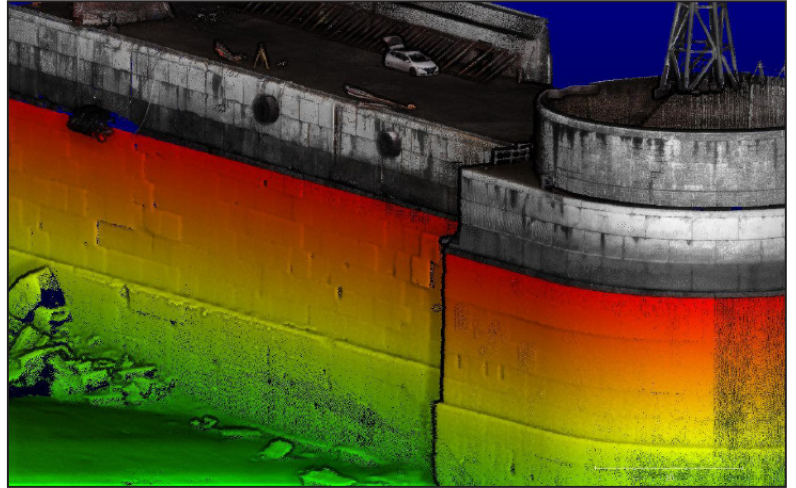
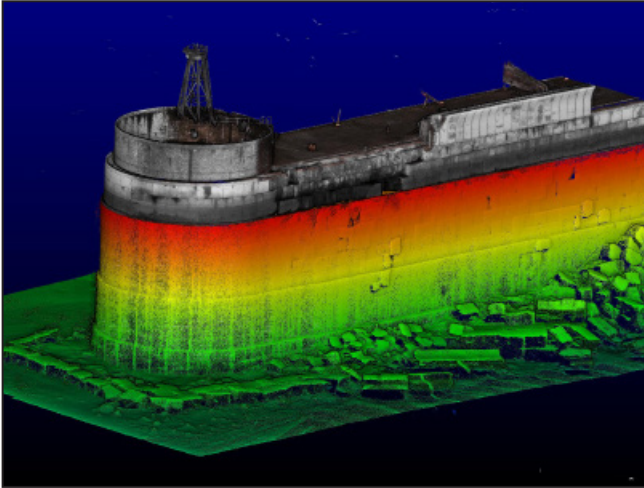


# 3D MARINE ASSET CAPTURE & STRUCTURAL ASSESSMENT



*Targeted, cost effective, detailed surveys for efficient monitoring of your vital assets  
Easily detecting scour, missing blockwork, voids, & movement*

## SERVICES

- Lidar / MBES
- 3D Point cloud
- Bathymetric charting
- Dredge surveys
- Data comparison
- Photographic record
- ROV / Drone
- 3D Imagery \ Visualisation
- Baseline condition report
- Integrity report
- Structural assessment
- Hydraulic assessment
- Structural design

## DESCRIPTION

NIRAS Fraenkel Ltd have extensive expertise in the structural, hydraulic and hydrographic assessment of breakwaters and other marine assets throughout the world.

ADUS Deepocean are a leading survey company specialising in high-resolution multi-beam sonar & laser survey in the marine environment. Their attention to detail is unrivalled, leading to high profile projects including the survey of shipwreck *Costa Concordia* and the sunken oil-rig *Deepwater Horizon*.

Our partnership brings cutting edge survey technology and acquisition together with specialist marine engineering expertise to provide our clients with a holistic approach to lifecycle monitoring of vital assets.

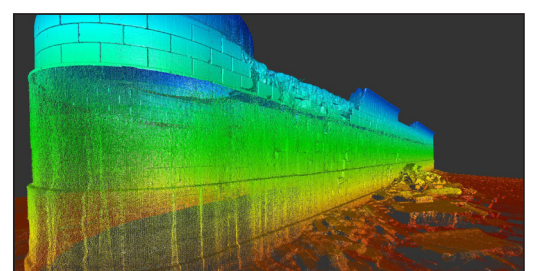
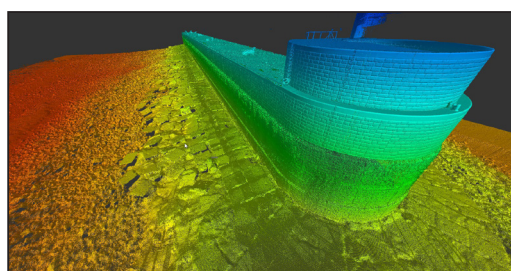
Fully integrated three dimensional models of a structures current condition both above and below the waterline are created and interrogated as required.

All marine structures are covered: Breakwaters, Jetties, Quay walls, Locks & Docks, etc.

A baseline condition survey of Port & Harbour assets provides a modern benchmark that can be utilised well into the future. A definitive, quantifiable source of data to be used for comparison, full integrity assessment, maintenance, remedial work or direct evidence of storm damage.

## TECHNICAL CONTACT

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