



AMMITEC
Association of Maritime Managers in
Information Technology & Communications



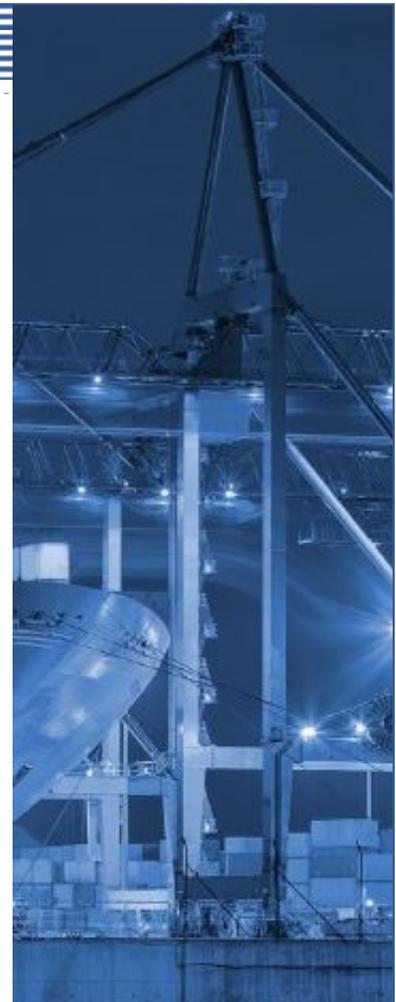
AMMITEC Pita Cutting 2020

AMMITEC Pita cutting ceremony
at MOORINGS restaurant in Kavouri

After a joined effort and hard work during almost two months, AMMITEC is proud to say that this year's **“pita cutting”** event was a resounding success!

This is a traditional event, to mark the New Year with aspirations of happiness, success, creativity and renewed effort for events, projects and business gatherings!

(Continued on next page)



INSIDE THIS ISSUE

AMMITEC Pita Cutting 2020.....	1
Current Issues in Maritime AI Solutions.....	3
Best Practice Consulting Vessel Forms.....	11
CyberOwl: Cutting through the confusion: the approach to cybersecurity in the maritime sector must change.....	12
Digital transformation solutions by Digimark.....	13
Dualog: Innovations at sea, delivered with passion.....	14
Fortune Technologies: Remote working becoming the new normal.....	15
GT Maritime: Would your crew be able to spot a phishing attack?.....	16
IB Marine: Will Covid-19 be a game changer in shipping?.....	17
Infinitum - Company Profile.....	18
Intertech - Company Profile.....	19
OceanManager: Streamlining Technical Management, Safety & Compliance.....	20
Panda: How to protect yourself from cyber-attacks that exploit Covid-19.....	21
Pronet: How Fortinet and Pronet can secure Maritime companies today.....	22
Commercial advantage with Q88.....	23
Systemcom: How to Fortify Your Organization's Last Layer of Security – Your Employees.....	24
Tototheo Maritime spearheading innovation in the maritime industry.....	25
YangoSat: We hacked a ship. The Owner is Liable.....	26
SEAGULL Maritime AS.....	27

AMMITEC is a scientific Forum – Association, established to exchange ideas, experience and professional expertise among the ICT managers in Shipping and also to provide this community with technological support and networking space.



Today, 17 years after its inception and creation, AMMITEC has hundreds of members and its reputation and footprint continues to grow and spread across all over the world!

A new venue, the well-known **Moorings restaurant in Kavouri**, was chosen for their most important gathering of the year: Fantastic view, sea breeze and nice atmosphere attracted **more than 320 visitors**. An unpredicted turnout which exceeded any expectation!

With the unique carnival décor and warm atmosphere, the guests had the opportunity to network over finger food, drinks, wine and enjoy the festive season!

The winners of the lucky “flouri” were offered gifts by AMMITEC.

Lots of gifts were also offered by the sponsors for the traditional raffle! Technology gadgets, travel vouchers, subscriptions and many more!

The event was proudly supported by the following companies:

Accenture, Active Computer Systems SA, Algosystems, ATC, Benefit, Best Practices Consulting, Bitdefender, ChartCo, Checkpoint, Cisco, CPI, Cyber Owl, Cyclades, Cygnus, Danaos, Dell, Digimark, Digital Ship, Dialog, Enter, Epsco-Ra, Eset, Fortinet, Fortune, Furuno, GTMaritime, HPE, IB Marine, Infinitum, Ingenium, Intersys, Intertech, Intrust, IQ Solutions, Iridium, IShips, KVH, Marlink, Marpoint, Mazars, Navarino, NOVA Electronics, Ocean manager, OTE, Otesat-maritel, Panda, Priority, Pronet, Q88, SES, Setel, SMN, Softone, Softway, Space electronics, Speedcast, SRH Marine S.A., Systemcom, Tototheo, WatchGuard, Seagull, Ulysses, VMS, Akereon, Ergoman, Kefi S.A., Nova, Vodafone

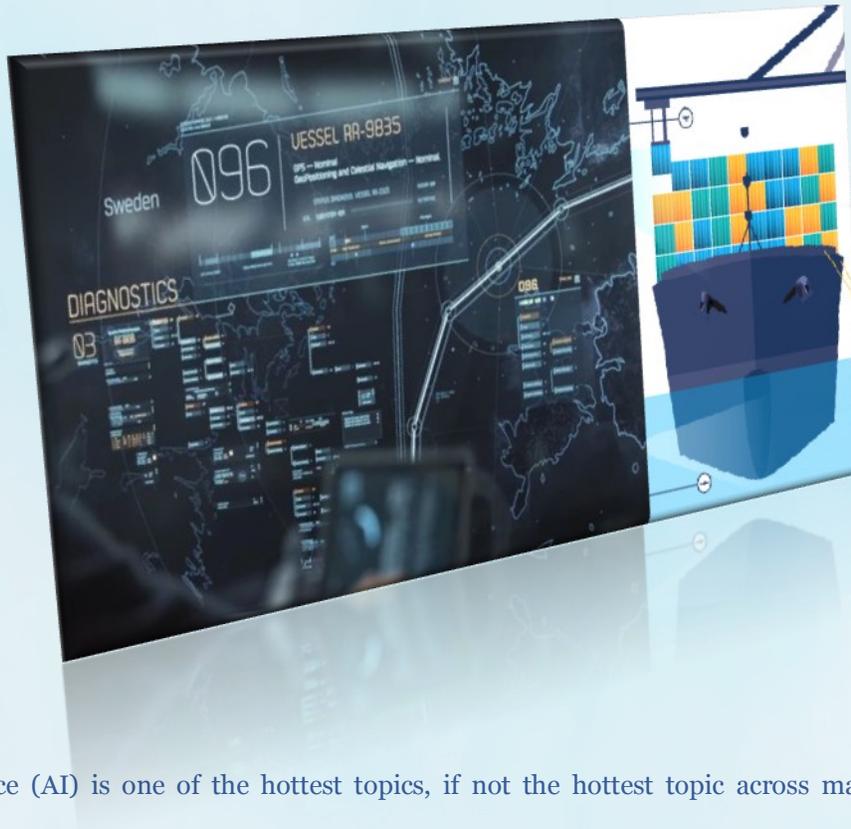
Click [HERE](#) to see more photos



Current Issues in Maritime AI Solutions

Dr. Matthew Maheras,

CIO, Metrostar Management Corp.



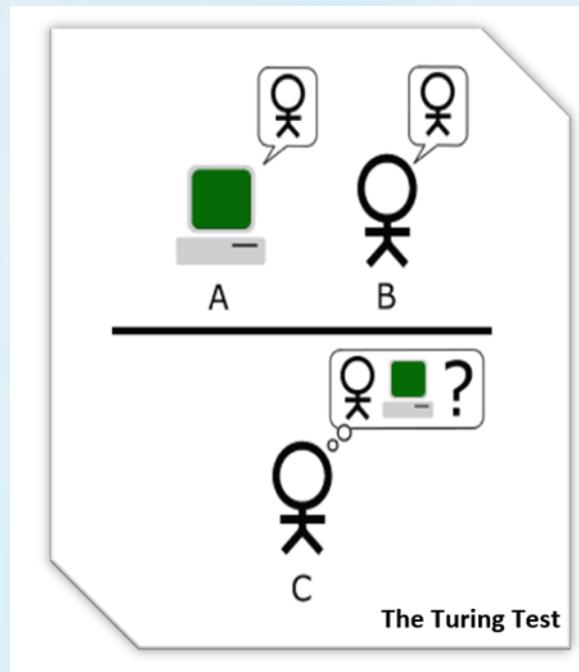
Artificial Intelligence (AI) is one of the hottest topics, if not the hottest topic across many industries and the Maritime sector is not an exception. Being way far from yet another hype or the latest technology fad, AI technologies available today could automate 45% of the activities people are currently paid to perform, according to research published by Mckinsey. The same research states that 60% of all current occupations could see 30% percent or more of their constituent activities being automated through AI that is currently available.

What is AI?

The term “AI” denotes a spectrum of technologies that can give a machine the ability to learn how to carry out certain tasks without being given explicit pre-programmed instructions, while keeping improving its performance over time. For AI technology you need to look no further than your smartphone or your smart speaker where Siri, Cortana, Google and Alexa are readily available to answer your questions and carry out everyday tasks like making a call, telling you the weather, or playing your favorite song.

(Continued on next page)

However, neither your smartphone nor any other computer (super and quantum included) is yet capable of thinking like a human. Since, no computer has passed the Turing test - proposed by Alan Turing back in the 1950's - yet, meaning no computer is capable of fooling us during an interrogation that is a human answering our questions behind the curtain and not a machine. Despite all the hype around AI, our disappointment or our relief, computers still cannot think.



Nevertheless, not having reached yet the stage of “General Artificial Intelligence” by no means underestimates the important contribution of AI in many domains including transportation and the maritime sector.

AI’s hard currency is *prediction*. AI is using algorithms and mathematical models (classification, decision trees, neural networks, topological data analysis, deep learning etc.) that work on large quantities of ‘training data’ to generate *prediction*. Doing so, AI can thrive in all domains where prediction is vital for efficient and effective decision making, such as Navigation, Voice and Image recognition, Investment planning and so on.

AI in Maritime

The applications of AI in the maritime sector can be classified in five broad domains:

1. Autonomous vessels and remote command systems

(Continued on next page)

2. Situational awareness and safety
3. Route optimization and fuel efficiency
4. Port operations optimization
5. AI-powered solutions in the Backoffice

Let us take a quick look at the current status and upcoming developments of Artificial Intelligence in each of these domains.

Autonomous vessels

During the last two years we have witnessed some great advances in the autonomous vessel front. A milestone year for autonomous vessels was 2018, as Rolls-Royce with SVAN carried out successfully the first public demonstration of an autonomous voyage by a passenger vessel. Following that, in 2019 Kongsberg acquired Rolls-Royce's marine division, while partnering with Wilhemsen to create the MASSTERLY platform.

In December 2019, Jin Dou Yun O Hao, China's first autonomous cargo ship, made its maiden voyage in Zhuhai, Guangdong. The ship was developed by Yunzhou Tech, a Zhuhai-based technology company in collaboration with Zhuhai municipal government, Wuhan University of Technology and CCS.

The next big milestone comes in 2020 with YARA Birkeland, by Kongsberg. YARA Birkeland will be the world's first autonomous and zero-emission container vessel. Replacing 40,000 truck journeys a year, Yara Birkeland will reduce NOx and CO2 emissions and improve road safety in a densely populated urban area in Norway. It will feature autonomous mooring, autonomous sailing & collision avoidance.

The hull of the Yara Birkeland vessel was launched to sea, in Romania, in February 2020, and is expected to arrive at the Norwegian shipyard in May 2020. Due to the Covid-19 pandemic, however, Yara has paused further development of the vessel and will assess next steps together with its partners.

In September 2020, the Mayflower Autonomous Ship (MAS) will leave Plymouth in the UK and head across the Atlantic to Massachusetts, US. IBM and marine research organization Promare, have recently announced that a new 'AI Captain', will enable the Mayflower to self-navigate across the Atlantic later this year. The AI Captain uses cameras, AI and edge computing systems to safely navigate around ships, buoys and other ocean hazards expected to encounter during its transatlantic voyage in September 2020.

(Continued on next page)

Autonomous does not necessarily mean unmanned.

Apart from the abovementioned ambitious efforts, many vendors have already introduced more practical human-controlled autonomy solutions, that aim to assist rather than replace the crew onboard.

The first important milestone in manned autonomous vessels comes from Japan, where NYK just a few weeks ago, conducted the world's first trial of a manned autonomous vessel following IMO's Interim Guidelines for MASS trials. Iris Leader, NYK-operated PCTC with gross tonnage of 70,826 tons, was navigated autonomously for approximately 1 mile, adjusting its course along the way to avoid collisions with nearby vessels.

Startups are off course playing a key role in the autonomous vessel evolution journey. Sea Machines Robotics, for example, builds advanced autonomous technology for the marine and maritime sector and has already launched a product line of autonomous control and navigation systems for commercial boats and ships.

Traditional players have also joined the race as well. In the Asian front, Samsung has partnered with Amazon to build its own version of Autonomous Shipping Platform aiming to support primarily manned autonomous containerhips. Here in the EU, over €20 million funding has been granted to a Norwegian autonomous ship project in early 2020. The AUTOSHIP programme, a four-year Horizon 2020 project, is a collaboration between Kongsberg, Norwegian research organization SINTEF, The Research Council of Norway and a range of other European partners.

New ships old regulations

But what happens in case of collision or pollution caused by an autonomous ship? How do you insure such a vessel? Obviously, a lot of regulations will have to be revised before the Autonomous Vessels, manned or unmanned, actually engage in real-life commercial operations. In recognition of this fact, IMO's 101st Maritime Safety Committee (MSC) meeting, which held in June 2019, has approved an initial set of guidelines for the conduct of autonomous ship trials. The guidelines dictate that trials should be conducted in a manner that provides at least the same degree of safety, security and protection of the environment as provided by the relevant instruments. These guidelines also categorize the vessel autonomy to 4 levels starting with partial automation and remote control at Level 1 and reaching full operational automation with no human interaction at the top Level 4.

(Continued on next page)



AI tools for Situational Awareness and safety.

At Autonomy Level 0 of the above graph we find the “Intelligent Awareness” solutions which in most case are equipped with AI technology. These solutions aim at adding layers of awareness and safety to the existing manned operations onboard.

SHONE, for example, a San Francisco startup, retrofits ships with autonomous technologies to improve the safety, security and quality of life of the crew on board. Shone’s solution analyses the surroundings of the ship and predicts the behavior of other vessels in the vicinity 24/7 with no downtime and in every weather situation. Its proprietary detection algorithm is based on data gathered from the ship sensors AIS, radar and GPS and added cameras onboard.

ORCA AI, uses similar AI technology, and combines input from existing navigation instruments (AIS, radar, GPS), thermal cameras, and high definition optical cameras to offer intelligent navigation solutions, aiming to reduce human-caused errors and minimize collisions. Such technologies can provide the captain and his navigation crew with an accurate view of the environment in real time, and in very difficult environmental conditions such as fog, glare, heavy rain etc. in order to make life-altering decisions.

(Continued on next page)

AI-Powered Cyber Security

Machine Learning Cyber AI can detect, zero-day malware, like the recent NotPetya attack on Maersk, and insider at an early stage, and respond to them autonomously, thus greatly mitigating cyber risk while not requiring human intervention. While classic rule and signature-based solutions offer some protection against pre-identified threats, attackers often manage to evade these and get inside the network. Powered by machine learning, Cyber AI responds to these threats before they become a crisis.

CyberOwl is among one the first vendors that offer an intelligent AI-based tool that can provide very early warning whenever it senses cyber anomalies onboard, not only in the IT network (crew & business), but also in the very important OT network.

As a new generation of cyber-threats, powered by offensive AI, emerge, Autonomous Response AI seems to be the only way to fight back. Darktrace, for example, uses Cyber AI to calculate the best action to take, in the shortest period of time, to effectively and autonomously respond to a cyber-attack.

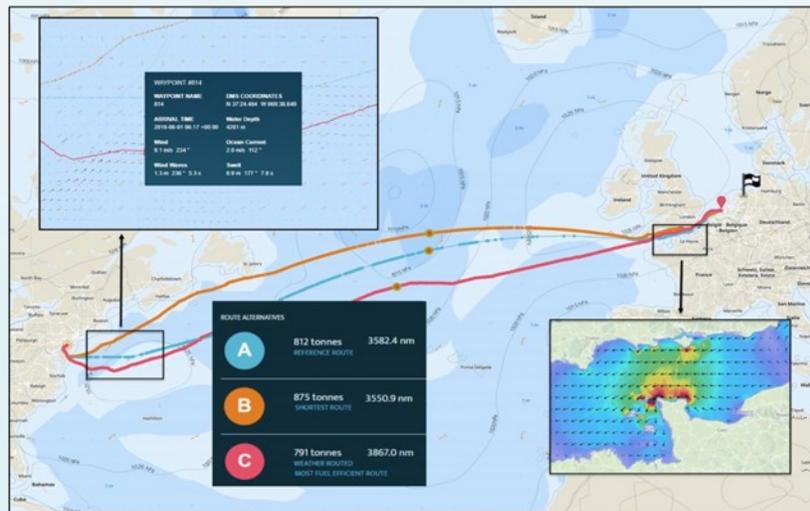


Voyage and Fuel Optimization

AI assists us in making much more accurate predictions on ETAs for ships as well as spotting trends and risks in shipping lanes and ports, and proposing alternatives. AI is also capable of analyzing historical shipping data like weather patterns and busy or slow shipping seasons to minimize inefficiencies, errors, and duplications.

(Continued on next page)

Currently some very promising offerings are available from vendors such as Nautilus, Signal and METIS who all seek to harness the power hidden deep within the maritime companies' data.



AI in Port Operations

The first fully autonomous ports have become a reality, but typically are newly built. In "traditional" ports, digitalization and AI will improve the safety and efficiency of use of the available port infrastructure.



The port of Rotterdam is pioneering this front and plans to be able to host autonomous ships by 2030. The Port of Rotterdam Authority is implementing many innovations to ready itself for automation beyond the terminals. According to a recent interview by Erwin Rademaker, a programme manager at the port, "Information which is now

(Continued on next page)

transmitted between humans by phone or email should, from 2025, be increasingly communicated directly by smart objects. In the future, we'll see cranes talking directly to ships or containers.”

AI in the Backoffice

AI can speed up the core business processes and reduce cost and errors. Most of Knowledge Worker's trivial tasks can be automated. Trivial tasks of accountants, lawyers, HR staff can be executed by AI-powered systems (Cognitive Process Automation). For example, according to Forbes magazine, AI pre-screening of candidates before inviting the most suitable in for interviews is an increasingly common practice at large companies which make thousands of hires each year, and sometimes attract millions of applicants.

Conclusion

In the words of Bill Gates “The power of artificial intelligence is so incredible; it will change society in some very deep ways”. The maritime industry which has always been at the epicenter of world trade will inevitably adopt to this new environment as well. The related technologies are in many cases mature and rapidly evolving while the regulative bodies have already taken the first steps towards the inclusion of autonomous technologies in maritime.

On the other hand, AI is a technology that is both promising and dangerous and needs to be tamed. According to Elon Musk, “cutting edge” AI is actually “far more dangerous than nukes.”

We, the maritime technology professionals, have a very important role to play in this process. We are the ones who can act as catalysts towards the educated adoption of AI solutions that will increase our vessels' efficiency and safety, while ensuring that all related risks are effectively managed and that the cyber-attack surface is kept to a minimum.



***Dr. Matthew Maheras** is the CIO of Metrostar Management Corp. and the General Secretary of AMMITEC, the Association of IT Managers in Shipping.*

Mr. Maheras holds a PhD in Operational Research from NTUA, and an MBA from Imperial College, London. He has a wide experience in managing innovative maritime IT projects with a focus in Digitization, Cyber Security and Data Privacy.

Best Practice Consulting Vessel Forms



BPC | Best Practice Consulting is a Microsoft Gold Partner, formed in 2005, with certified engineers who specialize on the areas of Business Collaboration, CRM, BI, Project Server, Azure. **BPC | Best Practice Consulting** has been offering solutions for the maritime for more than one decade that are designed inhouse as a result of multiple implementations with customers and aim to automate processes and operations.

BPC Vessel Forms is a product designed to provide a form automation infrastructure as well as a document synchronization mechanism between the office and the fleet, already deployed to more than 250 vessels.

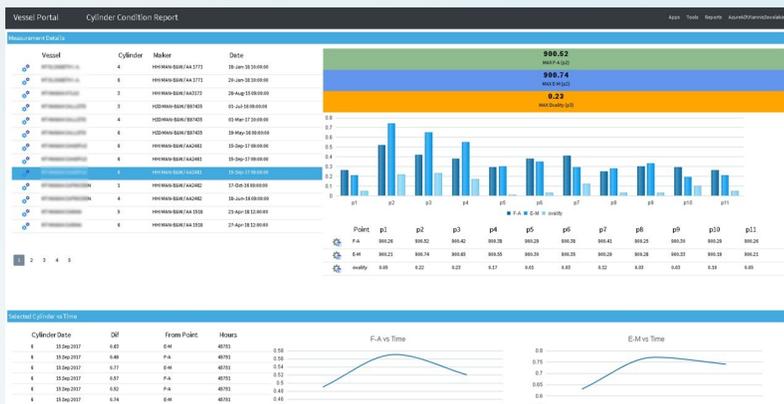
Having been monitoring the industry for more than 10 years, there are multiple **challenges** that prevent teams from being productive, from variety of forms and systems, to the difficulty to propagate changes to vessels, while very often email and Office do not produce reliable and reportable data leading to non-accurate decisions and errors.

BPC Vessel forms is an End-to-End system that provides a form **automation infrastructure** as well as a **document synchronization** mechanism between office and fleet. It comes with modern User Interface and is accessible to remote and tablet users. A single windows machine from the vessel side is enough while on the Office side, it can be deployed onto Microsoft Azure or on-prem. Lastly, it can utilize all data available in back-end systems like Vessels, Position Lists, Certificates etc



BPC Vessel Forms is equipped with electronic representation for several maritime forms like Speed, Detention and Deviation statements, Bunkering forms, Bridge forms, ISM related forms etc. That leads to centralized forms handling through a single UI, validation and Data Quality logic in addition to versioning, auditing, eSignatures and encrypted, rule based, vessel office communication. **BPC Vessel Forms** also provides smart modeling on each form's business workflow resulting to notifications and action auditing.

BPC Vessel Forms has several add-on modules covering some of the most critical maritime processes like: e-SMS, Outstanding Management, MRV, UDE, Drills, BI Ready data extracts



BPC | Best Practice Consulting is working currently towards Map / GIS Representations for forms, as well as Changes Summary panel for e-SMS

Moving forward **BPC | Best Practice Consulting** is committed in helping shipping companies transform with new services powered by new technologies.

Best Practice Consulting: Shipping at IT's Best



Cutting through the confusion: the approach to cybersecurity in the maritime sector must change.



As the maritime industry slowly begins to emerge from a time of unprecedented disruption, it has become clear that the challenges facing shipping have persisted - and that new ones have emerged. The industry is making positive progress toward improving cybersecurity, but it is clear that confusion remains.

CyberOwl, alongside industry experts and peers, recently confronted the cybersecurity challenges facing the maritime industry during CyberSecure at Sea; a first-of-its-kind maritime cybersecurity virtual networking event.

There are, of course, a lot of challenges. But some appear to be pretty persistent. COVID-19 has changed the emphasis and urgency of specific maritime cyber risks:

1. The NIST cybersecurity framework is already widely adopted for developing cyber risk management plans. Some progress has been made in securing office IT systems. But cyber resilience of vessels is very far behind in general.
2. For vessel systems, Identifying the risks and setting up Response and Recovery plans is relatively achievable - it's already in shipping DNA. But Protecting onboard systems is a real challenge and very difficult to achieve 100%.
3. Detecting onboard cyber incidents is even more challenging. Putting technologies in to detect, making sense of incidents detected and knowing what interventions to put in place is a challenge for IT teams onshore, never-mind the crew that have to deal with the consequences.
4. Visibility of network and user behaviour of onboard systems is low. That makes it very difficult to understand onboard cyber risks, beyond a snapshot view based on desktop assessments or one-off penetration tests. Remote working, social distancing and limited access to vessels is making the need for visibility more urgent.
5. Covid-19 is raising stress levels of shoreside teams and crew. This makes shipping more susceptible to cyber attacks, scams, misconfiguration and human error. Insider threats are now just as important as external threats to shipping fleets.

CyberOwl will be digging deeper into some practical actions fleet operators can take to shore up their cyber risk management. We will be posting a series of thoughts and useful tools that fleet operators can access free of charge.

1. Has the [BIMCO guidelines cyber security onboard ships](#) helped or hindered? Help us with this important piece of sponsored research to understand what measures have been adopted and, most important, how useful they are in actually addressing cyber risk in maritime ships. [Click here](#)
2. Security through bureaucracy is pain with limited gain – stop focusing on bureaucratic, procedural controls. Only then will you achieve actual progress in securing your onboard systems. [Click here](#)
3. Beyond the classroom: help crew cyber behave - The crew is commonly blamed as the number one source of cyber risk to vessels. The reality is that the vast majority of crew are not malicious. They just lack awareness and impetus. Classroom training helps to an extent. Using “carrots and sticks” will encourage and incentivise the seafarer to cyber behave. [COMING SOON]

More Information at: www.cyberowl.io / insights@cyberowl.io

Digital transformation solutions by Digimark



Nowadays, maritime industry faces big challenges due to digital transformation.

Digimark is a dynamic Greek company, that can help you achieve this digital transformation with reliable solutions.

Digimark is a member of a group of companies in the IT and telecommunications sector since 1987. As a Technological Provider, it offers integrated ITC solutions in the sectors of IT Infrastructure, Cloud Services, Security and System Integration. The growth and organizational shape of the company is based on its ability to produce and distribute innovative and reliable high technology products and services.

Digimark offers its customers complete ICT solutions capable of covering a wide range of their own needs. These solutions come from our collaborations with the most powerful and trustworthy companies in the field, which also reward us for our work and professionalism with our own certifications.

Digimark offers innovative solutions as an ICT provider such as Security, Augmented Reality Technology, Cyber security, Business Software, IP Telephony and Unbreakable Connectivity Technologies.

It is remarkable to say that through Unified Communications refers to a phone system that integrates and enables various communication methods within the business.

By unifying phone calls, video conferencing, email, Live Chat and so on, users can share and access data all from one centralized location, collaborate in real-time and hold audio and video conferences with multiple people. Digimark uses an all in one user-friendly platform, that can take your business communications to the next level, helping to improve collaboration, boost productivity, increase mobility and enhance the customer experience. With all these UC features you can see the status of your colleagues, deliver incoming faxes and voicemail to inbox as email, send instant messages, make and receive phone calls, chat and start a video conference through a simple Web client.

Furthermore, Digimark 's augmented reality solution, based on smart glasses, is able to share information between field service operators and support departments. The innovative solution integrates web technology with Smart Glasses to facilitate and improve communication between one or more technicians and an expert at a central location.

It can effectively assist users with difficult tasks, having real time data at hand, keeping a close look at the remote situation.

Needless to say that Digimark has a team of expertise technicians who are available to help you anytime.

[Contact](#) us for more information.



Innovations at sea, delivered with passion



Dualog was first conceived on the shores of the Arctic Ocean. The company grew out of a research project which was undertaken in close collaboration with the world's northernmost university – the Arctic University - based in Tromsø. The focus was on providing robust software for reliable data communications in difficult waters. To this day our company continues to be based in this island city with its close links to the ocean.

Unique expertise and arctic resilience gave birth to the company renowned for its relentless focus on innovation. Back in 1993, it was Dualog that enabled transmission of the very first email messages sent from fishing vessels operating on the edge of the polar ice fields. Constantly pushing the boundaries of technology, the company expanded to become a leading solution vendor to the global shipping industry.



“Being conceived on the shore of the Arctic Ocean, we have consistently challenged the limits of technology to improve maritime business.”

Morten Lind-Olsen, CEO

Still evolving and growing, Dualog maintains intense customer focus, independence and agility. Being culturally diverse, uniquely competent and empathetic has enabled the company to stay in touch with customers and their real-life challenges.

We believe that sea and shore can be brought closer together. Our recognised solutions enable seafarers to easily stay in touch with their families and they help shipping companies to improve their own businesses.

We bring ship and shore closer

Dualog was born and raised at sea. We are passionate about communications and constantly develop new and innovative solutions that make it easier for ship and crew to keep in touch with office and business partners, as well as family and friends.

This is how we help our customers succeed with their business. This is why we exist - to bring ship and shore closer.

Remote working becoming the new normal

FORTUNE TECHNOLOGIES

In emergency situations, on an always changing external environment, it is vital for shipping corporations to operate smoothly and efficiently. Today, the world is facing an unprecedented crisis due to Covid-19 that requires every single one of us to work from home. In other, more normal situations, the requirement is to work remotely for some days or work on the move due to travelling.

Under these circumstances, the world trade needs to keep rolling and shipping companies struggle to find these tools that will help them keep the frantic pace.

Access to systems is needed from everywhere, using any possible device with the minimum possible cost.

Fortune Technologies offers the Fortune Maritime Platform, a state-of-the-art ERP platform build on Microsoft Dynamics 365 Business Central.

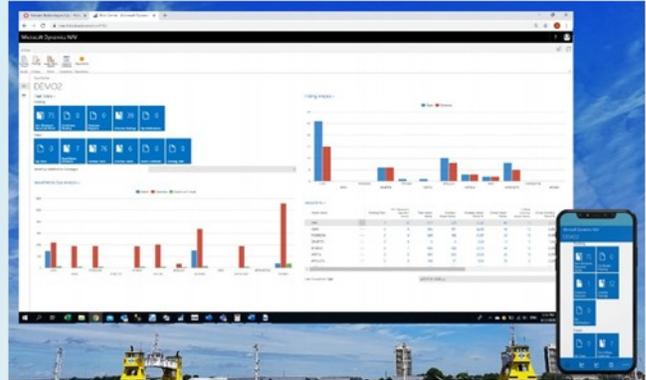
This 100% maritime platform gives the flexibility to the users to work remotely and access it, using their laptop, tablet or mobile phone.

It only requires a web browser for the user to connect! The platform goes with you!

And there is no need to connect to your internal network, adding more costs to the remote working process (e.g. licenses for remote desktop solutions).

Moreover, in the next version of the Fortune Maritime Platform, new technologies and functionality will be introduced.

- The new Microsoft Business Central already enables out of the box Artificial Intelligence functionality and addition of new AI models in the future.
- PowerBI Analytics will be embedded in the Fortune Maritime Platform bringing information in the user dashboard, enabling quicker analysis and smarter decisions.
- SaaS offering on Microsoft Azure. Of course, hosting in any cloud provider is already possible, but SaaS offering will be a truly managed solution on a state-of-the-art cloud provider.
- Remote Assist functionality using HoloLens, mobile devices or 3rd party equipment.



These functionalities and much more, will transform the way shipping companies work and will give them the tools to lead the developments.

Moreover, an investment in Microsoft Dynamics ecosystem, offers a huge ROI. The platform comes with a detailed Roadmap for the coming years knowing exactly which technologies and functionalities will be implemented. Microsoft Dynamics is a complete ecosystem with partners and solutions that span a wide range of services; these may be combined seamlessly for the benefit of the end user. Fortune Technologies is the lead maritime partner in the Microsoft ecosystem.

For more information, please contact info@frntech.com

Would your crew be able to spot a phishing attack?



Hackers are constantly trying to come up with new ruses to outwit software-based protections. For this reason, crew cannot afford to become complacent in the belief that, with a technological safety net in place, everything reaching their inbox is trustworthy and can be taken at face value.

GTMaritime recently launched a free service, offering free phishing penetration tests to all GTMailPlus customers. This offer was taken up by an established shipping company who ran a two-round penetration test, targeting captains with a spoof message appearing to come from a Port Authority.

Half correctly identified the message as a phishing attempt and ignored it, but half supplied the information asked for. Of the latter group, in no case was the message escalated to management.

The 50-50 split certainly raised pulses at company headquarters, as the spoof email was written in poor English and emanated from a mysteriously unnamed port authority – both traits that should ring alarm bells. To determine if the same result would be found if more detailed information was requested a second test was employed.

This time the message that supposedly came from a port authority had a personalised subject line that mentioned the target vessel's name and IMO number. There is mounting evidence of cyber criminals including references to familiar people or organisations, adding a veneer of authenticity that encourages the recipient to lower their guard. The rogue message then asked for a host of sensitive information, which if passed on to pirates could jeopardise the safety of vessel and crew.

The response showed a marked improvement over the first test. Eight recipients immediately detected something was amiss and ignored the request. Encouragingly, three were suspicious enough to seek guidance from head office. Although head office personnel were kept in the dark about the test, they reacted correctly, advising vessels not to send any data and alerted the IT department.

Even so, five vessels still obligingly followed the instructions in the message without properly considering either the safety or commercial ramifications of sensitive information falling into the wrong hands.

At GTMaritime, we believe that technological and human components are equally important in developing cyber-resilience. While customers can rely on us to handle the technical defences, the exercise described above plainly demonstrates the usefulness of penetration testing in bringing to light and addressing the human element.

For this reason, we are offering free phishing penetration tests to all GTMailPlus customers in conjunction with our partners. To take up the offer of a free test please contact George Zervos for more details (sales@gtmaritime.com)





Will Covid-19 be a game changer in shipping?

Too many times in the past the shipping world has been exposed to new issues or new regulations which were deemed game changers. Most of such changes were mainly technical, (such as UMS, OMBO, GMDSS, ECDIS) or were applied to certain parts of shipping operations (environmental rules such as ERS, SEEMP, EEDI). The only real revolution of the past 50 years is probably the ISM Code, as it instructed the shipping world on how to manage ships (before, SOLAS only told shipping how to build ships).

One of the game changers was supposed to be IT, but in shipping, many years of IT have essentially simply turned paper sheets into electronic forms, without fundamentally changing how we do shipping. Digitalization applies in the form it was intended to be to probably zero-something percent of the world's fleet.

Then came Covid-19 and, suddenly, problems we never thought could be problems surfaced at the speed of sound, hauling big consequences for the future. One of such problems was crew change.

Covid-19 brought to our attention that crew changing could be in the future even more difficult than what it has been until now. And that a complete automatization and digitalization of equipment and procedures will become a necessary evil!

The Maritime world will have to go through the technological transformation of crew reduction and, consequently, more digitalization, because this is the best and fastest solution to the curtailment of human resources available onboard and to the issues found in embarking/disembarking crews.

Such change shouldn't lead to job losses if it strides towards the retraining of seafarers and staff into specialized crews who will be requested to serve the ships when they come into port and perform scheduled maintenance and repairs. Ships will have to be built with redundancy in mind, but such cost increase will be offset by the diminishing need to build accommodations, galleys, fridges and so on.

The technical capability to build such ships at the beginning, with a crew of 3 or 5, already exists. To get to zero crew will take more time as we will need to adapt a set of rules and regulations. But Covid-19 has traced a road which I am afraid will not change, for quite some time.



*Giampiero Soncini,
CEO of IB Marine*

Infinitum - Company Profile



Infinitum has been established in 1991 to offer a comprehensive portfolio of IT services, including a set of IT Infrastructure, Communication, Networking and Software solutions. Since its foundation, the company aims to create trouble-free digital environments surrounded by intelligent, data-driven technology. Constantly expanding its activities, Infinitum's area of operations has come to include current market trends such as Virtualization, Managed and Cloud Native services.

Within 3 decades of operation, Infinitum has been trusted by customers coming from a wide range of industry sectors, and follows a long tradition of partnerships with leading technology companies in the Greek and international markets.

Over the years, Infinitum has consolidated its presence within the enterprise-level Backup and Business Continuity technologies markets. By acquiring know-how and implementing collaborations to help companies prevent data loss, recover from damage and operate seamlessly.

More precisely, Infinitum's backup approach includes Integrated Backup and Security solutions that preserve the continuity and allow instant recovery of the file system. Implementing a range of on-premises or cloud back up strategies, the company builds comprehensive redundancy-based backup infrastructures to increase backup speed, save bandwidth and reduce data restore time.

Infinitum is also certified from the industry's largest vendors to develop and deploy coherent Network Infrastructures. The company's Networking Solutions are based on a wide range of technologies, designed to simplify and consolidate network management, either for traditional network infrastructures or cloud systems.

Bundling communication services into productive packages, Infinitum provides advanced Unified Communication solutions (UC), either on-premises or as-a-service (Cloud UC). Whether "traditional" or freed from the limitations of installed hardware and software, the brand's UC solutions leverage the latest technologies to harness all modern communication channels for employees and clients, integrating email, phone calls, instant messaging, video conferencing and file/screen sharing.

Another important area of Infinitum's networking solutions is focused on Security: either locally installed as specialized appliances or as cloud-based services, Infinitum offers enterprise-level Network Security solutions that include network protection, intrusion prevention systems, URL Filtering, application control, as well as secure network access control.

Through the last decade, Infinitum broadened its product lines to incorporate recent technological advances in Cloud Native solutions such as the Application Delivery Control and Containerization and currently employing one of the largest install bases in Greece. Moreover, the company now offers a productive integration of Microsoft Azure and Office 365 services, covering every process related to these cloud products, from integration and configuration to strategy, planning and training.



Intertech - Company Profile



Intertech was founded in 1990 and has since been established as one of the leading and reputable companies in Greece within technology, consumer and office automation products. Ever since operates as the official exclusive importer and distributor in Greece of Panasonic products, which is the trade name of Panasonic Corporation, as well as other brands, such as Ricoh/Gestetner, iLuv and Satel.

Intertech imports and trades nationwide all product categories of high technology products under Panasonic trade name, which is one of the leading manufacturers of consumer electronics in the world, as the official, exclusive distributor for Greece.

Product line up covers all areas of consumer electronics (except air conditioning), Telecommunications, Office Automation as well as Video & Audio Business Solutions.



It is a member entity of one of the most significant group of companies in the Greek territory, DEMCO Group, with enterprising activities in the wider Balkan and Middle East area as well, extending to various business domains such as media, financial services, leisure and entertainment, technology and telecommunications, general aviation executive services (a detailed list of all DEMCO companies is also attached).

Intertech has been listed on the Athens Stock Exchange since 1995 and holds significant shares in the Greek market, providing integrated solutions both B2B and B2C.

Since 1990 Intertech had continuously invested in new technologies, human resources and contemporary marketing products and services, so today has a wide product portfolio that provides reliable solutions which cover a wide range of needs both B2B and B2C.

Moreover, Intertech continues to invest, educate and motivate its nationwide network of authorized partners, aiming to further upgrade its services, offering integrated solutions, having the competitive advantage of its wide range of products.

In Intertech we strongly believe that contemporary methods of organization and administration ensure the continuous increase in productivity, so we aim to even greater customer satisfaction by upgrading the technical support of our authorized partners through the Internet, enhancing the Technical Support Centers across the country by improving our phone services and by significantly reducing the required repair time.

Panasonic's global philosophy, "ideas for life", also became our motto and our sole aim is to provide products and services that make our lives easier and better.



Intertech also have a new Business Unit specialized in Strategic Security Consulting which provides a comprehensive "safety grid" the deployment of which, is mainly based on the provision of integrated services on a strategic level along with the design and implementation of special as well as tailored solutions to personal and business level. The services offered respect strict international standards, applying the latest technological developments in order to achieve the desired result. Ability to support decision making and crisis management is provided using an advanced processing and data analysis methodology. The model development activities cover following stages: Analysis - Design - Development - Implementation - Operation - Maintenance – Certification.

Streamlining Technical Management, Safety & Compliance



According to the 2019 Review of Maritime Transport published by the United Nations Conference on Trade and Development, more than 50,000 ships are active on the ocean today responsible for the carriage of around 90% of world trade. Technological advancements have paved the way and the maritime industry is now reliant upon the best software solutions in order to ensure compliance to regulatory requirements, increase efficiency, reduce cost and improve the bottom line, moving towards a paperless environment.

OceanManager is a maritime software & consultancy company with a 10-year-old rich history, established in California, with branches in Singapore, India & Greece at Akti Miaouli of Piraeus. We offer Fleet Management, Operational Intelligence data smart software products, and bespoke services for Technical Management, that can help the Greek Ship Owners and Managers operate their vessels safely and efficiently with an improved quality of data, by providing the most intuitive user-friendly web platform. Our software is currently installed on about 1200 vessels who are using our maritime solutions for technical as well as operational performance.

OceanManager's products are Cloud based, a concept that allows cross platform collaboration & security in an era of social distancing which ensure business continuity. Our solutions include Performance Optimization, Planned Maintenance, Purchase & Procurement, Spares, Crew Management, Safety & Quality, Document Management, Incident Reporting, Risk Management, **Vessel Tracking**, **Business Intelligence** and Audit & Inspections.



mAuditor helps you perform remote, paperless audits, surveys, and inspections with electronic checklists that are versioned, standardized and shared with internal or external inspectors. You can add rules, alerts, and logic to checklists, tailored for the vessel or office.



mHSEQ simplifies compliance with maritime regulations for Quality, Health, Safety, and Environment (QHSE) for all stakeholders including Quality, Technical & Operations teams, and crew on board.



vesFMS is a complete fleet management software designed to improve the effectiveness and streamline vessel maintenance. The system incorporates comprehensive customizable reports, that describe all the important information.



SeaRM360 is OceanManager's analytics suite designed to provide the top management an integrated view of their entire fleet. SeaRM360 integrates data generated from any data sources your company subscribes to. Use of this data gives you actionable intelligence with which you can make more informed decisions for your fleet.

Last but not least, OceanManager has an "Open API" philosophy and we are willing to integrate with any 3rd party system, helping you create and customize the ideal system for **your business**.

How to protect yourself from cyberattacks that exploit Covid-19



The current coronavirus COVID-19 pandemic is changing the business landscape. The most immediate change that has been seen in many countries is the sudden increase in the amount of people working from home. Because of this change, the attack surface has increased significantly, forcing companies to strengthen their cybersecurity measures to ensure they don't suffer at the hands of cybercriminals.

Malicious campaigns exploiting Covid-19

PandaLabs researchers constantly search for samples in malicious coronavirus-related campaigns. They have analyzed hundreds of malware detections from between March 12 and 25. They've broken down several of these campaigns in a study.

Spam using coronavirus as bait

A common tactic among cyberattackers is to imitate an official organization related to public health. In doing so, they hope to increase the likelihood of their victims downloading malicious content or clicking on links.

Malicious domains related to Coronavirus

Right now, many people are turning to the Internet to try to find answers to the questions they have about the pandemic. Cybercriminals have taken advantage of this situation; PandaLabs has detected a notable increase in domain names using the word "corona" combined with words commonly used in Internet searches for the disease, such as "vaccine" or "emergency".

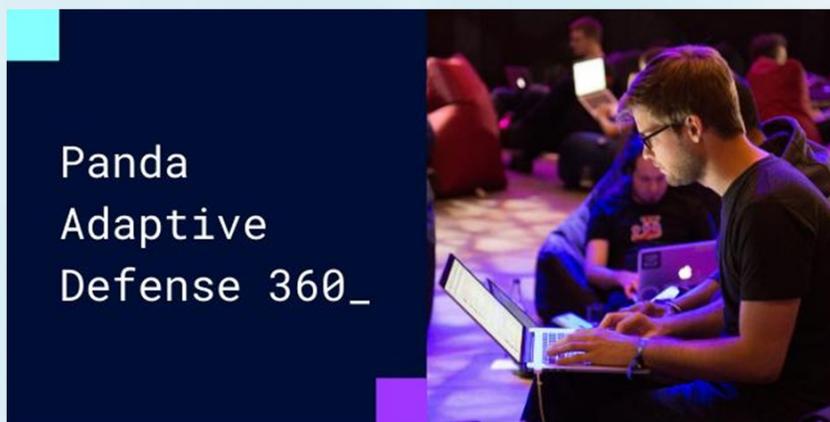
Advanced protection to halt these campaigns

To begin with, the most important thing is to educate employees about the risks involved in downloading attachments from unknown senders. It is also important to stress the harm that clicking on links in emails from strangers can do. Another vital measure is good password hygiene: Use complex passwords and change them frequently.

Another essential step in any cybersecurity plan are advanced solutions. **Panda Adaptive Defense provides continuous monitoring of all system activity, stopping any unknown process and blocking it until it is analyzed and it is determined whether it is legitimate or malicious.**

Unfortunately, the cyberattacks and spam campaigns that exploit the current pandemic will most likely continue to try to harm the computer systems of companies and users around the world. Make sure you have the necessary protection with Panda Security.

Panda Security has a set of proactive capabilities aimed at blocking unknown viruses, along with its **Collective Intelligence** model, the first system to automatically detect, analyze, and classify malware in real time, have been the precursors to the **new Adaptive Defense security model**.



www.pandasecurity.com sales@gr.pandasecurity.com

How Fortinet and Pronet can secure Maritime companies today



Pronet SA was established in 1992, and today is considered as one strategic network security partner by numerous organizations of different sizes and footprint globally. Our expertise, continuous innovation, learning and young talent, allows to grow and serve many customers across industries.

The impact of information technology in maritime in addition to the growing need for information has led to **ship digitalization**. New solutions request increasing network connectivity and speed in addition to automations (on Bridge, on the Control Center, efficient Cargo and Crew management). **Smart ships** require Dynamic Route planning and Sea Traffic Management as well as Integration of operations and Intelligent subsystems' cooperation.

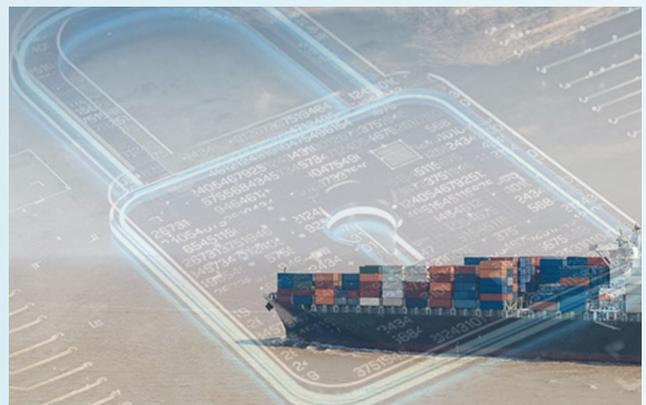
Such advances also result to an urgent requirement for **Cybersecurity** and maintenance on the operational safety. Most known type of attacks ships endure today are phishing, malware, ransomware, cyber-attacks, DDoS, spoofing, jamming, password, MITM and AI-Powered attacks but also threats from the inside. Such attacks can severely harm company branding, financials but also lead to legal consequences.

Today's reality is that there are incorporated mandatory cybersecurity requirements from IMO for International Safety Management Code (ISM). The Tanker Management and Self Assessment (TMSA) program provides companies with a means to improve and measure their own safety management systems. Since January 1st, 2021, Cybersecurity must be addressed by all players in shipping and incorporated into their Safety Management Systems (SMS). The industry joined forces (such as BIMCO) and developed Guidelines on Cyber Security

Requirements for Cyber Security in the Shipping Industry involve Vessels' Data Flow to use reliable communications, be protected from malicious attacks and secure all participants (vessels, headquarters, ship agents). Tools that handle data and its security should be enriched with features such as Web Filtering, IPS, APP Filtering, VPNs, should be manageable, come with capability of central, end-to-end delegation of management plus be compliant with future Maritime Digital Transformation.

The **Fortinet Security Fabric** Solution provides End-to-end Security Protection, Visibility and Control to every network segment, device and appliance, automation and true integration between all network components.

Pronet SA comes with a long-term partnership within the marine industry and is able to provide **End to end security solutions**. We have been announced **Expert Fortinet Partner** and currently engaged in many Fortinet deployments. If you are looking for services like **Inventory & Analysis, Sizing and Design, Installation and ISO 27001 certified Customer Support Services, Pronet SA is your Trusted Advisor**



If you wish to get in touch with us, please visit our site: www.pronet.ms

Commercial advantage with Q88



Founded in 2001 – by shipping people for shipping people – Q88 is the leading maritime SaaS technology provider and a preeminent voice shaping the industry. Q88 products and services are synonymous with simplifying the complexities of global maritime transportation and giving organizations of all types a competitive edge in a demanding environment.

Q88 serves more than 80% of the tanker industry and nearly 100% of major chemical carriers worldwide. With industry-leading charterers, owners and operators onboard, Q88's platforms capture real-time industry changes like no other provider can, delivering insights and benefits other providers cannot.

Q88 Products include:

- **Q88.com:** The world's leading tanker information management platform. Save time, collaborate and respond rapidly to information requests.
- **Q88 VMS:** Innovative and intuitive commercial voyage management. A real-world solution for simplifying chartering, operations and management.
- **Q88 Position List:** Real time, collaborative tool for identifying available vessels that enables success for the tanker broking community.
- **Q88 Dry:** Reliable and flexible information management for dry bulk. Real-time automated information to maximize fleet utilization.
- **Milbros:** Unmatched cargo risk management platform. Advanced and reliable cargo, cleaning, handling and safety data 24/7.



Through each platform, Q88 builds solutions with productivity and efficiency in mind. We help you focus on mission critical parts of your business instead of on paperwork, manual workflows, regulations and compliance. We help you save time so you can maximize your business impact, promote automation, enhance workflow, ease uncertainty and get more from your relationships, personally and professionally.



Connecting the industry is our mission so relationships are at the center of everything we do. We are all connected by more than the sea. The same challenges and opportunities touch everyone. So through technology and digital transformation we bring together the expertise and experience of people in all parts of the industry to create solutions. And we leverage these relationships to address the problems that face us all. Deriving human value from our digital connections – it's a way of doing business we call Relationshipship™. And it's what separates Q88 from every other provider.

To learn more, visit www.q88.com

How to Fortify Your Organization’s Last Layer of Security – Your Employees

Cyber security threats continue to proliferate and become more costly to businesses that suffer a data breach. One reason for that is that hackers have realized it’s easier to find someone who may be willing in a moment of weakness to open an attachment containing malicious content than to exploit technical vulnerabilities within computer software.

When it comes to combatting these growing risks, most organizations continue to place more trust in technology-based solutions than on training their employees to be more aware of the threat landscape and able to recognize the red flags in cyber breach attempts. Organizations tend to see their employees as liabilities rather than as assets, who, when trained appropriately and incentivized, can be part of a more robust solution to many problems.

There’s a right way and a wrong way to train employees in cyber security awareness.

The wrong way approaches training as a once-a-year or semi-annual exercise in which employees are gathered in the break room with snacks and subjected to a long, or sometimes too-brief, PowerPoint presentation. This method treats employees as a passive audience and inadequately engages them. It also reflects a one-size-fits-all organizational mindset. People have varying security awareness needs depending on their role and level of access to sensitive information within their organization. Another key flaw is that the impact of this type of training gets measured in terms of attendance instead of content retention and behavior modification.

How to change employee behavior to be less susceptible to social engineering

The central goal of security education is to modify an employee’s behavior so he or she doesn’t fall for social engineering -- the art of manipulating, influencing or deceiving somebody to take an action that isn’t in either his or his organization’s best interests. The most common examples of social engineering are phishing and spear-phishing attacks, which use phone, email, postal services or direct contact to try to trick people into doing something harmful.



SysteCom enriched its security solutions launching a new partnership with **KnowBe4**, the world’s largest integrated Security Awareness Training and Simulated Phishing platform. Realizing that the human element of security was being seriously neglected, KnowBe4 was created to help organizations manage the problem of social engineering through a comprehensive new-school awareness training approach. This method integrates baseline testing using real-world mock attacks, engaging interactive training, continuous assessment through simulated phishing, and phishing attacks and enterprise-strength reporting, to build a more resilient organization with security top of mind.



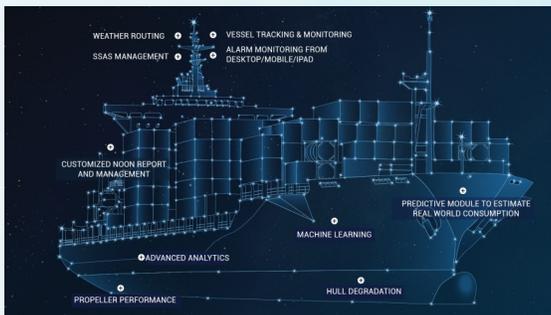
Tototheo Maritime spearheading innovation in the maritime industry

In a time when the value of data is undeniable and those who own it and know how to manage it are uniquely positioned to achieve competitive advantages, Tototheo Maritime has a clear vision of the future of technology in the maritime industry. The increased connectivity, now available to shipping, has opened the door for ship owners and operators to the opportunities it offers.

Optimisation platforms today, must provide a lot more than position and weather monitoring. The people on the forefront of vessel operation and management are overwhelmed with information from multiple sources in several different formats. All this, while ships are getting more and more connected and the complexity of socioeconomic and regulatory compliance factors increases continuously.

Tototheo Maritime's vision of the ideal platform is one which will be able to give good situational awareness of the fleet as the basic layer and multiple "feature" layers added as modules. TM Synergia is a robust software-as-a-service (SaaS) platform which capitalizes on the dynamic and complex interactions between your different resources as well as external resources giving you real time information in easy-to-read format, entirely configured to suit each user's requirements.

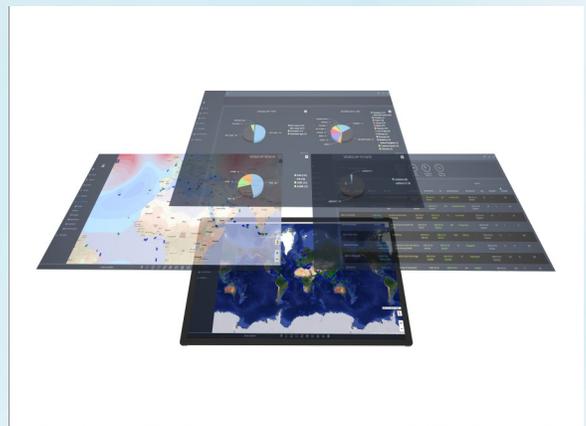
Recognising the different information needs of the various stakeholders in the value chain, TM Synergia offers multidimensional access to data and information. To begin with, the capability to handle vessel data in the form of noon reports or live data coming for energy and hull efficiency. This data can be analysed and applied towards creating benchmarks and vessel KPIs for predictive maintenance and wastage in "dollar terms" of the fleet.



The platform also includes a ground-breaking approach to compliance with EU MRV/IMO DCS requirements and provides the flexibility to generate reports of pre verified data. A bunker planning tool has been integrated into the platform to compliment voyage monitoring, allowing the procurement of bunkers at the most competitive rates. Furthermore, the platform generates post voyage claims reports in order to better manage possible claims with less administration, saving valuable time and eliminating any uncertainty.

The platform is constantly updated with new modules and functionality, the latest of which is the SSAS testing. This feature addresses the flexibility to change recipient list, supplemented with the locations from Inmarsat positions. The TM Synergia service seamlessly combines automation, AI, machine learning and real-time monitoring services into purpose-built packages suited to the specific needs of each organisation.

Being a firm believer in the future of technology, Tototheo Maritime has developed state of the art platforms and services to support and enable the evolution of our industry but has always kept people at the heart of its solutions.



We hacked a ship. The Owner is Liable.

We've been doing this for a few years, but did it like a "bad guy" this time.

We got into the vessel's Satcomms, a very specialised vessel discharging alongside in the major European capital city.

We could break the system so the vessel would have been using Sat-C and flag signals.

Information going through that satcomm could be collected, checked and used.
All testing was documented and reviewed.

Being Ethical Hackers, we must act in certain ways. One way is we tell everyone involved. We tried.

The Owners didn't care and ignored us.
The manufacturers didn't bother to respond.
Lawyers are going to be happy.
Ship owners are not.

Owners are being badly supported and advised by providers, using third party or poorly trained engineers, who leave systems in an exposed state. Manufacturers and developers are so guilty of poor security that "industry best practice" is a total contradiction.

How are owners being failed?

Owners have no choice in accepting sub-standard equipment. Equipment cannot be made secure in its current format, yet manufacturers and developers fail to update and secure them.

The Owner is still liable.

At a conference recently, someone asked "what could someone actually do?"

A relevant question, so we checked.

A basic attack could lock out all the users from the equipment. Turn off the Satcomm and prevent systems and users onboard gaining internet access.

This is annoying and disruptive, costing from a few hundreds to hundreds of thousands if classed "off hire".

What could a hacker learn? A lot.

The amount of systems exposed to the internet with poor configuration, makes it easy to find a victim.

Providers, managing several thousands of vessels, use engineers who leave default admin usernames and passwords.

Just a fault on one vessel, but it won't affect me? It affects everyone.

Our target took 7 minutes to locate.

Belonging to a large corporation. Default username and passwords were still in effect.

Access was successfully made, so all usernames and passwords could be changed. Available FTP access. If not already enabled, we could have enabled it.

Major security flaw #1 found. FTP accessed all the OS structure, not just FTP.

Major security flaw #2. A text file map of the OS structure.

Easy to find 'hidden' password files and copy to our local machine. Encrypted passwords.

2 hours later, they weren't. Now we had all manufacturers' usernames and passwords!

The VSAT Modem was accessed by SSH, with default usernames and passwords.

SSH was achieved, allowing us to take control and alter the configuration.

Now we can access any system with the manufacturer's credentials. Great for business and support, not for security.

Systemic failures at the developmental and operational level, will be major problems with Cyber2021.

Class and P&I will refuse claims and sue for negligence when there are events, while Owners will be legally responsible.

The lesson in today's communications environment?

Why trust a stranger with your satcomms now?

The Owner is Liable.

Yangosat is a maritime communications and solutions provider, helping ship owners and providers realise new systems and invigorate existing ones.

www.yangosat.com

info@yangosat.com





Seagull Maritime AS based in Norway is the leading provider of e-learning for the marine industry offering a comprehensive library of more than 300+ titles for regulatory compliance and improved seafarer knowledge. Our STCW and ISM code compliant training is used by more than 500,000 seafarers every year onboard 10.000+ ships worldwide and we have issued over 100,000 approved onboard course certificates, making us the world's largest educational institution in the maritime

industry. Founded in 1996 by experienced mariners we have grown into a dynamic company in partnership with leading shipping companies to deliver a full range of competence management, training administration, assessment and training tools that ensure meeting and exceeding STCW and IMO standards. Our mission is to enhance maritime competence by effective training and assessment solutions and deliver value through quality and excellence in customer service.

The Company values:

- Service minded
- Innovative
- Professional
- Proactive

SAFETY THROUGH KNOWLEDGE



Promoting Seaworthy ICT

Association of Maritime Managers in Information Technology and Communications

AMMITEC is a non-profit scientific association, bringing together the ICT Managers of the global shipping companies and everybody else who is involved in maritime IT & Communications. It aims to promote the most efficient usage of modern Technology, the relevant best practices in the global maritime sector and the empowerment of the ICT professionals.

Visit our Website:

<http://www.ammitec.org/>

Join our Forum on:

<http://www.ammitec.org/forum>

Like us on Facebook:

<https://www.facebook.com/pages/AMMITEC/104411452938505>