



Asset Engineering

Engineered Asset Management Services

Risk	Remaining Life	Whole Life Cost	Asset Management	Maintenance Optimisation
Materials	Durability	Quality	Assessment	Repair
				Cathodic Protection

Assets

- Buildings
- Hotels; schools
- Shopping malls
- Basements
- Carparks
- Highways
- Bridges
- Tunnels
- Airports
- Pipelines
- Storage tanks
- Water tmt works
- Desal plants
- Power plants
- Ports, harbours
- Jetties
- Drydocks
- Oil refineries
- Chemical plants
- Historic structures

Materials

- Concrete
- Metals
- Plastics
- Masonry
- Timber
- Coatings
- Facades
- Flooring; roofing
- Bitumen; asphalt

Objective

The objective of Halcrow's **services in Engineered Asset Management (EAM)** is:-

..... to assist Clients in preserving the value and availability of their buildings and infrastructure, **by optimising their life cycle performance and by effective asset management during the life cycle.**

Halcrow Services in EAM

To achieve this business objective we are retained to provide support across all aspects of asset management:-

- **Preparation of Asset Management Plans** – visual inspection by experienced engineers to prepare schedules of defects, supplemented by nominal precautionary checks.
- **Development of Asset Management Strategies** – pre-survey analysis of a structure, to locate critical structural locations and critical durability locations.
- **Advising on Asset Management Information systems and Software** – to investigate the degree of deterioration in visually-sound locations, or in hidden or inaccessible locations.
- **Preparation and Population of Asset Registers** – measuring or sampling to check the current degree of deterioration, so that life-cycle models can be updated.
- **Establishment of Service Level Indicators** – investigation of specific defects arising in service, with testing or sample analysis if necessary, and clear objective reports.
- **Life-Cycle Inputs to Asset Valuation / Life-Cycle Advisor** – identifying repair or maintenance

options based on the established causes of deterioration, effectiveness of repair methods available.

- **Life-Care Planning for Multi-Storey Car-Parks (= a sector-specific example)**– based on detailed knowledge of effective repair materials and execution, design of repairs, including advanced techniques such as cathodic protection.

What makes us different?

In delivering to this business objective, we **combine specialist life-cycle engineering and business skills** focussed on **optimisation of asset performance across a range of industries**. This is underpinned by our materials engineering skills, applied both to new construction and existing buildings and infrastructure:

New Build Construction Support Services

- Durability planning (or audit) and modelling
- Materials selection
- Specification development or risk review
- Early-thermal modelling
- Quality management
- Construction support
- Defect assessment
- Post-construction durability updates
- Operational readiness
- Dispute support

Services for Existing Infrastructure

- Structural survey
- Risk-based survey planning
- Non-destructive testing and sampling
- Life-cycle updates
- Defect assessment
- Identification & selection of repair options
- Repair design and specification
- Repair implementation
- Repair handover
- Monitoring in service

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