



# CELEBRATING 25 YEARS

*Vessel berthing, Dampier Bulk Liquids Berth, Western Australia*

## FROM THE MANAGING DIRECTOR

I would like to welcome you to a very special newsletter edition celebrating Madsen Giersing's 25th anniversary.

On 24 August 2014 Madsen Giersing celebrates 25 years of operation.

We have grown and expanded over the years from a small serviced office in Park Road, Brisbane to our present location in Brisbane's engineering hub in Newstead. This latest move has enabled us to increase our capacity to continue to deliver excellence in marine structural design to our clients.

Our team is growing and includes experienced and capable young professionals who will take senior roles in the future ensuring Madsen Giersing continues to deliver on its reputation for quality marine structural design and temporary works design. MG's focus is also growing. Whilst Madsen Giersing's primary focus is marine structural design, the company has also diversified to offer a wider range of structural solutions for major infrastructure projects both in Australia and overseas.



*Walkway; Dampier Bulk liquids berth, Western Australia*

My sincerest thanks to all our loyal clients for helping to make us the success we are today. My team and I look forward to working with you in the future and assure you as always of our best service.

Peter Madsen  
Managing Director


# MADSEN GIERSING OVER 25 YEARS

Over the years Madsen Giersing has undertaken the detailed design of many projects. Some of these projects have taken us to remote locations such as the Southern Highlands in Papua New Guinea and the Mekong River boarder crossing between Laos and Thailand as well as many locations within South East Asia including Philippines, Malaysia, Hong Kong, Indonesia and Singapore. Madsen Giersing also has worked in the South Pacific region and of course extensively throughout Australia.

Many of our projects have been design and construct projects. This has meant we have had the opportunity to work directly with our clients being the contractor. Madsen Giersing has also worked with the end user, the owner. As a result, this has led to long term relationships and friendships between ourselves and our clients within the construction industry.

**QUEZON POWER STATION  
PHILIPPINES  
CLIENT: JOHN HOLLAND CONSTRUCTION**

Quezon Power Station is a 440 MW coal fired power plant, which receives its coal supply in bulk carriers up to 80, 000 DWT. The Marine facility associated with the power station consists of a coal unloader with a capacity of 1, 400t/hr, a 228m long coal pier, a 380m long access trestle, seven individual berthing dolphins and two mooring dolphins. Madsen Giersing prepared an alternative design and later the full detailed design.





**NAPA NAPA OIL REFINERY  
PAPUA NEW GUINEA  
CLIENT: CLOUGH**

The facility consists of a large berth mainly used for the import of crude oil and is capable of accepting vessels up to 110,000 DWT. A small berth used for the export of the finished product is capable of accepting vessels up to 18,000 DWT.

**HEGIGIO GORGE SUSPENSION BRIDGE  
PAPUA NEW GUINEA  
CLIENT: CLOUGH ENGINEERING**

The 470m span suspension bridge soars across the 500m deep Hegigio Gorge in wild and mountainous terrain in the PNG southern highlands. Many websites rate this bridge as one of the world's most spectacular. Madsen Giersing undertook the detailed design of the installation procedure.



1997-1998      1999-2001      2002-2003      2002-2004      2005

**LEKIR BULK TERMINAL  
MALAYSIA  
CLIENT: LEIGHTON CONTRACTORS (MALAYSIA) SDN BHD**

The facility consists of a 2000m long approach trestle with a 540m long wharf comprising of 3 berths.

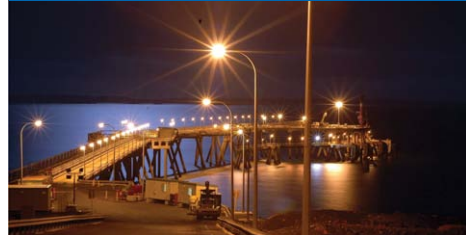



**PERMANENT AVIATION FUEL FACILITY  
HONG KONG  
CLIENT: LEIGHTON CONTRACTORS (ASIA)**

PAFF was constructed to import, store and transfer aviation fuel to the Hong Kong International Airport at Chek Lap Kok via a submerged sea pipeline. The project consisted of an offshore 530m long twin fuel berth, a 264,000m<sup>3</sup> aviation fuel storage capacity tank farm and a 4.7km subsea pipeline to deliver the fuel to an existing delivery line.

**DAMPIER BULK LIQUIDS BERTH  
WESTERN AUSTRALIA  
CLIENT: BARCLAY MOWLEM**

The marine facility consists of a 500m long approach trestle connecting the shore to the loading platform with four berthing and four mooring dolphins allowing for vessels up to 65,000 DWT. Extensive use of precast concrete elements and prestressed girders minimised the requirement for in-situ concrete and associated formwork, while also reducing the number of pile bents required. This resulted in a lower cost of the structure.





Cofferdam New Caledonia



Brisbane Convention Centre



Mekong River Thai-Laos Bridge

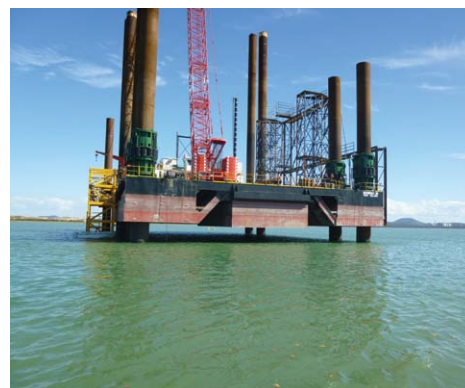
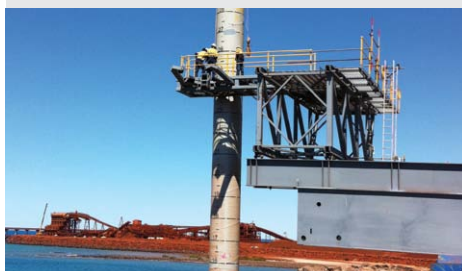


**MOTUKEA EXPORT WHARF  
PAPUA NEW GUINEA  
CLIENT: CURTAIN BROS**

The wharf is a land backfilled finger pier approximately 240m long by 84m wide. The finger pier comprises of back and infilled cellular cofferdams, with interconnected arcs that together form the perimeter of the wharf.

**CAPE LAMBERT IRON ORE WHARF  
WESTERN AUSTRALIA  
CLIENT: JOHN HOLLAND GROUP**

Madsen Giersing designed The Self Launching Jetty Traveller (SLJT) which enabled construction of the Access Jetty (900m long) in Cape Lambert Port B. The SLJT supported a Mantowoc 16000 (400T) crawler crane with a 48m boom. An IHC 150S hammer and a Junttan HHK25S hammer were used to drive the jetty piles. The crane on the SLJT was used for the installation of the jetty headstocks, struts and pre-assembled roadways.



**WIGGINS ISLAND TEMPORARY WORKS  
QUEENSLAND  
CLIENT: MONADELPHOUS MUHIBBAH  
MARINE JOINT VENTURE (MMMJV)**

MMMJV engaged Madsen Giersing to design a piling frame for wharf and dolphin pile driving. The wharf structure consists of 21 pile bents spaced at 21m and 10 berthing dolphins.

2007

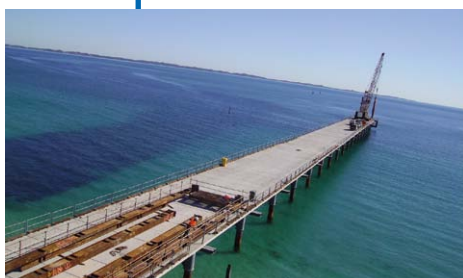
2009-2010

2012

2012-2013

2012

2013



**BRIDGE AT KWINANA OUTFALL  
WESTERN AUSTRALIA  
CLIENT: SMITHBRIDGE**

Madsen Giersing designed the temporary bridge for the purpose of installing a cooling water outfall pipeline for the Kwinana 320 MW gas-fired power station in Western Australia. The 324m long bridge is capable of supporting a 180t crawler crane in a water depth of ten metres at the deepest point.

**WHYALLA PORT EXPANSION  
BULK PRODUCTS BERTH  
SOUTH AUSTRALIA  
CLIENT: LEIGHTON CONTRACTORS**

The Whyalla Port Expansion was constructed primarily to double Arrium Mining's export capacity of iron ore feed material. The 85m extension of the existing quay wall is capable of handling vessels up to 50,000 DWT and accommodates a single 4200ton per hour capacity ship loader which has a maximum travel of 110m.



**ALOTAU WHARF UPGRADE  
PAPUA NEW GUINEA  
CLIENT: PNG PORTS CORPORATION**

The upgrade to the existing wharf at Alotau is primarily to allow for international cruise ships to visit Milne Bay Province as part of the Tourism Development Strategy of PNG.

## MADSEN GIERSING LAUNCHES PROFESSIONAL DEVELOPMENT PROGRAM



Engineers Australia Ian McEwan welcomes Madsen Giersing as PDP partner

On 14 April 2014 Madsen Giersing together with Engineers Australia launched their Professional Development Program (PDP) for the engineering team. The PDP provides a structured framework for early career development and/or later stage career recognition.

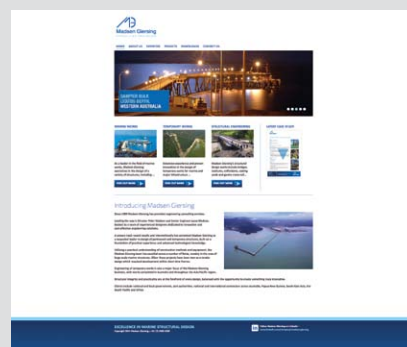
“Madsen Giersing believes in and supports ongoing development of our team. Engineers Australia’s Professional Development Program, partnered with our existing in-house mentoring and training, presents our engineering team with the opportunities and framework to take their skills to the next level,” says Peter Madsen.

## PIANC WORLD CONFERENCE

Peter presented a paper at the 33rd PIANC World Congress held in San Francisco in June this year. The paper, entitled *Temporary Works Design for Marine Structures*, described the many aspects of temporary works associated with construction of marine structures and provided detailed examples of how this work is undertaken and the role of temporary works in the completion of the permanent works, specifically cantitravellers, piling barges, heavy lift modular construction and temporary bridges.

## MADSEN GIERSING LAUNCHES NEW WEBSITE

Madsen Giersing launched its new website in May 2014. [www.madsengiersing.com.au](http://www.madsengiersing.com.au)



### PROFILE - PETER MADSEN



#### Career Summary

Peter is the Managing Director and principal engineer of Madsen Giersing. He has extensive experience in the design and construction of major marine infrastructure projects, temporary works and the development of construction methods. Peter has undertaken these works throughout Australia, South-East Asia and the South Pacific with a keen focus

on delivering cost effective, innovative and efficient projects.

#### Qualifications and Affiliations

BSc. Civil & Structural Engineering (Hons)  
Fellow of the Institution of Engineers, Australia  
Registered Professional Engineer of Queensland (RPEQ)  
National Professional Engineers Register (NPER)

### PROFILE – LASSE MADSEN



#### Career Summary

Lasse is the Project Manager and senior structural engineer at Madsen Giersing. Since 2003 he has been involved in all aspects of the design and construction of major marine infrastructure projects throughout Australia and overseas. In addition he has also been involved in design of temporary works, heavy lift engineering and development of

construction solutions.

#### Qualifications and Affiliations

Bachelor of Engineering (Civil) (Hons)  
Master of Engineering  
Member of the Institution of Engineers, Australia