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(Photo: Copyright Bourbon)


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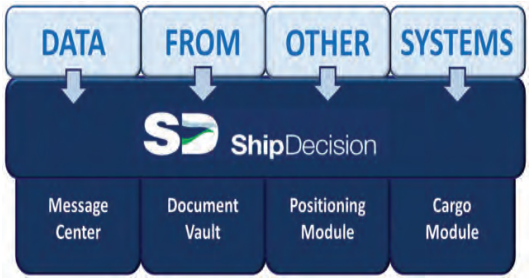
**By Greg Trauthwein**



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**By Joseph Keefe**

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*When Bourbon wanted to build its own training centers in France and Singapore, it turned to Norway's OSC, which provided the only AHTS simulator system in the world.*

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# *Training & Security: Both Depend on the Other*

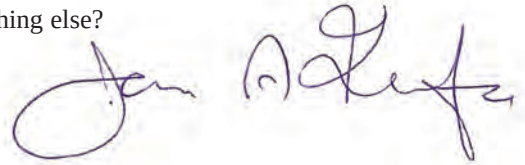
The 3rd quarter of 2011 has arrived and with it comes a raft of action items placed squarely on the collective plates of maritime professionals everywhere. We can agree to disagree on which issue is of greater concern than another. That said; the tasks of providing maritime security and ensuring adequate levels of professional training have certainly risen to the top of the list. In our last edition of *MarPro*, Intertanko Managing Director Joe Angelo said flatly, "The number one burning issue on the plate of INTERTANKO and probably most of the shipping industry is piracy." That hasn't changed. The key to achieving that seemingly elusive safe haven remains on the training side of the equation. But, that's where it gets sticky.

Maritime Security and Training are inextricably linked. That's because without one, the other is rendered impotent in the all-important effort to turn a profit on the water. And, that's the bottom line; no pun intended. This issue of *MarPro* touches upon all manners of maritime security; from containers to command centers, piracy to ports, cameras to communications and everything else in between. Along the way, you'll read about some innovative security training initiatives from the perspective of a maritime professional – like yourself, for example – who has actually gone to sea and taken the smoothly delivered online version of that course. And, the one thing we can all agree on is that all the STCW-delivered competence in the world is useless in the face of a ship's crew that cannot competently prepare for and defend itself against the scourge of piracy.

The properly defended ship and crew also need to be conversant with all aspects of regulatory and STCW-mandated training protocols. As the memory of the IMO's 2010 Manila conference, intended to amend the STCW Convention and Code, fades in the rearview mirror, the so-called Manila Amendments to the code are not. 2012 will be here before you know it. So too will a dozen or more new and perplexing STCW training requirements, heaped on top of your already heavy regulatory burden. For myself, the completion of the Bridge Resource Management (BRM) course work at GMATS at Kings Point, NY brings me one step closer to achieving STCW compliance at an age when most mariners are thinking about packing it in. Also in this edition is advice from North America's foremost expert on ECDIS training. A primary contributor to the shape of the final STCW ECDIS curriculum, GMATS' Christian Hempstead defines the way forward for mariners and their employers everywhere.

If maritime security and competency-based training standards are the keel blocks of today's maritime operations, then the robust epoxy that holds it all together is the effort that shoreside maritime professionals extend to their ship-based colleagues. This includes ensuring adequate levels of support, health and safety precautions and yes – respect. All of this eventually makes the entire operation smoothly move through the water like a freshly coated hull. This additionally takes the form of efficient credentialing and fair treatment from our Coast Guard regulators (and friends), who, not coincidentally, were invited to weigh in on their efforts in this edition. Since the commercial side of this aspect of ship operations is just as important, you will also read about what industry is doing to keep up.

Finally, it never hurts to define the demographics of your readers. Our statistical analysis of both maritime professionals and the job markets that define them is arguably the perfect exclamation point to another strong edition. *Training, Security, Safety & Welfare – and Maritime Professionals*. Is there anything else?



*Joseph Keefe, Managing Editor* | **keefe@marinelink.com**

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# Striving for Excellence
## United States Coast Guard's National Maritime Center

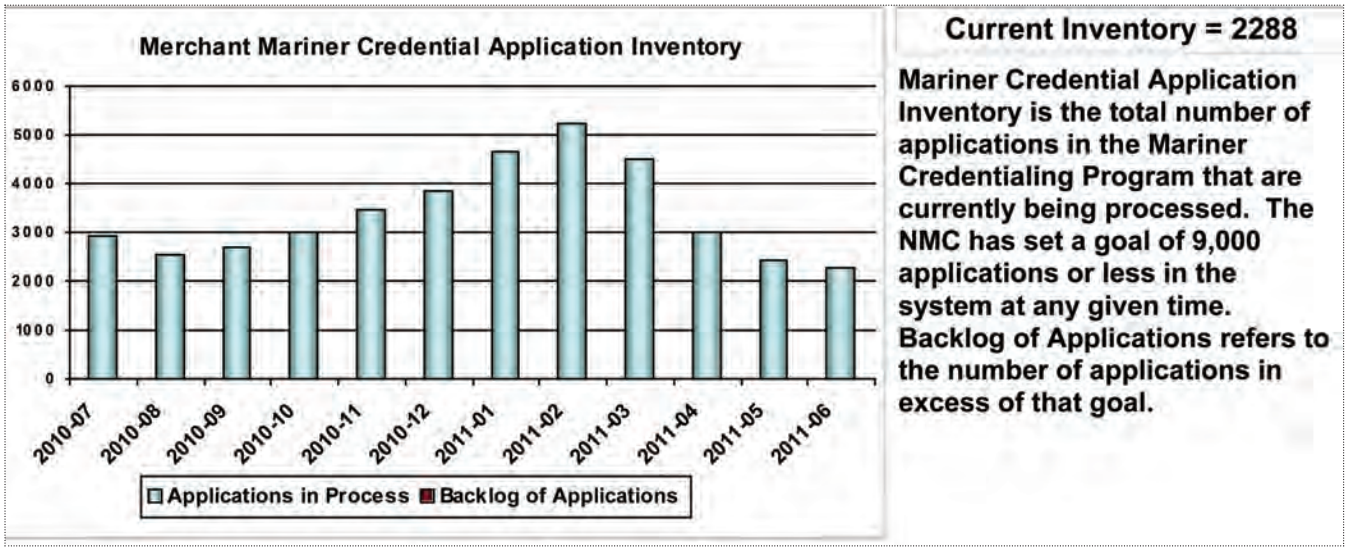
By Captain Anthony S. Lloyd

The United States remains a nation critically reliant on safe, secure, and successful maritime operations. Work in the maritime trades remains the foundation of the American economy and mariners are THE strength within that network, which is also referred to as the Maritime Transportation System (MTS). The National Maritime Center's (NMC) relationship with each of the nation's mariners is sacrosanct – our goal is to keep mariners working while enforcing compliance with the laws, regulations, and policies that govern the Mariner Credentialing Program (MCP). As the MCP evolves, we absolutely seek to maintain and build strong partnerships with all of our stakeholders to make continuous customer service improvements. The tradeoff between compliance and customer service is a balancing act that depends on a commitment by all parties involved to serve mariners better than in times past. Period.

When I showed up at the NMC, I had the distinct honor of receiving, on behalf of the NMC crew, the Coast Guard's Alexander Hamilton Award for performance management from Admiral Papp, Commandant of the Coast Guard, who sponsors the award. His guidance to me is to not be satisfied with yesterday's achievements. My expectation as the new Commanding Officer is to build on our recent successes by continuing to improve every aspect of our operations at the NMC. Translating this intent into operations is what the NMC is doing today. For example, we recently published our performance report for the month of June, 2011. That report shows that June was the first month in which the MCP achieved a processing average of 15.8 days for an entire month. We could not have achieved this lower average net processing time had we not made recent improvements in medical evaluations, staffing, and processing as well.

### PROCESSING SERVICES

We recognized areas that needed improvement and recently made changes within the Mariner Medical Evaluations Division. Customers voiced their concerns and we listened. Staff was added to improve customer service in the Mariner Call Center so mariners and their physicians could better discuss their medical application issues. We successfully filled government medical evaluations staff positions while also transitioning our new Medical Evaluations and Services contract to RGB Group Inc., of Miami, Florida. That transition took place during the last six months and our new team members are well attuned to NMC processes and procedures. When staff turnover occurs, the NMC makes every effort to



quickly fill vacancies so that our standard of service is maintained. One of my priorities for the NMC is to fill our vacancies as fast as possible, within our established agency guidelines for hiring and contracting, with the best-qualified personnel available. Rapidly filling vacancies results in lower application processing time, reduced inventory, and improved customer service as it relates to medical applications. There is still room for improvement in mariner medical evaluations and I and my staff at NMC are taking action to address customer concerns. Another area of progressive improvement is the Coast Guard's recently completed conversion of all safety and suitability and professional-qualification evaluators from contractor to permanent General Schedule (Federal) employees. This effort culminated after many months and was a necessary step to stabilize and retain a highly dedicated and trained workforce. This effort culminated after many months of hard work and helped stabilize our workforce with individuals who can approve credentials and make decisions in more rapid fashion. These delegations will improve

## A Day in the Life of the National Maritime Center

| | |
|---|---|
| Applications Received: | 262 |
| Credentials Produced: | 250 |
| Auto generated Emails: | 1300 |
| Web Site Hits: | 3540 |
| Call Center Phone Calls: | 1092 |
| IASKNMC Emails: | 258 |
| Exams Given: | 52 |
| Course Approval Applications: | 3 |
| Designated Examiners: | 4 |
| Assessor Requests: | 2 |
| Course Audits: | 5 |
| Applications Placed in: | |
| • Awaiting Information: | 104 |
| • Approved to Test: | 53 |
| Applications Denied: | 4 |

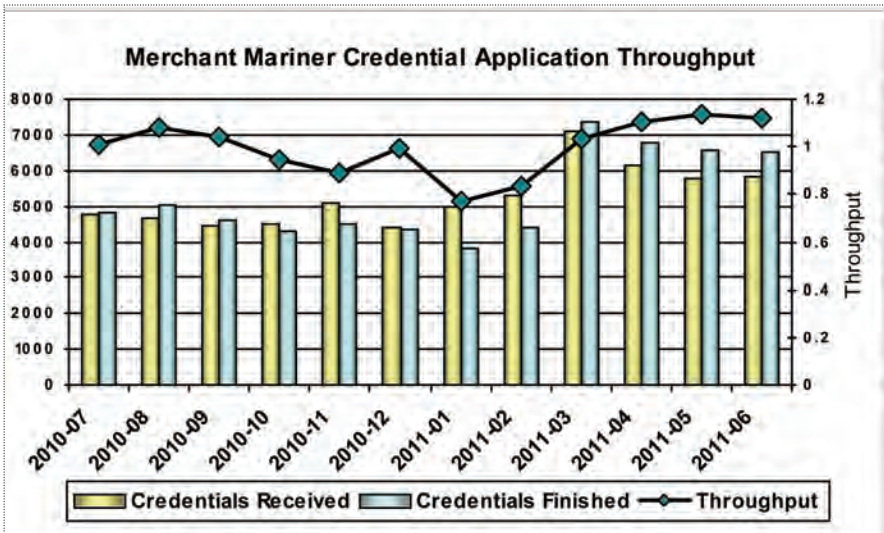
*(average/business day)*

customer service as well and represent a big step for the NMC's workforce who remains accountable for America's maritime safety, security and environmental stewardship.

## ON THE HORIZON

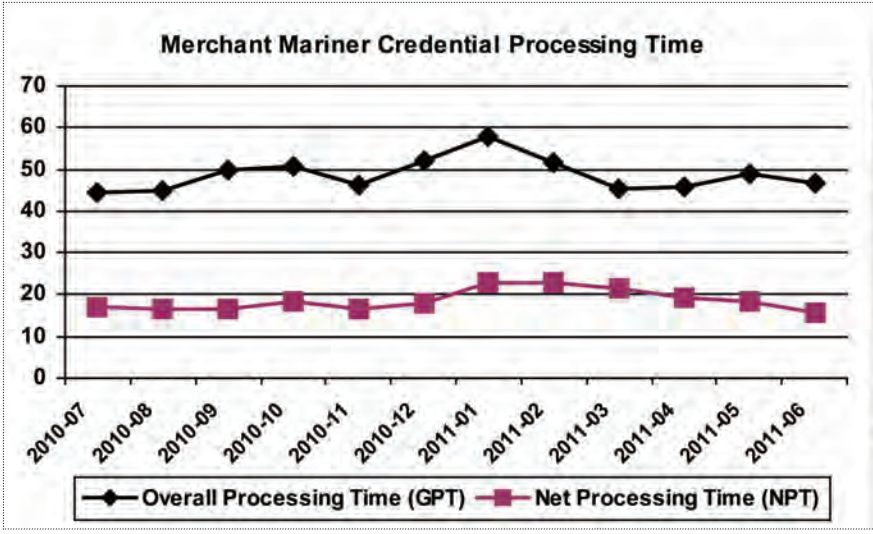
Since 1852, as a consequence of accidents involving steam-powered vessels, the United States has maintained an active seafarer certification system, with the first licenses issued in the 1850s and in 1871 to engineers, pilots, masters, and chief mates. Certificates for able seamen and lifeboatmen appeared in 1915 following the Titanic disaster. Subsequently, the adoption of the Officers' Competency Certificates Convention in 1936 resulted in additional certification requirements. The International Maritime Organization (IMO) oversees this process and the U.S. Coast Guard implements IMO guidance through U.S. Regulations for mariners employed on vessels greater than 200 Gross Register Tons (Domestic Tonnage), or 500 Gross Tons (ITC Tonnage), operating seaward of the U.S. boundary lines.

Since February 2010, the Coast Guard has been planning Operation HAWESPIPE to implement a rule which establishes full and effective implementation of Standards of Training, Certification for Watchkeeping (STCW). The NMC holds a significant role in the successful implementation of this rule and is fully focused on this effort. As always, Coast Guard




**Current Throughput = 1.12**

**Mariner Credential Throughput is a ratio of the total number of applications finished divided by the total number of applications received. The NMC has set a throughput goal of 1.0 or greater. The total number of credentials received and credentials issued, denied, withdrawn, and timed out are included in this measurement.**




**Current NPT = 15.81**

**Mariner Credential Processing time is measured in terms of overall processing time (application submitted date to issued date), and net processing time (NPT). NPT is the total time the Coast Guard spends processing the application and does not include time waiting for information from mariners. The NMC has set a NPT goal of 30 days.**

Headquarters will seek public participation through comments and meetings on the published proposed rule.

## SERVING AMERICA'S MARINERS

"Serving America's Mariners" is the NMC motto which is proudly displayed on the Coast Guard homepage at http://www.uscg.mil. Placement of our motto on these pages symbolizes our steadfast commitment to serving our nation's mariners and the Coast Guard's focus on the MCP. We look forward to working with all of our mariners and our important stakeholders. For better service, visit **http://www.uscg.mil/nmc/micc/default.asp** or call 1-888-IASKNMC. We also ask that you keep an eye out for our new customer service questionnaire on the NMC homepage http://www.uscg.mil/nmc, which will be posted soon. The NMC remains committed to seeking improvements in the way we support the mariner and their role in MTS.

*"Rapidly filling vacancies results in lower application processing time, reduced inventory, and improved customer service as it relates to medical applications.* ***There is still room for improvement in mariner medical evaluations*** *and I and my staff at NMC are taking action to address customer concerns."*


**The Author**

**Captain Anthony S. Lloyd** is Commanding Officer of the U.S. Coast Guard National Maritime Center

Insights

# USCG's Administrative Adjudication System Unbiased and Judges Fair

By Walter J. Brudzinski

In July 2007, mariner-plaintiffs brought three cases against the Coast Guard in New Orleans federal court based primarily on former ALJ Jeffie J. Massey's affidavit which alleged Coast Guard Administrative Law Judges (ALJs) are biased in favor of the Coast Guard in Suspension and Revocation (S&R) proceedings. She claimed the bias arose because the Chief ALJ directed ALJs to find for the Coast Guard. Massey refused to follow Coast Guard law. When the Chief Judge informed her that she, as well as all ALJs, are required to do so, she replied that any effort to persuade her to do so infringed on her judicial independence.

She also accused the Chief Judge of not supporting her and claimed he sided with Coast Guard Investigating Officers who complained to Agency officials that her rulings were contrary to law. Indeed, on at least two occasions the Vice-Commandant found ALJ Massey committed reversible error by ignoring the law. Massey also claimed she could not work with ALJ Program members because it might affect her independence. Therefore, she demanded the Chief ALJ launch an investigation of the entire ALJ Program. He refused, so she continued to complain of institutional bias and that one case, Dresser, was actually "fixed." ALJ Massey alleged ALJ misconduct had been ongoing since December 2004 yet she failed to inform appropriate authority as required. Instead, two weeks after she retired in May 2007, she filed her affidavit to support the New Orleans lawsuits. The primary plaintiff was Christopher J. Dresser (07-1497), the same mariner whose S&R proceedings Massey claimed were fixed. She was not the judge hearing the case, nor was she aware of all the evidence in the record. The suit sought damages totaling $31M from several ALJ Program employees.

Her allegations received wide dissemination. Her memos detailing disputes with the Chief ALJ and her unwillingness to follow the law did not. On June 27, 2007, the Baltimore Sun launched the first in a series of articles attacking the Coast Guard ALJ Program and the Chief ALJ for bias against mariners. The articles also included "case disposition statistics." Coast Guard officials vigorously disputed the unsubstantiated claims as well as the "case disposition statistics" but the newspaper published the articles anyway. It ultimately became known that Dresser's brother was a reporter for the Baltimore Sun, and that he asked the editor to publish the articles. The articles immediately prompted Congress to convene hearings which almost resulted in the Coast Guard's ALJ Program being transferred to the National Transportation Safety Board. Following the committee's hearings, the General Accountability Office (GAO) audited the Coast Guard Administrative Law Judge Program. Not surprisingly, GAO's case disposition statistics were contrary to those of the Baltimore Sun. The GAO Report (GAO-09-489) of June 9, 2009 also found the ALJ Program contains "elements designed to foster the decisional independence of its judges."

The District Court dismissed the three lawsuits for lack of jurisdiction. The Fifth Circuit affirmed. However, Massey's affidavit did not receive judicial scrutiny until another District Judge reviewed it in Mr. Dresser's suit against the hemp oil manufacturer. Mr. Dresser tested positive for marijuana metabolites. In his S&R proceedings he claimed ingesting hemp oil containing THC caused the positive test. In the detailed Decision and Order issued six months after the hearing, the presiding Judge (this author) found Mr. Dresser's claims did not rebut the legal presumption of drug use and revoked Mr. Dresser's credentials as directed by law. Mr. Dresser sued the hemp oil manufacturer.

The Court in Dresser's hemp oil suit reviewed this author's Decision and Order in detail and held "ALJ Brudzinski's finding that Dresser failed to overcome the presumption that he knowingly ingested THC is fully supported by the record." The Court further held that notwithstanding ALJ Massey's claims, Dresser received a full and fair hearing. As a result, she ruled Dresser was "collaterally estopped from arguing that his positive drug test was caused by drinking the defendants' hemp oil product without knowing that it contained THC, rather than by using marijuana. Therefore, Dresser cannot prevail in this products liability case."

Mr. Dresser also claimed this author "was not an impartial adjudicator" because the decision was "fixed." The Court rejected that argument because it was based primarily on the Massey affidavit, finding Dresser "has not overcome the presumption that ALJ Brudzinski was an honest adjudicator" and "has failed in his attempt to show that the ALJ had a direct, personal, substantial, and pecuniary, interest in the case."

The Court also found Dresser relied on the Massey affidavit to support his bias allegation. After a thorough discussion of

affidavit the Court found "Massey's conclusion that Chief Judge Ingolia directed ALJ Brudzinski's decision against Dresser is unsupported by the evidence . . . ALJ Massey's opinion that she could reach no conclusion but that Chief Judge Ingolia gave ALJ Brudzinski instructions in the Dresser case is pure speculation." Further, "Massey's conclusion that the outcome of the Dresser case was predetermined is contradicted by her own statement." Finally, the Court rejected Massey's criticism of judges consulting with other judges concerning their judicial responsibilities because the ABA Model Code of Judicial Conduct permits such consultations. "Massey's opinion that such contacts are never appropriate is both irrelevant and incorrect." At the request of all Coast Guard ALJs the Office of Inspector General investigated Massey's allegations. Its report, OIG-10-108 of August 25, 2010, found no evidence supporting her allegations. "[Her] claims could not be substantiated. … [and more importantly, her] conduct in disclosing the allegations also reinforced our conclusions and led us to doubt her claims."The process of overcoming false accusations and frivolous lawsuits is protracted and frustrating, but in the end – worth it. Our legal system demands nothing less if the Rule of Law is to be maintained.


**The Author**

**Walter J. Brudzinski** is an Administrative Law Judge, U.S. Coast Guard. He has earned a BA from the University of Maryland; JD from George Mason University (with distinction) and a Master of Judicial Studies (MJS) from the University of Nevada, Reno. The views expressed herein are those of the author and are not to be construed as official or reflecting the views of the Commandant or of the U.S. Coast Guard.

Insights

# Maritime ISAC
# A Glass Half Full

By Greg Girard

There is always someone who can benefit from information you are willing to share. Sharing information that will help others almost sounds like the second Golden Rule, or at least a simple moral we would teach our children. But can this same simple rule apply to a "real world" maritime scenario?

As a backdrop for the information to be shared, let's add drug trafficking, crime syndicates, terrorist plots, national security implications, advanced military technology and weaponry, seas that cover 70 percent of the world's surface, 90 percent of the world's cargo, marauding pirates, governmental sovereignty, agency jurisdictions, multi-million dollar corporate losses, and legal liabilities. Is it then so easy to apply our second Golden Rule? It certainly is necessary, but it can get a bit more complicated.

This backdrop is unfortunately the current status of the maritime environment, and while sharing information plays a role in the overall national maritime security structure, it often gets lost in the race for higher fences, more grant allocations and the latest and supposedly greatest technologies.

## INFORMATION SHARING

An essential component to security within any transportation or critical infrastructure sector is intelligence. Accurate and timely information can prevent, deter and discover all forms of criminal and terrorist activity and is the true foundation of any proactive security philosophy.

It is understandable then that in 1998, a Presidential Directive (PDD 63) was published calling for a "national effort to assure the security of the United States' increasingly vulnerable and interconnected infrastructures" and stating that "Information Sharing and Analysis Centers (ISACs) are encouraged to be set up by the private sector in cooperation with Federal government."

Over the years, this idea of information sharing with the private sector has been reinforced by numerous government documents and testimonies. As an example, in 2006, An Information Sharing Environment Implementation Plan, written by the Information Sharing Environment Office and the Information Sharing Council, noted "private sector information represents a crucial element in both understanding the current threat environment and protecting our nation's critical infrastructure from targeted attacks."

Several industries, prompted by these overt calls for collaboration by government, began establishing various critical infrastructure ISACs. Indeed, in 2003 the National Council of ISACs was founded, providing 16 active ISAC organizations with a forum for collaboration between both the critical infrastructures themselves and their respective government partners.

While the concept of ISACs is accepted as sound and both government and industry are cognizant of the potential benefits, obstacles remain. Three issues stand out:

- **Information overload:** Noted American physicist William Pollard said, "Information is a source of learning. But unless it is organized, processed and available to the right people for decision making, it is a burden, not a benefit." We are truly suffering from information fatigue. There is so much information, coming from so many sources, that it often becomes a detriment rather than a benefit to those trying to use it.
- **Ambiguous lines of communication:** While sharing the information is half the battle, recognizing who can best use the information is the other half. Where can I get the information I need? How will the information I share be used? These questions rarely have a definitive answer, particularly when faced with ever evolving rotations within government agencies. A familiar, and frustrating, scenario is industry representatives working for months and years establishing relationships with agency contacts only to have those contacts rotate out to another agency or office with their replacement having no background on the prior relationship established. This "treadmill collaboration", where relationships can't get to that next level of trust, can only negatively impact proper cooperation in the event of a terrorist act or crime.
- **Commitment Issues:** Sharing is a matter of trust. It is understood that government and industry cooperation is essential to properly securing critical infrastructures. What is difficult to achieve is how both parties get over their apprehension of trust. Government, rightfully so, needs consistent reassurance that the information they share will only go to those who have been properly vetted. And industry, rightful-

ly so, must be assured that the information they provide will not be used against them.

Essentially, these issues are exactly why ISACs were proposed: Industry will create a valid and important layer within the national security structure that can distill redundant and superfluous information flowing between government and industry through expert analysis; provide a centralized repository of information that can maintain sustained lines of communication; and work as a trusted agent between government and industry, assuring both confidentiality and anonymity.

## ISAC FOR THE MARITIME ENVIRONMENT

It should be surprising therefore that despite the general understanding and acceptance throughout the maritime community that prevention is more operationally effective than response and recovery, the maritime industry does not yet have a reliable, comprehensive information sharing network. There is hesitation on both sides – some warranted, but most seems just territorial. Admittedly, maritime transportation is a unique industry. It is international in scope, its boundaries are malleable and its impact on the global economy is unparalleled. There is more information to digest and more risk of information getting into the wrong hands. All the more reason to establish stronger bonds of cooperation and collaboration between industry and government … there is so much more to lose.

While the Maritime Security Council does indeed serve as a de facto Maritime ISAC, gathering information from open sources, analyzing specific maritime security issues, distributing the information to its membership, and representing the maritime industry as a member of the National Council of ISACs, much more needs to be done. The maritime industry needs an ISAC with complete government support. This "full service" Maritime ISAC will handle sensitive security information; provide real-time analytical support during incidents; offer trusted lines of communication; maintain a database of worldwide port conditions; and analyze – in a secure environment – information gathered from all interested parties.

Publilius Syrus, a writer from the 1st century BC wrote, "Anyone can hold the helm when the sea is calm" and I would suggest that an addendum to the quote could read "but it is when the sea is restless that those most prepared will find safety." It is time for a "full service" Maritime ISAC.


**The Author**

**Greg Girard** is Vice President of Communications & Operations for the Maritime Security Council and has worked in the international maritime security sector for the last decade. He is editor of the Maritime Information Sharing & Analysis Center (Maritime ISAC) Alert, an open source and analytical report distributed twice weekly to the MSC membership.

P

*Profile*

MarPro Profile

# Suz Michel, VP, Safety & Learning

## Crowley Maritime

Crowley Maritime's announcement that Suz Michel had assumed the role of vice president of safety and learning probably surprised no one inside the of the privately held family and employee-owned 119-year-old firm. Outside Crowley, those not familiar with their newest high profile executive are about to find out why the position that gives her oversight for both the Safety, Security, Quality & Environmental (SSQE) and People Development & Learning (PDL) groups at Crowley is so important.

In 2004 Michel joined Crowley in an SSQE role focused on regulatory safety training. In 2007, she was promoted to director of PDL. And, in 2008, she received the company's highest honor, the Thomas Crowley Trophy. In the wake of her most recent promotion, Michel told MarPro, "My interest has been to help people and groups learn so they can have an impact on the larger organization." In July, we asked her to expand upon that theme and a couple more. Her responses to our queries provide a unique look into the progressive human resources approach of one of America's largest and oldest maritime employers.

**TELL US ABOUT YOUR EDUCATION AND CAREER PATH AND HOW IT EVOLVED INTO YOUR CORE FOCUS OF "DEVELOPING PEOPLE AND PROMOTING LEARNING."**

I have an undergrad degree in Education from Concordia University in Irvine. I actually started out as a Director of Christian Education for the Lutheran church working with youth and adults. After I finished my graduate degree in Industrial Psychology and Organizational Development, I spent time in several industries; and finally the maritime industry. When I came to Crowley, I was pretty transparent about my inability to tell one end of the vessel from the other. At the time, they were looking for someone to provide professional training and development support for an oil response training program in Valdez. My first exposure to the fleet was on an oil response barge in Prince William Sound in brutal winter winds. The crew helped me step from the pigeon holes of the barge over the side of the icy tug. I flopped onto the deck like a salmon. I was absolutely hooked on Crowley from that moment on...no pun intended.

**THE MOVE TO HQ PUTS YOU CLOSER TO THE CORPORATE FOLKS WITH WHOM YOU WILL FORMULATE THE DIRECTION OF TRAINING, BUT ALSO PUTS YOU FARTHER AWAY FROM THOSE EMPLOYEES THAT YOU HOPE TO HELP. DO YOU ANTICIPATE A BUSIER TRAVEL SCHEDULE, OR WILL YOUR NEW ROLE FOCUS PRIMARILY ON POLICY DECISIONS?**

We're a diverse organization spread out over land and water – travel is part of staying connected to the business. I've been on every type of Crowley vessel and in most of our offices from Alaska to Puerto Rico. The benefit of being close to the operation is that the crew and terminal employees keep us honest about the relevance and effectiveness of our programs.

In my new role, I'll focus organizational learning on building a strong safety culture. Being at the corporate office puts me closer to the leadership team and lets me catch the conversations in the hall. Having said that, I will really miss seeing the Crowley tugs coming in and out of the port of Seattle.

**YOUR NEW ROLE HAS BEEN DESCRIBED AS ONE WHICH SHOULD "DEVELOP SKILLS AND COMPETENCIES TO IMPROVE ORGANIZATIONAL PERFORMANCE," WITH A PARTICULAR FOCUS ON "CULTURE INITIATIVES THAT FOCUS ON EMPLOYEE PERFORMANCE AND ALIGNMENT WITH CROWLEY'S CORPORATE OBJECTIVES." BUT, WHAT DOES ALL OF THAT MEAN?**

We have defined competencies for all employees; basic skills that are important for everyone to master. The company expects that employees will dedicate a portion of their time to learning. The idea is that people are never done developing. We call it "life-long, lean-in" learning. Because so much of our business is a moving target, we want employees to stay current and contribute to our changing business demands. We want our supervisors and officers to also see that it's their role to develop their crew and teams so that collectively we remain ahead of the curve.

**YOU'VE BEEN TOUTED AS BEING INSTRUMENTAL IN THE CULTURE-CHANGING PROCESS, WHILE AT THE SAME TIME HELPING EMPLOYEES TO DEVELOP CORE COMPETENCIES. ARGUABLY, THOSE TASKS ARE DIFFERENT BUT IT IS CLEAR THAT CROWLEY VIEWS THEM AS PART OF THE SAME OBJECTIVE. WHERE ARE THE ISSUES THE SAME AND WHERE ARE THEY DIFFERENT?**

If not exactly the same, they certainly point to the same objective. Adopting behavior that reflects core values and combining that with skill and knowledge is a powerful formula for influencing collective behavior. Culture is easy to talk about and difficult to influence.

# *Suz Michel*

*Vice President of Safety and Learning*

*"I've been on every type of Crowley vessel and in most of our offices from Alaska to Puerto Rico. The benefit of being close to the operation is that the crew and terminal employees keep us honest about the relevance and effectiveness of our programs."*

*"Culture is easy to talk about and difficult to influence. I think our ongoing challenge is to align all the varied interests toward a clear and compelling objective."*

*www.crowley.com*

I think our ongoing challenge is to align all the varied interests toward a clear and compelling objective. Process, procedures, governance, systems, performance management – all of those things help us to keep in step toward that direction. But I think it's the rallying around the values that is the quickest, most efficient way to company durability and profit. The alternative is costly.

**AS THE NEW VICE PRESIDENT OF PEOPLE DEVELOPMENT AND LEARNING, YOU HAVE ALSO SERVED AS DIRECTOR OF PEOPLE DEVELOPMENT AND LEARNING. WHAT'S GOING TO CHANGE IN YOUR JOB DESCRIPTION AND WHAT WILL STAY THE SAME?**

I've been asked to focus my attention on the safety culture. We want to integrate leadership skills with technical skills, build momentum around programs that encourage vital safety behaviors and focus on connecting the dots of our safety management system. There is also an opportunity to be more strategic about our quality program so that we identify what skills are needed to meet our goal of No harm to people, No accidents and No damage to the environment. If we can figure out how to do that AND lighten the load of the mariner, then that would be a home run.

**THE DIVERSITY OF YOUR BUSINESS MIX RANGES FROM AT-SEA INDUSTRIAL OPERATIONS TO OFFICE-BASED LOGISTICS. MAKING SURE BOTH SECTORS PERFORM AT PEAK LEVELS AND IN HARMONY WITH CROWLEY'S CORE VALUES CAN'T BE AN EASY ONE. IS THERE A GREAT DEAL OF DIFFERENCE BETWEEN HOW YOU APPROACH EITHER SIDE OF THE EQUATION?**

I have a deep respect for what our crews and terminal workers do, the environments they are in and the cost of error in their day-to-day responsibilities. I also think working in an office environment to support and promote the business is certainly challenging. The roles might be different but the need to be competent and the skills to do good work are surprisingly similar. As often as we can, we combine officers and deck crew, terminals and shore side employees in our programs to promote understanding and encourage cross learning. And we ask our shore side management to frequently attend the Crowley Safety Program for the mariner.

**IN-HOUSE SAFETY TRAINING INITIATIVES CAN RANGE FROM NONEXISTENT (BARE BONES POLICY TO COMPLY TO STATUTORY REQUIREMENT ONLY) ALL THE WAY TO ROBUST, CUSTOMIZED TRAINING PROTOCOLS. TELL US WHERE CROWLEY FITS INTO THAT MATRIX AND WHAT ASPECT(S) OF NON-REGULATORY TRAINING IS IMPORTANT TO CROWLEY, WHY, AND HOW YOU ENSURE THAT ALL PERSONNEL RECEIVE THE BENEFIT OF THIS PROFESSIONAL EDUCATION.**

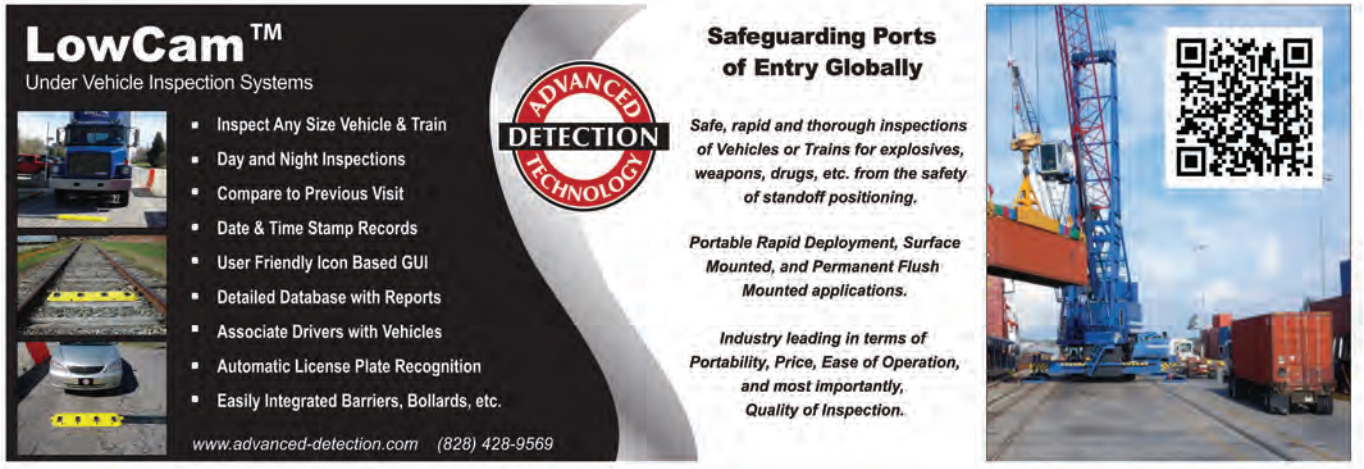
Safety is our first core value and this is evident in the quantity and the quality of safety training that our employees receive. The Crowley Safety Program for the mariner is in its 7th year and this year, 800 crewmembers will come to the internal 2-day USCG approved course that will focus on incident review and basic safety training. In addition we have operations seminars, extensive online training and a wide array of safety tools that are incorporated

A Crowley ship assist fire drill.

into day-to-day operations. The People Development and Learning department will focus next year on incorporating leadership and communications skills with our technical training. And the organization is using the Influencer Model to ensure that we promote and enable vital safety behaviors to get us to our safety goals.

**WHAT'S IT LIKE TO WORK AT CROWLEY? WHERE ARE YOU SUCCEEDING AND WHAT AREAS – IF ANY – COULD YOU BE DOING BETTER?**

**Tom Crowley is a huge champion of safety and learning.** He sets that tone from the top and that makes the job easier in every way. Crowley is an organization that wants people be equipped to do their job and to be appreciated for their contributions. Our safety goal is clear and it gets tougher to hit the mark, the closer we get to it. I've had two sons work for Crowley in Prudhoe Bay. I really wanted them to be safe. I also wanted them to be treated with respect and get a taste of what it is to put in a long hard day and make a difference. I try not to forget that every employee has someone at home who depends on us to do this well.

Hands On

# GMATS takes MarPro to School

*MarPro Editor Joe Keefe edges closer to STCW compliance as GMATS shows off its customized education and training programs for commercial mariners.*

**by Joseph Keefe**

When I last signed aboard a seagoing merchant vessel as a Deck Officer in the mid-1980's, the term "Bridge Resource Management" was only just being brought into play aboard the world's merchant fleets. Certainly, it had not yet been formally mandated as a training protocol. On board my oil tanker – operated, interestingly enough, by a large integrated oil refining and exploration company – BRM was not something we discussed over dinner in the officer's saloon. Instead, resource management in our antiquated, 1940's-era wheelhouse typically involved making darn sure that the Master had fresh coffee when he came up. And, as I remember it, a very important task for the Mate on the mid watch was to step down one deck from the bridge wing and reset the recalcitrant A/C unit when it shut off; usually 3 or 4 times each night at sea.

As possibly the last mariner and maybe the oldest on the planet to enter and utilize a bridge training simulator, my journey to STCW compliance – something that came along after my ship was scrapped out from under me in the mid-1980's – actually began only a couple of years ago. The effort, something I dubbed "STCW at 50" has now stretched out into my 52nd year, partly due to scheduling issues with my job and personal affairs. That it has taken this long is proof of the overwhelming regulatory burden presented by the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (or STCW). Those attempting to achieve these qualifications outside a formal training program or – as I am doing from scratch – know exactly what I'm talking about. With six of these courses now under my expanding belt, along with the U.S. Coast Guard mandated (NAVC 04-08) physical examination and a drug test, I will submit my credentials in the near future. Before that could occur, however, I needed to complete the BRM training.

Adopted in 1978 and entering into force in 1984, STCW sets qualification standards for officers and watch personnel on seagoing merchant ships, the Convention was significantly amended in 1995. More recently, the so-called Manila

**Full mission Kongsberg Simulator.**

Amendments of last year further ramped up requirements for other personnel and addressed technology advances and other issues. One of the key requirements of STCW outlines the need for Bridge Resource Management Training (BRM) for deck officers. In May, I traveled to Kings Point, NY to take the required course, along with 19 other Mates from Reinauer Transportation Company. Over the course of three very full days, which included 8 hours of advanced simulator training, I was brought up to speed on the many advances in technology and navigation/management techniques that have occurred over the past three decades. Arguably, no one in the business is better qualified to deliver that knowledge than the instructors at GMATS, using cutting edge technology to do it.

## NO SURPRISE: GMATS ON YOUR RADAR

Perhaps better known for its service to military groups and federal employees, the broader mission and performance of the Global Maritime and Transportation School (GMATS) has long since eclipsed that important, but narrow sector of the maritime transportation training demographic. Conveniently located within easy reach of three major airport hubs and boasting access to state-of-the-art simulation and training equipment,

*… navigating New York and Baltimore harbors, docking and undocking and practicing other skills with realistic controls and the latest in ECDIS equipment in one of the newest simulation arrangements available anywhere was a terrific learning experience.*

**Captain George Sandberg instructs BRM students.**

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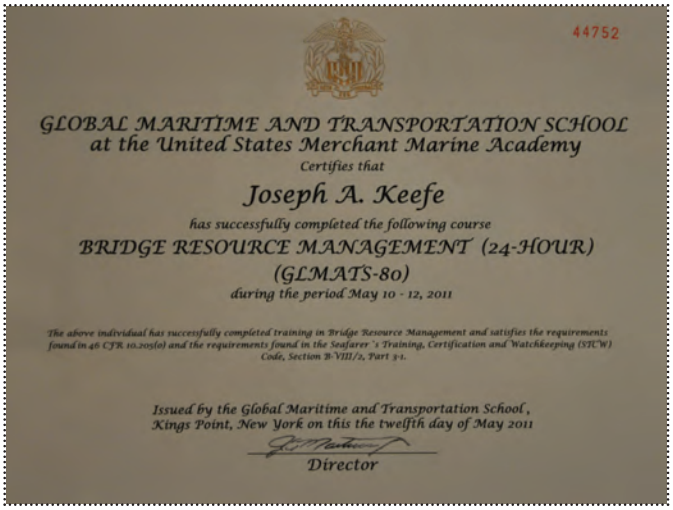
GMATS has not only emerged as an industry leader in delivering high-quality regulatory training but also in its ability to deliver tightly focused, customized programs. That's hardly surprising, but it is, at the same time, also hard to beat anywhere else.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GLOBAL MARITIME AND TRANSPORTATION SCHOOL
at the United States Merchant Marine Academy
Certifies that
Joseph A. Keefe
has successfully completed the following course
BRIDGE RESOURCE MANAGEMENT (24-HOUR)
(GLMATS-80)
during the period May 10 - 12, 2011

The above individual has successfully completed training in Bridge Resource Management and satisfies the requirements found in 46 CFR 10.205(o) and the requirements found in the Seafarer's Training, Certification and Watchkeeping (STCW) Code, Section B-VIII/2, Part 3-1.

Issued by the Global Maritime and Transportation School,
Kings Point, New York on this the twelfth day of May 2011
Director

**Author's BRM STCW Certificate, issued by GMATS.**

The most visible name in maritime education in North America is as agile as it is big. At the heart of the GMATS mission is its ability to quickly and efficiently develop training programs designed to meet the specific needs of any organization. Expanding from its formal roots in 1994, the school, co-located with the U.S. Merchant Marine Academy on 82 acres on Long Island Sound, delivers more than 140 professional education and specialized training programs spanning 4 divisions of learning which include Nautical Science and Military Training, Marine Engineering, Transportation Logistics and Management and Research and Special Projects. Last year alone, 4,000 students and their sponsoring organizations took advantage of the GMATS menu of course offerings, reflecting a growing client list that includes numerous government, military, and commercial entities.

## CUSTOMIZING THE REINAUER EXPERIENCE

In May, and as a perfect example of its nimble learning platform, two customized STCW-compliant Bridge Resource Management (BRM) courses were put together by GMATS for Reinauer Transportation Company. Using intensive case study material, award-winning professor (Captain) George Sandberg led students through a myriad of lessons involving situational awareness, decision making, leadership, crisis management, communication, master/pilot relationships, and voyage planning. Incorporating much more than the required U.S. Coast Guard and STCW mandated content, the course(s) also included extensive use of the latest version of Transas NaviTrainer 5000 simulators, as well as Transas ECDIS units and the lively interaction of as many as four different student-piloted vessels in the same exercise. Significantly, exercise(s) were customized for the type of equipment typically employed by Reinauer's Mates and Captains, adding to the realism and utility of the learning experience.

I attended the first of those customized courses and, during the simulator training, was paired with a young Reinauer Mate (who clearly drew the short straw when it came time to select a partner). As we worked through the exercises which sometimes included interaction with as many as three other tow units (operated by others in the same exercise) and ships inserted into the mix by the instructors, he showed remarkable patience with his "dinosaur" partner. For my part, navigating New York and Baltimore harbors, docking and undocking and practicing other skills with the realistic controls and the latest in ECDIS equipment in one of the newest simulation arrangements available anywhere was a terrific learning experience. For their part, Reinauer Mates told me that one of the most valuable parts of the GMATS BRM experience included the primers on bridge-to-bridge communications and the importance of those skills in their daily work.

In addition to the BRM curriculum, participants also were presented with the GMATS 8-Hour Advanced Simulation Training certificate. The simulation, led by GMATS ECDIS subject matter expert Christian Hempstead, included integrated training involving safe navigation and maneuvering of multiple towing vessels and barges in various conditions of visibility, wind, current, challenging traffic and emergency situations. Hempstead, widely regarded as North America's foremost authority on ECDIS training for professional mariners, tailored the simulation directly to the needs of the Reinauer's professional mariners. Classroom chalk talks included required topics such as voyage planning, effective communications, error trapping, the value of a "shared mental model," and effective teamwork in action. The full course, BRM plus simulator training, was a powerful learning experience.

Although Reinauer's bridge personnel were already compliant with all aspects of their licensing requirements, the New York-based marine transportation group regularly elects to provide continuing education for their marine personnel. As is usually the case, they chose GMATS in this instance, rotating two groups of 19 mates each through the customized program.

Frank Kuziemski, Fleet Manager for Reinauer, also oversees training requirements for the 75-vessel operation from his Staten Island offices. He told MarPro, "GMATS' ability to bring together large groups is important to us. Not everyone can do that."

As a regular client of GMATS, Kuziemski added that the newly upgraded, state-of-the-art simulator equipment was also a key factor in their decision to use GMATS.

## OUTSIDE THE BOX; INSIDE YOUR PRICE RANGE

Able to accommodate as many as 24 participants in one BRM class, the GMATS BRM training experience provides economy of scale for larger companies, while tailoring courses to the needs of today's diverse maritime professionals. Well beyond the full array of STCW-compliant and U.S. Coast Guard approved course offerings that augment GMATS' better known military training programs, the innovation continues. Transportation professionals can also choose from a wide menu of other, industry-related GMATS Programs – most eligible for VA Benefits – that include the ODU Business Gateway and GMATS Partnership in Engineer Training GMATS, the American Military University (AMU) Partnership and the MATE 500/1600 Gross Ton License Program with Towing Endorsement.

Based solely on the quality of the GMATS Bridge Resource Management (BRM) module, it is easy to imagine GMATS as being my "one-stop" source for future professional training. In May and on the way to STCW compliance, I got taken to school by GMATS. Are you next?


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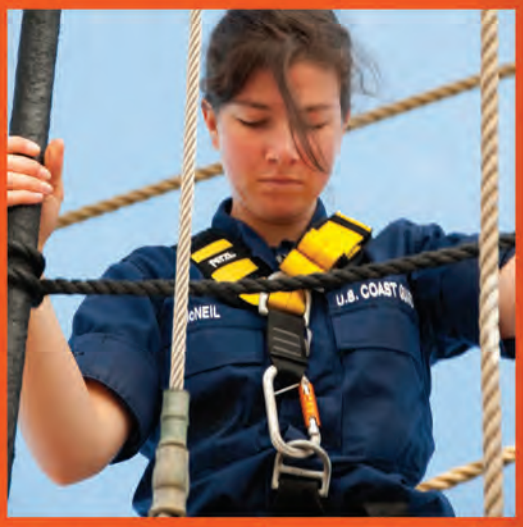

WORKING ON THE WATER BRINGS US CLOSER TOGETHER.

There's one constant that each of us relies upon at the U.S. Coast Guard Academy. It's the bond that exists between all Cadets, entrusted with saving lives and protecting our nation's coasts and waterways. We quickly become family, taking on challenges bigger than ourselves in a nationally ranked Bachelor of Science degree program. And our reward is not only a guaranteed paid career serving our country, but the knowledge that as Coasties we'll always look out for each other. It's why the Academy is like no other college in the nation.

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Hands On

# Mastering Safe Navigation with ECDIS

*by Christian Hempstead*

The key to mastering safe navigation with ECDIS is a matter of personal discovery. The navigation part of this idea means continually defining what to look for – what information is needed right now to continue safe navigation. The ECDIS part means how to look. At the very least this requires nimble selection of and brief glances at information best suited to the situation at hand. The safe part, however self-evident, should include the critical competencies of maintaining adequate under keel clearance and low-risk approach to other vessels at all times.

It is a matter of personal experience to appreciate the complex variety of navigational situations that will occur on a vessel. These elements include the vessel, things external to the vessel, and what you are doing there in the first place. Variables of the vessel consist of speed, draft, maneuverability, sensor equipment, and control functions. Externals consist of bathymetry, coastline topography, traffic, environmental conditions, chart detail, and chart data quality. Your purpose may be a transit, arrival, departure, cargo transfer, pilot area approach, anchoring, berthing, drifting, holding position, or pattern navigation. These lists are not exhaustive. The point is that any degree of experience underway reveals that any combination of elements requires the watch officer make transitions and adaptations to changes.

The discovery aspect of mastering safe ECDIS navigation occurs on several levels. The crucial fact that no single setting suits all circumstances demands active monitoring. This is defined as "highly efficient intervention." Any navigational context, from mild to nearly overwhelming, demands the efficient shifting of attention sequentially between all access points. The access points are the visual scene, digital and graphic information displays, source sensors, and auditory systems. Efficient shifting of attention is especially necessary in solo watchstanding. Becoming captivated by any one of the access points inhibits or even shuts down the process of active monitoring. Such captivation is likely to be at the heart of any failed critical competency. This is another way of describing the familiar admonition to avoid over reliance on any one piece of equipment.

Many of these issues came to mind while sailing deep sea as senior deck officer responsible for my ships' navigation systems. My years of learning to navigate with chart plotters and eventually ECDIS began in the early 1990's. In the absence of useful manuals or instruction, I knew that learning to navigate safely with ECDIS would come at the prolonged risk of unsafe navigation. In part, this prompted me to come ashore in 2000 to develop and teach ECDIS navigation. Pacific Maritime Institute supported my effort to create the

**GMATS Instructor Christian Hempstead**

first USCG-approved ECDIS course in 2001. It was based on the just published IMO Model Course 1.27. During this same period, desktop simulation with high-fidelity visuals, ownship control, and integration with type-approved ECDIS and radar was just becoming commercially accessible.

In quick succession, I discovered the enormous potential to develop skills-based training in solo navigation with this form of simulation. At no risk to safety, a trainee could have the opportunity for the first time to integrate all aspects of solo navigation - visual piloting, paper and electronic chart plotting, radar/ARPA and traffic management. The potential for interactive ownships in non-visual simulation had been in use for a number of years. The advent of the $500 VGA card was at the heart of the solo visual training revolution. But there was no real precedent in courseware or instruction for this approach.

Within a year of moving to the U.S. Merchant Marine Academy in 2004, I took the opportunity to begin replacing the aging windowless radar/ARPA simulation lab. The steps

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were modest at first, but by early 2007, solo navigation simulation at USMMA consisted of two labs each with 16 interactive ownships, where each ownship was essentially an ECDIS-equipped full mission workstation within its own cubicle with a large screen visual channel. In addition, two supporting classroom labs had been created using the same simulation and ECDIS systems. By the Spring term of 2007, I was able to offer a USCG-certified ECDIS course at USMMA, the first at any US academy. That course re-sequenced the required content, emphasized the navigational context, and added guidance on scenarios and competency assessments. Although not my intention at the time, this became the template for proposed revisions to STCW and to Model Course 1.27.

The fundamental goal of the new ECDIS navigation training taking place at USMMA was, and still is, to create a fair and graded assessment of solo watch keeping and decision-making skills centered on the effective use of ECDIS. What makes this possible is a considerable amount of underway practice. While teaching academy midshipmen, I became very aware of the effectiveness of what I refer to as "social navigation" – the compelling experience of the unexpected as students navigate around each other. I found that this efficiency of learning requires a simulation-equipped classroom for familiarization phases. But it is in the semi-isolated confines of interactive solo navigation that the real integrated learning takes place.

The coincidence of navigation, display, and personal simulation technologies were out of synch with the evolution of competency-based training in the maritime field, namely STCW. Although STCW-95 came into force between 1997 and 2002, its preceding years of work just missed the revolution in navigation and visual training, as did the initial ECDIS Model Course. But in 2007, work to revise and update STCW was begun. Professor Dennis Compton, a colleague at USMMA, was aware of our advances in ECDIS navigation training. Professor Compton also represented the Maritime Administration and the federally regulated maritime academies on the STW subcommittee (STW), and represented USMMA at MERPAC. Answering a request by him and Mayte Medina, USCG, head of the U.S. delegation to STW, I proposed ECDIS training requirements to MERPAC. I had derived these directly from the progress I was making with my ECDIS course at USMMA. After a period of peer review and refinement, this inclusion of ECDIS in the STCW Code and Guidance revisions was finalized in 2009, and adopted in the 2010 Manila Amendments.

Early in 2009, I was asked again by Professor Compton and Mayte Medina to propose a revised and updated ECDIS Model Course 1.27. The process of peer review, revision and final IMO validation proceeded through 2010. In May 2011, the STW sub-committee added the revised draft model course to its 2012 voting agenda as item 43/3/1. As a result, flag states should be able to formally recognize the revised MC 1.27 as the training requirement begins to come into force. The broad implementation will require industry support for adherence to assessment criteria for ECDIS navigation competencies, consistently prepared ECDIS trainers, and guidance for flag states and ship operators. In their recently proposed implementation of STCW, as amended, the USCG will require all deck watch officers assigned to ECDIS-equipped vessels of any size to "provide evidence of meeting the standard of competence" in ECDIS, among other skills, and will note the absence of such evidence on the STCW certificate. I anticipate that the USCG will issue a policy circular indicating MC 1.27 (2010 edition) as the reference standard for U.S. mariners.

**The Author**

**CDR Christian Hempstead** (USMS) is an Associate Professor at the U.S. Merchant Marine Academy at Kings Point, NY. He is also a licensed Master Mariner. Hempstead has been at the forefront of ECDIS training and the development of STCW training standards for many years. The information in this article does not necessarily represent the view of the Maritime Administration or of the U.S. Dept of Transportation.

Hands On

# IMSN Anti-Piracy Defense Course

*DNV certified Anti-Piracy Course offers blended version of eLearning and practical drills and exercises.*

**by Joseph Keefe**

The increasing importance of training ship's crews in the various concepts related to compliance with anti-piracy laws and how to handle a possible pirate attack was recently underscored by a grim International Maritime Bureau (IMB) first quarter 2011 report which detailed the deaths of seven crewmembers during pirate attacks. Another 34 were injured and almost 350 were taken hostage on 18 hijacked vessels during the same period, said IMB. In response, the International Maritime Security Network's (IMSN) Anti-Piracy Defense Course may just be the economical first logical step for vessel owners and operators to stop the bleeding.

## SECURITY = APPROVED TRAINING

Already approved and certified by Maine Maritime Academy, the IMSN course is also the first to offer an eLearning-based version certified by Det Norske Veritas (DNV), a worldwide leading certification body that offers the latest in management systems certification services, under its SeaSkill™ standard for maritime learning programs. Captain Timothy Nease (ret.), co-founder and CEO of IMSN, said "DNV's highly respected SeaSkill certification program is widely known for its stringent reviews and audits to continuously exceed excellence, so it's remarkable for IMSN to have the first course certification for maritime anti-piracy training."

Designed specifically for officers and crew of commercial vessels, the course provides students with various concepts related to compliance with anti-piracy laws and how to handle a possible pirate attack. The online, eLearning course complements hands on drills, defensive tactics and other exercises.

IMSN also offers the Vessel and Facility Persons with Specific Security Duties (V-FPSSD) which, in 2012, will be mandatory for all U.S.-flagged mariners with specific security duties under Standards of Certification, Training and Watchkeeping (SCTW). The course is offered in a traditional brick-and-mortar format, is also being developed into an online version.

## THE ONLINE EXPERIENCE: *DNV-APPROVED, KEEFE-TESTED*

In June 2011, *MarPro* Editor Joe Keefe took the new IMSN Anti-Piracy Defense Course in the online format. A veteran of other online training programs, including two USCG STCW-approved versions on Crisis Management and Human Behavior, as well as Crowd Management, Keefe was arguably the right mariner to evaluate IMSN's entry into the online training game. In a focused 3-hour session, he found the course to be engaging, informative and a valuable tool for mariners who find themselves traversing pirated-infested waters. MarPro readers can view a DEMO of the course lesson format on IMSN's WEB site at:

**http://learn.cpkn.ca/NonScorm/imsn_demo/index.html**

**IMSN co-founder Captain Timothy Nease.**

Using a media-rich environment, the online Anti-Piracy course touches upon a wide array of subjects spread over 6 modules, including:

**IMSN Anti-Piracy Curriculum**

- What is Piracy?
- Statistics & Facts
- Recent Trends
- Modern Pirates
- Piracy Hotspots
- Is Piracy Terrorism?
- IMSN Approach to Piracy Defense
- Familiarization with Anti-Piracy Drills
- Familiarization with Defensive Tactics

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(ONLINE)

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Joe Keefe

Satisfactorily completed the Anti-Piracy Defense Course (eLearning)

On June 8th, 2011

and received the IMSN eLearning course modeled on the requirements of an approved training course on maritime security under the provisions of the Maritime Transportation Security Act of 2002, 33 CFR, Chapter XI-2 of SOLAS 74 as amended, the IMO International Ship and Port Facility Security (ISPS) Code, necessary to U.S. Coast Guard directive 104-6.

Timothy D. Nease
Lead Instructor

IMSN

Capt. Ralph H. Pundt
Senior Maritime Advisor

to-speed on standards set by the MSC, USCG and IMO, provides knowledge about piracy history, tactics and rationales, as well as knowledge needed to respond to an actual attack. The course, which includes assessments and testing, is also offered in the tradition brick-and-mortar environment at a location of your choice. Recently, IMSN personnel taught the Vessel Security Officer, Company Security Officer, and Anti-Piracy defense to Maine Maritime Academy students, officers, and crew during their annual training cruise.

## IMSN IN ACTION: BEYOND THE CLASSROOM

"Mariners' put their lives on the line daily by going to sea to move our commerce – into hostile waters, dealing with dangerous weather, safety issues and risks in foreign ports, while spending incredible amounts of time away from loved ones. The terror of piracy at sea adds to these perils," said Nease. He added that crewmembers, shipowners and operators must take protective measures of a training course to combat piracy. "Our initiative is all about saving lives," he continued.

IMSN specializes in the development of vessel and port security plans including third-party due diligence and auditing, certified training that integrates the required understanding of new international law, the current ISPS code, SUA conventions, and SOLAS amendments. The company also provides equipment such as early-detection cameras, ballistic armor for safe rooms, the Triton Shield wall-of-water device and armed security teams to detect, deter and defend against maritime threats.

**www.imsn.us/antipiracy/elearning.html**

**IMSN eLearning course screenshot.**

# Investment The BOURBON Way

*by Greg Trauthwein, Editorial Director*

Traipsing through NorShipping 2011 in Oslo, MarPro ran across a small Norwegian company with some big and impressive simulation technology. Little did we know at the time that it was BOURBON's trusted partner in building its state-of-the-art simulation centers on two continents. Over the past decade, Bourbon carved a leadership position in the offshore vessel market, investing billions in a burgeoning fleet of high-tech offshore vessels of nearly every shape and size. It intends to maintain and extend its position via investment in its own brand of mariner training and education. When BOURBON made the strategic decision to invest in building its own training and education facilities, the decision was born from market need. For example, when it needed an Anchor Handling Simulator, it found none available on the general commercial market, and the Offshore Simulator Center (OSC) of Alesund, Norway had one to offer.

"We did not just want a maneuvering simulator," said Frank Dambrin, Senior Vice President –Fleet Management Bourbon Marine &Subsea Services. "We needed the simulation center to meet our expectations in terms of quality. Four or five years back, when we decided to start building our vessels in large series, it made sense to have our own facilities and our own customized simulators that displayed the features and characteristics of the real vessels that we were building. When you're talking about building 50 to 70 vessels of the same quality and outfit, it makes sense to build simulators."

**And build, BOURBON did.**

According to Dambrin, "We spend approximately $15m Euro annually in training, and this of course varies over time, as it is linked to the number of people we hire and the number of our vessels in operation." With two big training centers (in France and Singapore) and eight waterjet crewboat training centers, the investment adds up rapidly. Dambrin notes that while the benefits of ownership are obvious and numerous, "they certainly are not cheap," conceding that the cost for just one Anchor Handling simulator exceeds $3m Euro.

While the investment value is high, it is viewed necessary by BOURBON to feed it global need for qualified mariners. "When you own it, you control the access to it, and we are fully free to develop specific programs," Dambrin said. "We can even simulate specific operations that we have to do for a specific customer. In addition, we control our own training schedule. If we have a large number training in a short time, we don't have to worry about availability in a commercial facility."

Just as important is the relationship between Bourbon and OSC. "It's a partnership (with OSC) …we give them our needs and we build the solution together," Dambrin said. "When we started talking to them, they had one simulator at a University in Norway, and that was not enough. So we worked with them to open a simulator center in Marseilles France, and established a second one in Singapore to reduce travel."

*Frank Dambrin*

*Senior Vice President –Fleet Management, Bourbon Marine &Subsea Services.*

*"Our assets are our vessels and our people. Just as we invest in new vessels, we invest in the training of our people."*

Dambrin pointed to his close relationship with OSC, a relationship that is truly a partnership, as another advantage of owning your own facilities. He noted that BOURBON and

## Offshore Simulator Center (OSC)

Offshore Simulator Center AS (OSC), headquarter in Ålesund, Norway, delivers offshore simulators and training concepts. OSC was founded in 2004 based on a market need for more efficient training of personnel involved in demanding offshore operations, and is owned by: Rolls-Royce Marine AS, Farstad Shipping ASA, Aalesund University College (Høgskolen i Ålesund), and Marintek. Based on operational knowhow from the Norwegian maritime cluster, advanced computer technology and mathematics, OSC provides some of the world's most advanced simulators for Anchor Handling and Platform Supply Vessel operations. Top-of-class 3D graphics display and a simulator core that can be interfaced with all required vessel systems and equipment makes the simulator experience very realistic. Together with Norway's Aalesund University College, OSC implemented a unique training concept for team-based training of offshore vessel crews. OSC can also provide complete training center design & layout services, using modern 3D visualization software and applying professional artistic/design skills.

In 2010 OSC introduced advanced crane simulation, with a special focus on lifting operations related to subsea operations, said Monsholm. "Using intelligent software and interfaces we are able to produce solutions where we can change the vessel's environment including altering the weather, winds, waves and time of day at the touch of a button," said Monsolm.

**www.offsim.no**

*Arne Monsolm*

*CEO, OSC*

*"In 2011 we will finalize the world's biggest offshore simulator center in Australia."*

**Deck room of the AHTS simulator in the BOURBON Training center Marseille.**

(Copyright: BOURBON)

OSC continually upgrade the software in the BOURBON simulators, ensuring that the systems are always cutting edge, and so that "we are not stuck with something that will become completely outdated."

The escalation in workforce has stayed solid, even as the global economy has soured. It is a strategic initiative laid out in BOURBON's Horizon 2012 strategic plan, which sought to double the number of employees between 2008 and 2011. Despite the economic downturn, BOURBON maintains its plan laid out in its Horizon 2012 strategic plan which sought to double the number of employees between 2008 and 2012. "We are on target," Dambrin said. "At the end of 2010 we have 8350 people (from 70 countries; 81% are seafarers), and last year alone we recruited 1,500."

### INVESTMENT IN THE FUTURE

While proficiency is an obvious benefit of the simulation training, Dambrin sees the value as a bigger picture investment in its employees.

"It is one of the ways to improve the overall safety of the operations," he said. "One of the very positive conse-

**Bridge room of the AHTS simulator in the BOURBON Training cente**

(Copyright: BOURBON)

quences is when you send people for training, you take care of them, and it gives them the understanding that the company is interested in them, their career and their advancement; this, in turn, helps with retention.

He continued: "The employees are the ones that are performing the service to our customers; they are the ones that our customers see every day; and they are the key to our success. Our assets are our vessels and our people. Just as we invest in new vessels, we invest in the training of our people. The number one interest of a ship manager is qualified, well-performing people. To acquire the (required) competence, they need time and experience, which is why we employ not only the simulators, but also we have training programs to ensure that they all acquire the BOURBON-standard worldwide.

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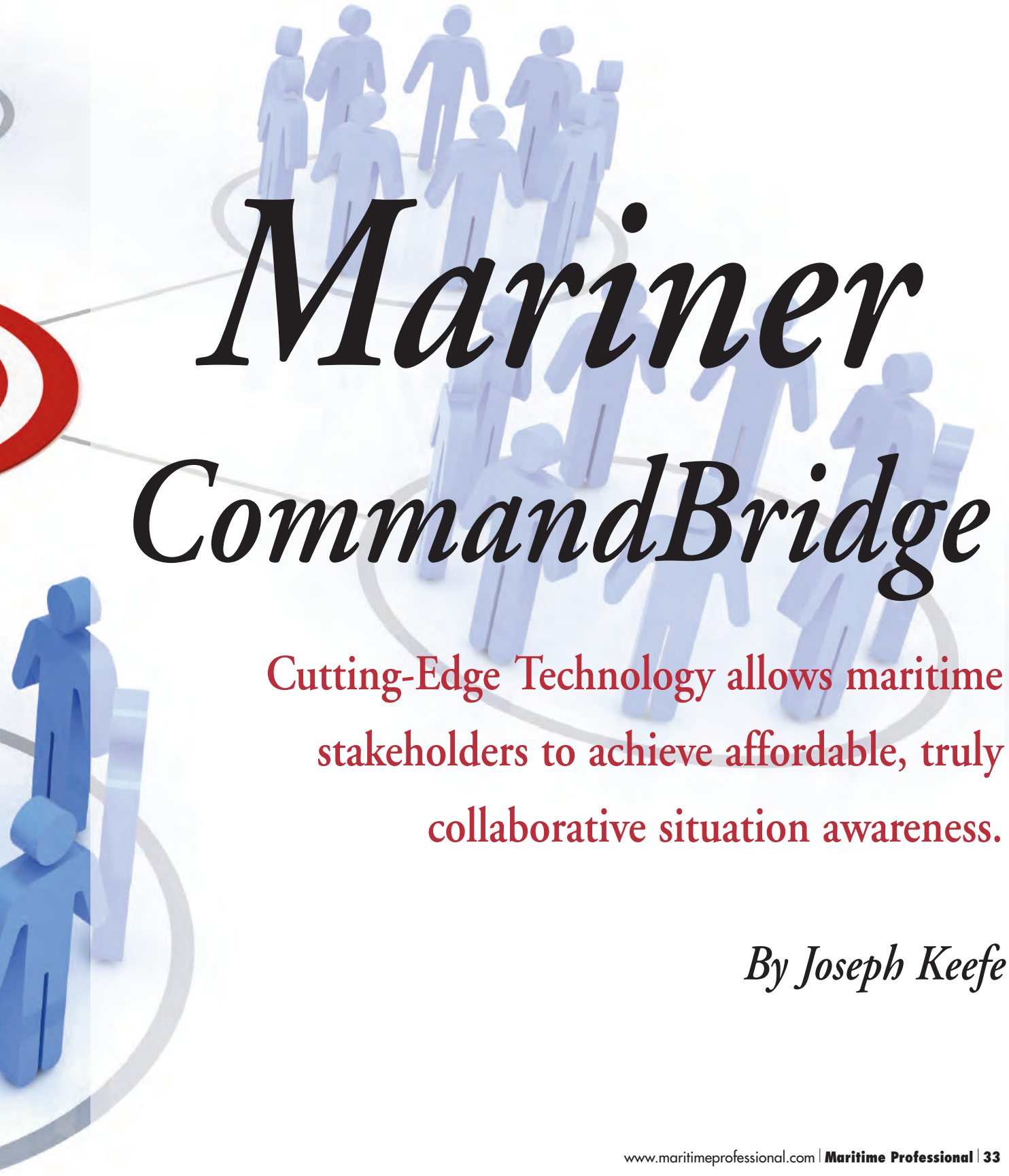

# Mariner CommandBridge

## Cutting-Edge Technology allows maritime stakeholders to achieve affordable, truly collaborative situation awareness.

*By Joseph Keefe*

U.S port authorities have for more than 10 years funded security infrastructure, in large part, via federal port security grants. The collective weight of these enhancements left security personnel to decipher multiple streams of new information. But, simply collecting and displaying huge quantities of data is no longer enough. Command-and-control centers and watch-standers need sharply focused, relevant information. They also need a system that will sift through millions of bytes of data to find the one or two bits that allow them to make sense of the larger picture – and to help anticipate the future. If so-called situational awareness is the key to staying safe, then the security challenges facing America's port authorities have never been more daunting.

Retired U.S. Coast Guard Commandant ADM James Loy, in the unsettled wake of 9/11, coined the phrase "Maritime Domain Awareness" and then defined what it would take for the U.S. waterfront to achieve that metric by cautioning stakeholders, "If you've seen one port, you've seen one port." If that's the problem, then CommandBridge – Mariner Group's flagship technology – might be the solution.

## TECHNOLOGY PLATFORM

Specifically designed to cope with security issues presented by constantly advancing technologies that allow traditional functions to be carried out more efficiently, CommandBridge also allows organizations to plan technology investments over time and bring them on line periodically while reaping the benefits of investments in current infrastructure. Within this platform approach, seamless integration of existing technology is possible, as well as a baseline to integrate emerging technologies.

CommandBridge creates a model of an organization's information assets, which can then be ordered by contexts of community, role, mission, time, or geographic location. Using a combination of rule-based modeling and Mariner's proprietary Dynamic Data Linking (DDL) technology, evolving data is instantly placed in context and constantly monitored. This process cuts through the clutter by focusing on the relevancy of the data. It allows CommandBridge to reveal behavioral trends, identify potential threats, and perform advanced operations such as information classification, analytics, anomaly detection, alerting, and summarization, all in real-time. CommandBridge can be adapted to incorporate security data from video surveillance, access control systems, RADAR, and a myriad of other sources. Unique and configurable to the specific threats of the area and industry it is serv-

**CommandBridge screen shot.**

ing, the WEB based technology (browsers) can be disconnected (from the outside) and run inside the port itself. Conversely, and according to specific needs, it can be put out on the Internet for larger consumption in a secure, encrypted fashion. Ports can thereby share information in a given situation. Mariner Group CEO Steve Dryden points to a marine terminal might have two or three events occurring simultaneously. He adds, "They decide that 'this is bigger than us' and then disseminate it to a wider (federal / state) audience for analysis and help." Providing maximum awareness between separate parties, the Mariner Group approach allows for exposing data – with security – to be used in outside systems, as needed.

## ELIMINATING DATA CLUTTER

The CommandBridge "rules-based" situation management works by cutting through the clutter to get to the important data, or what Dryden characterizes as "actionable information," without losing sight of the big picture. Everyone doesn't need the same view to achieve good situational awareness. Mariner's CEO insists, "Let people see only the things that they are tasked with handling, not the clutter of unnecessary information." Using a Rich Internet Application (RIA) approach, the CommandBridge User Interface (UI) employs rich media and highly visual interface metaphors. The result focuses users on situation anomalies – providing what is important, to the right person, at the right time.

Information received and not acted upon is useless. Dryden gives the example of a certain port where the customer wanted Mariner to integrate a chemical sensor so it could be displayed in the Command Center. He explains, "We said, 'That's great and we can do it. But, what do you do with that when it comes up positive?' They had no answer. There was no pre-defined action. So, if you have information coming up and no one does anything with it, then it is just 'background' noise or a 'so what?' This, unfortunately, is not an isolated or uncommon situation at a lot of places."

Decluttering the information flow enhances maritime domain awareness. By showing anomalous events and boats via rule-based organization, an otherwise innocuous event can trigger a response. Hence, in a port where fog has set in and no vessel movements are expected between 1800 hours and midnight, the inbound track of a single vessel would invoke the rules of response. Using business rules and process activity modeling, CommandBridge can assess, define, or even govern behavior. High-performance rules and workflow engines drive process execution and resolution, reducing the time required for data processing and eliminating redundancies. Mariner Group CEO Steve Dryden puts it succinctly: "You bought what you bought – we bring it all together." He elaborates, "Fences and cameras – all of

MARINER

*"Let people see only the things that they are tasked with handling, not the clutter of unnecessary information."*

*Steve Dryden, CEO, Mariner Group*

that was needed – they needed to get perimeter security. But, all of this was inward to the organization. They weren't focused on the regional picture. Many of these procurements were made from the perspective of a "one-off" organization within a port region. In most cases, the equipment works fine. Over time, and without coordinating with anyone else, you end up with stovepiped systems – radar, sonar, AIS, fences, cameras, radiation detection portals or monitors – some or all with separate control and access systems. Are you really going to eyeball 50 monitors or sensor readouts? If you look at most incidents, they are caused by multiple things happening or someone purposely doing these things. In a coordinated terrorist situation, more than likely, they are going to do something to get your attention in one area while the main event is happening elsewhere." For the Mariner Group, the good news is that FEMA, as a condition of port security grants, has required ports to get "risk assessments" done. Steve Dryden explains, "What you are really doing is looking at the portwide risk assessment and trying to mitigate those threats." All of this requires a sophisticated platform that is scalable, tailored to fit any size organization or application. Dryden adds, "Scalability – yes. But you always want to tie back to real risk."

## FORCE MULTIPLIERS

Using advanced software technology to cut through security-information clutter, CommandBridge then places it in relevant context, give users options for action, and allows them to easily share the information inside and outside their organization. User-written rules specify anomalies that are brought to the attention of watch-standers, so they can be inserted into the larger overview. Dryden calls this capability of cutting through organizational "stovepipes," the "force multiplier" effect. In the process, local levels of security can be a part of and have the effectiveness of national efforts.

Mariner's advanced security management platform offers true collaborative situation awareness to a long list of industries and agencies. The benefits of CommandBridge and the industries they serve are depicted in Table 1.

Frequently used casually in daily conversation, the term "force multiplier" has real meaning in practice for CommandBridge users. Leveraging the CB technology and hardware, organizations can maintain or reduce headcount in their security teams. Dryden explains, "This doesn't necessarily mean getting rid of people, but instead using those folks more effectively. And because port security grants now come with strings attached, we tie these strings together and the system does the grunt work. The goal is to use all assets more effectively – better coverage by combining technology and people." He adds, "Those people might have to be more qualified, but there will be less of them involved."

## COLLABORATIVE SITUATIONAL AWARENESS

Real port security doesn't just involve what's inside the fence. The people who find information and deter attacks – the Times Square incident, the Detroit attempted bombing – are sometimes ordinary people. Dryden explains, "Ubiquitous equipment is widely available – cell phones,

**Table 1**

| CommandBridge Benefits | Proven Marine Group Markets |
|---|---|
| • Enables collaborative situation awareness. | • Proven Mariner Group Markets |
| • Finds "the needle in the haystack," saving time. | • Air traffic control – airport control towers. |
| • Produces actionable intelligence. | • Aviation – passenger airline &air freight operations. |
| • Provides effective ways to visualize & act on knowledge. | • Coast Guard – port security and coastal patrols. |
| • Disseminate & share data internally & externally. | • Defense – domestic and foreign installations. |
| • Reduces data clutter. | • Homeland security – Points & Ports of entry. |
| • Fully scalable. | • Maritime – shipping and passenger liners. |
| • Configurable to individual users' needs. | • Mass transit – subway, light-rail, and bus stations. |
| • Consistent user interfaces across systems and sensors. | • Telecommunications. |
| • Deep integration and control of sensors and cameras. | • Motor freight – long- and short-haul truck terminals. |
| • Configurable, geo-spatial displays w/live tracking. | • Military industries – defense contracting. |
| • Configurable temporal displays. | • Power generation and grid. |
| • Advanced workflow engine. | • Pipelines – gas/petroleum transmission lines & storage. |
| • User-definable rules engine, alerting, and geo-fences. | • Petroleum – offshore-based drilling rigs & refineries. |

iPhones, Facebook, Twitter – if you can go out there and collaborate with 10,000 individuals, then you've got something of value. But, our experience says that to be most effective, you've got to give them something of value in return. Taxi drivers in a cruise ship port are waiting on that ship. If they get automatic alerts on arrivals, departures, delays, etc., then they aren't wasting time – a nice tidbit.

We'd ask in return: you see something suspicious, please let us know. Another example involves the opening and closing of bridges which cause delays – helping commuters with their routing." Retired U.S. Coast Guard Commandant ADM Thad Allen refers to the new paradigm of response as "marshalling the SUV's" – or Spontaneous Unaffiliated Volunteers. CommandBridge has got that covered.

For port authorities and terminals that were previously focused inward from the perimeter, cooperation with outside law enforcement, first responders, and real collaborative situational awareness hasn't come easily. That's where CommandBridge comes in, with the specific goals of providing interoperability while tying together information culled from different systems and networks using multiple, sometimes incompatible formats.

Enhancing Maritime Domain Awareness also means coordinating with the different ownership of equipment assets – not control but collaboration – and this also means sharing data both ways. Dryden uses the analogy of a naval unit involved in a particular mission. "In a typical military environment, you are controlling 'owned' assets. On the other hand, in a homeland security environment the Coast Guard owns boats, but not necessarily local helicopter or local LNG plant security equipment. In domestic security situations, you also have to collaborate with people that you don't directly control.

You can't necessarily throw a military-based command and control system at a domestic port security situation." Dryden concedes, "At the federal level, the balance between when and how information is shared is still an issue. I would like to see data shared more easily, more collaboratively and in a standardized way to the appropriate stakeholders. We as a country need to do a better job at domestic security collaboration but I think we've learned a lot of lessons. At the Mariner Group, we apply those lessons every day."

## BOTTOM LINE

Priced to get port authorities and other customers up and running for well under USD $500,000, the system is well established and in use worldwide. Notably, the U.S. Coast Guard, U.S. Navy, and an ever-growing list of major ports are benefiting from CommandBridge every day. Dryden says, "Over the past decade, we've spent tens-of-thousands of hours understanding the problem, hiring the best subject matter experts, and delivering real-world layered security solutions to our customers. So, we've had the conversations and we understand the problems. Our common sense approach to rapidly provide situation awareness and response tools integrated to our customer's current infrastructure has made Mariner the leader in Maritime Situation Awareness."

Steve Dryden, a University of South Carolina educated computer science expert, came in from the technical and process side of the business. "We map the process with technology. And, our personnel range from retired Sector Commanders from the Coast Guard, ex-watchstanders, to the best technical talent in the industry. At Mariner, we believe that the secret to having a great company is to always hire people better than you." In the end, says Dryden, Mariner is committed to helping commercial enterprises, government agencies and supply chains avoid threats to their safety and security, and to making them better prepared to respond when emergencies occur.

**www.themarinergroup.net**

# From Information to Intelligence

**By Luke Ritter**

Information cannot be considered Intelligence, until it is collected, fused, analyzed and disseminated – what the U.S. Department of Defense calls the CFAD process. The same holds true in the commercial maritime domain. Actionable intelligence is a prerequisite for effective port security. And the 4 D's, otherwise known as the essential security processes required to secure a port; deterrence, detection, delay and dispatching, are all dependent on intelligence feeds.

Much like the now old adage used in computer science: "garbage in = garbage out", the same holds true in the port security command and control arena. In general, higher quality information being fed into and effective command and control suite creates an opportunity for higher quality actionable intelligence to emerge as the output.

Recent innovations on the port security technology side of the house have been focused on producing this kind of high quality information output. Data that is complete, and accurate, can reasonably be expected to produce a good return on investment where security management is concerned. The muon tomography scanner being employed by Decision Sciences International Corporation is a good example.

Decision Sciences, in cooperation with Los Alamos National Laboratory (LANL), has developed a passive cargo scanning technology that uses naturally occurring cosmic rays to safely and accurately detect nuclear and radiological threat objects passing through ports. This scanner is capable of producing high quality scanning output (in less than 30 seconds it can detect, classify and locate, bare masked or shielded threat objects), that is then sent to a port security command center. Unlike many currently fielded cargo scanning solutions that require large data files to transfer this type of output, the data transmission requirements for the muon scanner are minimal. For a sample size of 1 million containers, all primary and secondary scanning data could be sent in 10 minutes using a 10MB line.

TamperProof GLOBAL SYSTEMS

decision sciences

RIDGE GLOBAL

Similarly, Tamper Proof Global Systems has developed a fail-safe, tamper-proof solution for shipping containers. This 6-sided intrusion detection solution for ISO containers can provide a near-real time alarm, into a port command and control center, for any cargo container that has been tampered with. These alarm conditions can be detected and transmitted, worldwide, with a latency of only 90 seconds via the Iridium satellite cluster or the internet.

It is important to remember, however, that threat object detections and tamper alarms are only the beginning of the process. That high-quality port security information must also be linked to a command and control suite that is capable of managing that information in such a way that it is rapidly and reliably transformed into actionable intelligence.


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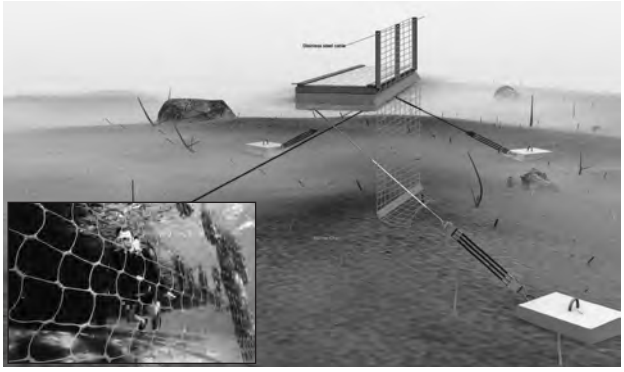

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## Port Security Barriers

# Meeting the Terrorist Threat

Port Security concerns have now evolved to the point that the U.S. Navy has required commercial shipyards to maintain a U.S. Navy approved barrier to protect "personnel, U.S. Naval vessels, work in process, the material and equipment to be installed therein, and GFM dry docks (as applicable) at the Contractor's facility…", (NAVSEA Standard Items FY-12 (CH-2) 009-72, May 2011). Tested by the U.S. Naval Facilities Engineering Service Center (NFESC) to deter and prevent terrorist attacks, Port Security Barriers (PSB) are the only barrier system the U.S. Navy has selected to protect its warships and ports.

Designed to meet the Navy's new requirements, Port Security Barriers (PSBs) are floating physical blockades used to deter, and if necessary, stop terrorist suicide boat attacks. They provide primary and secondary protection to naval and commercial facilities, ports, harbors, vessels, and other facilities. PSBs provide clear delineation of restricted areas as well as shore-to-shore physical division of secured perimeters. U.S. Navy approved PSBs are designed to stop 99.9% of the boats in the U.S. (NFESC TR-6050-OCN, August 2003). Indeed, U.S. Navy modeling of the standard PSB with nylon net shows 5.1 million foot*pounds of boat stopping capacity (NFESC TR-6058-OCN, 23 Nov. 2005); far exceeding the minimum requirement for Chief of Naval Operations (CNO) Priority B assets.

**Left**
**Map of Truston systems deployed around the world.**

**Below**
**Truston Barrier installation off of Boston, Mass.**

Licensed to provide this unique, U.S. Navy approved PSB system to commercial clients, Truston Technologies, Inc. (Truston) is a leading provider of PSBs. Truston's maritime experience and turnkey approach to barrier projects combine to provide properly engineered, fully operational, practical barrier systems.

Every potential location is assessed to determine the best port security solution for the site's unique requirements; each barrier system is customized to the installation site based on its environmental conditions, security requirements, and operational restrictions. Involved in the U.S. Navy PSB program since its inception, since 2001, Truston has executed 70+ barrier contracts at 20+ sites worldwide, installing 10+ miles of barriers.

Truston's customers include General Dynamics and Northrop Grumman and the Truston Barrier system also serves as an effective deterrent – no terrorist attempts have been made on any site protected by a PSB system. Providing all manner of Port Security Solutions, Truston designs, fabricates, installs, and maintains PSB systems using in-house labor, facilities, and equipment. This gives Truston greater control over quality, schedule, and cost. Beyond this, Truston is the only licensed provider of PSBs that also provides mooring systems to the U.S. Navy, U.S. Army Corps, NOAA, and commercial industry.

**www.TrustonBarriers.com**

## Advanced Detection Technologies

# High-Tech Access Control

Advanced Detection Technology produces security and access control solutions with the ultimate goal of keeping facilities, equipment, information, and human life safe and secure on all levels. Advanced Detection Technology's security solutions, in particular their Under Vehicle Inspection System (UVIS) are designed to deliver outstanding results in any environment, under any condition and on any budget. ADT LowCam™ UVIS are currently assisting critical facilities worldwide conduct safe rapid and thorough inspections of vehicles for explosives, weapons, drugs and other items and from the all-important safety of standoff positioning. A variety of LowCam solutions are available. These include, but are not limited to:

***(See Table to the right)***

| UVIS System | Description | Image |
|---|---|---|
| **LowCam VI108** | Completely portable and weighs less than 115 LB. Set-up takes less than 3 minutes. "Speed bump" designed ramps incase eight environmentally sealed cameras, for low and high vehicles (over 24inches). Automatic Start/Stop record with software based motion detection. Full functioning computer with detailed database, manual license plate entry, reporting and alert capabilities built into a pelican case. Over 15,000 vehicles can be stored for future inspection. Also available in a fixed version that can be bolted to road surface for permanent/temporary inspection lanes. | |
| **LowCam VI110** | Most technologically advanced UVIS on the market and provides single image of the undercarriage and comparison of that vehicle from previous visit via Automatic License Plate Recognition (ALPR) cameras built into the inspection ramp; no external cameras needed for LPR. Automatic Start/Stop record with software based motion detection. This unit is completely portable, and can be set-up in less than 3 minutes by one person. Weighs approximately 70lbs and has full reporting capabilities detailed by date, time, or gate. Over 10,000 vehicles can be stored for future inspection, litigation, insurance, or due diligence purposes. Also available in a fixed version that can be bolted to road surface for permanent/temporary inspection lanes. | |
| **LowCam VI104** | Fixed, in-ground unit. Built into a drainage tile, the VI104 lies completely flush with the surface of the road. The system can include an air-knife debris removal system that delivers a stream of air to clear camera obstructions with a simple touch of a button. The VI104 uses LED lighting for crisp footage both day and night. Automatic Start/Stop record with software based motion detection. Footage is displayed on-screen in quad view formatting allowing the operator to pause, zoom, rewind, and fast-forward. Full functioning desktop computer with detailed database, manual license plate entry, reporting and alert capabilities. Over 15,000 vehicles can be stored for future uses. | |

**Information & Images courtesy:** www.Advanced-Detection-Technology.com

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# Modern Technology to Fight Piracy

*Discrete and Secure Anti-Piracy Solutions from Marlink and KVH highlight new thinking and still newer communications technologies.*

It is no secret that the frequency of piracy-related incidents has been increasing at a steady rate since 2005. At the 2011 meeting of the International Maritime Organization (IMO), Efthimios E. Mitropoulos, Secretary-General of the IMO, stated that piracy is costing the world economy between $7 and $12 billion per year. And, because ocean transport remains the primary, most cost effective, and fastest means of delivering goods and food around the globe, the effort to eradicate the scourge of modern piracy remains a high priority of IMO, INTERTANKO and virtually every other worldwide maritime organization.

If modern-day pirates bear little resemblance to the romance of Johnny Depp's movie depiction of the swashbuckling pirates of yore, then the effort to reduce the risks posed by these criminals has to be attacked with a similar mindset. As a perfect example, and with the threat of piracy to maritime vessels on the rise, Marlink has introduced new 'Safe Room' Anti-piracy packages to complement its existing satellite communications portfolio. On a different tack, KVH says the TracPhone V7 and the mini-VSAT Broadband Global SATCOM Network represents a coordinated strategy that will allow multinational operators a common view of shared information that is essential for maritime domain awareness and paramount to mission success. Both concepts have merit.

## MARLINK'S SAFE ROOM PACKAGE

As vessel operators face growing pressure to integrate anti-piracy solutions aboard ship, they can now help to ensure the safety of both ship and crew with Marlink's new cost-effective 'Safe Room' packages. Discrete and secure stand-alone anti-piracy solutions from Inmarsat and Iridium – using standard (handheld) voice service – are easy to install, with hand-

**Table 1: Safe Room Standard Features**

| INMARSAT | Iridium |
|---|---|
| IsatPhone Pro Handset | Iridium 9555 Handset |
| RST995 | Optional RST055 UPS Battery pack |
| RST996 50m Alert Wire | RST995 Alert Button |
| RST055 UPS Battery pack (optional) | RST996 50m Alert Wire |
| Beam Inmarsat Marine Dock & Active Antenna | |

*As part of its anti-piracy initiative Iridium has made all calls from ships equipped with its communications terminals to the UK Maritime Trade Operations Center – the primary point of contact between merchant shipping and naval forces patrolling the high piracy risk zone off the Somali coast – free of charge (+971 number).*

sets user friendly and easy to operate. The Inmarsat and Iridium solutions include many standard features (See Table 1, below).

Inmarsat's Marine Dock 'IsatDock MARINE' is an IP55 rated intelligent docking station for the IsatPhone Pro. Specifically designed for maritime application, the dock supports voice services via Bluetooth, RJ11/POTS, hands-free speakerphone or the active privacy handset. Secure in the key-lockable dock, the handset is concealed from view, while providing full access and functionality to the user. The antenna and power can be permanently connected to the dock ensuring the handset is always ready for use. The IsatDock MARINE supports Tracking & Alert functionality via its dedicated in-built GPS engine. Tracking messages can be preconfigured to support periodic reporting, manual position report updates via button press, remote polling or the sending of emergency alert messages all via SMS or SMS to email. The IsatDock also supports the installation of an external alert button that can be installed in a convenient location.

Iridium's Beam PotsDOCK 9555 is an intelligent compact docking station designed to support RJ11 / POTS. Bluetooth and built-in GPS transform the Iridium 9555 satellite handset into an intelligent feature-rich device. The alert and tracking module can be configured to support periodic polling or emergency alert reporting. Fitting securely into the docking station, the handset incorporates USB data, phone charging and an integrated antenna. Easily inserted and removed by the press of a button, the handset is easy to remove at any time with the peace of mind knowing it will always be fully charged. As part of its anti-piracy initiative Iridium has made all calls from ships equipped with its communications terminals to the UK Maritime Trade Operations (UKMTO) centre – the primary point of contact between merchant shipping and naval forces patrolling the high piracy risk zone off the Somali coast – free of charge (+971 number). UKMTO has direct communication to all naval assets in the area and plays a key role in coordinating the naval response when pirates board and attack ships.

## THE KVH APPROACH

Meeting the critical communications challenges of a multinational Counter-piracy Coalition is no easy task. With that in mind, KVH has its TracPhone V7 and the mini-VSAT Broadband Global SATCOM Network firmly positioned as a viable part of the overall solution. Working on the premise that resolving the global threat of piracy requires nations to work together to advance a coordinated strategy, KVH also believes that a common view of shared information is essential for maritime domain awareness and paramount to mission success. In response to the threats of piracy-related incidents, as well as global terrorism, 25 nations joined in the establishment of the Combined Maritime Forces (CMF) in

2009 to promote security and stability across the approximately 2.5 million square miles of international waters in the Middle East. A key to the success of the naval coalition efforts is the ability for all members of the multinational task force to communicate effectively and efficiently despite differences in data network specifications. This necessarily requires a common satellite communications system that can deliver high-performance at low cost, handle heavy data flow, and is easy to deploy on multiple platforms. One such system involves the TracPhone® V7 with mini-VSAT BroadbandSM global service network from KVH Industries, Inc. This end-to-end solution includes the 24" (60 cm) diameter TracPhone V7 maritime antenna, integrated below-decks equipment, and the global mini-VSAT Broadband service, built on a foundation of ViaSat's ArcLight® spread spectrum technology.

Coalition anti-piracy operations rely on clear and non-ambiguous communication. Operational forces that are constantly changing need SATCOM systems that are simple to install and operate, deliver global coverage with reliable high-performance at an affordable price. Unfortunately, the high cost of Inmarsat data and high latency, combined with the high data volume required by CENTRIXS, resulted in prohibitively high SATCOM costs. Providing ample proof that a viable solution is readily available, U.S. and Turkish naval vessels participating in a recent anti-piracy operation were equipped with the TracPhone V7 system.

Drawing on extensive USCG testing and evaluations, Coalition forces chose the KVH Industries' TracPhone V7 with the mini-VSAT Broadband network, which addressed the solution to the multiple challenges of performance, affordability and ease of installation and operation. The 24/7 nature of USCG operations and the extreme sea and weather conditions in which these vessels operate are proof of the durability and reliability of the TracPhone V7 and mini-VSAT Broadband service. Indeed, the TracPhone V7 SATCOM system is installed on multiple USCG PSUs deployed in the Arabian Gulf to assist with guarding high-value oil and gas platforms.

Following its assignment to the Combined Maritime Forces, the U.S. Navy purchased six TracPhone V7 units with mini-VSAT Broadband global service based, in part, on the success of the USCG's mini-VSAT Broadband testing and deployment. Today, TracPhone V7 systems are installed on high-value oil and gas terminals in the Arabian Gulf, and on U.S. Navy and coalition vessels participating in the Combined Maritime Forces. The units are available to be deployed as needed in the Gulf of Aden, the Gulf of Oman, and the Arabian Gulf. These systems have already been successfully deployed on vessels of the navies of Thailand, Pakistan and Bahrain, among others. Based upon their experiences with the coalition, the Republic of Korea Navy, which recently took over command of CTF-151, purchased three of KVH's TracPhone V7 systems for installation in their vessels serving in the CMF task forces.

*KVH's TracPhone V7 with mini-VSAT Broadband service offers a range of affordable airtime plans, including always-on, fixed-price monthly options and per-megabyte plans that allow TracPhone V7 customers to save as much as 85% or more per megabyte than existing maritime data services.*

The mini-VSAT Broadband network is the first next-generation maritime SATCOM solution. The global spread spectrum satellite network offers more affordable airtime, voice service and Internet access as fast as 512 Kbps (ship to shore) and 2 Mbps (shore to ship). Its spread spectrum signals can also be received by much smaller antennas while still ensuring high quality connections that withstand atmospheric interference, rain fade, and multipath errors. In addition, mini-VSAT Broadband's transmission technology is highly efficient at managing network traffic and provides affordable, consistent data rates. This ensures that vessel commanders and crews get what they need with regard to service speeds, reliability, clear Voice over Internet Protocol (VoIP) phone connections, and performance.

The modern spread spectrum broadcast technology used by mini-VSAT Broadband permits the use of smaller antennas like the TracPhone V7, which is 85% smaller by volume and 75% lighter than those employed in 1-meter VSAT equipment. Only 24" (60 cm) in diameter and weighing 60 lbs (27 kg) TracPhone V7 compares favourably to larger traditional VSAT antennas that can weigh as much as 250-400 lbs (115-180 kg). And, the KVH's TracPhone V7 with mini-VSAT Broadband service offers a range of affordable airtime plans, including always-on, fixed-price monthly options and per-megabyte plans that allow TracPhone V7 customers to save as much as 85% or more per megabyte than existing maritime data services.

## DIFFERENT APPLICATIONS FOR DIFFERENT SOLUTIONS

Fighting piracy today can be centric to the immediate needs of a particular vessel under eminent threat from attack, as well as the overarching requirements of a multi-national force trying to coordinate the total solution to regional issues. Whatever your particular focus, modern solutions to the most pressing maritime security problems of the day are available. Without a doubt, satellite communications, will be a necessary arrow in every quiver that faces either threat.

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CONTAINER SECURITY

# Keep that Door Closed!

*Combining Robust Physical Security with Real-Time Visibility.* **by Eric L. Dobson, Ph.D. and Michael Wolfe**

Just like your mother used to tell you when the A/C was on and the bugs were out, keeping the doors closed prevents loss and unwanted intrusions. The same is true of the supply chain. Keeping the container doors closed keeps goods in, threats out and saves money.

The supply chain is an interconnected web of linkages underpinning the globalized economy. A potent tool for efficiency and improved levels of service, elements of the supply chain also offer tempting vectors for theft, contraband and terrorism. Cargo theft is a relatively high reward/low risk proposition for sophisticated and opportunistic thieves; smuggling and contraband expose shippers and carriers to regulatory penalties and damaging publicity; and smuggled Weapons of Mass Destruction (WMD) threaten life, property and national security.

Cargo theft is the most costly aspect of cargo security. The direct costs of theft and insurance are the tip of an iceberg, leveraged by administrative costs, inefficiencies of diverting and expediting replacement items, and customer dissatisfaction. Experts have estimated that secondary costs can be three-to-five times multipliers of the direct costs. Other security threats such as narcotics smuggling and terrorism may impose important public costs, but they rarely show up in analyses of a security investment's return on investment (ROI).

Among the useful strategies reduce vulnerability to cargo theft are avoidance, deterrence, protection, detection, interruption and supporting prosecution. Avoidance includes supply chain operations analysis and design to reduce exposure. Deterrence elevates the perceived difficulty and risk of attacking your cargo. Protection raises the real difficulty and slows actual attempts to breach a container, trailer or warehouse. Detection reduces the risk of successful entry and could call attention of security managers to a theft in progress. Interruption marries barriers, sensors and telecommunications to enable security managers to intervene while a theft is in process. Supporting prosecution provides forensic data logs of times, locations and intrusion attempts. There are cost-effective systems available today that simultaneously support all of these strategies.

## VISIBILITY

When your mother yelled to you to close the door, it usually meant that she knew where you were. She also knew leaving the door open meant loss of heat or A/C (money). But what if you are 'out of range' and do not hear your mothers call? Being out of earshot means being 'invisible' and your mom's awareness of the problem and solutions can break down.

Cargo 'intransit visibility' or 'total asset visibility' means different things to different people. The differences cover a wide range of granularity (how closely do we know the location of the container?), timeliness (how frequently is data refreshed?), and control (can users remotely 'ping' location and can cargo-mounted device initiate messages to users?).

Visibility usually includes on-board sensor data, which may address cargo conditions, such as temperature, humidity and shock; mechanical conditions (tire pressure or engine performance); business conditions (empty, partial or full); and whether or not the door is open or closed.

Enhanced visibility – timely, accurate and complete information -- is a potent tool for supply chain efficiency and effectiveness. Two decades ago Schneider National, a US long-haul truckload carrier, was the first to adopt satellite-based tracking of its tractor fleet. That experiment shifted quickly from a marketing exercise to a potent profit enhancer: data streams of tractor locations married with customer load/order data bases, driver assignment and management systems and even vehicle maintenance systems threw off significant cost reductions and simultaneous service enhancements for Schneider and then its customers.

The key to profit enhancement was effective use of scheduled and on-demand data transfers including accurate satellite-based location determination and other sensor data sent over mobile/global communications platforms. Today, robust mobile/global platforms can combine satellite, cellular, LAN/WAN and RFID with on-board capability to use the least expensive choice for each message.

Some users have had success with Radio Frequency Identification (RFID) technologies. However, RFID's dependence on short range communications limited its benefits to the location and density of a physical network of RFID readers. RFID provides real-time information when a tagged item is within range of a reader, but information becomes staler as the time and distances increase between readers.

Visibility and remote connectivity can enhance cargo security. Effective security devices and visibility are complementary technologies: security devices are more valuable when device condition data combines with real-time location and mobile communications; and visibility networks produce higher returns on investment (ROI) when they enable security benefits as well as cargo management efficiencies.

## PHYSICAL SECURITY

Today users may choose among many cargo security devices, but all involve some trade-offs between capability and cost. Classic metal strap seals can at best indicate a tamper event. Higher strength barrier seals—cables and bolts—add some protection against entry, as do keeper bars and strong shielded locks. Like your house locks, none of those devices would stand up to a motivated professional thief with time and resources. In addition, no standalone device can warn users about a tamper attempt or break-in until a person notices the device is damaged or missing. Electronic seals (e-seals) and other RFID-equipped devices can communicate after-the-fact when they pass within range of a reader. Only devices with mobile communications capabilities can offer in-the-moment reports of tampering or forced entry. An emerging class of container security couples the approaches of barriers and tracking by combining a global visibility system with a locking mechanism of sufficient resilience to slow an attack and enable coordinated responses.

One of these solutions is the GeoLok™, developed by the TrakLok Corporation. The GeoLok™ provides for hardened physical security, retaining both doors. Tampering with the cargo will initiate an alert from the GeoLok while it deters and delays any intrusion attempt reporting status information and alerts to the TrakLok web portal. TrakLog can uniquely fuse information from specific assets with transportation routes, political boundaries, topography, traffic, threat, and advisory warnings, etc. which allows for route optimization, predictive delivery, predictive maintenance, and other advanced logistics applications.

## USING GEOGRAPHY AND TIME TO ADD SECURITY

Successful security programs contain multiple layers. Since supply chains are distributed across space and time, security devices with robust electronics and communications use space and time to add additional security layers. Geofences are virtual fences of latitudes, longitudes and vectors in a computer mapping data base; carriers and shippers use geofences and real-time position reports to identify cargos that are out of route, that have arrived at destination or a secure storage area. In addition, mobile/global communications and routing algorithms can identify late shipments. The best products combine these attributes to limit door opening to specific locations and times. When well-implemented, only the right person, at the right place, at the right time can access cargo—all while visibility technologies provide real-time alerts and alarms to those who need to know.

Encompassing the above features, the GeoLok, in addition to providing tough physical security and superior visibility, is also a time and location lock. This ensures the chain-of-custody remains secure, from origin of the shipment to its end destination. By providing a time-definite and controlled chain-of-custody, TrakLok's technologies help adopters improve product integrity, ensure product authenticity, and protect their client's brand name.

## THE VALUE OF CARGO SECURITY TECHNOLOGY

Shippers, carriers and other businesses buy security equipment and services in order to improve security. Absent regulatory mandates or business requirements from major customers or insurers, security systems are implemented or not in response to traditional business considerations: Will an investment provide a return on investment (ROI) sufficient to justify committing capital and/or support corporate goals such as brand differentiation or limiting liability? ROI is the most critical metric for commercial adoption of new security technologies. Therefore, the combination of security and visibility is a natural evolutionary path for the transportation industry to stop losses, improve operational processes, provide insurance incentives, and customer service driving ROI. The combination of security and visibility provides a compelling value proposition. Those tools are the new class of strong container locking devices equipped with robust communications and sensor capabilities. Now older and wiser, you understand why mom was so adamant about keeping that door closed. Just like the shipping industry, she was concerned with intruders and costs. When it comes to cargo security, the benefits of keeping the door closed are clearer still. **www.traklok.com**


### The Authors

**Eric L. Dobson** has 20 years of business and technical with Geographic Information Systems (GIS) and wireless technologies in government, telecommunications, RFID, and asset tracking industries. Dr. Dobson is TrakLok Corporation's Chief Executive Officer.

**Michael Wolfe** is the Principal of the North River Consulting Group. He is a leading expert on the interplay between intermodal freight system operations, tracking technologies, supply chain productivity, security and business economics. His clients include technology developers, users and investors plus public and international agencies, non-profit organizations and standards bodies.

ENERGY SECURITY

# Security for the Energy Industry

*by Ronald Thomason, President of Infrastructure Security Solutions LLC*

The recurring sound gradually intruded into his dream, drawing him reluctantly into a state of semi-wakeful consciousness. The mobile phone's ringtone indicated the call was from his company's operation center manager, and it seemed to include a note of urgency that was reinforced by the time reflected on his nightstand clock. Two-thirty, he thought, why can't crises happen during normal business hours, or at least until after my first cup of coffee? With a growing sense of foreboding, he picked up the phone. "Yes?"

"Sir, this is the Incident Management Center Director calling to notify you of an incident and advise you that, in accordance with company policy, you or your alternate are required to report here as soon as possible."

"Good morning. Is this another one of the incident response drills that's designed to meet our insurance company's safety compliance requirements?"

"No sir, this is not a drill. We're receiving reports of an actual incident related to the Niger Delta operations."

He was wide awake now. He'd run through the next sequence of questions in his mind since the incident response drills his company's CEO and Board of Directors insisted on following the offshore energy platform the previous year.

"What kind of incident… was it shore side or on a platform? What is the preliminary damage estimate? Was anyone injured? Was production interrupted and, if so, is there any indication of how long it will be until full production capacity is restored?"

"Wait…sir we're receiving another…no two more reports on additional incidents in the same area!"

"What are you saying? What is the exact nature of these incidents that requires headquarters to respond at this ungodly hour? Can't this be handled by the local or regional operations and incident response people?"

"Well sir, as of this moment we've received reports of a breach of one of the oil transmission pipelines that connects the offshore platform to the storage tanks; the apparent explosive malfunction of two power transformers that support the pumping control station; and the workboat scheduled to deliver platform crew replacements and supplies is more than two hours behind schedule."

"Each of those things could be an accident or maintenance issues. As for the service boat, that may easily be a case of the vessel pilot operating on Africa time. You know, the American concept of adhering to time schedules is not one the vessel operator's strong points."

"Well sir, while any one of these events alone is not sufficient to cause concern, three happening in such close chronological and geographic proximity to each other suggests they may be part of a coordinated series of attacks. As such, I felt it was necessary to activate our incident response protocols until the threat can either be confirmed or discounted."

"Have we received any threats, demands, or any other indications that this is anything other than a series of accidents and a case of poor maintenance on the platform service vessel?"

"No sir… but I don't believe in coincidence, especially since the events all seem to be focused on our energy production facilities and transmission operations. In my opinion, we need to take immediate action to prevent further damage to our facilities, reduce the exposure of our people to possible injury, and protect the company against risk of legal and financial liability."

"Okay, please continue following the protocols in our incident response plan and I'll be there within the hour."

## THE OPERATIONAL ENVIRONMENT

This is the environment in which the energy production and transportation industries operate on a daily basis. The economies of the world's industrial nations, and those pushing hard to join that club, are dependent upon energy resources to fuel their growth and economic development. In today's global economy, the trade and transportation systems that support international commerce are fueled by petroleum products, and any interruption or threat of interruption in the availability of that essential commodity can have an immediate and debilitating cascade effect on the economies of countries all along the supply chain. Given the global nature of the energy industry, the weakest link in its operations resides in its systems for the transportation of energy products from the point of production through each of the nodes for refining, storage, distribution, and ultimately point of sale.

## CREDIBLE THREATS

The security threats arrayed against the energy industry are dynamic and represent a broad range of general and specific interests that may manifest themselves against the weakest link in the energy industry's global supply chain. Separatist groups with nationalist political objectives may engage in actions against energy facilities and operations run by multinational enterprises to express their discontent with

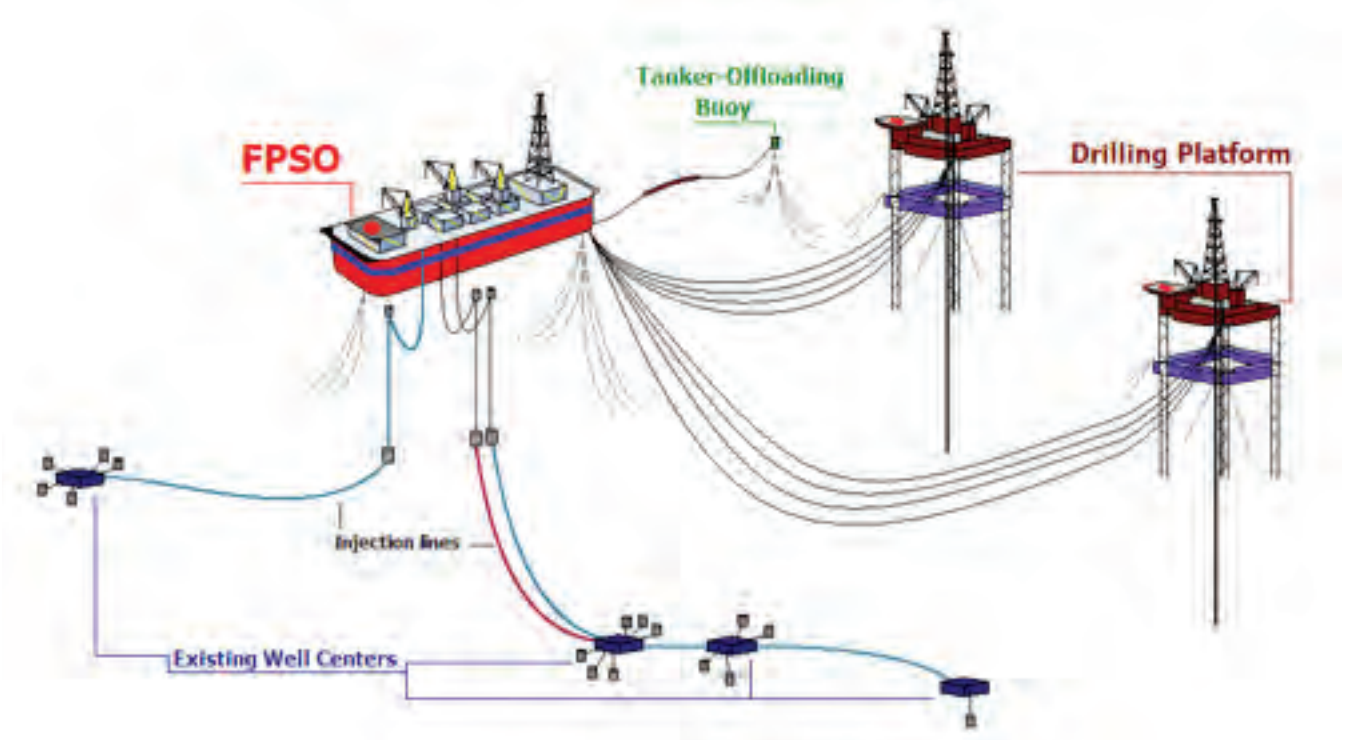
the perceived inequitable distribution of revenues resulting from the exploitation of their national resources. Environmental groups may target pipeline transmission facilities or maritime carriers in protest against their perceived negative impact against the environment in which they operate. Energy company service vessels and employees may be kidnapped and held for ransom purely as a revenue-generating enterprise by individuals or organizations with criminal intent. And finally, groups like al-Qa'ida have targeted the energy supply chain for attack as a method of weakening the economic ability and determination of nations they consider adversaries of Islam to sustain the "war against terrorism."

The unfortunate reality is that threats against the energy industry do not have to manifest themselves in a dramatic fashion, such as a vehicle borne improvised explosive device (VBIED) attack against a petroleum transportation ship, offshore platform, or tank farm to have the desired effect. The volatility of the energy community is such that any incident that interrupts the flow of oil through the supply chain or even the threat of an attack is sufficient to result in an increase in the price of crude oil on the international spot market, as well as at the neighborhood service station. How then, given the far-flung scope of these enterprises and the extremely dynamic nature of the threats, can the energy industry protect the integrity of its facilities and operations, ensure the well being of its employees, and implement effective protective measures in the most cost and operationally-effective manner possible?

Important steps in implementing effective security programs for energy industry systems and operations include identification and prioritization of "single points of failure" in their industry critical infrastructure key assets and operations that may be vulnerable to attack. Next is identification and quantification of the threats at each of the energy company's locations, and the risks and consequences associated with those threats.

*"Our enemies are fully aware that they can use oil as a weapon against America. And if we don't take this threat as seriously as the bombs they build or the guns they buy, we will be fighting the War on Terror with one hand tied behind our back."*

*— President Barack Obama*



Once these critical steps are performed the next challenge facing multinational energy companies is integrating the information developed in the analysis of the threats, vulnerabilities, and risks into consolidated, enterprise-wide risk mitigation programs that will enable the company to deter, detect, respond, and recover effectively from incidents or attacks. But how is this done, and where does one start?

## REGULATORY ENVIRONMENT

Subsequent to the events of 9/11, the UN's International Maritime Organization (IMO) developed the International Ship and Port Facility Security (ISPS) Code to provide security standards and performance objectives for the international maritime community, which applies to commercial maritime port facilities, vessels, and offshore platforms. Subsequent targeting of maritime energy carriers, transmission pipelines, and energy platform service vessels by criminal and terrorist organizations led to the development of additional regulatory instruments whose application may be focused on the energy products, or the mechanisms by which they are transported through the supply chain. In addition to the ISPS Code, some of the security regulations and industry "best practices" that have emerged and may be applied to the energy industry include:

- *US Maritime Transportation Security Act (MTSA);*
- *Counterterrorism Chemical Facility Anti-Terrorism Standards (CFATS);*
- *Customs-Trade Partnership Against Terrorism (C-TPAT);*
- *UNSCR 1540 – WMD Non-Proliferation;*
- *Pipeline Hazardous Materials Security Act (PHMSA); and*
- *ISO 28000 - Security for the Supply Chain.*

All of these instruments outline security standards and performance objectives that provide a framework for the development and enterprise-wide implementation of effective security policies and procedures. Of course, the adoption of security policies and procedures by energy companies will not by itself deter or mitigate the risk of security incidents, or lessen the company's obligation to execute due diligence in the execution of those policies and procedures. Due diligence is defined and demonstrated by adapting the company's enterprise-wide security policy and procedures into security plans that reflect the threats, vulnerabilities, and recommended risk remediation measures specific to their individual enterprise facilities and operations.

The ability of those company facilities to execute the procedures in their security plan is reflected in their program for conducting security training, drills, and exercises for their personnel at a local level. Non-compliance by an individual energy industry facility may compromise the integrity of the entire supply chain, and expose the company to an increased risk of legal or financial liability in the event of a security incident resulting from deficiencies in their energy transportation system's protective measures. Since the capabilities and intent of the threats against the energy industry are dynamic and constantly evolving, there is no one solution that can effectively address them across any one company's operational spectrum. Therefore, it is critical that the company have security professionals at each enterprise level and at each facility that has a thorough understanding of the applicable security regulations, and is practiced in the implementation and oversight of the company's security policies and programs. A comprehensive risk mitigation program will include the key elements:

- *A consolidated spreadsheet of security regulations applicable to the energy companies facilities and operations;*
- *Security threat, vulnerability, and risks assessments conducted for each enterprise facility and its operations conducted on a recurring basis, the frequency of which is dependent upon the facility's evolving threat profile;*
- *A security plan that addresses the compliance requirements associated with the applicable security regulations, as outlined in the policies and procedures captured in company's enterprise security manual;*
- *A training plan that provides security awareness and compliance training, drills, and exercises for company personnel at all enterprise levels;*
- *A program for communication with industry and government organizations to obtain threat information necessary to support an effective company's security risk mitigation program; and*
- *The commitment, at the highest level of corporate leadership, for investment in security programs, systems and personnel necessary to effectively address the ongoing threats facing the energy industry worldwide.*

The energy industry has an obligation to its employees and shareholders to apply appropriate and effective preventive security, incident recovery, and continuity of operations programs that are tailored to the credible threats at each enterprise location. Individual enterprise investment in comprehensive risk mitigation programs is the best way to address weaknesses in their respective segments of the energy supply chain, where their vulnerabilities can expose the entire industry to the risk of interruption, and reduce the trigger mechanism for escalating prices at the pump.

**The Author**

**Ronald Thomason** is President of Infrastructure Security Solutions LLC, a provider of security consulting services for the maritime trade and transportation communities worldwide. Mr. Thomason also serves as the VP of Strategic Programs for the Maritime Security Council.

# Testing A Major Crew Benefit for MLC Compliance

*by Graham Birch, Director Business Development, Argentic*

First drawn up in 2006, wide ranging regulations known as the Maritime Labor convention (MLC) will soon make mandatory the provision of consistent and appropriate health, safety and welfare for seafarers. Beyond the implementation of suitable health and safety monitoring, operators will be required to demonstrate that effective health and safety monitoring processes are documented and carried out. Vessels will be audited accordingly.

A number of signatory flag states have drawn up their standards for MLC compliance, and those of the Marshall Islands Registry include a specific reference to SPMA testing as an example of appropriate health and safety monitoring. What does this mean to you and why should you care?

## WHAT IS BENZENE?

A colorless liquid, given off as a gas at room temperature or above, Benzene has a characteristic but faint odor, and may be absorbed by breathing, ingestion, or skin contact. Present in high levels in crude oil and bunkers, Benzene is also found in a wide range of workplace and other environments, including the oil and chemical industries. Listed as a class 1 carcinogen, repeat or high level exposure can cause blood and bone related cancers, including leukaemia and can cause irreversible gene damage. In recent years, permissible limits for workplace exposure to Benzene have become increasingly stringent, reflecting the health consequences for individuals who encounter the substance.

## HISTORICAL APPROACH

From an exposure limit of 200 ppm (parts per million), in 1920, levels have reduced to 1 ppm today, with some nations proposing that a standard of 0.5, or 0.3 ppm for an 8 hour TWA (time weighted average) should be adopted. Until recently, health protection measures for employees involved a blood test. Usually performed on an annual basis, such tests show changes in white cell count or other blood abnormalities. These changes can be indicative of the early stages of leukaemia, and the normal course of preventive action would be to move the employee to a position where Benzene exposure would no longer possible. Such tests are of limited use in detection and prevention of Benzene exposure, and as such, employees have successfully brought action against their employers in compensation for workplace acquired illness.

## NEW DEVELOPMENTS

In recent years, assays have been developed that can identify recent exposure to Benzene by analysis of urine samples from donors. These tests initially utilized measurement of phenol, which is a metabolite of Benzene. But, Phenol testing has limitations, as it may be present as a result of diet, smoking, or other metabolic processes. In addition, the phenol assay is not sufficiently sensitive to measure down to the current exposure level standards required by the health and safety authorities of many nations. The oil industry has therefore worked to devise more effective assays that would be highly specific for Benzene; accurately measuring down to the lower detection levels required by today's regulatory requirements.

A novel metabolite of Benzene, SPMA (S-phenyl mercapturic acid), was identified as meeting these demanding requirements, and a unique assay was developed that would enable rapid and straightforward measurement of SPMA in a small sample of urine.

*Workplace exposure limits for Benzene are enforced by a number of agencies under the health and safety regulations of various nations. In the shipping sector, carriage of Benzene, either as a chemical cargo, or as a component of other cargoes, including crude and bunker oils, is covered by International COSHH or Control of Substances Hazardous to Health, regulations.*

Sample collection is easy enough to carry out. Samples are then analysed by immunoassay, a technique that provides a cost effective and accurate result within a short turnaround time of two days or less.

## REGULATORY ENVIRONMENT: COSHH & MSDS

Workplace exposure limits for Benzene are enforced by a number of agencies under the health and safety regulations of various nations. In the shipping sector, carriage of Benzene, either as a chemical cargo, or as a component of other cargoes, including crude and bunker oils, is covered by International COSHH or Control of Substances Hazardous to Health, regulations.

This information must be made clearly available to crew and others potentially exposed, either during routine operations, or as a result of accidental contact.

Appropriate health and safety protective measures must be detailed, and operators must put in place health care checks designed to monitor and minimise personnel exposure.

The Marine Safety Committee (MSC) of The International Maritime Organisation (IMO) has approved and adopted the revised guidelines for material safety data sheets (MSDS) to be supplied to a ship prior to bunkering fuel oil or gas oil in accordance with Annex 1 and Annex 2 of SOLAS regulation VI/5-1. This entered into force on 1 July 2009. The aim of the MSDS is to provide seafarers with clear, concise and accurate information on health and the environmental effects of toxic substances. As a result of IBIA's intervention, the format is broadly in line with the Globally Harmonised System of classification and labelling of chemicals and the same rules apply to oil cargoes as to bunkers.

## MLC REQUIREMENTS

The basic health and safety requirements of the MLC code, taken from the IMO PSCO (Port State Control Officer) guidelines state, in part, that the working, living and training environment on ships must be safe and hygienic and conform to national laws and regulations and other measures for occupational safety and health protection and accident prevention on board ship. Reasonable precautions are to be taken to prevent occupational accidents, injuries and diseases including risk of exposure to harmful levels of ambient factors and chemicals as well as the risk of injury or disease that may result from the use of equipment and machinery. Beyond this, ships must have:

- An occupational safety and health policy and programme with a particular concern for the safety and health of seafarers under the age of 18 (Standard A4.3, paragraphs 1(c) and 2(b)).
- A safety committee that includes participation by the seafarer safety representative (for ships with five or more seafarers) (Standard A4.3, paragraph 2(d)).
- A risk evaluation for on-board occupational safety and health management (Standard A4.3, paragraph 8).

## THE BOTTOM LINE ON BENZENE TESTING

For the first time, the welfare of a ship's crew will arguably become as important as the condition of its hull. It is widely expected that with full International ratification the MLC will come in to effect during 2012. Preparing for that eventuality now transcends mere compliance; it puts teeth into corporate safety policies that are otherwise "paper tigers." What are you waiting for?

SOFTWARE SOLUTIONS

# ShipDecision: Bringing it all Together

*Software Combines Security, Transparency and Prevents Data Loss.*

**by Joseph Keefe**

Just imagine a product that helps organize the sharing and use of information among business partners in the Maritime sector, while at the same time providing robust banking-level encryption to all involved. Then, imagine a tamper-proof audit trail of all business activities. Finally, imagine a virtual command center that is accessible anywhere an internet connection is available, instantly linking you, your partners and scores of different streams of data as you go about running your business. Finally, imagine that all of that is possible now – because ShipDecision is already here.

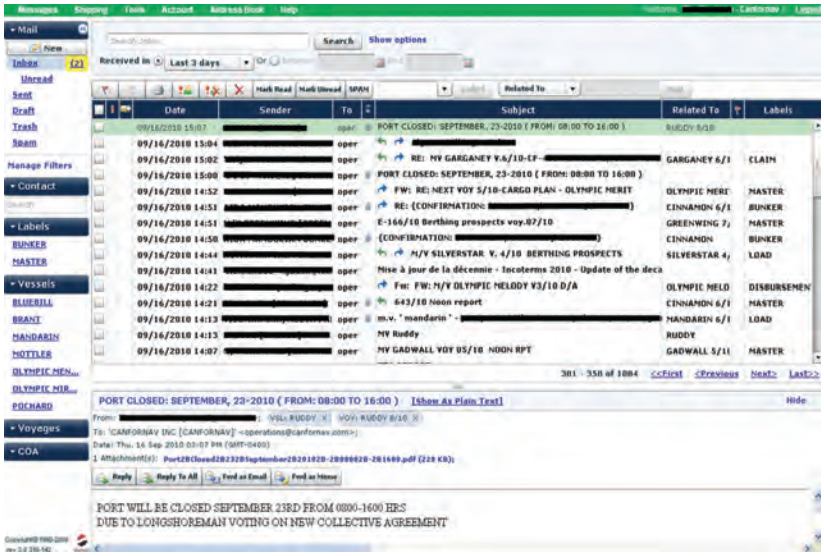
Simply described, ShipDecision is a maritime Software as a Service (SaaS) solution that helps organize the sharing and use of information among business partners in the Maritime sector. With specific modules for Operators, Brokers, Charterers, Surveyors, Agents, Insurers and Registries, ShipDecision 3.0 saves time, reduces costs, and helps create a competitive advantage. Using an electronic vault, all data – voyage documents, data and communications – is safely secured where it can be accessed by authorized users who need to work with the information.

## SHORE-BASED BEGINNINGS

Started in 1990 as a tool for insurance clients to make the claims process easier and less adversarial, ShipDecision's founder Albert Carbone eventually found synergies between its original purpose and the day-to-day operations of maritime companies everywhere. Carbone maintains that by more closely tracking information, the software also "bringing together antagonistic parties." And, because maritime parties to a contract can sometimes be adversarial, the fit was a good one.

Evolving from the Stelvio software company, and strictly adhering to their motto of providing "industry driven software solutions," the Montreal headquartered firm has about 30 employees in Canada and now, 7 in Australia. From one original maritime client who was moving steel cargoes between the old Soviet

*With some clients averaging 8,000 to 10,000 e-mails managed on a daily basis, ShipDecision's robust capacity have proven its durability, and easily handles the typical data flow for a medium sized ship owner and/or operator.*



*"When we launched our prototype,* ***we were the first to bring a fully functioning, web-based solution to the maritime industry.*** *We believe that ShipDecision is unique in that it has been designed from a clean sheet of paper to address what we perceive as a huge challenge in the maritime industry: integration of information from the various players."* ***— Albert Carbone***

Union and North Carolina, ShipDecision now boasts as many as 50 end users across 5 clients; in all phases of the maritime industry, some of whom also employ it on 30 ships at sea. Typically, and after an initial set-up fee, clients are charged on a monthly basis, on a per user scale.

Carbone started out by checking to see what was already in the market and found that pieces of the total picture were being addressed, but no one was doing it all. He explains, "When we launched our prototype three years ago, we were the first to bring a fully functioning, web-based solution to the maritime industry. We believe that ShipDecision is unique in that it has been designed from a clean sheet of paper to address what we perceive as a huge challenge in the maritime industry: integration of information from the various players. Our niche is in building business systems that provide both for the integration of data across individual companies and between business partners of those companies, thereby improving efficiency across the board. Our systems are built for the sake of business, not for the sake of technology."

ShipDecision organizes and links data, primarily e-mail and/or manual input, but also takes in stovepiped data from any source and removes obstacles. The software works with "what you have," including primary path E-mails, documents, spreadsheets, technical files and even WEB interfaced weather inputs. Because ShipDecision is "data agnostic," the system serves to first analyze, then understand and normalize and finalize provide a unified structure which can link multiple reference numbers and data streams for a particular voyage, transaction or freight insurance claim. Says, Carbone, "That's a war I know how to fight. And, everybody wins." He adds, "In the end, everyone is working better, faster and more efficiently."

## SECURITY AND CAPACITY

WEB-based and featuring Tier III & IV hosting, ShipDecision isn't being run out of someone's garage. The system is high capacity, boasts high availability, is robust and has IT governance. According to ShipDecision's Carbone, testing of the software is done annually by "ethical hackers" and penetration testing is done regularly. Using their experience from the insurance side of the ledger, ShipDecision operators ensure the safety of data through robust security protocols.

With some clients averaging 8,000 to 10,000 e-mails managed on a daily basis, ShipDecision's robust capacity have proven its durability, and easily handles the typical data flow for a medium sized ship owner/operator. The system operates on a spoked, customizable solution, assembled on a per customer basis – through a standardized IT solution. E-mails and messages are filtered to those who have a need to see particular pieces of information. Carbone calls this "tuning the views." A vault then stores documents to a vessel or voyage and provides for a searchable database.

## MARITIME APPLICATIONS

Starting with the E-mail management function, ShipDecision eliminates

redundancies of message streams and ensures business continuity; no matter what. Legacy data is archived with unlimited capacity. Applicable to any company that manages data flow, in a maritime environment, the software recognizes unique pieces of information such as Noon report formats, COA's and Event logs, just to name a few. And, in an industry where the party with the best documentation usually wins the battle when it comes to claims management, ShipDecision ensures that nothing can be erased and initial entries are unalterable. **Carbone envisions a day when ShipDecision becomes the standardized maritime link (and hub) for feeds from other maritime software packages such as Q88, Veson Nautical, Navarik and other similar data managers.** In other words, stovepiped information will come into the ShipDecision central base and then be organized and tied to a particular event, voyage or claim situation. Nevertheless, Carbone admits, "We know full well that in the world of business, people use computers because they have to, not because they want to. ShipDecision is designed for ease of use; it lets users concentrate on doing their job – not struggling with a computer." The software also can be configured for specific uses through the use of individual modules, as depicted in Table 1 to the right.

A one hour interview with Albert Carbone is time well spent in understanding not only the power of his software, but also its flexibility and robust security protocols. Carbone understands the unique nomenclature of the maritime business and the myriad of nuances that make working on the waterfront an interesting proposition, but also a difficult matrix to navigate. But, that's what ShipDecision is for, right?

## Table 1

*Source: ShipDecision*

| Application | Functionality / Advantages |
|---|---|
| **Operators** | **Know exactly what is happening to your vessel and its cargo:**<br>• drill down on detailed voyage status information and address flagged items.<br>• capture all voyage-related data in a secure, central location.<br>• coordinate tasks and share information with business partners around the globe.<br>• quickly pull up relevant contacts, documents, messages and information.<br>• capture a complete trace of all actions related to the voyage. |
| **Chartering** | Pull together cargo, vessel, voyage and contract information into any easy-to-use view:<br>• all electronic C/P Documents and Messages can be viewed with the click of a mouse.<br>• charterers can see all the particulars related to C/P or CoA.<br>• auto-relate feature makes it easy to track the progression of contracts as updates are received |
| **Brokers** | Makes it easier to react to opportunities & make decisions:<br>• message Center flags priority customers and contracts and receives alerts.<br>• alerts can be forwarded to PDAs.<br>• vessel Position feature examines every incoming message and extracts critical information.<br>• cargo Order feature enables searches by lay-can date range; cargo type and quantity; zone and port; and by latest date.<br>• 24-hour secure access through any web browser allows control no matter where you are. |
| **Agents** | Gives rapid access to the information they need:<br>• the Message Center makes it easier to communicate with Ships' Masters and Operators.<br>• automatically generate & submit Statement of Facts.<br>• electronic forms allow quick generation of accurate cargo and port documents. |
| **Surveyors** | Allows rapid creation & submittal of surveys electronically:<br>• dynamic templates allow generation of report as soon as survey is complete.<br>• automatic summary highlights critical areas that indicated need to be addressed<br>• easier access for clients to assess damage or deficiencies.<br>• easily attach digital images to support observations. |
| **Registries** | Improves capacity to maintain accurate profiles of vessels & ensure compliance with standards:<br>• mandate the use of dynamic on-line survey templates so condition reports are generated immediately after survey completed.<br>• valuable data is compiled over time, allows monitoring of changes to vessel profiles ``& track registry requests for corrective actions.<br>• Secure, rapid exchange of electronic documents between Registries & Class Societies. |
| **Insurers** | Helps Insurers accurately trace accountability for damage.<br>• the system automatically analyzes the survey data and flags any damage incidents in a Cargo Damage Matrix.<br>• click on a damage notice and immediately see specific information and notes.<br>• pin-point when and where damage occurred.<br>• valuable information archived to support dispute resolution and claims settlement. |

*Interview*

# David Turner, Executive Board Member, Pon

*by Joseph Keefe*

*David Turner*

*Executive Board Member, PON*

*"Going from corporate banking to running four employees who were doing maybe $65,000 per month in volume was probably the greatest experience I ever had. I unloaded valves from trucks in the early days. Today, when I see these things happening at our company, I can relate to it."*

It is tempting to define David Turner's tenure at Pon with a 'by-the-numbers' approach. As he approaches his 20-year anniversary with the firm, he also counts 13 relocations; 7 since joining W&O and five within the last 8 years. His participation in the fivefold increase in business at Pon's U.S.-based W&O Supply firm is another interesting statistic. The numbers, however, tell only a small fraction of the real story behind one of America's brightest maritime executives on the broader global maritime stage.

## BANKING ON BUSINESS

The University of South Carolina graduate (BS – Accounting) initially spent six valuable years in banking, primarily in commercial lending where he rose to Vice President and Commercial Banking Manager. He couldn't quite see the waterfront from that office, but the time spent honing his financial skills continues to serve him well. Turner himself says, "Once you understand P&L, cash flow and a balance sheet, you can go to any business. It was a tremendous learning experience to see companies of all sizes and get a broad look at so many businesses. I looked at how previous decisions had impacted the business, but the most important thing I learned, at a fairly young age, was how important it was to make a decision. I was able to take those experiences from the bank and transfer them into running a large business elsewhere." As it turned out, that business would be W&O.

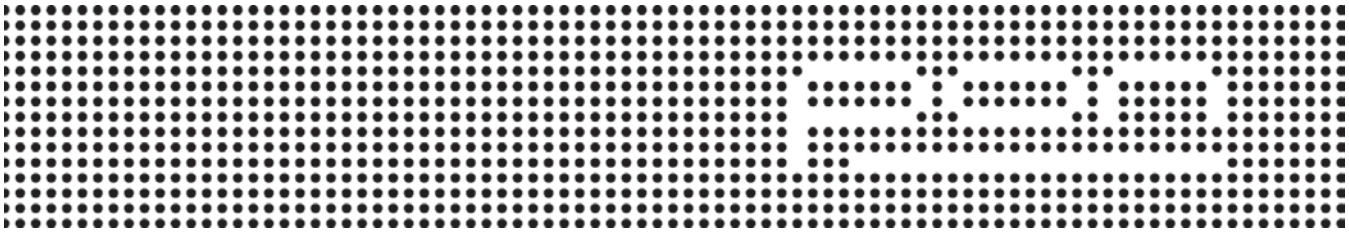
## FROM THE GROUND UP

At W&O, Turner proved his mettle by starting as a Branch Manager in Mobile, Alabama in. His future boss said, "I want you to move to Mobile and I want you to run a branch." Turner asked, "Why Mobile?" He replied, "If you ever want to run this business, you need to learn it from the ground up. You need to visit customers, ships, engine rooms and you need to understand all of it." Turner looks back and admits, "Going from corporate banking to running four employees who were doing maybe $65,000 per month in volume was probably the greatest experience I ever had. I unloaded valves from trucks in the early days. Today, when I see these things happening at our company, I can relate to it."

By 1996, Turner had risen to Vice President and National Sales Manager. When Pon acquired the fast-growing firm, Turner would once again get kicked upstairs to his new position of Senior Vice President, Sales & Marketing. Now firmly positioned as one of the nation's largest supplier of valves, pipe, fittings, engineered products and automated valve systems for the marine and offshore industries, W&O has 13 nationwide stocking locations and one international location in Belgium.

## W&O AND DAVID TURNER

One cannot talk about W&O without also mentioning David Turner. As Turner pushed to change the course of the business back in 2000, valve automation and system integration seemed to be the natural place to go. Turner explains, "Back then, a shipyard would go to a manufacturer and buy valves and then turn to another for the actuators and put everything together themselves. When they



turned it on and it didn't work, deciding which aspect of the installation didn't work was problematic." With this in mind, W&O acquired a firm that could provide complete system integration. "We make sure it is working for the customer, with one person or entity responsible for it. That was the major change that put us on a different path. Complete system integration on the ships was key."

Turner sums up the W&O journey neatly by saying, "I'm very proud of what we accomplished, especially at a time when a lot of companies struggled or downsized. PON came along at the right time and gave us the capital we needed to realize our dreams. It was a $110 million company when I left in 2007 and this year, it is going to do $160-to-$170 million in sales."

It hasn't all been wine and roses. W&O's revenue was expected to increase nearly 50 percent to about $250 million by 2012. Asked about whether that goal was still realistic, Turner replied, "That projection – to be fair – was made before the downturn. But, I think you'll see internal growth and acquisitions pick up with the economy. I wouldn't rule out $250 million before 2012, just yet."

The smaller footprint of W&O's marine sales (10 percent of total revenues) under the larger shadow of its Pon parent should not, says Turner, make anyone think that the marine business is not an important part of the overall business plan. "We want to continue to expand our position in the engine room. On the W&O side, we're the number one player in the industry in the states. To enhance that position, we'll look for acquisitions and try to attract new talent. We like the business and we intend to stay in it, grow and expand to other parts of the world." He adds, "Since the marine industry elsewhere is growing faster than in the states, especially in the newbuild shipyards, it is a smart place for us to go."

## THE PON PICTURE

As a Member of the Executive Board, David Turner is responsible for Pon-Cat business, PMH, Continuous Improvement, and Sustainability. He rarely has time to sit down and enjoy the view from his corner office. Spanning a dozen countries and employing 11,000 employees, Pon is one of the largest family-run businesses in the Netherlands. And Pon, like everyone else, took a hit during the downturn. Turner adds, "We survived fairly well and probably better than most. Representing strong brands – Volkswagen and Caterpillar, for example – our strategy is to represent premier brands in whatever industry we are in. The second part of that was that our business model includes a service and parts business. During a downturn, people don't buy as much new equipment as they otherwise might, but they do buy parts to repair existing equipment. Partly because of that, we are in a great position for future growth and acquisitions."

Turner describes a business model for

*"I'm very proud of what we accomplished, especially at a time when a lot of companies struggled or downsized. PON came along at the right time and gave us the capital we needed to realize our dreams. It was a $110 million company when I left in 2007 and this year, it is going to do $160-to-$170 million in sales."*

Pon that's called "Get, Keep and Grow." He explains, "This translates into getting new customers, keeping them with superior service and growing the accounts that we already have. It's a simple philosophy, but very important."

## PON & PEOPLE

The central key to Pon's growth can be boiled down to just one word: people. Turner is adamant on this point. "It's an overused expression, but it is true. As we look to grow, our major revenue factor is the quality of our people. We need skilled people on the front end to make sure we make and sell the right products, but on the other side, service is equally important." Emphasizing the point, he adds, "We offer people opportunity. I can attest to that. I started as a branch manager with four employees and now, I'm a member of the board, with a lot of stops along the way."

Like every firm over the course of the past three years, Pon tightened its belt where possible. Pon's innovative management training program was not one of them. The Trainee program at Pon, consisting annually of two classes of graduating college students, lasts 18 months. Turner says, "At the end of 18 months, they have to find a job within the company. That's one thing that we did not cut during the downturn. We knew we couldn't afford to stop investing in our personnel. What a great decision. It's not just talk if you put some action behind it. We had a guy who started out packing boxes at W&O and just the other day, I was there for his 20-year celebration. He has risen to Senior Management. Those are the success stories you love to tell." That sounds just a little like Turner's story, too.

**W&O Valve**

## PON & DAVID TURNER: *A MARATHON, NOT A SPRINT*

David Turner's journey at Pon has taken him from Jacksonville to Mobile, New Orleans to San Diego, back to Jacksonville, to the Netherlands, to Houston and now, back again to Europe. While some might chafe at that kind of periodic lifestyle upheaval, he waxes nostalgic about the process. "Thankfully, all of these moves have been promotions, so that makes it a little easier. I'm back in the Netherlands for the second time and very comfortable living here. The culture is great, the people are wonderful and Pon is a wonderful company. I'd be very happy to finish my career here." He pauses and then adds, "At Pon, they like to say that, 'over nearly 120 years, we've survived two world wars, a depression and now a great recession. And, we're not looking for the fast buck; crazy unsustainable growth.' The company is going to be there – always." You get the feeling that David Turner will, too.

TRAINING INNOVATION

# Portable Lifeboat Training by Compass Courses Maritime Training

Compass Courses Maritime Training, a maritime-training school in Edmonds, WA recently erected a Gravity Lifeboat Davit in an effort to better serve the maritime community with their Proficiency in Survival Craft course. After happily renting the use of a publicly owned davit from a Seattle area community college for years, Compass found itself scouring the country for a davit when the rental rate was raised beyond their means to pay. And, the rent increase would have meant the end of offering classes that were not full. Compass has always differentiated their offerings by recognizing that mariners need their classes when they have time on shore and canceling scheduled courses can cause real hardships.

An initial effort to acquire a davit from MARAD's Ghost fleet was denied because Compass is not a non-profit organization. A subsequent global search yielded a davit on a decommissioned ship that was eventually removed (no small feat to get that davit cut off the ship and shipped across the country to Seattle) and then reassembled.

Next on the agenda of Julie K. Keim, owner of Compass Courses, was the challenge of finding a suitable locale for a full sized gravity davit. With waterfront property being in high demand, it was perhaps no surprise no lot owners wanted an industrial looking installation adjacent to on their properties. Keim eventually had the brilliant idea of installing the davit on a flat bed trailer to make it portable, and that is exactly what was done.

Today Compass Courses is once again providing its familiar high level of service to the mariner, offering not one, but two Proficiency in Survival Craft/Lifeboatman classes every month, and having the ability to run additional offerings as needed.

**www.compasscourses.com**

(Image Courtesy Compass Courses)

# TRAINING & EDUCATION / MARITIME SECURITY

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Stats

# What is a *"Maritime Professional"* Anyway?

This edition's look at the numbers reminds us that the demographics of maritime professionals are not confined to those to go to sea for a living. And, nowhere is that reality more telling than a quick look at the graduation numbers from America's maritime academies. While the percentage of graduates who also opt for the mariner license track – that is to say, sit for and obtain U.S. Coast Guard credentials – has remained fairly steady of the past four years, those same numbers are down drastically from two decades ago. And, in 2007, about 61% of maritime academy graduates were still obtaining seagoing credentials, but that number has now fallen to an all-time low of 57%. Still worse, if the federal merchant marine academy numbers are pulled out (all Kings Point cadets MUST obtain a license in order to graduate), the combined output of the state academies falls to just under 49%.

| | | CMA | Maine | Mass. | Mich. | SUNY | Texas | USMMA | All | PCT. LIC. |
|---|---|---|---|---|---|---|---|---|---|---|
| **2008** | Graduates | 131 | 169 | 214 | 30 | 268 | 263 | 211 | 1286 | |
| | **Licensed** | **97** | **86** | **112** | **30** | **137** | **42** | **211** | **715** | **56%** |
| | Non-Lic. | 34 | 83 | 102 | 0 | 131 | 221 | 0 | 571 | |
| **2009** | Graduates | 159 | 152 | 257 | 19 | 306 | 250 | 196 | 1339 | |
| | **Licensed** | **102** | **102** | **122** | **19** | **172** | **40** | **196** | **753** | **56%** |
| | Non-Lic. | 57 | 50 | 135 | 0 | 134 | 210 | 0 | 586 | |
| **2010** | Graduates | 157 | 182 | 252 | 21 | 266 | 274 | 201 | 1353 | |
| | **Licensed** | **101** | **125** | **122** | **21** | **144** | **55** | **201** | **769** | **57%** |
| | Non-Lic. | 56 | 57 | 130 | 0 | 122 | 219 | 0 | 584 | |
| **2011** | Graduates | 169 | 210 | 267 | 30 | 300 | 261 | 205 | 1442 | |
| | **Licensed** | **119** | **136** | **108** | **29** | **165** | **65** | **205** | **827** | **57%** |
| | Non-Lic. | 50 | 74 | 159 | 1 | 135 | 196 | 0 | 615 | |
| **Total** | Graduates | 616 | 713 | 990 | 100 | 1140 | 1048 | 813 | 5420 | |
| | **Licensed** | **419** | **449** | **464** | **99** | **618** | **202** | **813** | **3064** | **57%** |
| | Non-Lic. | 197 | 264 | 526 | 1 | 522 | 846 | 0 | 2356 | |
| | **PCT. Licensed.** | **68%** | **63%** | **47%** | **99%** | **54%** | **19%** | **100%** | **57%** | |
| | | **CMA** | **Maine** | **Mass.** | **Mich.** | **SUNY** | **Texas** | **USMMA** | **All** | |

The numbers are driven by two primary factors; the marked drop in deep draft U.S.-flag tonnage over 6 decades, and diversification of curriculum at most of the academies. Struggling to survive in a worsening market for domestic mariners, the shape of most of these schools changed (in the 1980's) as engineers began opting for shoreside opportunities and a myriad of new degree programs meant that other graduates no longer had to necessarily look into a RADAR to make a living. Many remain on the waterfront throughout their careers. A quick look at the U.S. deep draft fleet tells you all you need to know about how this came about. In 1980, the Massachusetts Maritime Academy sent out 175 graduates into the workplace; 121 marine engineers and 54 deck officers. All of them had licenses. Today, the only state school coming close to that mark is SUNY. With 165 licenses earned, it also took the Fort Schuyler academy a whopping 300 graduates to do it. But enrollment is up at virtually all of the academies, and it certainly appears that there are adequate numbers of merchant officers being churned out to meet the demand of the deep draft market. Arguably, the same cannot be said about the lower tonnage / brown water employers, who would collectively like to see curriculum more accurately reflect the demographics of a U.S.-flag fleet that is largely comprised of vessels that do not require an unlimited tonnage ticket. Food for thought.

**Table1: U.S. Flag Oceangoing, Deep Draft Privately-Owned Self-Propelled Tonnage (1943 – 2009 comparisons)**

| ERA | WW II '43 | Korea '51 | Viet Nam '65 | 1974 | 1997 | 2002 | 2006 | 2009 |
|---|---|---|---|---|---|---|---|---|
| Total Ships | 644 | 1268 | 952 | 578 | 302 | 257 | 197 | 196 |
| Tankers | 260 | 455 | 279 | 288 | 145 | 92 | 75 | 58 |

faststream shipping recruitment

# Defining the Maritime Employment Environment

In its ***Maritime Employment Review - Technical Shipping*** published in May 2011, Faststream reveals an upsurge in candidate placements – notably ex-seafarers in shore-based positions – in 2010/11. Globally speaking, the average age of a technical shipping candidate in the past 12 months was 42 and the average salary of £55K (USD $89K/SGD $111K). Typically, the company was able to find and place a candidate within nine weeks. Other key findings of the report included:

- *UK employers feeling impact of immigration cap*
- *Growing demand for technical people from commodity houses*
- *Classification societies hiring again*
- *Technical superintendent salaries firms*
- *USA dominated by tanker hires*

The report, based on placements made by Faststream staff at its UK, USA and/or Singapore offices, between May 2010 and March 2011, also shows that the churn in the ship management sector has led to more candidate movement in the past 12 months than in 2009 and that more than ever before is being asked of mid and senior level technical employees. Faststream group managing director Mark Chairman (pictured below) said, "There are more jobs out there and there are good candidates too. We are not however seeing the speculative hires of the boom years, when companies were snapping up experienced technical staff and then worrying about finding them something to do. Today the challenge for employers seeking to bring in new blood or expand their operations is persuading candidates to move job and possibly relocate."

**Find the full report at: http://www.navigatepr.com/news/Faststream%20technical%20market%20review%202011.pdf**

### Global Average Candidate Age

| Job Type | 2009-10 (years) | 2010-11 (years |
|---|---|---|
| Technical Superintendent | 43 | 46 |
| Fleet / Technical Manager | 39 | 43 |
| Surveyor (class/flag) | 40 | 36 |
| Vetting Superintendent (oil major) | 52 | 42 |
| **Overall (weighted average)** | **41** | **42** |

### Global Average Base Salary

| Job Type | 2008-09 | 2009-10 | 2010-11 |
|---|---|---|---|
| | | (All money in GBP) | |
| Technical Superintendent | 64,000 | 56,000 | 56,000 |
| Fleet / Technical Manager | 60,000 | 60,000 | 75,000 |
| Surveyor (class/flag) | 46,000 | 47,000 | 42,000 |
| Vetting Superintendent (oil major) | 49,000 | 65,000 | 54,000 |
| **Overall (weighted average)** | **56,000** | **54,000** | **55,000** |

### Time Taken to Place Candidates:

| | |
|---|---|
| Technical Superintendent | 12 Weeks |
| Fleet / Technical Manager | 10 Weeks |
| Surveyor (class/flag) | 8 Weeks |
| Vetting Superintendent (oil major) | 8 Weeks |

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