

Asset Integrity Excellence

Forty services across nine disciplines — asset management, asset integrity, materials and corrosion engineering — delivered to the codes and standards our clients are audited against.

Asset Value Maximisation

AVC Engineering is a technical consultancy for asset-intensive operations across oil and gas, refining, petrochemicals, fertilisers, power, renewables and mining. We work from London, Aberdeen, Abu Dhabi and Cairo.

A study is worth only what it changes. Every service in this portfolio is specified to end in an executable decision, plan or limit, with an owner.

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SEC. 01

Asset and Integrity Management Systems

The management system is what makes integrity repeatable. These services establish the policy, structure, accountabilities and evidence trail that connect a board-level objective to a work order on the plant.

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|----|---|
| 01 | Asset Management ISO 55000/1 Framework Development and Implementation |
| 02 | Asset Management System (AMS) ISO 55001 Maturity Assessment / Health Check |
| 03 | Asset Integrity Management (AIM) Framework Development and Implementation |
| 04 | Asset Integrity Management System (AIMS) Maturity Assessment / Health Check |
| 05 | Mechanical Integrity Programme Development |
| 06 | Asset Life Cycle Integrity Strategy |

SEC. 02

Corrosion Management and Control

Corrosion remains the dominant cause of loss of containment in process plant. These services establish the policy, the technical basis and the quantified risk picture needed to control it deliberately rather than discover it during inspection.

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| 07 | Corrosion Management Framework (CMF) Development |
| 08 | Corrosion Control Document (CCD) Development |
| 09 | Corrosion Risk Assessment |

SEC. 03

Criticality, Damage Mechanisms and Operating Windows

Every downstream integrity decision depends on knowing what matters most, how it degrades, and the operating limits within which the degradation rate holds. These studies build that foundation.

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| 10 | Asset Register Criticality Review and Integrity Critical Element Identification |
| 11 | Damage Mechanism Review (DMR) |
| 12 | Corrosion Loop Development and Optimisation |
| 13 | Integrity Operating Windows (IOWs) Development and Implementation |
| 14 | Integrity Threat Assessment |

SEC. 04

Risk-Based Inspection and Inspection Strategy

Inspection is a large, recurring cost that either buys confidence or does not. These services set inspection effort by risk, keep it valid as the plant changes, and convert study output into an executable, auditable plan.

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| 15 | Risk-Based Inspection (RBI) Studies |
| 16 | RBI Revalidation / RBI Programme Optimisation |
| 17 | Integrity Management Plan / Integrity Assurance Plan |
| 18 | Inspection Planning Optimisation |
| 19 | Inspection Effectiveness Review |
| 20 | Non-Intrusive Inspection (NII) Feasibility Assessment |
| 21 | Written Scheme of Examination (WSE) / Inspection Strategy Development |
| 22 | Shutdown / Turnaround Inspection Workscoping |

SEC. 05

Integrity Assessment by Asset Class

Condition-based verification of the major asset classes, each against its governing code, delivering a defensible position on fitness for continued service and the interval to the next examination.

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|----|--------------------------------------|
| 23 | Pressure System Integrity Assessment |
| 24 | Pressure Vessel Integrity Assessment |
| 25 | Piping Systems Integrity Assessment |
| 26 | Pipeline Integrity Assessment |
| 27 | Tank Integrity Assessment |
| 28 | Structural Integrity Assessment |

SEC. 06

Fitness-for-Service, Remaining Life and Repair

When equipment is found degraded, the decision to run, repair, rerate or replace should rest on engineering assessment rather than on a code screening rule. These services provide that assessment.

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| 29 | Fitness for Service (FFS) Assessments |
| 30 | Remaining Life Assessment (RLA) |
| 31 | Repair Assessment and Temporary Repair Evaluation |

SEC. 07

Materials, Corrosion Engineering and Failure Analysis

Specialist materials and corrosion engineering, applied both forward to specify the right material for the environment and backward to establish why a component failed and what must change.

- 32 Material Selection Study
- 33 Erosion Assessment and Erosion Risk Review
- 34 Metallurgical Failure Analysis
- 35 Root Cause Failure Analysis (RCFA)

SEC. 08

Ageing Assets and Life Extension

Most producing assets in the Gulf, the North Sea and West Africa are operating beyond their original design life. These services establish the technical basis for continuing safely, and the roadmap for managing ageing deliberately.

- 36 Life Extension Integrity Studies
- 37 Ageing Asset Integrity Review

SEC. 09

Integrity Performance, Data and Digitalisation

Integrity decisions are only as sound as the data behind them and only as visible as the reporting around them. These services address measurement, data quality and the systems that carry both.

- 38 Integrity KPI and Performance Framework Development
- 39 Integrity Data Quality Review and Digitalisation Roadmap
- 40 IDMS / Integrity Software Specification and Implementation Support

HUMAN & AI ENABLED

Beyond Integrity

AVC's AI-based capability converts a validated conventional study into a dynamic programme maintained by software and verified by a qualified engineer.

DELIVERED TO

ISO 55001

API 580 / 581

API 571

API 584

API 970

API 510 / 570 / 653

API 579

API 583

NACE MR0175 / ISO 15156

ISO 14224

OSHA PSM

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