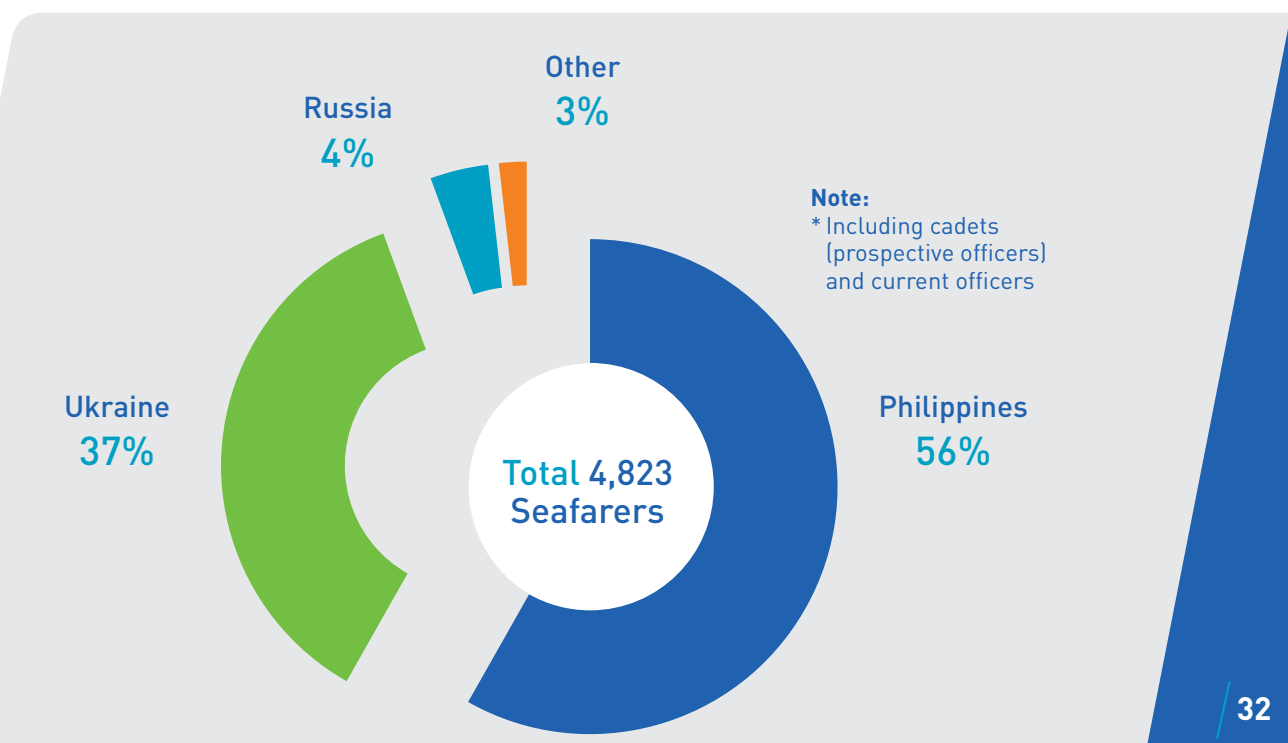
Fig. 1.2

701 Total New Intakes
Sponsored & non sponsored, including deck, engine, electro-technical & culinary entering the Marlow training programme



ACTIVE SEAFARERS OUT OF TRAINING PROGRAMME BREAKDOWN BY NATIONALITY

Fig. 1.3



FACTS & FIGURES

On a positive note, the current circumstances have generated a much higher level of public awareness and appreciation about the essentialness of shipping and seafarers in particular. However, at the same time, the crew change crisis has also somewhat adversely impacted the attractiveness of the seafaring profession, with potential future as well as active seafarers perhaps reconsidering their careers. This makes training programmes and initiatives such as those at Marlow even more important, so as to ensure our industry continues to attract and nurture new talent for the future.

At the end of the year, total crew on board our managed vessels coming from the training programme reached just over 4,800 (figure 1.3). The breakdown of nationalities remains more or less consistent, but we expect a small change in the year ahead with an increase from other countries, as we recruit cadets for our customers from new locations, including Egypt, Peru, Panama and Georgia.

We also introduced a number of new training initiatives, such as conversion programmes for cooks with experience on cruise ships, as well as for ratings, including fitters. These training programmes allowed such seafarers to update their skills and knowhow and make them employable on all types of cargo ships.

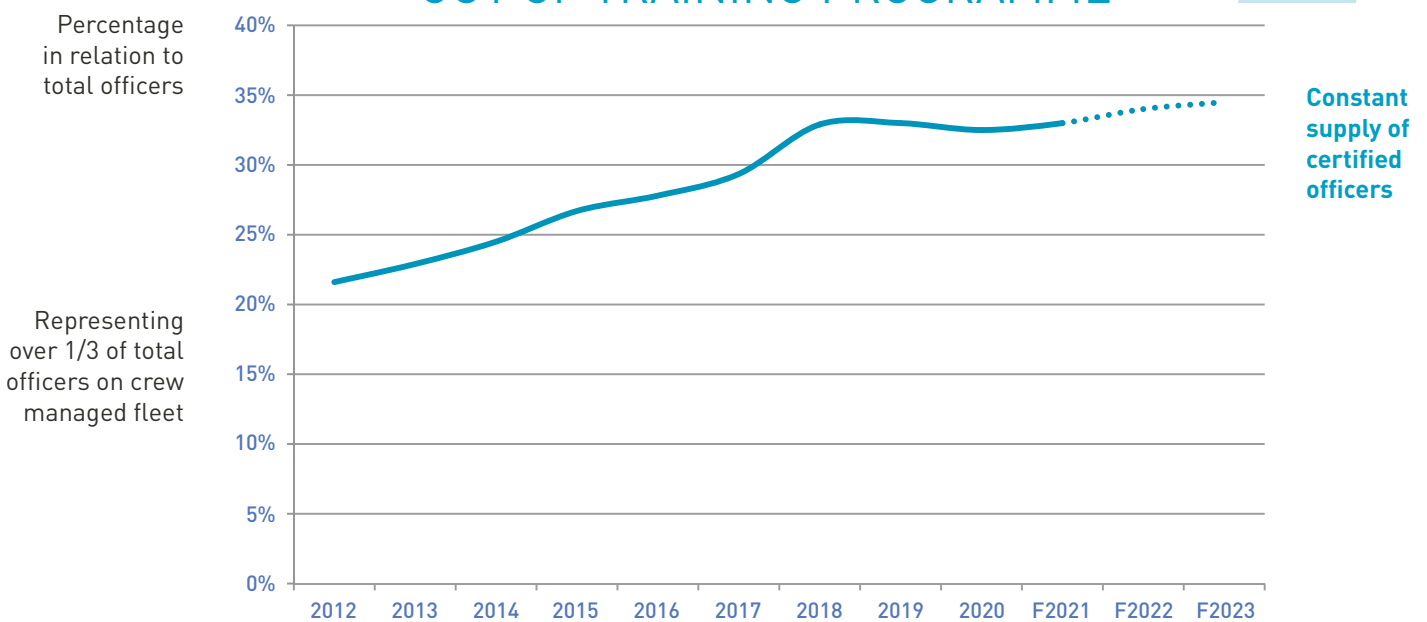
Like with our cadet programmes, restrictions and less opportunities opening up at sea meant that promotions were inevitably delayed for all crew. Additionally, disruption to planning and schedules of the training matrix naturally impacted seafarers' career development path and the opportunity to advance their qualifications. Due to both of these factors, officers out of our training programme remained stagnant in 2020 (figure 1.4).

Forecasts over the next couple of years are kept rather conservative, since they are also highly depended on the global state of affairs and more specifically the crew change situation. At the time of writing, both aspects were looking more promising, with vaccines already being rolled out and some easing of travel restrictions. But if there is one thing we've all learnt over the past year, is that the situation can quickly change and create new challenges.

Training is however somewhat back on track, thanks in large to the aid of additional digital tools and new systems, as well as the crew change crisis becoming more manageable. Thus, longer term forecasts should see some return to growth in all training KPIs, even if only minimal. Overall, we remain optimistic and diligent and continue to look for ways in advancing training and ensuring it remains an integral support to our business.

OFFICERS ON BOARD OUT OF TRAINING PROGRAMME

Fig. 1.4



Officers on-board out of the Marlow training programme



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Vessel assisted by the tug boat in the VR simulator of Marlow's Master Pilot Relationship course



About the Author:

This insight is provided by Capt. Nikolay Bedzhev PhD, lecturer at the Maritime faculty of the Technical University Varna and Managing Director at NauticBlue, a company that creates STCW compliant and DNV certified new generation simulators specifically for the education and assessment of marine navigators. Capt. Bedzhev is also a qualified marine pilot.

MARLOW BLUE VESSEL SIMULATOR VR – AN INNOVATIVE APPROACH TO MARITIME SIMULATIONS

Technology continues to create new training possibilities for the maritime industry and enhance the seafarer's overall learning experience. More specifically, as Virtual Reality (VR) and gamification continues to grow at an exponential rate, their benefits in education and training have also become increasingly pronounced. This report looks at the exciting new actualities of VR simulators, with scenarios and courses tailor-made for Marlow Navigation.

Virtual perfection in training

The sky is literally the limit with the imagination and capabilities of VR and gaming, a rich virtual world that far surpasses the training and learning possibilities of conventional full mission ship simulators.

As technology continues to develop and advance, and with more technologically savvy and engaged younger talent entering the maritime workforce, the advantages of using VR simulations and integrated with gamification to support training are considerable.

The application of VR simulators and gaming scenarios encourages seafarers to develop their skills continuously and progressively over time. Training with such tools favour fundamental skills, such as observation, motivation, overcoming criticism, strategic thinking and decision-making, as well as a host of soft and management skills.

It offers a type of training that is highly immersive and interactive, and allows learners to train proactively and improve their skills and knowledge through practice. This is further strengthened by being able to easily review results and content and then repeat lessons so to boost understanding and retention.

Another aspect, perhaps not so much talked about, is that virtual training encourages a 'safe' environment for making mistakes, since learners can feel comfortable to explore and experiment, take decisions, or even think outside the box. At the same time, this helps to build their confidence, especially in critical situations.

Most notably, however, it promotes greater situational awareness, offering all participants, seafarers and instructors alike, the ability to observe and inspect a variety of perspectives, such as all the different human roles in the lesson and multiple views of the ship, in and out. This allows them to better comprehend and appreciate the role and actions of others, thereby enhancing the relationships, such as between Master/Bridge team and Pilot or with the tugboat. With the conventional simulators, it is very difficult to simulate all possible scenarios for accidents and misfortunes and especially to allow users to virtually 'step into the shoes' of all other stakeholders in the process of manoeuvring and mooring the ship in the harbour.

Bird's-eye view of vessel entering a dry dock assisted by tugs



Benefits of VR simulations and gamification

- Highly immersive and interactive.
- Applicable to the real maritime world.
- Stimulates the participant's mind.
- Improves self-esteem.
- Permanent personal development.
- Significant possibilities in collaborative learning.
- Accessibility, allowing for remote training.
- Provides immediate feedback.



Master Pilot Relationship course – tug master point-of-view in VR simulation

TRAINING OPPORTUNITIES

Marlow Blue VR Master-Pilot Relationship Simulator

Master-Pilot relationship is a challenge that we here at NauticBlue have analysed deeply and managed to stage with the help of digital technology. Together with the industry expertise and knowledge on best practices from Marlow Navigation, we created a virtual alternative to the company's own Master Pilot Relationship simulation course, which allows participants from different locations around the world to interact successfully as a bridge team.

Our collaboration gave birth to the Marlow Blue VR Simulator, which is mainly aimed at reducing accidents in confined waters when manoeuvring with a Pilot on board. Essentially, the course takes place with the participation of three deck officers at management level and a real local Pilot.

The simulator combines modern software technology, science and marine experience. The software is designed in such a way to allow it to be used in three different modes: as a hardware bridge with multimedia projectors; desktop application; or as a VR application (or a combination of desktop and VR). The instructor's panel is a web-based application, which allows it to be used completely online. Another key feature is the ability to connect any number of trainees and distribute them amongst several VR bridges in various locations in a single simulation.

The simulator covers situations such as the critical instances in the interaction between crew and Pilots. Pilots can embark and disembark the simulated vessel after approaching it with a pilot boat. The essential elements are not only the critical moments for embarkment and disembarkment in low speeds and congested waters – other important factors that exist in real life and are also simulated include draughts, displacement, windage area, minimum manoeuvring speed and many more. These parameters may also be manually altered by the instructor to present the trainees with an on-demand problem and observe their reactions.

The software allows the replication of a particular vessel with its unique equipment. Each simulation scene can be configured with any available vessel. In this case, three vessels from Marlow's fleet have been used as models, with equipment on board mirroring their real-life counterparts as closely as possible.

An ideal make-believe environment

Some additional effects that are simulated and are very crucial in manoeuvring in narrow passages – are wind, current, dominant shallow water effects. Added to that is the factor of perspective depending on the location of the ship handler, visibility from specific place on the bridge, support by real look-outs situated as per the Master's decision, point of view modelled as per the bridge's width and height, dynamic draught as per loading conditions, windage areas, hull stability, trim and list, among other.

All the bridge team is represented by their personnel in the right places and with their corresponding Avatars with the actual faces and bodies of the course delegates. They all participate with their direct duties and responsibility in VR mode. In other words, all participants on the bridge team are physically in different locations around the world but virtually all on board the same ship, situated in a close to reality navigational task.

Instructors can take any role on the bridge team. A very useful option that is not available in the conventional simulators is the bird's-eye view, capable of moving unrestrictedly throughout the simulation.

This simulator is designed to not only uncover hazards with the manoeuvring in confined waters, but trying to expose weak links on the bridge team and in relation to the Pilot, as well as with the human factor in general. Through its conception, the system has been designed by Masters and Pilots, whilst science has been mixed with practice.



Master Pilot Relationship course – course delegate (Master) handling the vessel in VR simulation mode



THE A-Z OF SHIP MANAGEMENT

FOR INNOVATION

Digital technologies continue to advance maritime training, ensuring that the seafarers of today, and tomorrow, maintain course in ultimate safety and quality.



PARTNER. SHIP. REDEFINED.

FUTURE CHALLENGES

BRINGING BACK THE HUMAN TOUCH TO DIGITAL

Much of the challenges we wrote about in last year's Training Journal have now become somewhat of a routine, and of course our efforts to expand on them are ongoing. From further developing our learning ecosystem, to more online and digital training methods for seafarers.

Overall, technology continues to rapidly change the training and development landscape across the world, and as an industry, we cannot afford to fall behind. However, despite all the advancements and innovations with all these tools and gadgets, at the very centre lays the primary component, the human element. The most important thing to learning is the individual's willingness and motivation, and so it is not all about finding the latest fancy tech, but more about guiding and inspiring seafarers to want to learn, develop and aspire to new heights. But also supporting them with this endeavour and showing them the right path.

Especially after the adverse impacts of COVID-19 and all the drawbacks it brought with it, perhaps most of all being the isolation at sea or ashore, our challenges ahead must be to focus on bringing back the human touch. Of course, the tech will also remain crucial, and handy, but the goal should be to find a healthy symbiosis between the two.

It is also true that younger generations genuinely feed off digital tools and demand it in their life and work. They are also naturally much more fast-paced and multifaceted, and adapt very quickly to change; in fact even expect it. Therefore, we must also continue to 'speak' their language and engage them wholeheartedly by providing the tools and designing courses that best

suits them. At the same time, all of these approaches must be user-friendly and intuitive, as this is best for all generations.

Two key approaches that relate to the online world and that are very much intertwined are micro-learning and just-in-time training. Both should become core components to our training philosophy.

Micro-learning is a skill-based approach to learning that deals with relatively small but highly focussed units of information and short-term learning activities. It is the ideal way to find quick answers to specific problems. **Just-in-time learning** is an approach that promotes need-related training be readily available exactly when and how it is needed by the seafarer as opposed to ahead of time and training in case it will be needed.

For sure there will be challenges with both of the above two models, like there is with any philosophy that's newly introduced, but ultimately, they will both also be catalysts for changing the way maritime education and training is done and drive our industry well into the future.

Without a doubt, digital capabilities will bring forth plentiful opportunities to training, giving the control and will of learning to the trainee. It is a clear and to some perhaps a worrisome shift from our modus operandi if we look at the maritime industry as a whole, where training has always been driven by the trainer and old school mariner. But it should also be seen as a shift in higher gear and we all know well that the machine cannot progress without it.



Technology is of course here to help up us with training and development, but people will always be at the very core of our business

Electrical superintendent and executive trainer at Marlow for 18 years, Alexander Yakimchuk continues to train seafarers both on board and at training centres throughout Ukraine



Interview:

Alexander Yakimchuk is an Electrical Engineer and Trouble Shooting Ships' Automation (TSA) executive trainer at Marlow for the last 18 years. He also works as an Electrical Superintendent for one of Marlow's long-time clients, has authored a number of publications on the subject, and is actively engaged in creating and launching new online training tools for marine electronics and electrics troubleshooting.

“SCIENTIA OMNIA VINCIT” KNOWLEDGE CONQUERS ALL

Rapid technological advancements in the maritime industry over the past two decades have outpaced maritime education and training. Training institutions have had to catch up a lot harder to comply with new standards and to ensure marine engineers continue to have the necessary level of skills and competence.



What new training demands have arisen due to an increase in automations in ship building technology?

The maritime industry has undergone an evolution in automation, helping to improve operational efficiency and safety. But despite attempts to clarify and standardise the minimum competence for engineers in this area, such as with the STCW Manila amendments, it is a challenge for it to remain relevant and specific, since marine technology is developing rapidly.

Hence why the training and education of marine engineers and Electrical Technical Officers (ETOs) must keep up and evolve at the same pace. This includes the study of machinery and electrical technology together with the IT and automation part. Cadets and crew alike must be trained to operate and maintain these installations, and to ensure that they can confidently take part in the decision-making process, as well as solve basic problems on their own.

At the same time, we must be mindful with what's coming ahead in new-builds, and stand ready to prepare officers for the jobs of tomorrow. Key components of this include more specific knowledge about advanced control systems, creating the necessary facilities to allow for interdisciplinary training that combine mechanical, electrical, automation and IT aspects, as well as the opportunity to practice at sea.

Finally, it is also important to highlight that education and training in new IT and automation technology is not only a challenge for seafarers. The instructors, as well as the educational institutes and academies at large must also be well versed in this technology, and at a high level, so to ensure the right learning and training is passed on.

You are working as an electrical superintendent and have quite some experience in training of marine engineers on board. What are the advantages/disadvantages of field training (on board) of marine engineers versus class training and online training?

The significant advantage of field training is 'learning by doing on the spot', especially when engineers are working on actual troubleshooting on board whilst under the guidance of an experienced trainer. Even with all the new innovations and tools available for training nowadays, knowhow and proficiency can only truly be achieved by way of experience. As the ancient Chinese philosopher Confucius says: "I hear and I forget. I see and I remember. I do and I understand."

Online training has its advantages of course, but also many challenges in this particular field. The reality is that it is not easy to pass on practical experiences via online channels, as they require various equipment and appliances. In the case of automation troubleshooting, the biggest challenge is to substitute the standard training equipment in the workshop with 3D simulation models of contactors, relays, transformers, electrical motors, Programmable Logic Controller, among other. Furthermore, making it all live and working online.

I think the bottom line is that a blended approach is the best way forward.

INTERVIEW

Considering that the professional competences and skills of marine engineers and ETOs are not always straightforward to measure, how do you best determine which particular training each should take part in?

I believe the best way to determine what training is needed for a particular engineer or ETO is to communicate directly with them, either while carrying out remote troubleshooting tasks or conducting the pre-joining briefing or debriefing. With this, the owner's or the technical manager's superintendents are in permanent contact with the engineers and so can best identify which areas might need greater attention.

Another good approach is to motivate engineers to take part in surveys and quizzes. From these, the owner and ship manager can then make further conclusions on what training needs to be arranged, but at the same time, also develop and standardise the wider curriculum.

How should courses then be best developed, such as in terms of content and assessment criteria to be able to cover the necessary areas for individual seafarers, yet also standardise the material?

In many ways, developing training courses is like writing a book – the content must be both informative and engaging. Training courses are most effective when the learner is actively involved and enjoying the material. This is even more true now with online training, where many distractions and issues of motivation can perhaps interfere. Just like with a book, courses must also be developed in close synergy with the audience in mind, but of course also be standardised to company and industry best practices. Surely, both critical and positive feedback from the learners is also invaluable for ensuring courses are always at their best and progressing.

Personally, I believe that the real learning outcomes can be best seen on board, when the learners return to reality. From my own experience, I consider the training to be successful when the learner calls me to seek advice or to share an experience and relate it to a particular training course, whilst at the same time asks to join the next available advanced level training.

COVID-19 has triggered rapid transition to online /remote training. However, you have already been working for many years in transforming the TSA content and tools into digital format – using 3D animation and graphics. How did you get to this idea for digital transformation?

I remember very well how I developed my digital skills and how long it took me to create online training that proved effective and worked for many.

The first TSA training, back in 2003, was a simple MS PowerPoint presentation. I then thought if I was in the learner's shoes, what would be the closest thing to the actual training that I would like to see. Soon after, I abandoned the PowerPoint type approach and used Macromedia Flash software to develop the first TSA simulation based on a simple control circuit and interactive multimeter. After that, the rest was just a matter of learning different software and programming languages and developing the material along the way, including more precise and engaging simulations.

In 2010, the TSA interface was redone completely, based on vector graphic and circuit simulations. I realised that I was on the right track and decided to study 3D developing with software such as Solid-Works and Blender. Thus, long before COVID-19 struck the world, our training was more than ready to carry TSA online, entirely from a laptop, by using a tailored syllabus, interface, interactive simulations and 3D models.

What do you see as being the essential differences, if any, when using such new digital and online tools for training an experienced marine officer compared to a new cadet?

Having assessed trainees' knowledge before and after TSA training, it is safe to say that the younger generations adapt faster to using new digital and online tools. Naturally, they have grown up in this environment and are already comfortable with it all, and actually even expect it.

Meanwhile, having one's own deep-rooted skills in a backpack like an experienced marine engineer does, seems more complicated to drop even for a while to pick up something new. However, what really matters is having an open mind with everything – a glass half full as opposed to half empty. Indeed, it is also true that a primary trait to successful learning is having a thirst for knowledge and to continually want to improve oneself. Anyone can and should have this motivation and ambition. If an experienced engineer reaches the top of his career and thinks he knows everything, then he is definitely mistaken. The same holds true for the younger generations.

Has the shift to more digital training and education methods helped in delivering a better and more tailored learning experience? How so?

When training is innovative and skills-based, it provides a pivotal addition to maritime education and training. The innovations in digital training and education have certainly opened new doors and made the entire learning experience far more dynamic and engaging, such as with 3D modelling, gaming and interactivity. Courses can also now adapt far more quickly to industry demands, both generally for a wider class, as well as be tailored to addressing the specific needs of individual seafarers or customised for a particular company.

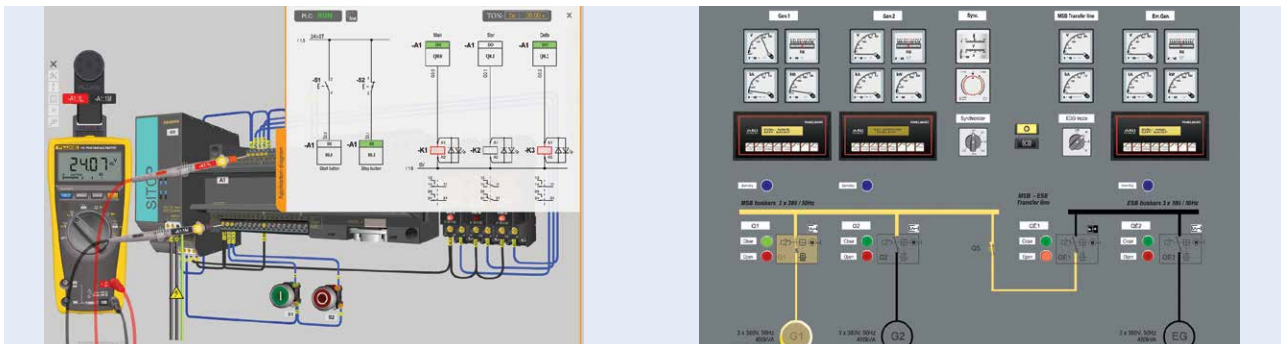
INTERVIEW

There has been a lot of buzz and talk about further automation in shipping over the last years, even to the extent of fully or mostly autonomous shipping. How do you see this developing and how must maritime training adapt and evolve?

As we all know, some projects in this domain are already being developed, so it can be assumed that others will follow and not only out of curiosity or experimentation. However, even autonomous ships require technical stuff for their operation, including for repair and maintenance. Therefore, the demand for highly skilled technical personnel will always exist.

We should expect more sophisticated automation to be employed for new projects, e.g. utilising more solid-state components instead of relays and contactors; more variable frequency drives and soft starters instead of regular motor starters; more communication with various features through automation systems using Bluetooth and WiFi ports to fulfil AR (Augmented Reality) projects.

Keeping in mind the rapidly changing trends in marine automation and the need for highly qualified marine engineers, we have to be prepared to meet the challenges of the future. The future is knocking at the door! Only "Scientia Omnia Vincit": Knowledge Conquers All!



Various applications and 3D models developed by A. Yakimchuk and used in online training

Training environment ER pump room 3D model by Yakimchuk





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