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Shipshape

September 2026



- Marine Surveyors Symposium in 2027
- Report on AIMS biennial conference
- Marine incident annual report

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Thanks to all AIMS members and the Board for allowing us to be part of your 40th anniversary conference. We enjoyed catching up with existing clients and members.

Congratulations to all the nominees and award winners.

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Front Cover: *Global Mercy*, the world's largest purpose-built civilian hospital ship. Tymor Marine recently completed a lightweight survey and inclining test aboard the vessel. (See page 48.)

Back Cover: Marine Rescue Queensland's *Gladstone Rescue 1* at Gladstone, Queensland.



From the Bridge (Page 5.)



CEO: AMSA stakeholder forum. (Page 7.)



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ADVERTISING AVAILABLE

Advertising is now available in *Shipshape*, the official journal of the Australasian Institute of Marine Surveyors (AIMS). For all the information about advertising in our quarterly magazine, contact AIMS CEO Eric Perez at gm@aimsurveyors.com.au or on +61 492 881 737.

AIMS International Marine Surveyor Symposium 2027: call for research papers and case studies



IN July next year, we will be holding the inaugural Australasian Institute of Marine Surveyors (AIMS) International Marine Surveyor Symposium and are now calling for research papers and case studies.

The AIMS is proud to be partnering with the Pharos Institute for Strategic Leadership to deliver this important event.

The AIMS is inviting submissions for this International Marine Surveyor Symposium 2027, to be held from 19 to 22 July. The symposium is an online event.

This is an opportunity to showcase innovative thinking, practical experience, emerging trends, and real-world insights with an audience committed to excellence and the future of the profession.

We welcome submissions that explore technical developments, industry challenges, innovation, leadership, best practice, lessons learned, and issues shaping the sector now and into the future.

Sponsorship

We acknowledge our valued symposium sponsors, Fabian Pasquini and Matt Kuc and the team at Austbrokers Countrywide and John Petiquin,

Managing Director at Alliance Marine Surveyors. Their generous support is helping bring this important professional forum to life, and reflects a strong commitment to knowledge sharing, professional development, collaboration and the continued advancement of the marine surveying sector.

Sponsorship opportunities are also available for organisations that would like to be part of this inaugural event, demonstrate their support for the marine surveying profession, and connect with an engaged audience of industry professionals, practitioners, researchers and leaders.

Key links

Call for Papers and Case Studies: https://aimsurveyors.com.au/wp-content/uploads/2026/07/Call-for-Papers-and-Case-Studies_v2.pdf

Submission Form: <https://form.jotform.com/261469200221042>

Submission Format: https://aimsurveyors.com.au/wp-content/uploads/2026/06/Format_v2.pdf

Symposium Program: https://aimsurveyors.com.au/wp-content/uploads/2026/07/Symposium-Program_v3.pdf

Sponsorship: <https://aimsurveyors.com.au/wp-content/uploads/2026/06/Sponsorship.pdf>

Symposium Policy Statement: <https://aimsurveyors.com.au/wp-content/uploads/2026/06/Policy-Statement.pdf>

Keynote speakers



Matt Kuc B.Com (Man, Fin), Director, Austbrokers Countrywide

Biography: As an experienced Financial Lines, Technology and Distribution Manager with over

15 years' industry experience, and a shareholder of the business, Matt forms a key pillar in devising and driving company strategy at Austbrokers Countrywide Insurance Brokers. His session focuses on professional indemnity claims.

Bringing together a deep understanding of translating complex professional risks into insurance solutions, as well as a personal interest in translating emerging AI and automation technology into business practice, Matt is able to wear a number of hats adding value across a wide number of areas with clients and the broader insurance industry.

Dr Eric Perez, Chief Executive Officer, Australasian Institute of Marine Surveyors

Biography: Eric is the Chief Executive Officer of AIMS. He graduated with a Bachelor of Behavioural Science and Bachelor of Commerce from Griffith University. Eric decided to extend his education by obtaining a Master of Business by Research at the University of the Sunshine Coast, exploring strategy and strategic planning within Australian commercial fisher micro-businesses.

He successfully completed a research thesis and was awarded a Doctoral qualification from the University of Southern Queensland, exploring strategic thinking and foresight capabilities among Australian agriculture leaders.

Mike Schwarz, Chief Executive Officer, International Institute of Marine Surveying

Biography: Mike joined IIMS as CEO in January 2014. Although from neither a technical nor a marine background originally, Mike brought a wealth of key business management skills gained from senior director-level roles in UK media, publishing and membership organisations. He is a keen exponent of the internet, the digital space, social media, and increasingly AI.

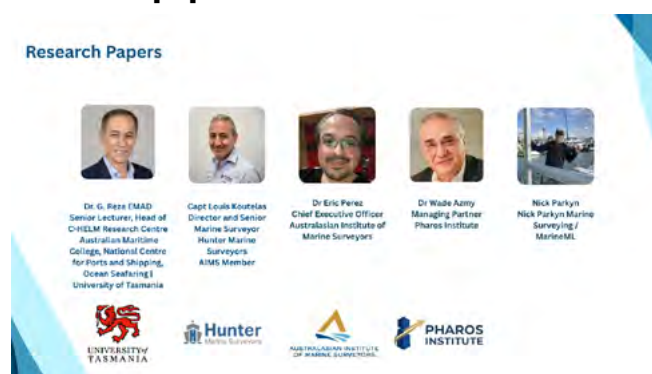
His fresh set of eyes meant he has been able to identify new opportunities and shape the Institute for the digital age, making it fit for purpose for the next generation of marine surveyors. Mike chaired the MCA's Certifying Authority Professional Standards Working Group for five years and has become increasingly passionate about driving up marine surveying standards internationally. He is also a founding member of the Maritime Professional Council of the UK. In recent years, Mike has written and spoken extensively about the challenges of lithium-ion battery technology in an attempt to educate and inform surveyors and the wider maritime industry.

Dr Wade Azmy, Managing Partner, Pharos Institute

Biography: Dr Wade Azmy, Adjunct Professor, CEO and strategic leadership consultant, and a highly accomplished general management professional known for building profitable organisations in competitive markets worldwide. With experience in marketing, sales and business development, Dr Azmy has excelled in countries and regions such as Australia, Japan, China, the USA and the Middle East, building and managing teams across diverse cultures.

In addition to his executive career, Dr Azmy is a respected management consultant, strategy development mentor, and executive coach on strategic leadership. Possessing a profound understanding of market dynamics and organisational leadership, Dr Azmy provides valuable insights for strategic decision-making, conceptualises plans and successfully implements transformative projects.

Research papers



Dr G. Reza Emad

Biography: Dr G. Reza Emad is a Senior Lecturer and Director of the Centre for Research in Cognitive Human Element and Maritime Innovations (C-HELM) at the Australian Maritime College, University of Tasmania. His research program focuses on three pillars: digitalisation and autonomous shipping; decarbonisation and alternative fuel; and diversity and workforce development.

During his career, he has been the lead investigator on many nationally and internationally-funded research projects and has published extensively in these areas.

The projects in his research centre are currently focusing on the implementation of Industry 4.0 technologies, such as AI in the maritime domain and its impending changes and challenges that directly or indirectly involve the human factor, and competency development of future maritime workforce.

Abstract: *From Onboard to Onshore: How AI and Digital Twin Technologies Are Redefining the Marine Surveyor's Role*

As remote operation, autonomous shipping, and cyber-physical systems mature, the marine surveyor's role is shifting from intermittent onboard inspection toward continuous, AI-informed virtual monitoring of maritime assets. This paper examines how artificial intelligence, IoT, and digital twin technologies are set to reshape surveyor practice, decision-making, and evidentiary standards over the next decade. Drawing on the Quasi-Community framework and current human factors research into seafarer and surveyor competency development, the paper identifies the emerging skill sets – data analysis, cyber security and remote-sensing literacy – that surveyors will need to remain relevant as digital twins become the primary interface between surveyor and vessel.

The discussion weighs the opportunities this shift presents, including predictive, condition-based survey planning, richer audit trails, and reduced travel and cost, against its challenges, including liability questions when AI-flagged anomalies are missed or misread, gaps in training infrastructure, and the risk of workforce deskilling. The paper concludes with a set of recommendations for AIMS members and maritime training bodies on preparing the surveying workforce for this transition.

Capt Louis Koutelas, Director and Senior Marine Surveyor, Hunter Marine Surveyors and AIMS Member

Biography: Capt Louis Koutelas has spent his working life in, on and around ships. He has also written several software solutions, including CargoMax, to add value to the draft surveying and trimming process. As a self-confessed visual learner, he understands the importance of training people in a way that makes sense to them.

His team at HMS have been conducting draft surveys and trimming for over 25 years and are industry leaders in the field. Louis has incorporated visual learning techniques in training and in the CargoMax user experience to make it easier to use.

Abstract: *Water density and glass hydrometers - how can accuracy be improved?*

Australia exports approximately 1.5 billion tonnes of bulk cargo each year, making accurate tonnage-determination methods essential for commercial purposes. Draft surveying is the primary method for quantifying the tonnage loaded onto and discharged from vessels. It uses Archimedes' principle, which states that "the weight of water displaced by a floating object is equal to the weight of that object". A critical component of every draft survey is therefore the precise measurement of the water density in which the vessel is floating. Even small errors in density measurement can translate

into significant discrepancies in calculated tonnages on bulk carriers.

Zeal glass hydrometers, first manufactured in 1888, became widely adopted in maritime operations by the 1930s and have remained the standard instrument for water-density measurement in draft surveying for nearly a century. Despite advances in other areas of marine measurement technology, the hydrometer has changed very little. So, is there a better way? This research paper examines the following topics: (1) calibration and certification; (2) density stratification; (3) density variation with draft; (4) density variations with temperature; (5) water-sampling equipment; and (6) alternative technologies.

Dr Eric Perez, Dr Wade Azmy and Nick Parkyn, Nick Parkyn Marine Surveying / MarineML

Nick Parkyn

Biography: Nick has an extensive background in both the marine and information technology (IT) disciplines. His work in the marine industry includes marine surveying, yacht and small craft design, and marine software development. Through his company, MarineML, he is evangelising and applying artificial intelligence (AI) and machine learning (ML) concepts and techniques to the marine surveying discipline. Nick has studied computer science, yacht and small craft marine surveying, and yacht design. He holds several patents, has presented papers at numerous international marine and IT conferences, and has written numerous articles published in marine and IT journals and magazines.

Artificial intelligence (AI) and machine learning areas of particular interest include: (1) current and future application of AI and ML to marine surveying; (2) AI fluency for marine surveyors; (3) ethical use of AI in marine surveying; and (4) the role of AI and ML in succession planning and realisation in marine surveying. He is a member of the International Institute of Marine Surveyors (IIMS) and Society of Naval Architects and Marine Engineers (SNAME).

Abstract: *Continuing Professional Development, Technology and Artificial Intelligence: Challenges and Opportunities from a Marine Surveying Industry Perspective*

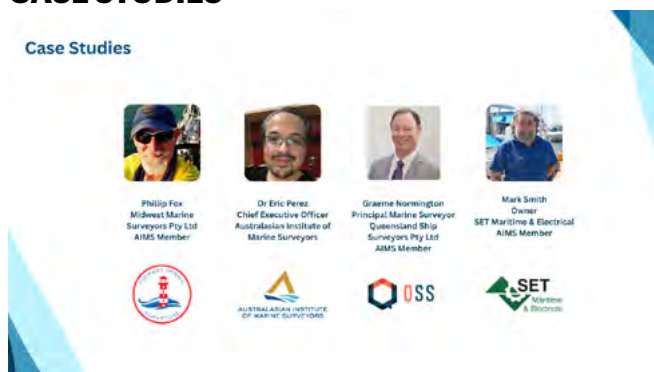
The marine surveying profession faces unprecedented transformation driven by rapid technological advancement and evolving competency requirements. This literature review synthesises current peer-reviewed research on continuous professional development (CPD) frameworks for marine surveyors and the integration of artificial intelligence (AI) and advanced technologies in marine surveying operations. Significant gaps

persist in standardised CPD requirements across the broader marine surveying profession.

Concurrently, AI-driven technologies – including autonomous underwater vehicles (AUVs), remotely operated vehicles (ROVs), machine learning algorithms, and computer vision systems – are revolutionising inspection methodologies, achieving up to 30 per cent cost reductions and 92 per cent prediction accuracy in specific applications. However, the integration of these technologies necessitates fundamental shifts in surveyor competencies, training paradigms, and professional development frameworks.

This review identifies critical challenges, including the need for harmonised CPD standards, technology-specific training programs, and adaptive competency frameworks that address both traditional surveying skills and emerging digital capabilities. The findings underscore the imperative for maritime education institutions, professional bodies, and industry stakeholders to collaboratively develop integrated approaches that ensure marine surveyors possess both foundational competencies and advanced technological proficiencies required for the evolving maritime landscape.

CASE STUDIES



Phillip Fox, Midwest Marine Surveyors Pty Ltd, AIMS Member and Dr Eric Perez

Biography: Phillip is an AMSA-accredited marine surveyor and Director of Midwest Marine Surveyors Pty Ltd, as well as the Chief Remote Pilot at Specialised Drone Services, based in Geraldton, Western Australia. He holds a Certified Commercial Marine Surveyor membership with the Australasian Institute of Marine Surveyors and is a member of the Australian Certified UAV Operators, underscoring his commitment to professional excellence in the maritime and aviation industries. He holds a CASA RePL and ReOC for drones up to 25 kg, delivering professional drone services to a wide range of industries throughout Western Australia, including mining, oil and gas, agriculture, environmental monitoring, power and telecommunications infrastructure, as well as private clients.

He has over a decade of working history in the offshore oil and gas industry, including experience on AHTS vessels engaged in pre-lay anchors and rig moves, experience on PSVs carrying various DGs and NLS and dive / ROV operations, is skilled in dynamic positioning (unlimited), the energy industry, GMDSS, maritime operations and international shipping, and is a strong maritime professional with a Bachelor of Applied Science (B.A.Sc.) focused in nautical science from the Australian Maritime College.

Abstract: *Aerial Drones in Marine Surveying and Inspections: Opportunities and Challenges*

Aerial drones are emerging as an important enabling technology in marine surveying and inspection, offering safer, faster and more evidence-rich access to vessels, offshore structures, port infrastructure, tanks, cargo holds, hulls, superstructures and other difficult or hazardous locations. Traditional methods – such as scaffolding, ladders, rope access, rafting, work-over-water and confined-space entry – remain necessary but they can expose personnel to significant hazards, increase downtime, and add cost and complexity to survey planning.

This case study examines how drones can support remote visual inspection, high-definition imagery, thermal imaging, LiDAR, three-dimensional mapping and emerging ultrasonic thickness applications to improve inspection coverage, repeatability, auditability and decision-making.

It also considers operational, legal and governance challenges, including battery endurance, saltwater exposure, wind, GPS-denied environments, data management, operator competence, aviation compliance, privacy, maritime security, insurance, liability, class society requirements and regulator acceptance.

Drawing on these issues, the case study proposes best-practice considerations covering survey objectives, approvals, competent operators, site-specific risk assessment, emergency controls, equipment selection, data quality, privacy protection, verification of critical findings and transparent reporting.

It concludes that drones do not replace marine surveyor judgement but can strengthen professional outcomes when integrated into a documented, lawful and risk-based methodology.

Graeme Normington, Principal Marine Surveyor, Queensland Ship Surveyors Pty Ltd, AIMS Member

Biography: Graeme is an experienced and highly-qualified principal marine surveyor with over 20 years of expertise in conducting surveys for both

commercial and defence vessels. As the Managing Director of Queensland Ship Surveyors Pty Ltd, he oversees a wide range of marine survey services and hold accreditation as an AMSA Marine Surveyor.

His primary focus is on the Guardian Class Patrol Boats (GCPB) for the Australian Defence Force, the Serco DMS fleet of vessels based in the port of Cairns, Queensland and a range of commercial AMSA DCV vessels. His knowledge spans particular stability approval, construction surveys, machinery inspections, safety equipment surveys, and compliance with Australian National Standards for Commercial Vessels (NSCV) and Lloyd's Register (LR) LSSC Rules.

Abstract: *Hull Moisture Surveys of Timber and Fibreglass Boats – A Practical Case Study for Marine Surveyors*

This presentation will provide a practical overview of hull moisture surveys and their role in assessing the condition of timber and fibreglass vessels. It will examine the science of moisture migration, common boat construction methods, and the operating principles and limitations of moisture meter technologies.

The presentation will demonstrate how moisture survey results should be interpreted alongside visual inspection, percussion sounding, vessel construction details and other non-destructive inspection techniques. It will also discuss factors that can influence moisture meter readings, including laminate thickness, metallic components, salinity, temperature, coatings and previous repairs.

Using practical case studies, attendees will see how moisture surveys can assist in identifying hidden defects, assessing structural condition, planning repairs and avoiding misdiagnosis. Particular emphasis will be placed on the importance of professional judgement and the limitations of relying solely on moisture meter readings.

The objective is to provide marine surveyors with a practical framework for conducting and interpreting hull moisture surveys, improving the consistency, accuracy and reliability of condition assessments across both timber and fibreglass vessels.

Mark Smith, Owner, SET Maritime & Electrical, AIMS Member

Biography: SET Maritime & Electrical is headed up by Mark Smith. Mark is a highly-regarded AMSA-accredited marine surveyor, marine engineer and electrical contractor, offering a unique skill set to companies and owners / operators in the marine industry. With over 40 years' experience working in numerous areas of the oil and gas industry, Mark

has developed an extensive knowledge base and expertise in vessel operation and management.

Based in Brisbane, Mark is an AMSA-accredited marine surveyor, a member of the Australasian Institute of Marine Surveyors, a Chartered Marine Engineer and Fellow of the Institute of Marine Engineering, Science and Technology (IMarEST). Mark has won two awards for his revolutionary shore connection device – ESHORE – the 2022 Australian Business Awards: Product Innovation and the SafeWork and Return to Work Awards 2022 for best identified solution to an electrical issue.

Abstract: *Lithium battery technology: Development of guidance for low-risk battery electric installations*

This paper examines the development of practical guidance for low-risk lithium-ion electrical energy storage (EES) installations on domestic commercial vessels (DCVs), with emphasis on lithium iron phosphate (LFP) systems. As hybrid and electric propulsion become more common, surveyors, operators and regulators require a consistent framework for assessing battery safety, system integration and operational risk.

The paper applies ALARP principles and the hierarchy of controls to key hazards, including thermal runaway, battery chemistry, BMS functionality, single-point failures, alarm monitoring, off-gas detection, ventilation, fire suppression and emergency response. It identifies limitations in current marine electrical requirements and draws on AS/NZS 3004.2, AS/NZS 5139, DNV guidance, AMSA safety material and OEM requirements to define practical expectations for low-risk installations.

The paper proposes a risk-based acceptance pathway supported by system-level BMS communication, meaningful alarms, early fault detection, fire-risk controls, documentation, commissioning evidence and safety management system integration. The outcome is a practical set of lessons and recommendations to help marine surveyors distinguish routine low-risk installations from systems requiring engineering review.

Please contact me on +61 2 6232 6555 or send me an email with feedback, and ideas at gm@aimsurveyors.com.au.

Dr Eric Perez
Chief Executive Officer