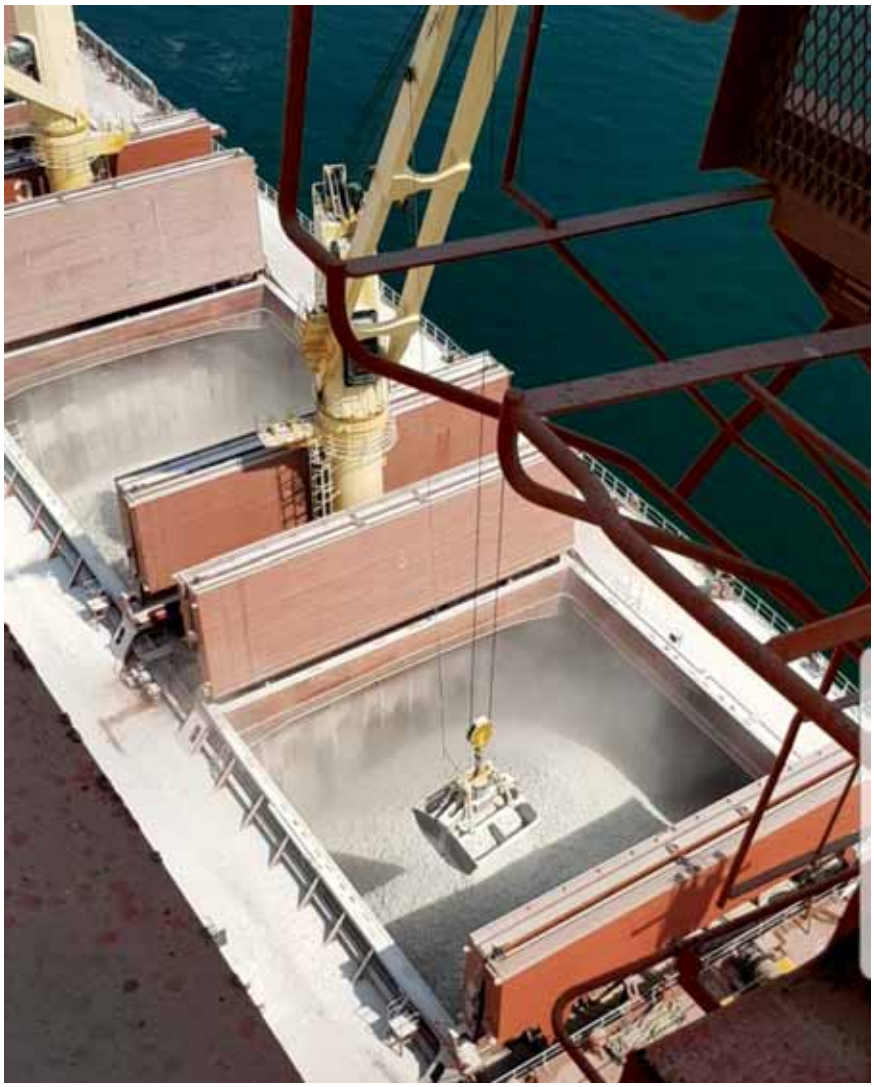
PSI's 'one-stop-shop' approach enables swift and efficient disaster-recovery from highly destructive cyclone at Salalah in the Gulf of Oman

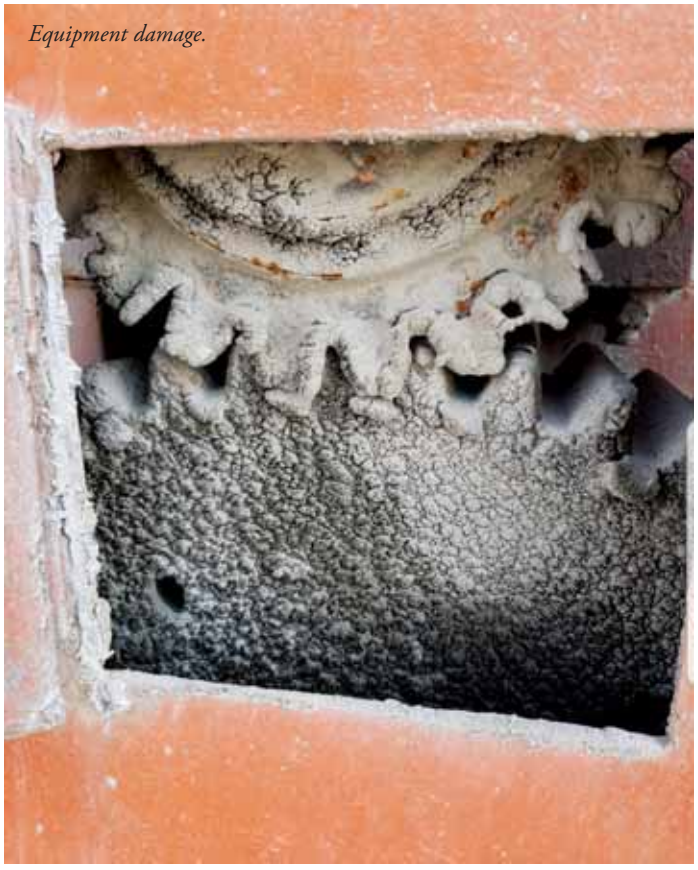
Portside International (PSI), an affiliate of Australian Portside Solutions, a successful service provider within the port logistics and shipping management industry, established itself in Singapore in 2017, seizing on engineering opportunities presented in Asia and the Middle East. The company focuses on providing ports with a one-stop solution for operations management, engineering services and equipment provision.

Managing Director Ray Lee told *Dry Cargo International* that "Often ports have to rely on a variety of external service providers to support port operations, which can complicate the scheduling of repairs and the prioritisation of work. Our solution empowers ports to roll-out valued-adding upgrades to operations without causing a gap with income flow or frustrating port clients."

The first pressure test on PSI's capability came about one year into a service contract with the Port of Salalah (managed by APM Terminals) in May 2018, when disaster struck the Gulf of Oman in the form of cyclone Mekunu. The most destructive storm recorded in the region, Mekunu wreaked havoc in the port, destroying harbour access and causing major damage to all equipment.

PSI provided engineering and support services to restore operations at Salalah where on average 3,200 vessels are serviced per year. This response included technical and operational assistance, including the management of the engineering workshop for a nominated period to co-ordinate a rapid response for the terminal. Over the course of several months, PSI assisted with management, and repairs through partner Inver Port Services and re-mobilized or replaced 68 RTGs, 180 tractor tow motors, plus repairs to 26 ship-to-shore cranes. The Gottwald mobile harbour cranes at the bulk cargo handling section of the port suffered significant damage, which were repaired by PSI representatives within weeks of the disaster. The response by PSI enabled the restoration of operations within a much quicker timeframe than anticipated by port operators, APM Terminals.

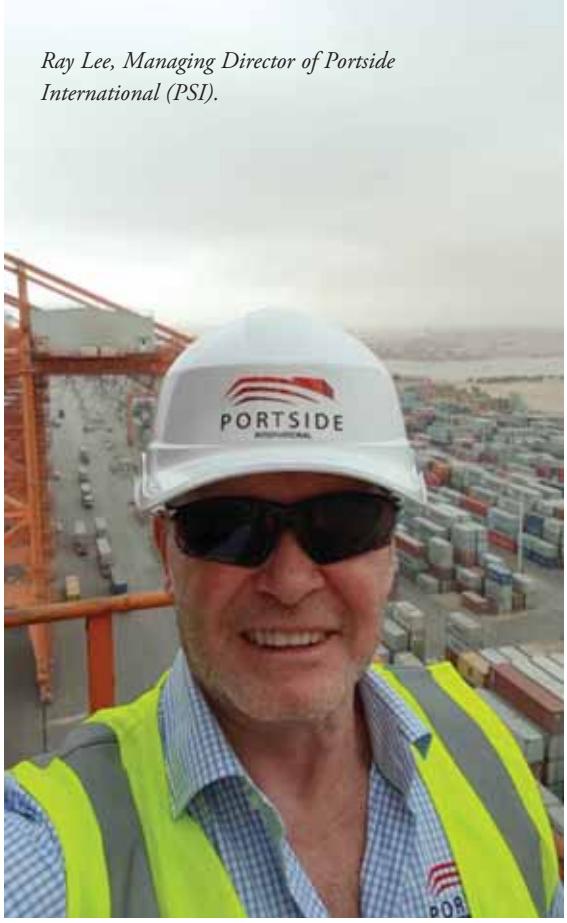




Equipment damage.

The disaster enabled PSI to develop the responsive skills to address disaster repair alongside its standard services of crane repair and maintenance, crane relocation/removal and engineering support.

Although disasters force port owners and operators to consider the type of equipment used at a port and its ability to withstand natural disaster, not many operators take into account that early co-creation can ensure that the developed equipment solution (a combination of engineered equipment design, services and software) solves a real customer need. This type of 'Design Thinking' accelerates industry development by enabling innovative solutions that combine diverse perspectives.



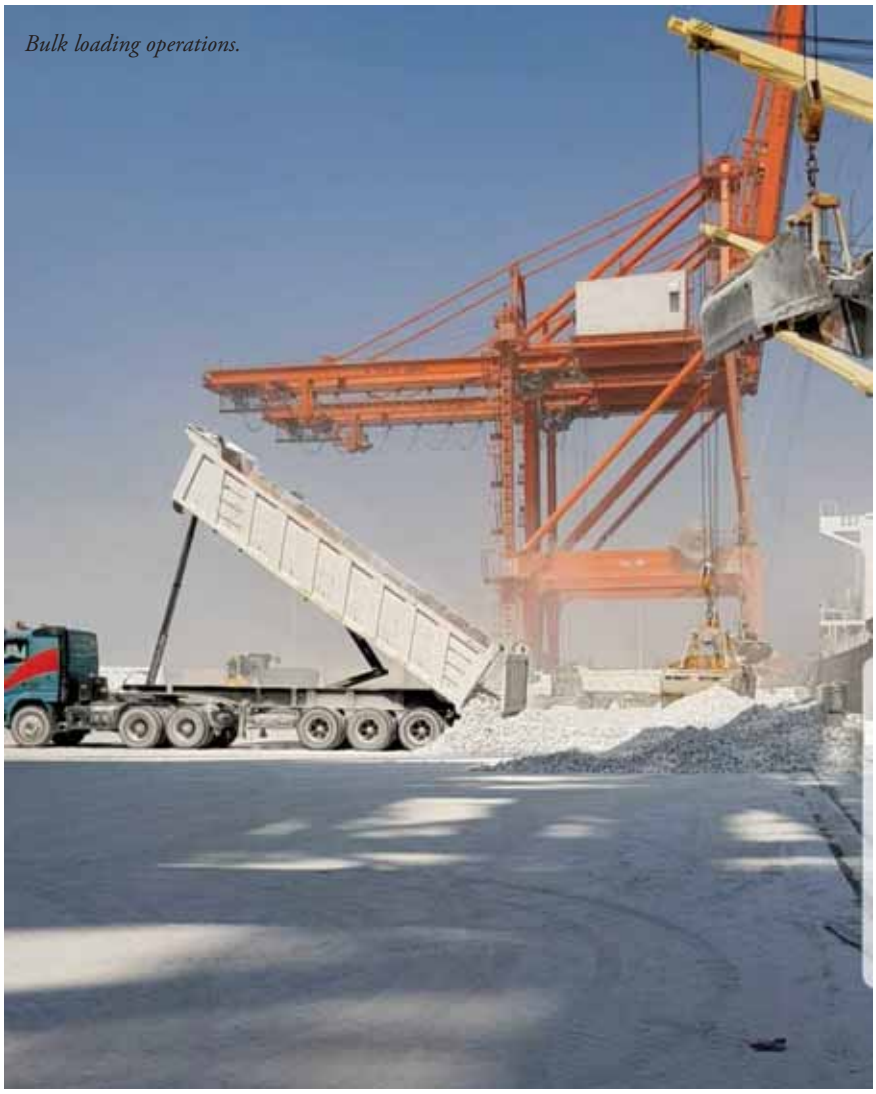
Ray Lee, Managing Director of Portside International (PSI).

PSI's design thinking approach to product advisory and process development is simply about working closely with the customer and the best equipment providers to develop a complete solution. The concepts of Design Thinking were forged out of significant societal changes driven by the industrial revolution and both World Wars. Cognitive scientist and Nobel Prize laureate Herbert A. Simon was the first to mention design thinking as a thought process in his 1969 book, *The Sciences of the Artificial*. He went on to contribute many ideas throughout the 1970s which are now regarded as principles of design thinking.

According to Peter McLean, who recently joined Portside International in Singapore, "the entire logistics industry is currently in the midst of a major shift that is set to transform almost every aspect of the business landscape over the coming years. Engineering, automation, digitalization and electrification, along with a vast range of new technical possibilities have brought genuinely disruptive change. This has created an incredible opportunity for the port industry to revolutionize its approach to problems. Over recent decades, it has become crucial to develop and refine skills which allow us to understand and act on rapid changes in our environment and behaviour. The world has become increasingly interconnected and complex, and design thinking offers a means to grapple with all this change in a more human-centric manner."

Design Thinking is a non-linear iterative process which enables designers to challenge assumptions, redefine problems, create prototypes and test products and services to uncover new ways to meet users' needs. The method consists of five phases — Empathize, Define, Ideate, Prototype and Test — and is most useful when problems are ill-defined or unknown.

The Design Thinking process was key to the success of the 21st century's most successful companies such as Google, Apple, Nike and Airbnb which have used it to notable effect. This outside-the-box thinking is now taught at leading universities across the world and is encouraged at every level of business.



Bulk loading operations.

Lee and McLean added "Port operations, whether general cargo, container terminals, or bulk handling operations are complex. These complexities are often determined by external and internal forces and are the result of outdated business decisions and operating systems that are redundant in the 21st century. Often the solution a port requires is simpler than expected; the key is to ask the right questions to enable the application of disruptive and transformative solutions".

Lee has more than 40 years of global industry experience. Portside boasts a robust team of industry specialists located throughout the company's focus regions. Integrated in-house capabilities range from conceptual analysis and feasibility studies, through to port management and specialised engineering services.

McLean brings more than 30 years of experience in senior leadership roles in industrial organizations in the mining, heavy construction, power systems and container handling industry sectors. Prior to joining Portside International's Singapore office, his most recent position was Senior Vice President of Asia Pacific for Kalmar and prior to that he served as the global President of Bromma, a container spreader company, also domiciled in Singapore.