

## Project aims to model ageing port assets in 3D



IT IS TOUGH TO MONITOR CONDITION OF ASSETS EVERYWHERE

**A**n ACRA member has earned a key role in a ground-breaking project to develop 3D modelling of corrosion to simulate life-cycle ageing of port infrastructure.

The involvement exemplifies the importance of the role of ACRA members in the nation's recovery under the Rudd plan to invest heavily in better infrastructure as part of his fiscal recovery package, by bringing to bear not just the membership's combined concrete repair expertise but also its focus on asset monitoring and diagnostic technologies.

The member, Maunsell AECOM, will work on the Linkage Research Project along with GeelongPort, Sydney Ports, Monash University and RMIT, under a \$300,000 grant from ARC (Australian Research Council).

### 3D beats 2D

Currently, tides and shipping movements make it hard for port asset managers to monitor and maintain the condition of infrastructure.

This can lead to loss of functionality, delays in shipping, loss of structural integrity and the need for major remediation.

The newly funded project, just under way, focuses on marine structures of reinforced concrete. It has the overall aim of **simulation, in 3D, of deterioration, which is a more real-life representation than is the use to date world wide of limited 2D simulations.**

### Other aims...

- Compile and analyse site condition and test data
- Develop a predictive tool that simulates the condition of the port asset

- Provide a 3D visualisation aspect to the prediction tool, enabling users to review and optimise ongoing maintenance of the asset
- Develop a predictive tool using the data history, to simulate deterioration over the asset's life-cycle, including protection and maintenance solutions.

### Read more...

Go to *News* on the ACRA website for a full report on this important work.

### Ports in big mix

The focus on port assets—which handle \$213 billion in trade per year—calls attention to the broader built environment in a mostly coastal population like Australia, where infrastructure is under relentless attack from a corrosive atmosphere.

As the Maunsell AECOM involvement in the new project shows, **ACRA members are among the most active of gatekeepers to all manner of assets**, with recent ACRA award entries dealing with:

- silos (Mt Thorley, Glebe Is.)
- seaside apartments (Palm Beach)
- refineries (BP Bulmer)
- docks (Melbourne)
- working jetties (Ulladulla)
- sewage tunnels (SWOOS)
- bridges (Pt Kembla, Perth, Tweed Heads, Tumut)
- reservoirs (Bellevue Hills)
- pipelines (Lakemba)
- seawalls (Rose Bay)
- city buildings (Kings Cross, Kent St, Bondi Junction)
- bypasses (Gold Coast)
- power stations (Kiewa)
- heritage icons (Newcastle).

### Get ACRA-wise

Use ACRA members. They have the track record. ■