The image above offers a graphical representation of vessel traffic off the Norwegian coast. Vessel traffic maps like this provide valuable data used in planning offshore oil and gas projects. One of the critical early steps in developing offshore exploration and development plans is to understand, and then mitigate, the risk of a vessel colliding with the drilling rigs, production facilities or support vessels that will be operating there.

Offshore energy projects are growing in size, importance and number around the world, bringing new vessels and equipment into some already well-traveled seas and coastal areas. With many of those production facilities slated to remain on site for decades, collision risk studies are becoming an increasingly important element in planning the long-term operational safety of these activities.

The map was produced by risk analysts at Trondheim, Norway-based Safetec, a subsidiary of the ABS Group of Companies.
COVER:

For as long as there are ships to inspect, surveyors have learned the core skills of their craft by working alongside experienced senior colleagues. Mentors remain the heart of surveyor education and training. An article on the art of mentoring begins on page 24.

FEATURES:

2 New Technologies for Marine Applications
A major building program helps one naval architecture firm celebrate seven decades of bringing new ideas to life.

6 From the Front Lines: At the Offshore-Marine Interface
Collision risk studies are growing in importance to planning offshore energy projects.

8 Floating Hotel Meets Mobile Shipyard
How one company’s floating accommodations units have evolved to meet the special needs of offshore oil and gas activities.

12 Deep in the Heart of Fosnavaag
Two views on Norway’s ‘OSV town’, from its pioneering shipowner and its latest resident shipbuilder.

16 New Neighbor in Fosnavaag has a Backyard in China
Sinopacific reaches out to Norway’s maritime cluster.

17 They Found the Fabled Sunstone
The Vikings’ magical aid to navigation has stepped out of legend to take its place among the tools that helped change the course of history.

20 New Model Manager
One shipowner is making a mark with an innovative approach to ship management services for specialist vessels.

24 Practical Wisdom
Since the dawn of shipbuilding, the art of survey has been passed on through the art of mentoring.

36 Viewpoint: Weathering Shipping’s Toughest Hour
Olav Eikrem, Technical Director, Frontline Management AS

Photo Credits:
Cover: ABS; IFC: Safetec; IBC: Joe Evangelista

The opinions and conclusions contained in this publication are solely those of the individuals quoted and do not reflect, in any way, the position of ABS with regard to the subjects raised. Although every effort is made to verify that the information contained in this publication is factually correct, ABS accepts no liability for any inaccuracies that may occur nor for the consequences of any action that may be taken by parties relying on the information and opinions contained herein.
New Technologies for Marine Applications

A major building program helps one naval architecture firm celebrate seven decades of bringing new ideas to life.

In order to remain internationally competitive, we can’t just be good; we have to be among the best," says Geir Kjersem, Chairman of the Board of Bergen, Norway-based design firm LMG Marin. “With the North Sea as our laboratory, we have been able to develop new technologies for marine applications around the world, and to remain in the forefront of maritime design for 70 years.” A strong claim, but one he backs up with two entries from the company’s innovation logbook: the Skjold series of high-speed surface-effect ships built for the Royal Norwegian Navy in 1994 – able to hit speeds of 60 knots, they are said to be the world’s fastest armed military craft – and an early series of natural gas-powered coastal ferries realized in 2007.

Kjersem says such successes stem directly from the company’s independence. Solely owned by a group of employees, LMG has a certain freedom to allow exploration of concepts and activities that might not get the green light in a more traditional or restrictive corporate environment. As a result, it can pursue, and benefit from, a wide range of clients and projects.

“No, because we are independent, we can work with any companies we choose. This allows us to cooperate with larger engineering contractors as we deem necessary; on very big projects, in fact, we might have more contractors than direct employees – as for the drillship projects in Brazil, where we have about 140 persons on this project team,” Kjersem says.

LMG currently employs some 85 engineers between its offices in Norway, Poland and France. Although the company has a long history of diverse experiences, its main area of activity today is with drillships, thanks to 14 vessels building to designs it developed at two Brazilian shipyards.

“We started designing drillships in 1997; we wanted to develop a harsh environment vessel that has motion characteristics like a semisubmersible,” Kjersem recalls. “The idea was that, by reducing vessel motions we could increase the weather window in which it can operate, which is important for oil companies looking to reduce costs in deepwater drilling.”

One motion control feature of the design LMG developed is a set of ‘box structures’ located low down on each side of the hull, running almost the full length of the ship, and at the base of the moonpools. The effect of these structures is to provide negative added mass,
which serves to reduce heave and roll motions. Tests carried out in the Marintek model basin in Trondheim, Norway validated the concept, and the first vessel built to that design eventually operated with success offshore Brazil in water depths of up to 3,000 meters.

When Brazilian national oil company Petrobras decided in 2009 to create a fleet of ‘made in Brazil’ drillships for exploration and development of a newly discovered range of massive oilfields located along the country’s coast, it requested LMG submit a design to its qualification program. Petrobras included that design in the quotations subsequently sent out to the nation’s shipyards, along with other proven designs that the builders could use as the basis for the drillships they would propose to deliver.

LMG succeeded in winning design contracts with the Jurong Aracruz and Estaleiro Atlântico Sul shipyards. Each building program, valued at around $4.6 billion, calls for its yard to deliver a series of seven drillships. The dynamic positioning class 3 (DPS-3) vessels will accommodate 180 people and be able to operate in 10,000-ft water depths and drill to depths of 40,000 ft. All will be built to ABS class.

One aspect of the Atlântico Sul project draws on some of the diverse background LMG has acquired over its seven decades in the maritime and offshore sectors. Besides its core activity in design, the company also has a long history as a provider of vessel inspection services – which included four decades as nonexclusive surveyors for ABS. Eventually, changing markets and the great eastward shift in shipbuilding caused demand for freelance ship inspectors in Norway to drop off and that department shrank considerably. Today, some projects still call on those shipyard site skills, but in a different way – these requests come from the builder. LMG is providing the Atlântico Sul project with basic design, detailed design and fabrication drawings, and has oversight responsibility for the integration of the topside drilling facilities.

“Sometimes, the shipyard doesn’t ask any more than the drawings we give them; other times, they want us to be more involved in core manufacturing activities,” Kjersem says. “In Brazil, for example, Atlântico Sul asked us to come to the yard as technical support for bringing our design packages into production.”

**Offshore Knowhow Builds Better Bridges**

Although its drillship projects consume a great deal of resources, LMG reserves a portion of its manpower for seeking out and developing new concepts. In one recent effort, the company applied its offshore engineering experience to develop a novel solution for a technical challenge put forth by the Norwegian...
Government: a plan to develop ferry-free travel along the country’s west coast.

The idea is to allow people to drive most of Norway’s west coast on a roads system linked by a series of regular bridges and floating bridges; the floating bridges will span fjords in lengths ranging from 1 to 10 km. One of the central technical challenges in that vision is to develop a floating bridge that can reliably handle the extremely heavy weather that regularly rages out of the North Sea to assault the coast.

The key to LMG’s novel solution is a proprietary technology that stems from the company’s motion compensation work for floating offshore facilities.

“Technology development is part of what we do,” says Torbjørn Bringedal, LMG’s Managing Director. “When we saw the need for ferry-free travel on the coast, we put our minds together and came up with the design that we call the Ocean Bridge. There are floating bridges in Norway already, but with this design we are bringing that technology a step further in length and function,” he says.

“Based on our technology development during the past five years, we are now a frontrunner in the competition to design the fjord bridges,” he adds. “The Ocean Bridge can be integrated with trains and is designed to allow large ships to pass beneath – no floating bridges can do that today – and to withstand very harsh environments. It can take waves of up to 15 meters.”

Another subject of some research and development is the evolving field of small-scale LNG supply for gas-fueled shipping. Although this market is still in early days, the company is working out a concept for a gravity-based LNG regasification station named Gravifloat.

“We’ve been involved in the shoreside logistics of LNG bunkering, doing planning and studies for various owners on how to transport LNG from an existing liquefaction plant to the bunkering area – usually by train, trailer or container transport,” Bringedal says. “Now cases are developing where small-scale liquefaction and storage facilities may be needed. If you want to succeed in this market, you need knowledge of the broad picture, so that you can determine which solution is best for the situation you have,” he says, adding that designers of gas-fueled vessels today must also think about developing LNG bunkering solutions.

“Merely developing gas-fueled ship designs is not sufficient; we must also contribute to providing a total solution, if the industry is to become convinced about gas,” Bringedal says.
Looking to the future – always

With a track record in natural gas-fueled ships, LMG is seeing a rise in inquiries about this propulsion solution from shipowners with operations that cross an emissions control area (ECA). From the designer’s perspective, Bringedal does see gas fuel one day finding a place in the intercontinental ship markets, but after stepwise progress through short sea shipping.

“The ship types most obviously suitable for gas-fueled operation are those that won’t lose too much payload due to the fuel storage,” he says, such vessels including ferries, ro/pax vessels and passenger ships. “In addition, these type ships tend to trade on rather fixed routes, which are beneficial for developing LNG bunkering networks.”

Ultimately, he says, the wider world fleet will not likely consider moving to gas fuel until certain conditions are right – for example, once LNG prismatic fuel tanks demonstrate in-service reliability in worldwide trade; the market settles into confidence on fuel pricing; and reliable distribution networks for LNG bunkering develop. All this will come, he believes, but only after the technology and market mechanisms are proven by the ships that need them soonest – those that operate in ECA zones.

And, while drillship design will continue to evolve, at least some development will be spurred by the spirit of regulatory compliance, he notes. For example, one idea to enhance energy efficiency recalls the hybrid automobile: the vessel would run off a system of powerful batteries ready for immediate boost power, rather than have the standby engines idling for long periods. While the resulting reductions in fuel consumption and engine maintenance costs could be considerable, it is not a traditional solution, and may require a push from fuel prices or emissions regulations to cross over into reality.

Designers, meanwhile, must focus on advancing technology if they are to have a future, he says, drawing an analogy to the way the shipyard sector has evolved. “When Far East yards out-competed European yards for basic ship types, the builders that survived did so by moving into advanced vessel types and specialized tonnage; likewise, when a design or vessel type becomes standardized, independent design houses have little chance to compete against the major shipyards’ in-house engineering departments – standardized work is their specialty,” he says. “We are a design house that is geared to explore and develop new ideas. If we want to have a legitimate cause to remain in the business, we need to push forward in new technologies – not solely, but as a major area of focus; that is why we devote quite a bit of time to concept development.”

Looking forward with LMG in this milestone year, Bringedal says that, while the future may call for moving into new areas of activity as markets change and evolve, the company’s core business will always be the development of ship designs and new ideas. “We have a long track record of innovation that includes merchant ships, gas-fueled ferries, floating bridge designs, drillships and ship-shaped floating production units. Whatever comes next,” he says, “our core business will always be to deliver ship designs and help bring new ideas into reality – and I think we have a lot to contribute to technology development in the future.”

The ship types most suitable for gas-fueled operation are ferries, ro/pax vessels and passenger ships. Above, LMG’s recent gas fuelled ro/pax concept.
Planning offshore exploration and development projects involves dealing with numerous concerns regarding operational safety. One of the concerns project developers must face is understanding and mitigating the risk of a ship collision with the platform, drilling rig or support vessels. With the size of OSVs growing – they now approach the size of small ships – and the number of offshore energy developments increasing, issues of vessel traffic safety are even more critical to proper project planning today than in the past. These issues are normally addressed through detailed collision risk assessments performed by third-party analysts such as Norway-based Safetec.

Safetec has developed two principal software tools for these studies, the COAST (for computer-assisted shipping traffic) database and the COLLIDE analysis program which calculates collision frequencies and energies. First produced in 1996 for use in British waters under funding from the United Kingdom Health and Safety Executive (UK HSE), the COAST database soon expanded to include Norwegian waters and today is used to analyze vessel traffic across the entire British and Norwegian continental shelves. Together COAST and COLLIDE are used to develop scenarios and risk studies for offshore and marine operations.

“For basically, we use Safetec as a discussion partner, in order to minimize risk when we are planning operations,” says Jens Christian Holst, Manager of Health, Safety, Environment and Quality Services for AGR, an Oslo, Norway-based well management company that drills wells for operators worldwide. “When we are planning a well, we perform quite thorough risk assessments to ensure the operation has an acceptable risk level. One part of this process is to examine the possibility of ship collisions.”

Depending on the client’s competence and capacity, AGR may handle various parts of the planning and execution of a drilling project. So, for example, a client such as Statoil with long experience in drilling wells, may perform most of the planning itself and leave the execution of the operation to AGR, while a small operator with few organizational and technical resources and limited experience with drilling operations might ask AGR to take the entire operation from start to finish.

“We do a lot of exploration drilling and use collision studies to help evaluate rig locations, particularly for areas that may have heavy vessel traffic – whether merchant vessels are passing by or service vessels are operating regularly in the area,” Holst says. AGR then compares the results of the studies with its risk acceptance criteria and, if needed, will implement risk reduction measures – like changing operational procedures or including additional technical measures like placing buoys at strategic locations to warn ships that they are approaching the rig.

“One of the most valuable contributions that risk studies make to project development is in highlighting critical issues,” he adds. “Yes, you get a ‘risk number’ from the study that directly helps your decision-making, but, more significantly, you get focused on an area that needs consideration, or maybe an issue that somehow got overlooked. Safetec has quite a lot of experience in risk reduction, so we need to have close cooperation and dialog with them – based on their experience, they might have some ideas to contribute on risk mitigation,” he adds. “If a vessel collides with a rig the consequences could be devastating, particularly if that happens during an ongoing operation.”

One current project making use of Safetec collision studies is development of the Johan Sverdrup oilfield, which is among the largest discoveries ever made in the North Sea. In announcing it last year, one of the developers noted the field is expected to produce for some 40 years. As such, positioning the production facilities requires some serious thought into long-range maritime safety planning.

“There was a need to map ship traffic patterns in the southern North Sea and to review the risk of ship collisions with future platforms on this field,” says Tor Lindström, Senior Engineer for Technical Safety on the Sverdrup development for Statoil, Norway’s state-owned oil company. “We typically work with the results of such studies to evaluate risk-reducing measures and designs of platform substructures, based on the estimated collision frequencies and impact energies.”
Safetec recently completed an initial collision study for Statoil. A similar, more detailed study will be undertaken in the next phase of the project, when many of the uncertainties in the present phase have been removed, Lindström says.

“The risk of ship collisions with offshore installations is not insignificant, as has been proved in the North Sea and elsewhere in the world,” he adds. “Safetec has performed similar studies for us on other fields, the results of which gave us an understanding of how area traffic patterns affect future fixed installations.”

Typically, a study of this kind could lead to a restriction in the size of supply vessels that can regularly visit the installation. If, say, a proposed location puts the installation too near a large shipping lane, for example, moving the facility slightly would be evaluated, Lindström notes. The initial study indicates that, although it is close to a few shipping lanes, the frequency of passing vessels in those lanes is moderate. “This is of course good news,” Lindström says, “but identifying the larger vessels on these routes – the ‘regular runners’ – and making contact with the owners could be relevant once we finalize the location.”

Often, a collision study informs decision-making processes, but its exact impact is hard to quantify. Sometimes, however, a study produces a dramatic effect – as with the Gjøa platform, a North Sea semisubmersible that went online in 2010. The location of that unit, which is about 40 km from shore and near some heavily trafficked waters, changed several times during project development in order to reduce collision risks and optimize positioning with regard to field layout and other technical considerations such as pipeline availability.

Collision analysis is just one of many services that Safetec has developed over the years. The company began in 1984, providing risk analysis to support compliance with the new Norwegian offshore regulations developed after the tragic capsizing of the semisubmersible rig Alexander Kielland. Three decades of growth and merger evolved the company from a one-man office in Trondheim, Norway into an international company with nearly 200 employees with four branches in Norway and subsidiaries in the UK, Malaysia, Australia and Sweden. In 2012, Safetec was acquired by ABS Group of Companies, which is integrating the service into its worldwide risk assessment and mitigation organization.

Looking to a future as part of a maritime organization, Safetec CEO Jan Morten Ertsaas sees a need and an opportunity to expand across the offshore-marine interface and provide shipping-oriented as well as offshore-related risk assessment services.

“There is a rapidly growing awareness of the fact that risk analysis and mitigation has to be able to integrate both individual and organizational technological factors,” Ertsaas says. “The shipping industry can no longer talk about ‘75 percent of accidents caused by human factors’ and at the same time ignore such factors in risk analysis and mitigation. This calls for a holistic, multidisciplinary approach to risk and risk management,” he explains. “It also calls for the industry to acknowledge that accidents and incidents explained by the concept of ‘human factors’ almost always call for sustainable organizational solutions rather than quick-fixes on the individual level.”
Floating Hotel meets Mobile Shipyard

Versatile semisubmersible accommodations units increase offshore production up-time by bringing shipyard services far out to sea.

For decades, floating accommodations platforms have been used to provide additional living quarters for offshore oil and gas installations during operations that require considerable extra staff, such as hook-up, commissioning, maintenance, upgrading and decommissioning. Today, as offshore exploration and production continues advancing into ever-deeper waters, remote locations and harsh environments, the floating accommodations unit – like all offshore support vessels – is evolving to meet the special needs of these new and demanding activities.

The latest generation of these specialist semisubmersibles adds a new dimension to the floating hotels of the past. Combining living quarters and construction facilities, they not only offer the latest advances in crew comfort and ergonomic workspaces, but also are outfitted with modern workshops, broad open deck spaces and heavy-duty cranes. When operators want to do maintenance or modification on an existing platform, or want to build a new platform, they charter these accommodations/construction units to house and equip the work crews. Living quarters aboard drilling and production rigs are designed for the units’ normal activities; for the occasional large-scale jobs that require far more people than the rigs were designed to handle, accommodations semisubmersible fill the gap.

The newest of these ‘semisubmersible construction and support’ units are in the fleet of Floatel International and managed by Floatel International AB in Gothenburg, Sweden. Floatel International was established by the former management staff of floating accommodations pioneer Consafe Offshore, after that company was acquired by competitor Prosafe in 2006. While at Consafe, they had seen a need arising in offshore energy development for advanced floating accommodations units, and had initiated a new construction program to build up the Consafe fleet accordingly. Following the acquisition, the company’s new owners canceled those fleet expansion plans after only one new unit had been delivered, the ABS-classed Safe Concordia. Convinced that the need they had detected...
was nowhere near satisfied, a year after the takeover the ex-management formed a new company to continue what they had started.

It was a decision based in deep industry experience. Floatel’s start-up management was a team of industry veterans that have decades on the production, design and management sides of the offshore sector. CEO Peter Jacobsson was CEO at Consafe and has held senior managerial positions with such leading companies as Subsea 7, Halliburton Subsea and rig designers GVA; operations manager Nils Erik Flink, previously Consafe operations manager, has served as rig manager at Stena Drilling; and technical manager Nils Maartensson, who is in charge of Floatel’s newbuilding projects, was rig manager with Consafe. They have been aided in their progress by Keppel FELS Shipyard, which has been a major shareholder since the company was established in 2007.

“With the existing fleet of 27 semisubmersible accommodations vessels, 18 units were built before the turn of the century with an average age of 32 years – the oldest is 40. Only three of the vessels were built in the last 20 years,” says Jacobsson. “Less than half of this fleet is equipped with dynamic positioning. For this reason, we determined that we should deliver to the market the most modern and attractive vessels we can build, with dynamic positioning and outfitted to satisfy the latest legislation and users’ needs. We figured there would be a supply-demand discrepancy resulting in high demand for new accommodations units, and we were absolutely right.”

Maximizing Up-time Offshore

“As we look forward, the challenge for our sector is to figure out how to best support the oil and gas industry as it continues into deeper waters and hostile environments. This means that, at the very least, we need to supply vessels equipped with dynamic positioning and the most modern living and work spaces,” Jacobsson says.

There is a tremendous difference between an accommodations vessel built today and one built 30 years ago, he says. The design rules have evolved and some of the philosophies behind design and operation have changed completely. For example, the old requirement on inclination of stairways was that they should be no more than 45 degrees; now the Norwegian NORSOK standard is 30 degrees. Likewise, evolving concepts of how people should be living and working on board have introduced new standards of crew comfort, safety, working environment and, in general, to encourage

FLOATEL VICTORY

FLOATEL VICTORY is a harsh-environment DPS-3 semisubmersible accommodations and construction support vessel building to ABS class at Keppel FELS Shipyard in Singapore, and scheduled for delivery in November 2013. The vessel will meet the latest UK HSE rules and regulations and will house up to 500 persons in single and double-bed cabins. For stationkeeping, the vessel will be equipped with both a DPS-3 dynamic positioning system and a ten-point chain mooring system.

With a large payload and deck area and dual cranes to support the host facility, the vessel is designed for construction support during new construction, commissioning, maintenance or decommissioning of offshore oil and gas installations. ◆
the development of a modern fleet equipped with the latest technologies.

For harsh environment use, one of the important features of Floatel’s new units is a telescopic gangway able to tolerate motions of ± 7.5 meters. According to the company, calculations based on a motion limit of ± 4.5 meters indicate that the semisubmersibles will be able to stay connected to their host rigs in sea states with significant wave heights of up to 7 meters, which can yield a 95 to 98 percent operational uptime in North Sea conditions.

“With gangways, we can stay connected to the rig for much longer in severe weather, because the semisubmersible is very stable in the sea,” Jacobsson says. “Altogether, our units provide significantly more uptime for the operator, which translates directly into productivity and saves money for our clients.”

Because offshore production is all about up-time, operators have begun turning to floating construction/accommodations units to provide at-sea overhauling as an alternative to shoreside maintenance and repair – as did Petrobras, hiring the ABS-classed Floatel Reliance to perform onsite maintenance of their floating production, storage and offloading (FPSO) units, such as the ABS-classed P-50, one of the oil company’s top-producing units. With offshore energy sources growing in importance and use of floating production systems increasing, Floatel sees onsite offshore maintenance becoming a very valuable service to the world’s energy suppliers. FPSOs, many of which are stationed in remote areas for decades at a time, are particularly good candidates for such services, says Jacobsson.

“When time comes for maintenance, upgrades or retrofits to an FPSO, the operator typically disconnects the moorings and the risers and takes the vessel in to the shipyard. These days, operators are beginning to realize that much of this work can be done offshore, without interrupting production, by having a construction support semisubmersible alongside to do the work and house the additional crews. For example, when one operator recently decided to rebuild the drilling module aboard a deepwater semisubmersible, they hired a Floatel unit to provide the personnel and construction support – like a shipyard moving offshore,” he adds.

Floatel currently has two vessels in operation and two more under construction at Keppel FELS in Singapore, due for delivery in 2013 and 2015. The units have high-standard living quarters and a large open deck area surrounded by workshops where light construction can be performed, and high-capacity cranes to transfer the work to the host rig.

**Evolving with an Industry**

“Our units handle a very wide range of work – not the kind of major jobs where you need a shipyard and drydock, but much of the normal overhaul, modification, repair, pipework, testing and so on,” says Jacobsson. “We are meeting with a very good response from the operators, who have been telling us that we are bringing new life into the sector.”

In fact, as this issue went to press, Floatel had some $700 million dollars’ worth of secure backlog in charter commitments for its two existing units and the two to come. The first new unit to be delivered, the ABS-classed Floatel Victory, is slated for two contracts in the Gulf of Mexico and UK waters. The next unit, due for delivery in 2015, is already booked for service in Australia and Norway.

One reason for this impressive success is the simple fact that, between age restrictions, technical specifications and comfort requirements like single-bed cabins, only a handful of existing units can even qualify to bid on the most demanding tenders today, Jacobsson says. Still, it’s a big world and there are plenty of reasons for keeping the existing fleet in business. For one, not all areas of offshore activity are in demanding environments; for another, the units are expensive. At a cost of about $250 to $300 million, and with little in way of long-term contracts against which to build, there is an element of risk in bringing new accommodations semisubmersibles into service.

“Depending on what the client wants to do, we might be alongside for a few months, or a year, but rarely do you get long-term contracts. You just have to believe in your market case,” Jacobsson says. “It’s the same with drilling units. It’s very difficult to find, say, a five-year contract that lets you write down the investment. You can’t count on that in this market. You just have to do your research and get the market timing right.”
Getting the market timing right in a sector as volatile as offshore energy is tricky business, and Jacobsson is understandably reluctant to reveal too much of what makes up Floatel’s crystal ball. That said, he does have a few thoughts to share on the future of his sector.

“There has been growing activity that requires our services, so we can see three years ahead and it looks good, but beyond that it’s difficult to predict,” he says. “It’s the same as with drilling rigs: today is fine, but you have no idea what the market will look like in five years. We do see the North Sea as an interesting market. With oil prices fairly stable on a high level, the oil companies will want to maintain the infrastructure there, which means they will need accommodations vessels to do the work. Whether it’s putting new life into a depleting reservoir, developing a new site while making use of nearby pipeline infrastructure, or tying back to an existing platform to make field development cheaper, we see the North Sea as a promising area.”

One reason for Floatel to be optimistic about the future is the absence of high-quality competition, he adds. “We aren’t cheap, but we bring an important added value to our clients,” Jacobsson says. “The increase in quality we provide through our new, sophisticated, modern vessels gives operators a much higher return than older units can, on all points – better performance, more uptime, lower costs and a higher level of safety.”

Gone are the days when old boiler parts and machinery get recycled into workout equipment. The latest accommodations semisubmersibles have gym facilities that look like health clubs.

---

**FLOATEL RELIANCE at-a-glance**

The six-column semisubmersible accommodations, construction and support vessel FLOATEL RELIANCE is a medium-harsh environment unit providing quarters for 500 persons. Built by Keppel FELS to ABS class, RELIANCE features social and recreational centers for the crew; workshops and warehouse facilities for construction support; a 120-tonne heavy lift crane; a 25-tonne backup crane; a 1,300-m² main deck work area; and a payload of 1,500 tonnes. Powered by four 3.9-MW generator sets, the unit is equipped with DPS-2 systems and firefighting capabilities.

---

**Dimensions:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length Overall</td>
<td>99 m</td>
</tr>
<tr>
<td>Length of Pontoon</td>
<td>94 m</td>
</tr>
<tr>
<td>Breadth of Main Deck</td>
<td>36 m</td>
</tr>
</tbody>
</table>

**Operation Conditions:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draught (incl. Thrusters)</td>
<td>16.4 m</td>
</tr>
<tr>
<td>Displacement</td>
<td>17,900 tonnes</td>
</tr>
<tr>
<td>Deck Payload</td>
<td>1,500 tonnes</td>
</tr>
</tbody>
</table>

**Survival Conditions:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draught (incl. Thrusters)</td>
<td>12.2 m</td>
</tr>
<tr>
<td>Displacement</td>
<td>15,000 tonnes</td>
</tr>
<tr>
<td>Deck Payload</td>
<td>1,500 tonnes</td>
</tr>
</tbody>
</table>
Deep in the Heart of Fosnavaag

Two views on Norway’s ‘OSV town’, from its pioneering shipowner and its latest resident shipbuilder.

The slogan in Fosnavaag is: ‘We work together when we can, and we compete when we must,’” says Per Saevik, Managing Director of Havila AS. If anyone can tell the story of how this fishing village on the northwest Norwegian coast became a brain center of shipowning, design and manufacture for offshore supply vessels (OSVs), he can. In a sense, the town’s evolution follows his own.

Fosnavaag faces the North Sea, which has been both friend and foe to the community over the years. It is a town of about 3,500 located on the island of Bergsøya, one of a community of islands in the municipality of Herøy, whose people have won their living from nature through fishing and farming for uncounted generations – in fact, the town’s main monument memorializes not a storied warrior or an antique king, but the wives and children who, since time immemorial, have stood on the shore and looked longingly out over the grim waters awaiting their loved ones’ return. Today Fosnavaag is still home to fishermen, but is also known in the oil and gas sector as the center of a region containing some of the world’s leading OSV owners, designers and builders.

Fosnavaag’s monument memorializes the wives and children who have stood on the shore and looked longingly out over the grim waters awaiting their loved ones’ return.
Saevik helped pioneer this evolution. He began life as a fisherman, first going to sea at the age of 15 in 1956. In 1981, attracted to the opportunities offered by the North Sea’s growing offshore energy sector, he established Saevik Supply, the first resident OSV operator in Fosnavaag. Success in this new business was some time in coming to Saevik, but, as with the fishing boats of old, when it did come, its harvest from the sea was plentiful.

Saevik Supply survived the great difficulties of the 1980s energy market crash, broke through in the 1990s and was bought by the US-based offshore group Trico Marine in 1997. Saevik then founded his second offshore supply company, Havila Supply, taking its name from a line in the Book of Genesis: “A river went out of Eden to water the Garden, and from thence it parted into four heads. The name of the first is Pison, which compasses the whole land of Havilah, where there is gold; and the gold of that land is good.”

The new company vindicated his implied hope. In 2003, French marine conglomerate Group Bourbon took over Havila Supply through stock acquisition, but Saevik exited the situation with ten ships and the corporate name. He then founded a third company, Havila Group, which currently employs about 600 people and operates Havyard shipbuilding, Havila Shipping and a property company, Havila Ariel. Meanwhile, Saevik’s success inspired his neighbors to compete when they can: two notable successes among them are Stig Remøy’s Olympic Shipping, which started up in 1994, and Rem Offshore, founded by Aage Remøy in 1996 as a spinoff of the family fishing business.

The connection between fishing and offshore supply should come as no surprise, Saevik says, because the two professions share much of the same basic competencies. “The fishing industry and the OSV sector exists very well side-by-side and draw from the same pool of expertise – a good fisherman can be a good operator of offshore supply vessels because in each job you go out to sea, you do your job and you come home,” he says. In addition, the crews on the fishing vessels are not afraid to work hard and get dirty, an attitude much needed aboard an OSV. “If you can operate a fishing boat in these seas, you can operate an OSV anywhere in the world,” Saevik says.

Since ancient days, the sea has been the axle on the wheel of life for the inhabitants of Norway’s northwest coast. This is attested to around Fosnavaag by burial mounds discovered on the island of Herøy, by Viking boats (the Kvalsund Boats) unearthed on Nerlandsøy, by submerged treasure wrecks from the Age of Exploration found off the island of Runde (displayed in a local museum) and by the fishing, marine manufacturing and offshore supply industries of modern times.

A quarter-century ago, however, there was a somewhat negative view of Fosnavaag’s near-total dependence on the sea, Saevik, who was town mayor at the time and later became a Member of Parliament, became known for an expression he often told his fellow legislators: “Fish and oil go together in Fosnavaag.” Time has proven true his words. Today, Fosnavaag is part of a growing population of about 9,000 in the region, which continues to attract new residents while maintaining an unemployment rate near zero. Much of its thriving economy is powered by companies in the offshore and marine sectors, many of which have roots in the fishing industry.

Cooperation is Key to Community
Saevik cites cooperation as the key to Fosnavaag’s survival and success. First, there is the traditional cooperation between the region’s shipyards and its fishermen in developing vessels to combat the hardships of the North Sea and beyond. Then there is the fact that fisherman, because they fight the elements essentially alone and must solve their own problems at sea, are inclined to develop their own technical solutions and to share the results with their neighbors – recognizing that they are all, so to speak, in the same boat.

“In fishing, you compete when you’re out on the banks and you race to be the first to get home; but, once you get home, you work
“The situation in a small city like Fosnavaag is that the crewmembers of the vessels, the owners of the vessels and the designers and builders of the vessels meet each other everywhere, just going to the shops, the café, the pub and so on; through normal conversation, information passes from the practical man on board to the owners and designers on a very short line. This is one of the most important advantages in Fosnavaag,” Saevik says.

“The designers here can pick up ideas and feedback first-hand from the operators, which design offices in most other places normally do not get,” affirms Egil Legland, ABS Country Manager for Norway. “That’s one thing that makes this place unique. Even though the companies are competitors, they share ideas and experience and work together to benefit the community as a whole. For example, various companies from the area have chipped in to support the building of a new concert hall, a new hotel, and bridges and tunnels to connect the islands and link them to the local airport.”

Two interesting items underscore the interweaving connections of this close community: Saevik’s first supply boat, Northern Commander, also became the first ship owned by Olympic Shipping, and his first office is now the headquarters of Sinopacific, the latest shipbuilder to take up residence in Fosnavaag – whose managing director is an area native and former captain named Ole Zahl.

Newcomer with Roots
Sinopacific Norway came to Fosnavaag two years ago. “The office here is intended to be the bridge between China and Europe for OSV production. In Europe we have the technology, and in China we have the building capacity – we are the first shipyard in China to reach out this way,” Zahl says. Sinopacific has delivered 131 vessels to a variety of Western owners since 2004, building mostly to designs from Ulstein and US-based Guido Perla and Associates. With 7,000 employees dedicated to OSV production, the yard plans to deliver 36 more vessels this year.

“Here in Fosnavaag you are in the middle of what is called the marine cluster of offshore Norway,” says Zahl. “Within a circle of about 45 km around us, you will find many of the industry’s most advanced offshore designers, shipyards and equipment makers. For example, in Ulsteinvik you will find the head office of Rolls-Royce Marine. They have the well-known UT design, which was developed by Ulstein Trading. Ulstein was taken over by...
Vickers and then Rolls-Royce, which sold the shipyard back to the Ulstein family; after five years, the family started Ulstein Design, which is now associated mainly with the famous X-BOW design. So, you have two major designers in that one place. A 15-minute drive from there and you will find MT Design, also a world-class designer. Within a two minutes’ walk from there you have Havyard Design and, across the street from that, Bourbon Offshore. Then in nearby Aalesund you have ST Design and STX Design. PGS, a top seismic company, builds its deck machinery in the area and Kongsberg, the world leader in dynamic positioning control systems, just established an office and plans to build a training center and simulator here. Altogether, it is a fantastic area for technology development,” he says, adding that another motive for Sinopacific’s move into Fosnavaag was to personally participate in this vibrant community.

“Personal relationships are important in this industry. Good cooperation with the shipowners, designers, class societies and manufacturers are key to us being able to improve our service and our performance,” he says, and cites a kind of symbiosis as the overall goal.

“We expect to see an increase in the number of large, specialized vessels being ordered for deepwater operations, well intervention, core drilling, maintenance and so on. Offshore vessels will continue to evolve, and Norway will continue to lead in their design and development. Because we at Sinopacific have the capacity and the technology, we can evolve with them and become the builders of choice for the complex vessels of the future. The designers and shipbuilders here will continue to take care of the innovation; without them we shipbuilders will not advance. Their innovation is part of our strength,” he says.

“I enjoy this industry very much,” Zahl adds. “I describe it as an industry in a ‘constant upturn’ – the market goes up and down, but you’re constantly involved in new projects, meeting new people and learning all the time.”

The ABS-classed POSH VENTURE is a Havila vessel.
The photo above shows a view of the main facility of the Sinopacific Shipbuilding Group, located on the Yangtze River near Shanghai, China. Sinopacific employs 20,000 people, approximately 7,000 of which are dedicated to the production of OSVs. Established in 2003 by Chairman and CEO Simon Liang, Sinopacific built its name in the bulk carrier market and soon set its sights on a quality-based expansion.

The thrust of Liang’s business model has been to appeal to Western owners by investing in modern facilities for Sinopacific, by pursuing a high standard of construction quality, efficiency and timeliness, and by adopting familiar Western business practices. Several years ago the company began branching out of the traditionally low-technology bulk carrier market, looking to break into more challenging sectors such as containerships, gas carriers and OSVs.

“Our readiness to challenge ourselves further, to achieve excellence and to be more and more competitive when facing tomorrow’s challenges, is our driving force, for there can be no tomorrow for those who are afraid of making changes,” Liang once told the press. “We have focused on setting up a standard manufacturing management system and today, can boast a highly skilled technical design team and well-equipped facilities. Opportunity favors those who are prepared. We will continue to be strategically-driven, leveraging on a business model of innovative and advanced technologies to maintain our lead in the niche shipbuilding markets.”

The strategy appears to have been successful. In 2010, Sinopacific signed a landmark contract to build 62 OSVs for French offshore conglomerate Group Bourbon. Valued at $1 billion, the contract was the largest shipbuilding deal for a Chinese yard since the meltdown of 2008. In 2011, the company established an office in Fosnavaag, Norway to develop its OSV activities and build relationships in the area of northwest Norway known as ‘the Norwegian maritime cluster’, where many leading designers, operators and equipment manufacturers are located.

The office, headed by Fosnavaag native Captain Ole Zahl, provides marketing, technical support and production and management assistance for the shipyard. Zahl calls it “a bridge between Sinopacific and the high end of the OSV market.”

“Fosnavaag is at the center of Norway’s maritime cluster, where some of the most innovative offshore designers and manufacturers are found,” Zahl says. “Sinopacific has come here to build relationships with this unique community. We came with the idea of competing with the best European and Norwegian builders, to deliver middle and high-tech designs to Western owners – and the people here have welcomed us as neighbors.”
They Found the Fabled Sunstone

The Vikings’ magical aid to navigation has stepped out of legend to take its place among the tools that helped change the course of history.

A cloudy crystal pulled from the seafloor has shed light on a piece of history that, until today, was seen as mere legend: that the Vikings were guided on their sea adventures by a magic object called a sunstone, which could find the sun through fog, behind clouds and below the horizon.

Between roughly 800 and 1100 AD, long before any known use of the magnetic compass in the West, the Northmen or Vikings covered some 3,000 linear miles of ocean, raiding, colonizing and changing forever populations as far afield as Ireland, England, France, Russia and Iceland, and planting settlements in Greenland and North America. They were expert navigators, using everything from landmarks to the sun and stars for guidance, but that alone doesn’t explain their success. Because the seas they had to cross are subject to long periods where the sun is hidden – dense fog and cloud cover can last for days, and twilight is extremely long during some parts of the year – they could not have completed so many long voyages on the open ocean over so great a period of time without some reliable means of direction finding.

Ancient legends indicate their aid to navigation was the sunstone; now recent research indicates another instance of legend turning out to be reportage in disguise. A paper published this March in the Proceedings of the Royal Society A by scientists from Rennes University in western France offers convincing proof that a crystal recovered from an old shipwreck is an authentic, ancient sunstone.

Known as the Alderney Crystal, the object was found in the remains of an unidentified English warship that was lost in 1592 near Alderney, a Channel Island about nine miles off the Cherbourg Peninsula. The wreck was discovered in 1977 when local fisherman Bertie Cosheril found ensnared in his line a heavily encrusted object that turned out to be a 16th-century musket. The old gun led the local diving club to a sunken wreck, where they retrieved two cannons and some artifacts. Archaeologists explored the site for nine months in 1990 and recovered 200 more items – but did not come up with the sunstone. That historic find is credited to Alderney diver Steve Wright, who visited the wreck in 2002 with the scientists from Rennes.
Rendered translucent by centuries of submersion, the crystal lay like an unobtrusive stone amid the wreckage and came close to staying below forever. A milky-white object about the size of a cigarette pack, it only grabbed Wright’s attention because of its interesting shape. It grabbed everyone else’s attention when spectroscopic analysis revealed it to be a piece of Iceland Spar, a form of calcite famous for a rare optical property that has long made it first choice among believers to be the stuff of which sunstones are made.

READ THE SUNLIGHT, FIND YOUR WAY

Sunstone navigation works because the earth’s atmosphere polarizes sunlight, orienting the beams on a path radiating outward from the sun. This polarization does not change much even when the atmosphere is full of clouds and moisture; so, if you could ‘read’ the beams you could find their origin point as long as light remains, and always know which way you were headed. Calcite does this decoding very nicely.

The science behind the magic is a rare attribute of certain crystals known as birefringence. Whereas light passing through a normal crystal undergoes refraction, changing its angle before exiting, light passing through a birefringent crystal not only gets refracted, but also splits into two distinct beams. Called ‘ordinary’ and ‘extraordinary’ beams, they produce twin images that are offset from one another and of differing intensities. This can be observed by looking through the crystal or letting the beams fall onto a surface – the Norse sagas refer to the former practice, and the Rennes researchers built a ‘sun compass’ following the latter. To safely sail a befogged sea, a Viking captain needed only to hold the crystal up to the sky and move it around until the two images aligned and achieved equal brightness, which happens only when the crystal is facing the sun head-on.

Besides being of the right substance, the Alderney Crystal had been found near a pair of dividers used to mark nautical charts, indicating it belonged to the vessel’s navigator. When the researchers tested a transparent Iceland Spar crystal of the same size, they discovered it could locate the sun with an accuracy of ± 1 degree, even when it had dipped far below the horizon. Their inescapable conclusion: the Alderney Crystal is indeed a sunstone.

But why was a sunstone on board an English vessel 400 years after the Viking Age ended and some 200 years after the magnetic compass became common in the West? A stimulating supposition comes from physicist Dr. Guy Ropars, who led the Rennes investigative team and is the principal author of its paper. Pointing out that magnetism was not understood until William Gilbert described it in 1600, he suggests that, because the sunstone was known to be reliable, it could have been used to back-up or verify the compass reading.

“We have verified that one of the cannons excavated from the Alderney shipwreck is able to perturb the orientation of a magnetic compass by more than 90 degrees,” Ropars reports. “An optical compass could have helped mariners avoid navigational errors when the sun was hidden, since sky polarization provides an absolute reference,” he says.

A PIECE OF HISTORY, HARD TO FIND

Finding sunstones in history is about as difficult as finding them in archaeology. There is no mention of a sunstone in the best-known sagas, and only in Raudulfs þátr (Raudulf’s Tale), a short episode in The Separate Saga of St. Olav, is the actual use of a sunstone recorded. In the story, Saint Olav – 11th-century King Olav Haraldsson II of Norway – visits a wise man named Raudulf and his sons Sigurdur and Dagur, all of whom are reputed to possess special skills. At a certain point, the king has them demonstrate these skills, which he then verifies.

“The weather was thick and snowy as Sigurdur had predicted. Then the king summoned Sigurdur and Dagur to him. The king made the people look out and they could nowhere see a clear sky. Then he asked Sigurdur to tell where the sun was at that time. He gave a clear assertion. Then the king made them fetch the solar stone and held it up and saw where light radiated from the stone and thus directly verified Sigurdur’s prediction.”

Known as the Alderney Crystal, the object was found in the remains of an unidentified English warship that was lost in 1592 near Alderney.
The story is not history, but an allegorical tale meant to help spread Christianity; its mention of a sunstone is significant because it indicates the writer was certain that his audiences were familiar enough with sunstones to understand the narrative without explanation.

Despite the few references, sunstones had to be in circulation at one time and considered objects of value, because asset records from several churches and cloisters in Iceland dating from the 14th and 15th centuries list them among church possessions.

**FIRST CHAPTER IN A NEW STORY**

Still, if sunstones were so precious, why have none been found buried with, say, a Viking hoard? Ropars suggests one reason is that calcite crystals are somewhat delicate, and can dissolve in soil acids after many years underground. In addition, the crystals break apart when heated to just 250°C, a temperature that would have been exceeded in a Viking funeral pyre. It is, therefore, something of a miracle that the Alderney Crystal survived underwater for so long.

The researchers decode the science behind that, too. In the paper they explain that sand abraded the surface of the crystal, which at the same time was reacting with the seawater around it; these reactions produced calcium-magnesium ion exchanges that reduced the fragile crystal’s solubility and strengthened its mechanical properties.

The Rennes team has been studying the crystal for three years. When they first brought their sunstone theory to the press in 2011, most of the articles balanced their enthusiasm with skeptical voices citing that one had never been found at a Viking Age site. Now there’s an answer to that point as well.

“The Alderney Crystal is, to our knowledge, the only calcite crystal ever found in an ancient ship, but from four centuries after the Viking Age. Recently, though, a calcite fragment was discovered in the excavation of a Viking settlement in Iceland, proving that at least some people in the Viking Age were using sunstones,” Ropars says.

So, did the device that helped put Medieval Europe to the sword also help save Elizabethan England from the Spanish Armada and, thereby, help shape the Modern Age? Some questions may never be answered, but now that everyone knows what to look for, maybe more sunstones will be unearthed and some gaps in this fascinating story filled in.
The name Ellingsen and its double-E house flag have been associated with inventive shipping solutions for four decades. The company started out building floating ro/ro terminals in the UK, moved into ro/ro ownership and various endeavors over the years, and today, as the Ellingsen Shipping Group (ESG), is an industrial shipowner whose main business line is bringing new and second-hand tonnage into service against long-term charters. The latest incarnation of an enterprise that has undertaken many adventures since Norwegian entrepreneur Elling Ellingsen founded his first shipping line in the early 1970s, ESG currently operates a mixed fleet of ro/ros, handysize bulk carriers, multipurpose cargo ships and small product tankers.

Five years ago, Ellingsen opened a new business based in Stockholm, Sweden, proposing an innovative variation on the well-established theme of ship management. Named Ellingsen Ship Management (ESM), the new company packages the technical management skills of a traditional shipowner into a comprehensive third-party service – but, says ESM’s Managing Director Per Ellingsen, the company isn’t exactly in it for the money.

“We started this business to have better control of costs and maintenance of our vessels and to ensure the high-quality service that we, as shipowners, want,” says Ellingsen. “The idea was not that we were going to make a lot of money in ship management. In fact, we are of the opinion that you can’t make a lot of money in ship management and, at the same time, deliver high-quality services without, at some point, cutting corners to make your margin,” he says.

“The basic problem with ship management today is that the contracts between owner and manager typically have a 12-month duration. This creates a problem because, if the managers are constantly at risk of losing the contract at any time next year, they can’t realistically set up a long-range maintenance program for the vessels. Instead, they have to think of vessel care and maintenance in 12-month cycles,” he explains. “As a traditional owner, we don’t think like that; we think long term. Because we’ll have our ships a long time, we know there’s no sense in cutting corners for a few years only to get hit with a huge repair bill when the vessel goes in for special survey. We therefore tend to think about the vessels in five-year periods, following the special survey or drydock cycles – that, by itself, makes the difference between a strictly competitive ship management firm and us.”

Looking at the ship management sector with owner’s eyes, Ellingsen found a niche for ESM as a provider of long-term technical management services for specialist vessels, like the ro/ros through which the company got its start.
“Not all ships need the same kind of management. Ro/ro ships, for example, are actually extensions of the road and rail systems and, as such, need a different management approach than, say, large tankers would,” Ellingsen says. “The frequency of port calls alone makes special demands on the crew and the ships – the crews don’t have much time to perform maintenance on board a ro/ro that has to make two port calls a day, or spends all its time shuttling back and forth between, say, Scandinavia and Northern Europe,” he explains. Currently, ESM’s flagship service involves a fleet of four ro/ro ships on charter to Danish ferry operator DFDS.

**Service Strength Starts with the Crew**

For ESM, the cornerstone of success with ships is a strong crew – strengthened not only by training, education and discipline, but also by the intangible quality of morale. For Ellingsen, the template for the right kind of ship management culture can be found in the practices of the traditional shipowner, particularly regarding what today is known as ‘having a sense of corporate identity’ but which once was called ‘feeling like part of a family’. Thus, the outside of an ESM vessel may say DFDS or Finnlines, but on the inside – on the boiler suits, for example – it says Ellingsen.

“It’s very important to maintain the sort of onboard culture that existed back in the days when my father started in the business – applied to the conditions of the modern world, that is,” says Ellingsen.

“When you talk with people who sail, they refer to their ship by its owner. It’s quite important for the crew to know for whom they work. Today it is common for a group of investors to buy a ship, then charter it out using an external manager and an external crewing firm and, in general, being distant from the ship itself. In some circumstances, that approach works. Still, when you get this distant or impersonal management structure, the crew on board cannot possibly have the feeling of being part of a team; often, they don’t even know who they are really working for,” he explains. “It is a common business structure these days and appears to function, but I do not believe it is good for the morale aboard a ship to not know where the support comes from. Our ships are painted with the client’s colors and have the client’s mark on the funnel, but the people on board know they are working for Ellingsen.”

“Ro/ro ships are hardworking vessels with busy schedules; some of the ships we operate make two port calls every 24 hours, all year round,” says ESM Technical Director Anders Carlsson. “To succeed in this kind of service you need to have motivated, competent crew on board,” he says, adding that the importance of morale on board cannot be over-emphasized.

“It’s extremely important to have a good spirit on board; the crew need to be motivated about their work, to care about the ship, to feel proud of what they do and to feel they are part of a team – which means they must know they have 100-percent backup from the shore staff,” Carlsson says. “If you can achieve that, you will have a productive, positive environment on board. And that equates to better maintenance, low off-hire, higher asset values, better condition of the vessel and happy charterers.”

One of the big challenges in vessel management, whether by an owner or a third-party firm, is overcoming one of the shipping industry’s truly historic problems: the us-versus-them mentality that often divides shore-based
and shipboard staff. Many owners say the key to overcoming this division is familiarity and communication.

“Traditionally, the ship thinks the office doesn’t understand what goes on onboard, and the office thinks the ship doesn’t understand the big picture onshore,” says Ellingsen. “When we started this management company, we knew we needed to break through that barrier in order to create a positive working environment for everyone. So we have the senior officers come to the office, where they can learn the office routines and systems and get to know the shore staff; at the same time, we have the shore staff go on shipboard visits. We work hard to cultivate the feeling among the ship and shore staff that they are each part of one team.”

“That’s why we delegate important duties to the crew on board,” Carlsson adds. “It is very important for them to know that they are trusted, that they have the full backing of the shore staff, and that, because they are trusted and understood, they will be able to get service and spare parts without having to cry and whine and beg for them. What this accomplishes is to let them know that they have control of their own destiny, and of their vessel.”

**DEEP ROOTS + SMALL MARGIN = GOOD BUSINESS**

As a shipowner, the Ellingsen organization has a long history of technical management and project supervision. The Group has been involved in more than 60 new construction projects worldwide since its first newbuild vessel, *Nordic Link*, left Sweden’s Finnbodavarvet shipyard in 1981. Among its most recent projects was a series of ten ro/ro ships built at Jinling Shipyard in China. The first six of these vessels went out on long-term charter to Finnlines; at the end of the contract, the charterer bought four and two were sold to DFDS. The remaining four ro/ro ships, modern vessels featuring 3,500 lane-meters, are currently on ten-year charter to DFDS. So, although it is a young firm, ESM has deep roots in the core skills sets and philosophies of its chosen field of endeavor.

“We have diverse businesses, but the core activity of our group is to be an industrial shipowner and tonnage provider: we build new or buy secondhand ships against long-term employment.” Ellingsen says, explaining the basis of ESM’s management philosophy. “So far, we’ve been quite successful at coming up with good technical solutions and good ship designs, then finding financing, taking in equity partners if needed and, in general, coming with a complete package to satisfy the needs of a long-term charterer. Then, once we design and build the ship, we have to service it. If you are building a ship for, say, a ten-year charter, you have a fixed income for ten years. Now, your margin is affected by your costs, so, if you can’t control costs you’ll be broke by the time you reach Year Ten. We are of the opinion that the best way to achieve the necessary control is through an in-house management operation. We have built our technical management business on this thinking,” he says.

“The philosophy that we follow allows us to maintain maximum value of the ships,” Carlsson adds. “Before, when we had ‘normal’ ship managers, our experience was not so good. It was cheaper on a day-by-day basis, but more costly over a five-year period. I’m proud to say that we haven’t had one day of unplanned off-hire in the five years since we took over the ships.”
While ESM does not currently have third-party management clients, the company is not averse to expansion in that area. Regulations have evolved and expanded so greatly as to require much more control over each individual ship than even a decade ago, Ellingsen says. This makes operations increasingly difficult for shipowners that cannot exert keen oversight over their ships and crews. With this in mind, ESM is in position to serve as a kind of freelance technical department for owners that do not have the technical organization backing their vessels.

“We are a small, family-owned company. If we’re to continue growing, renewing contracts and ordering new ships against long-term contracts, we have to offer clients something beyond price; we have to excel through service,” Ellingsen says. “We aren’t looking to become a huge company managing dozens of ships, but we would like to provide our service to like-minded shipowners who want to see their vessels operated and maintained in a traditional way, with long-range thinking and planning.”

“Our model can be repeated for anyone who shares our philosophy, who wants dependable, long-range drydocking budgets, maintenance costs and so on – but it is not the traditional ship management model, and it is not right for everyone,” he cautions.

“It’s not especially lucrative on a pure ship management level; for us, it becomes lucrative further up the chain, by building the reputation of the Ellingsen brand. The group benefits through contract renewals for its ships, through crew retention – which is over 95 percent – and, very significantly, through establishing the kind of track record that helps it secure long-term charters for future new vessels,” Ellingsen explains. “So, our model may not be the most profitable way to run a ship management company, but, as part of a bigger organization, it makes very good business sense.”

The ABS-classed HAFNIA SEAWAYS ro/ro carrier is operated by Ellingsen Ship Management.
In less than one generation, great evolutions in technology, international regulations and practices across the maritime industry have reshaped the world of classification and many aspects of the marine surveyor's job. The advent of detailed process instructions and the rise of the auditing and vessel vetting cultures, for example, have introduced levels of paperwork, oversight and scrutiny to the surveyor's job that would been unimaginable even 15 years ago. In the same period, portable computers and mobile phones have become valuable tools – the surveyor is no longer alone, except in the remotest of locales, and has better access to information, to colleagues and to consultation than ever before. Still, some elements of the surveyor's craft have not changed since the dawn of shipbuilding, particularly: what the surveyor does, and how he passes this trade to those who come after.

One unchanging aspect of marine survey is that it is a combination of art and science, in which each individual surveyor builds a unique knowledge base consisting of the Rules, his training and the accumulated experiences of years on the job in the shipyards, shops and factories of the world. What the surveyor does is apply this unique knowledge base towards the goal of making the best judgment possible regarding the item under survey: in manufacturing, this means anything from assessing the components of a complex machine to judging the quality of an anchor casting; for a ship, it means making the best judgment possible regarding vessel condition and, sometimes, helping figure out how to put things right so the ship can get back out to sea in safety. Another constant in this evolving profession is that this unique mixture of skills, knowledge and experience is transmitted personally through the generations.
Surveyors joining ABS today enter a training program intended to aid their professional development throughout their survey careers—an extensive curriculum that has been continually developed and refined since the founding of the ABS Academy two decades ago. After initial classroom education in the Academy, the traditional phase of the surveyor’s formative training begins with mentoring on-the-job by experienced senior colleagues.

“To me, the change in reporting marks the big difference between past and present for ship survey—a real advance, in my opinion,” says Francisco Roque, District Manager, West Africa. With ABS since 1995, Roque is one of many surveyors who bridged the old and new worlds of their craft. “In the past, clients were happy to know a ship passed survey a month after the fact; today, you submit your report online and the ship gets credit immediately,” he says. “That said, the basic approach to survey—the way you look at the vessel—remains the same. Rules change, regulations change, designs evolve and new materials come into use, but when all is said done, the ship is still a ship: all tanks and structures and scantlings and steel. That’s why the old guys can still teach the young guys about surveying.”

Today, as always, every new surveyor starts out in his first port accompanying an experienced senior man as he makes his rounds. The mentor passes to his apprentice not only tales of adventure from the belly of a ship, but also practical wisdom distilled from the work experiences of a lifetime. Some mentors do so with an eloquence reaching the poetic, others with no poetry at all, but all serve as agents of change in the critical process through which young surveyors transform learning into practice and develop their craft. By whatever approach achieves the goal, each leaves an imprint on those he mentors.

Sometimes that imprint stays with the trainee for his whole career and becomes part of the lessons he shares when it comes his turn to teach. That is why, even after 43 years, recently retired ABS Chairman Robert D. Somerville passes on advice learned at the side of his mentor. “When I came to work for ABS, I worked for a very wise man named Peter Nagel. The wisest advice I got from him was that, when you’re doing a survey, always remember to ask yourself whether you would sail on the ship; whether you would feel safe on board with the decisions that you have made. I still tell people that today,” he says.

Antonio Lino Costa, former President of ABS Europe and currently Vice President, Global Marketing, still likes to share an observation received nearly a half-century ago from his boss Laudman Richoux, about the human side of surveying. “Richoux used to say that the surveyor has to be ‘a mixture of a doctor and a priest,’” Lino Costa recalls with a smile, “because you have to be ready to attend a ship whenever it is sick, whenever it calls; to help as much as you can—within the Rules; and because, sometimes, you have to tell the owners exactly what they have to do and explain why they have to do it.”

The analogy to those two helping professions is not misplaced. For one, the surveyor is available 24 hours a day and most have spent many nights and holidays in a cold drydock answering the call of their craft. This happens because, although most shipyard work takes place during normal or extended working hours, some operations typically occur at night. Tailshaft alignment and wheel setting, for example, are often performed at two or three in the morning—all is quiet and the ship structure is not expanding due to the heat of the sun, so the measurement baseline can readily be established. Another similarity is that judgment is the surveyor’s most important facility, and experience his greatest asset.

The surveyor brings to each ship he attends a wealth of knowledge, personally gained from seeing many vessels and many problems. When the job puts him in a difficult situation, these will be a source of the confidence that helps him weather tough situations. “Persistence is a big part of this job,” notes Bob Vienneau, who in 43 years with ABS has been Chief Surveyor, Vice President of Europe and will retire this year as Director of ABS Programs. “I’ve seen some, shall we say, spirited discussions on board, but I’ve never seen it come to fisticuffs,” he adds with a smile. “The point is: if you believe you’re right, stick to your guns and follow the problem through…"
until it’s resolved, otherwise it’ll just go into limbo and keep resurrecting itself. There’s a saying, ‘right is right, even if no one’s right; and wrong is wrong, even if everyone’s wrong.’ That’s a good philosophy for a surveyor.”

**Poetry in Steel**

Much of what the mentor passes on comes as practical lessons and teaching by example, but sometimes the descriptions of the art of survey themselves reach the artistic. One unforgettable lesson was passed to Roque years ago by a veteran surveyor named Fortunato Crocetta. “I was working on a series shipbuilding project in Palermo, Italy, and Crocetta, who had retired from the Bureau, was the superintendent on the job,” Roque recalls. “He used to watch me work and, one day, he took me aside and said, ‘When you’re surveying a new construction block, don’t start by looking at the details right away. First, sit down and ‘listen’ to the structure with your eyes – because ‘the pieces must flow together like a Beethoven sonata.’ If a feeling of disharmony suddenly overtakes you as you study the block, find the place that caused that feeling and there you will find a welding defect.’ There really is poetry in this work,” he says.

In the vast body of old surveyor lore, the hero of many sagas is the test hammer. In the days before coated ballast tanks became mandatory — which was only just over a decade ago — a structural survey of an oceangoing ship started out in a snowfall of hard, scaly flakes, as the surveyor banged the bulkhead with his hammer to free its surface of loose rust. In those days, the hammer was really the surveyor’s right hand. Now, ship’s ballast tanks must be coated, a large portion of the world fleet has been renewed and many owners have adopted planned maintenance and other asset integrity management programs for their fleets. Because of these changes, the world fleet is, on average, in much better structural condition than ever before; as a result, the hammer is now just another tool in the toolkit.

That said, use of the test hammer can be an artistic activity, and remains a valued element of the surveyor’s skills set. Tony Salgado, whose decades with ABS concluded as Country Manager of Portugal, enjoyed passing on this tactile side of the art of survey, impressing upon young surveyors the hammer’s varied utility. He would teach them how to rap an aging steel bulkhead with the hammer and, from the way the metal sings in reply, determine not only whether it has a problem, but also where on the house-sized structure that problem lay.

“Not only can you use your hammer to sound out the thickness of a steel plate, the alignment of under-deck bulkheads or the integrity of a weld,” Salgado explains, “you can also use it to test a tailshaft liner or bearing. When I used to say that, they would look at me funny, but I would show them how to lightly tap the bearing with the southern end – the handle – and listen to the sound it makes. You can hear by the tone if it’s good.”

It is also said that the ideal surveyor skills set includes the ability to ‘sound out’ people. For George Seirmarco, Senior Principal Surveyor in ABS’ New York/New Jersey Port office, who is about to celebrate 40 years surveying, one important aspect of the art of survey is the non-technical skill of personality management.
The Art of Personality Management
Surveyors generally try to maintain smooth client relationships, but there are times when the Rules require the surveyor to take a firm stand against strong opposition from the owner, the shipyard or both to resolve what he judges to be a problem – as the old joke goes, everyone agrees the work needs to be done, they just don’t agree on when or how to do it.

The art of personality management begins with listening, Seirmarco says, “Very often, the first thing you have to decide is whether the fellow you’re dealing with actually knows what he’s doing. This can make a difference as to how you react to what is said; very often, when you are dealing with someone who is knowledgeable, you can learn a lot. But you also meet people in the industry who know considerably less than they think they know and who may not know their jobs well at all. The only way to learn how to distinguish between those who know and those who don’t is to keep your eyes and ears open and your mouth shut.”

“One thing I suggest the surveyor do at the start of a job is study the superintendent,” says Roque. “There are

Dimitrios Michos retired after 29 years with ABS in 2010, last serving as Principal Surveyor in Piraeus. Here he shares a reflection on surveying and mentoring that covers not only the hands-on part of the work, but also the less tangible elements that make the surveyor’s job as much art as it science.

“Training, education, and apprenticeship are all subsets of mentoring, and all are important to the development of a surveyor. Surveying is not simply a technical job. You need good personal skills, self-control and confidence to deal with the many people you meet as part of your job; at various times, you have to be as perceptive as a psychologist, sensitive as a diplomat, wary as a politician and, sometimes, stubborn as a mule. At the same time, you must also show respect for the people you deal with.

Mentoring has always been part of the Principal Surveyor’s job. Sometimes I will go out to the ships with the young surveyors, or review their reports with them and advise them on their approach; in these ways I pass on my experience the way experience was passed on to me.

You learn many things in school, but one thing that is difficult to pick up is how to listen to others. The ability to listen, and the confidence to ask questions when you don’t know something, are qualities that support the surveyor’s experience and training, and what enable him to better solve problems at hand.

The quality of the engineers reviewing the plans and the surveyors attending the vessel construction make a tremendous difference to a vessel. Good plan review and survey will catch problems when they are at a very early stage, and thus save the project perhaps millions of dollars down the line in terms of troubles averted. Later, their good work helps minimize the troubles a vessel experiences during its operating life.

I consider it a great honor to be called a surveyor, in the true meaning of the word. I am proud to be a surveyor, and I am proud to pass on what I have learned. For me, it is the greatest thrill to see young people take what I taught them and use it better than I did; that is the pinnacle of personal satisfaction. It is the greatest compensation, the greatest reward for dedicating my life to the profession of ship safety, to see that I have passed on my experience to someone else and helped build another professional.”

The Honor of Mentoring:
DIMITRIOS MICHOS

Dimitrios Michos

Summer 2013 • Surveyor | 27
adversary; others just absolutely hate to be told what to do. So, instead of imposing your will, it is better to find a way of driving such a person towards the standard that needs to be achieved. At the end of the day, they all have to comply with the Rules and regulations – it isn’t that good or bad guys comply differently. But getting to that point does not have to become a battle of wills,” he says. “As surveyors, we create results. When everyone pulls together, the work goes better for everyone involved and for the ship. The important word to remember in all this is teamwork.”

One subset of the art of personality management is the art of saying ‘no’. “In our business, it is important to know how to talk with people – you must be strong, but secure enough to not speak until you are sure,” advises Behçet Tuglan, who for decades served as Country Manager of Turkey. Among the first lessons he would impart to a young surveyor is the many ways of saying no. “There is an old Turkish expression that goes ‘there are 41 ways to say no’. You can say it smoothly, harshly or anywhere in-between; because of that, there are also many ways of understanding and dealing with a person,” he says. “There is only one way for the surveyor to say yes, meaning you accept everything. But among the ways of saying ‘no’ is saying ‘yes’ such that the client agrees that there are necessary repairs before the ship can leave.”

One core message often passed on regarding personality management is that, in order to handle others one must first learn to handle oneself. “I’ve seen surveyors tell an owner to tear the ship apart, change everything and have the owner thanking them, and I’ve seen other surveyors telling someone to tighten a nut and having the owner angry with them,” says Lino Costa. “It all depends on attitude – of the surveyor and of the owner.”

Mentors often caution that that strange thing called ‘attitude’ is sometimes a product of one’s reputation. “Every day, on every job, you are building your reputation as honest, fair, true and trustworthy – this is the surveyor’s currency, this is what he is, this is his value,” says Senior Surveyor John Baldwin, a 35-year ABS veteran stationed in
Portland, Oregon. “The surveyor points out items needing attention that must be met with prompt and thorough repair,” he adds. “The superintendent, on the other hand, has a budget, and his challenge is to estimate the job and control expenses. The surveyor can break that budget if he sees a real need to; the understanding that forms the basis of the relationship between the surveyor, the superintendent and the industry is the surveyor’s words are backed up by knowledge.”

ABS gives its surveyors the authority to take the action deemed appropriate to the interests of meeting the Rules, and cautions them from the earliest days of training to never be vague or arbitrary. This makes the ability to handle people a critical skill for the surveyor, Seirmarco says, because each personal interaction is a building block of the surveyor’s reputation. Along with this, many mentors also stress personal conduct as right alongside knowledge and strength of conviction in importance for the surveyor.

“I tell our surveyors early on in their training, ‘remember that you are a professional. You may come out of a ballast tank covered in mud, but you’re a professional and you must always conduct yourself as a professional,’” Seirmarco says.

Surveyors collect many stories, some of which become examples that underscore the lessons passed on to the young people they mentor. Bob Nash, surveyor with ABS from 1958 to 1997, shares one such recollection, illustrating how industry can participate in the long process through which a surveyor matures.

“I remember when Principal Surveyor Les Weston hired me. He interviewed me in the train station, gave me the ABS Rules to read and said, ‘Most of the people you are going to deal with can read, and the ones who can’t read certainly can afford to hire somebody better-looking than you to read the Rules to them.’ That was his way of telling me that if a surveyor wants an owner to do something, it has to make sense,” Nash recalls. “You never just say, ‘because the Rules say so.’”

As an example, he shares a lesson tale from his early years on the job.

“There was this fellow by the name of Ted Brush who ran Great Lakes Engineering Works. I’ll never forget the day when, as a young surveyor in Detroit, I went into his office and told him there was something he had to do about a project they had going. He asked why. I said ‘Because it says so in the Rules.’ I can still hear him saying ‘Well, let me see it, Bob.’ So I opened the Rules and showed him the page, and said ‘See Mr. Brush, it says so right there.’ He read it and said, ‘Yes, it sure does.’ Then he took hold of the page, tore it out of the book, folded it up and threw it away and said, ‘Doesn’t say so any more, Bob.’ That was to let me know you don’t read the Rules to people without knowing why they say what they do.”

That same facility not only participated in his mentoring, but also in his maturation into an experienced surveyor.

“I was the youngest surveyor there,” Nash recalls. “When they were doing materials testing, Brush would call me and say, ‘Nash, they’re waiting for you out there, and take the P-500 with you.’ The P-500 was an old Navy hand pump. You could run a hose from it into the water, and use that to hose-test the side shell. So I used to help the guy carry the P-500 out to the test. One day, after about four of five months of this, it dawned on me that I didn’t work for him. So I told the guy to carry his own pump, and went into the office to inform Mr. Brush that I didn’t work for him and that I wasn’t going to help the guy carry his pump any more. He looked at me and said, ‘No, you don’t, young man, and you don’t have to call me Mr. Brush any more; you can call me Ted.’ And we became the best of friends. There were a lot of tough guys in the industry here, and they put you through a tough program before they accepted you – but it worked.”

How a Surveyor Grows Up: BOB NASH
says. “I advise that, if you’re getting a lot of verbal resistance from the client, don’t get into an argument; just give your recommendation in writing and walk away. If you let it become an argument, tempers will rise, things will get out of hand and nothing good will come of it.”

It is thus little surprise that many mentors emphasize communication skills as a core skill for the surveyor. Whether a loner who likes terse comment or a gregarious fellow who always has a story ready, each surveyor develops his own method of communicating, which then shapes the development of the relationships he builds in the course of his work. Depending on how well this is done, these relationships can become valuable assets to the job at hand and, sometimes, become the basis for career-long friendships.

**THE ART OF COMMUNICATION**

One common thread in lessons on effective communication is an emphasis on self-control. “One thing the clients truly appreciate, especially in remote locations, is the level of autonomy of our surveyors. They are technically proficient and can make decisions on their own authority. That is absolutely unique to ABS,” says Claes Andersson, ABS District Manager for Sweden, Finland and the Baltic countries. A 41-year ABS veteran, Andersson cautions that the surveyor’s autonomy is itself a responsibility. “The surveyor has a powerful position – for example, fabricators depend on class because, without class approval, they cannot ship what they build. That is an enormous responsibility,” he says. “I always tell the surveyors working for me to be conscious of their power and to be sure they do not abuse it.”

“Part of this job is to make people comfortable with you,” says Andersson. “You don’t have to give anything away, and you mustn’t be weak, but you should always be reasonable. No matter how much you know, someone can still know more, so you must be willing to listen.”

“Every job is an opportunity to learn something,” says Principal Surveyor Wayne Lipinski, who has been surveying for 39 years. “There are many very experienced, knowledgeable people in the industry, from whom we can learn when we encounter a situation we haven’t seen before. There are also people who know their job so well that, when you say something needs to be corrected, they will say ‘you are right to have doubts, but we’ve seen this before and here’s how we overcome it.’ They can explain and show you why what they have done is right. These are some of the ways you learn and build up your experience.”
“In many cases the surveyor must be very much the diplomat, in that, when you tell a client that something needs to be done, or done differently, you need to make him understand your position and its basis in the Rules,” Andersson adds. “Most importantly, as a professional you should know exactly what you are talking about at all times; you should also know enough to recognize when you don’t – and, when you don’t, to ask and to listen.”

“Communication is the main contributor to our overall success or failure as surveyors,” notes Ravinder Chadha, Business Director for the ABS Pacific Division. “The key to it all is how your message is received, that what you are communicating is being taken in the spirit in which it is given: by an individual with a fair, even hand that has safety of life.

The Heart of the Matter:
Gus Bourneuf

Former ABS Chief Surveyor Gus Bourneuf shares a reflection on the importance of the individual, to the art of survey, the art of mentoring and to the maritime industry that both activities serve.

“Before we established the Academy, ABS had few formal training programs,” says Gus Bourneuf, who retired as ABS Chief Surveyor in 2004. “The basic teaching methodology was to learn the job over the shoulder of an experienced surveyor; beyond that, you were largely on your own.

“I started out at Newport News under the tutelage of a very experienced fellow named Julian Cox. My first day on the job, he sent me down into the tanks of a T2 tanker. All he said was ‘Come back and tell me what you see.’ So I went down and spent two or three hours, came back up told him that everything seemed to be OK,” he recalls. “At that point he said to me, ‘OK, go back down in Number Three center tank and look at the bottom longitudinals in this area, between these frames; also, look at the transverse frames in this area. Then come back and tell me what you see.’ So I went back down and looked around and saw cracks in the structure. He knew pretty much what I’d find there before I found it.

“I went back up, told him what I’d found and he said ‘That’s your first lesson: Your judgment is based on your experience and training and all you’ve seen in the past.’ Time after time, he would go into the cargo tanks and knew just where problems would be, all based on his training and experience. That’s how it’s done. And I don’t think that ever will, or ought to, change.”

“A great deal has changed since I joined ABS in 1969. Today’s regulations generate more complex surveys that occur with greater frequency than in the past, and the knowledge the surveyor must have in order to carry out surveys has increased dramatically over the years. One thing that hasn’t changed is that ship survey remains a very important part of the adventure of moving cargoes by sea,” he says.

“Technology will evolve, regulations will expand and the various demands on the surveyor will continue to grow, but the primary data about the structural condition of a vessel will always come from an accurate assessment made by a surveyor who has gone down into the nooks and crannies of the ship, using his eyes, ears, test hammer and flashlight, climbing and crawling, going out on staging, getting dirty and poking around in the dark corners and hidden places.

“New procedures, special instruments, computers and even cell phones have helped the surveyor do his job better, but there is nothing that can replace his personal involvement with the ship – or his personal involvement as a mentor, passing knowledge gained through experience to the next generation. That is the heart of the matter.”
at sea foremost in mind. In the surveyor’s work ethic, therefore, there must be high regard for communication because that is the start of all understanding and progress – if my report is going to stop the ship, they must know that it is not done with malice, but in the spirit of what is required for the safety of those on board.”

For Chadha, there is a philosophical basis linking work to life that enables it all to function harmoniously, and which is at the heart of his teaching. “I firmly believe in the goodness of man,” Chadha says. “Nobody wakes up in the morning and says, today I will do something wrong. Most people try to do their best – however good or poor their best may be. Seeking that purity of heart is, for me, a driving force in my work.”

The idea is that, if you believe people are basically good – despite, perhaps, outward manifestations to the contrary – you can find ways to communicate with them and, through that window, you can help them, you can correct them, you can teach them and you can learn from them.

“I was trained by a great man, T. Parthasarathy; he was steady, fair, truthful and one who also believed firmly in the goodness of man,” Chadha says. “He taught me things I came to live by – which, I hope, I successfully passed on to the people who came after me. One of these is that the surveyor should never leave fear in his wake, but understanding. Once the people understand why they have to do something, they can dedicate their energies in a positive direction, to resolve the issue,” he says.

THE BEAUTY OF IT ALL

At the end of the day, just as survey is an art, so is mentoring – the ways it can be done are infinite, but the number of people who can do it well is finite.

“As a mentor you not only teach, but also share your thoughts and nurture character; you shine a light to guide the students on,” says Chadha. “Ultimately, it is by this light – the combined light of all the mentors in ABS throughout the company’s history – that the ships come home.”

While these lights most often come in the form of hard, practical lessons, they also can shine through the lens of more artistic
Over the past four decades, many surveyors have passed through the Port of New York and New Jersey and trained with veteran surveyor Ciro Esposito. Two who joined ABS almost 20 years apart share some insights they learned about communication skills.

“Managing the relationship between you and the customers is a very important part of what the surveyor does,” says Ciro Esposito, who has mentored many in the Port of New York during his 37 years surveying for ABS. “The key to it is figuring out how to get them to willingly do what they need to do. That’s why one quality a surveyor should have is the ability to communicate effectively. He should also have a good sense for people, to know when he can push and when to step back – that is a talent, and very difficult to teach; you have it or you don’t. Either way, this job is very much about communication; if you do it well, you can make things go much easier for everyone,” he advises.

“One of the things I learned from Ciro was how to present yourself in dealing with owners,” says surveyor Josh Diedrich, who joined ABS in 2007 and trained under Esposito, Frank Chung and Erik Samuelson. “You can come across as aggressive, or stern, or like you’re working with them to have the ship as safe as can be,” Diedrich says. “If you present your findings in a way that communicates that you know what you’re doing, that you aren’t trying to nitpick, and if you give a good explanation of what the Rules state and why they have to do something, most times they don’t have a problem doing it. You always have to know exactly what you’re talking about – and, if you don’t know, tell them you’ll look it up. Don’t pretend you know something when you don’t.”

“Ciro and Dutch Malunet were my mentors when I started,” says David Wamsley, who joined ABS in 1990 and is currently Eastern District Manager for the ABS Americas Division. “Their approach to dealing with people was that fighting gets you nowhere. If you keep your self-control, explain calmly why things need to be done and focus on the safety of the ship, the clients will understand. One thing I learned from Ciro was how you can convince an owner to replace 100 tons of steel and have him think it’s his idea, just by the way you present yourself and through your professionalism – not by apologizing for anything, but by focusing on the ship and the safety of the crew and the cargo. The people skills I learned as a surveyor have helped me not only as a manager, handling office issues, but also in matters of day-to-day living, like dealing with repairmen and service providers.”

“One of the most important things they taught me was how to deal with personalities. In a shipyard you deal with every kind of personality you can think of; you can have several ‘problem personalities’ on one job – and even in one person! There are some aspects of the surveyor’s job that have never changed,” he observes. “One is that, while the surveyor’s job is technical, people are a big part of getting the work done.”

---

One Mentor, Two Students, Three Generations: Ciro Esposito, David Wamsley, Josh Diedrich
expression. Sometimes, woven among the technical lessons, the war stories and the practical wisdom, the mentor also imparts the most ephemeral aspect of this very physical job: the deep affection that many veteran surveyors have for their craft and the world of which it is a part.

Take, for example, a timeless reflection once shared with this magazine by Johann Heil, a longtime surveyor and metallurgist who served ABS in Germany for much of his career and in China much of his retirement, helping that country’s manufacturers develop casting and forging skills. “Surveying gets in your blood; it’s fascinating, and very hard to leave behind,” he said. “You take part in some really beautiful – and important – work. Just look at an anchor. There may be no more primitive a piece of ship’s equipment, but producing one is an art, and anchor quality can translate directly into life.”

For Heil, the link between machinery, structures, people – in the shipyard and on board – and safety at sea was one of the aspects of survey that made it an endless source of professional satisfaction.

“This is a very special profession. The surveyor’s job is different every day, and yet the same all over the world,” Heil used to say. “You need to keep your knowledge current in many different areas, and be ready on any given day to use everything you know.”
With the great distances you cover between manufacturers, and the report writing afterwards, you can easily put in a 14-hour day – I figure I’ve driven about 2.5 million km in my 33 years with ABS. But you can’t measure this job by the hours it consumes or by the personal recognition you might or might not get; you can measure it by your contribution to safety, and by how proud you are to have done a difficult job properly.”

Being part of two antique professions in constant evolution – shipbuilding and survey – puts the surveyor in an industrial milieu where past, present and future coexist. For some, this intersection of the ancient and the modern is where the eternal poetry in shipbuilding reveals itself; when they become mentors it is among the ‘advanced lessons’ they pass on.

“Survey is a job of sounds, of smells, of sight and of feeling; it’s truly a human’s job,” says Mario Brancaccio, Principal Surveyor with ABS Genoa. “It is also a truly difficult job, one that demands your full attention, your full mind, your full person – just as music or painting does. It is a profession to which you give everything for a period of time, and it rewards you for that. You learn things that stay with you forever, and you see things that are truly amazing,” he says, his face alight with love for his craft. Being a surveyor, he follows up his observation with a little story to illustrate what he means.

“One day, I was checking the completion of a job with the shipyard’s head of quality control,” he says. “I found some distortion of the deck and told him they had to realign the deck plates. He called over one of the workers and told him to bring out this device they called a ‘lancia’, which was a kind of multi-headed torch. The quality guy told the worker to ignite the lancia and place it at three specific locations on the deck. When the worker did so, the deck just relaxed into place, completely flat, like a living thing that had received a loving caress. This man knew the steel and how it would move, and he was able to fix the problem without cutting. This is the real poetry of handmade work.”

For Brancaccio, although technology evolves, changes and erases the memory of its own past, the hand that wields it is ever human and ever unique; in that respect, even the most modern ships have something in common with the vessels of ancient times.

“As professionals, we all know the same technologies, the same processes and the same skills, but each of us approaches them in our unique, individual way,” he says. “So, although a ship is a technical creation, it is also a personal creation – a creation of the heart, of the mind and of the hands. Even vessels built in series to the same plans, at the same shipyard and by the same people will be absolutely different in the details – micro-details, true, but these micro-details are what characterize the ship,” Brancaccio explains. “That is why every ship is different from every other and behaves a bit differently in the sea. This is the real beauty of it, and what makes a ship a piece of art. That’s why we used to say – and why we can still say – that you must approach this job with an eye for beauty.”
‘Survival of the fittest’ is a phrase that can always be applied to the shipping industry, but especially so today. In the past, whenever freight rates fell they took down with them the cost of fuel, prices in the repair market and so on. There is no such correlation today. The market is close to bottom and fuel prices remain sky-high. Meanwhile, new regulations on emissions, ballast water treatment and efficiency are raising serious issues for the existing fleet. Many owners are fighting for survival, with forced ship sales and consolidations already underway – trends we expect to continue for some time. The shipping market hasn’t seen such conditions in more than 30 years.

Positive changes have also occurred, one of the most important being a total shift in thinking about ship design.

Up to 2008, ships were designed around speed and cargo carrying capacity. Today the emphasis is on fuel economy. This shift immediately puts many ships built during the past decade at a competitive disadvantage. Meanwhile, owners have to begin looking at having to invest in ballast water treatment systems and complying with emissions regulations – moving to alternative fuels or installing exhaust gas scrubbers. These combine to raise a very difficult question for owners: will it pay off to put such investment into, say, a ten-year-old ship?

We believe fuel efficiency requirements will ultimately kill off a significant portion of the existing fleet. In particular, I think it likely that many ships built between 2000 and 2012 will not last even 15 years on the market – which is not such a bad thing, in terms of reducing today’s tremendous oversupply of tonnage.

The matter of exhaust emissions raises a very important issue: ships should not be made to serve as the waste processing plants of the refining industry.

Refiners have the capability to resolve the sulfur emissions problem, on a worldwide scale, at the source – their own plants. Heavy fuel oil is the dirtiest end of the fractioning process, but all the refiner need do is modify the process to remove the sulfur and other contaminants. The price of heavy fuel oil may rise because of it, but that is better than pushing exhaust gas scrubbing equipment onto the industry. Why? Consider two things: how many decades after MARPOL it took to get reliable sludge collection in even half the major ports of the world; and how difficult it is to get even normal waste collection today – a shameful record that indicates collecting scrubber waste onshore will become a much worse problem than either of them.

Ultimately, owners who operate in ECA zones will pave the way in developing effective emissions solutions. We, along with the rest of the industry, are watching and waiting to see in which direction their experiences lead.

We at Frontline have seen many regulatory changes over the years and have learned that it is best not to be the first to adopt new technologies. So, we are also watching the progress of ballast water treatment systems, about which we maintain a healthy skepticism. For us, the key concepts in shipbuilding are to have vessels that are simple, reliable and durable – criteria that, for now, emissions abatement and ballast water treatment systems do not appear able to meet.

We have invested a lot of time and effort in technical reviews and analyses, and even considered installing a trial treatment system on board. Ultimately, we did not. Many systems have passed certification testing, but are failing in real-life conditions; some system providers have collapsed; and then there are owners that will have to remove their treatment system and install a new one. The only conclusion is that the time is not yet right for this equipment. Ballast water exchange is probably the best method available today.

At the end of the day, it is very good that the movement towards improving energy efficiency is changing the world of shipping and, particularly, ship design. Times are hard now – and only the fittest will survive – but, in the end, shipping will be better for it.
Fishing-boats in need
Have shown so many daring deeds
Of courage fine, and skill,
Though unrecorded still.

And many a seaman’s head
A wreath of sea-weed wore when dead,
Whose name should shine in gold
Among great heroes bold.

— From *Norwegian Seamen’s Song*
    by Bjørnstjerne Bjørnson