

Civil/Structural- Asset Management

Advitech - Your Partner in Engineering

Advitech is an Australian owned and operated multi-disciplinary consultancy with ISO 9001 accreditation and nearing 40 years of successful operation. We offer engineering services across the country in civil and structural, environmental, mechanical, process, risk and functional safety disciplines. Additionally, we have inhouse 2D, 3D drafting team supporting our engineering teams based on project needs. Based in Newcastle NSW, Advitech employs approximately 50 professional scientific, engineering and technical staff.

Key Sectors

Industrial

Mining infrastructure, Materials handling, chemical processing plants, waste treatment and management facilities

Buildings - Public and commercial

- **Commercial Structures** - Low, medium, and high-rise office buildings Retail precincts and mixed-use developments - Hospitality venues and accommodation facilities
- **Residential Complexes** - Multi-storey apartment towers - Medium-rise residential blocks - High-density housing developments
- **Educational Institutions** - Primary and secondary school campuses - Tertiary education buildings and research facilities - Technical and vocational training centres
- **Public Access Infrastructure** - Multi-level car parking structures - Performing arts centres and theatres - Civic halls, libraries, and community centres

Asset Management

Structural integrity inspections with NDT testing, council managed assets, post disaster structural inspections, dilapidation survey, periodic and continuous monitoring of structures.

Key Services

Structural integrity inspections of existing structure or equipment for continued safe use. This includes:

- Visual inspection of the structural element or component and provide risk rating based on the defect identified on the component/element.
- Provide rectification/remediation/repair methodology for the identified defect.
- Provide a time frame for repairing based on the risk rating.
- NDT testing to be recommended separately if deemed required based on the visual inspection.

Dilapidation survey of buildings/structures. Pre-construction and post construction reports.

Baseline documentation of structural and cosmetic conditions of adjacent properties prior to construction, excavation, or infrastructure works.

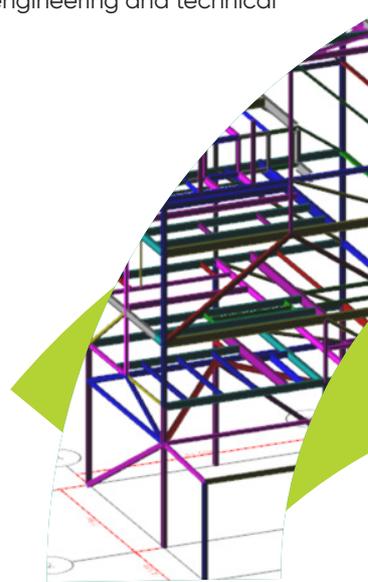
High-resolution imaging, annotated reporting, and geospatial referencing to support legal and contractual obligations.

Periodic inspections to safely manage the asset.



End of life assessment of the structure/machine. This includes:

- Visual inspection of the structure to identify the defects.
- NDT of the connections along the critical load path. May include testing welds, bolts, material thickness of connecting members.
- Review maintenance logs and service registers to identify any defect pattern.
- Desktop analysis of the structure in accordance with current applicable standards.
- A "Gap Analysis" to be undertaken with the applicable standards at the time of construction and current standards.
- Identify non-complying structural elements (member and/or connection) based on the Gap Analysis and provide strengthening details for continued safe use and to make the structural element compliant with current applicable codes and standards.
- Provide rectification/remediation/repair methodology for the identified defect at the time of inspection.



Drone Inspections

- Advitech can coordinate drone-based inspection services for assets with constrained or restricted physical access, enabling high-resolution data acquisition in environments that are hazardous, elevated, or otherwise inaccessible by conventional means.
- This inspection will eliminate the need of hiring an EWP, cherry picker, Working at Heights, Permits, or the like which could be expensive.
- Drone pilot will be accompanied by a Senior Engineer to undertake this inspection.
- Although, NDT testing cannot be undertaken critical defects can be identified and appropriate safety measures can be implemented.



NDT (Non-Destructive Testing) services

- Advitech can coordinate a comprehensive range of non-destructive testing (NDT) services, including Magnetic Particle Testing (MT) for surface and near-surface discontinuities in ferromagnetic materials; Ultrasonic Testing (UT) for volumetric flaw detection and thickness profiling; Liquid Penetrant Testing (PT) for surface-breaking defects in non-porous materials; Radiographic Testing (RT) for internal discontinuity imaging using X-ray or gamma radiation; and precision thickness measurements for corrosion monitoring and structural integrity assessment.

Notable projects

Continued monitoring of assets for Australia's largest coal handling port facility. Assisting the client for over 10 years with contract renewal every year.



Retaining structures, ship loader, overland conveyors, transfer house and crane structural integrity inspections for various clients across Australia.

Post-disaster (earthquake) asset integrity inspection for a council in NSW. This included heritage buildings, commercial buildings, public buildings, water and waste treatment plants, educational institutions, libraries, museums, shopping centre, aquatic and fitness centre, public housing.



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