

# Port of Geelong

Facilitating larger vessels and providing economic benefit for the City of Geelong

## Overview

OMC worked alongside the Victorian Regional Channels Authority to deliver an operational DUKC® system for the Port of Geelong. Vessel motion measurements were carried out on 6 ships, including some of the biggest that had ever visited Geelong. The development of hydrodynamic and forecasting models helped improve safety and efficiency, and has increased vessel drafts at the Port.

## The Business Challenge

- Port started receiving larger vessels but was unable to assist the larger vessels
- Limited restrictions on vessel drafts in the channel
- VIVA were looking to safely bring in more cargo to boost viability of the refinery
- Port did not have large amounts of money to dredge

## The Technical Challenge

- Port of Geelong channels are very restricted in depth and width
- They have a unique tidal condition in Corio Bay with a seiche effect and rapid changes in water levels due to weather systems
- Significant squat effect in the Geelong channels
- Manoeuvring challenges in the tight city bend of the channel
- Shipping of hazardous cargo required an extremely safe solution

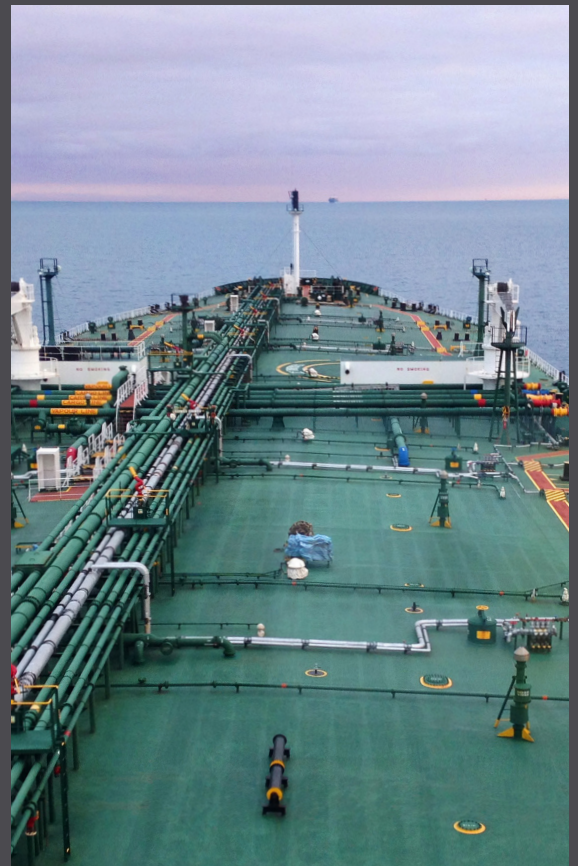
## The Solution

- Installed a DUKC®
- Created a water level model in Corio bay to manage the seiche effect and incorporated forecasts from our alliance partners (MetOcean) for accurate water level predictions
- Provided full scale measurements on 6 vessels at the Port of Geelong and combined with our extensive database measurements and developed a custom squat model (over 500 ships)
- Onboard chart overlays for the pilots on their PPU's
- Worked closely with pilots to ensure the maneuvering in the channel is safe

**Client:** Victorian Regional Channels Authority

**Project Location:** Geelong, Australia

**Completion Date:** Feb 2016



Tanker using OMC's Differential GPS on board measuring dynamic vessel motions.

## About the Client

The Victorian Regional Channels Authority (VRCA) began operations on 1 April 2004. The VRCA was established to manage the commercial navigation of the channels in Geelong port waters and to oversee the Channel Management for the Port of Portland and Hastings. The Authority was established by the Victorian Government under the Port Management Act 1995 and the Transport Integration Act 2010.

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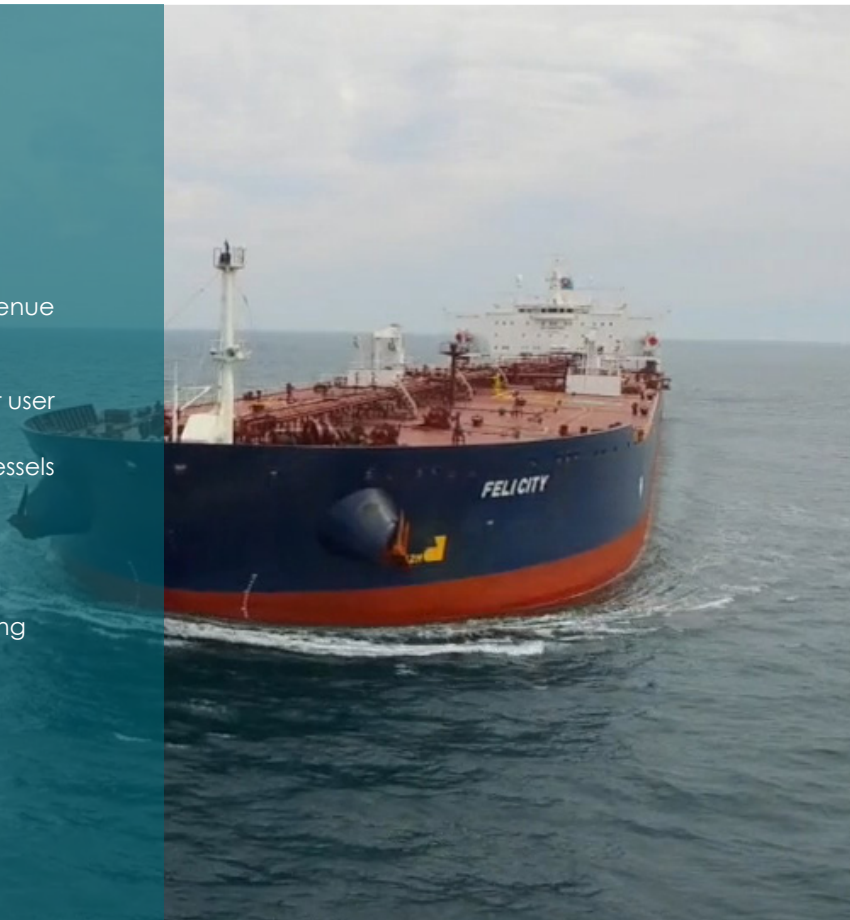
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### The Outcomes

The Port of Geelong now uses world best practice for managing safety and efficiency of UKC. OMC provided pilots with scientific up to date UKC information on their PPU's to assist decision making and continue to provide record shipments.

### The Benefits

- Record-breaking vessel drafts and sizes
- For **every 10cm** of draft amounts to **\$1M** extra revenue per year
- To date, **\$2M per year** has been generated by 1 port user
- **\$2M per year** is for inbound vessels – inbound vessels make money
- Safer port operations
- Accurate Data and evidence based decision making



“ The DUKC® technology has enabled us to load larger ships which improves the global competitiveness of Victorian grain as well as our operational efficiency. ”

Craig Cochrane,  
GrainCorp