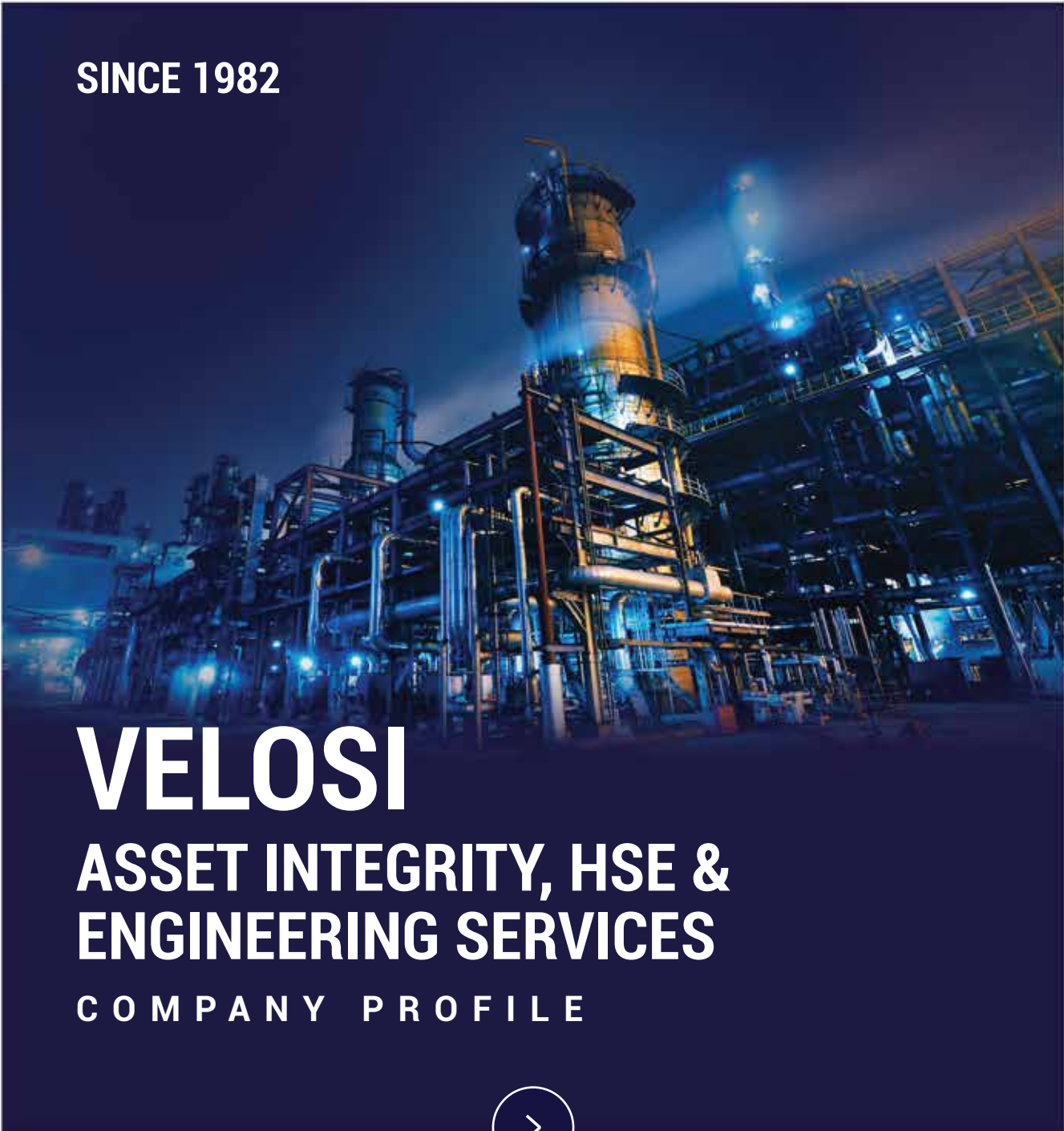




ENGINEERING FOR  
A SAFER WORLD

SINCE 1982



# VELOSI

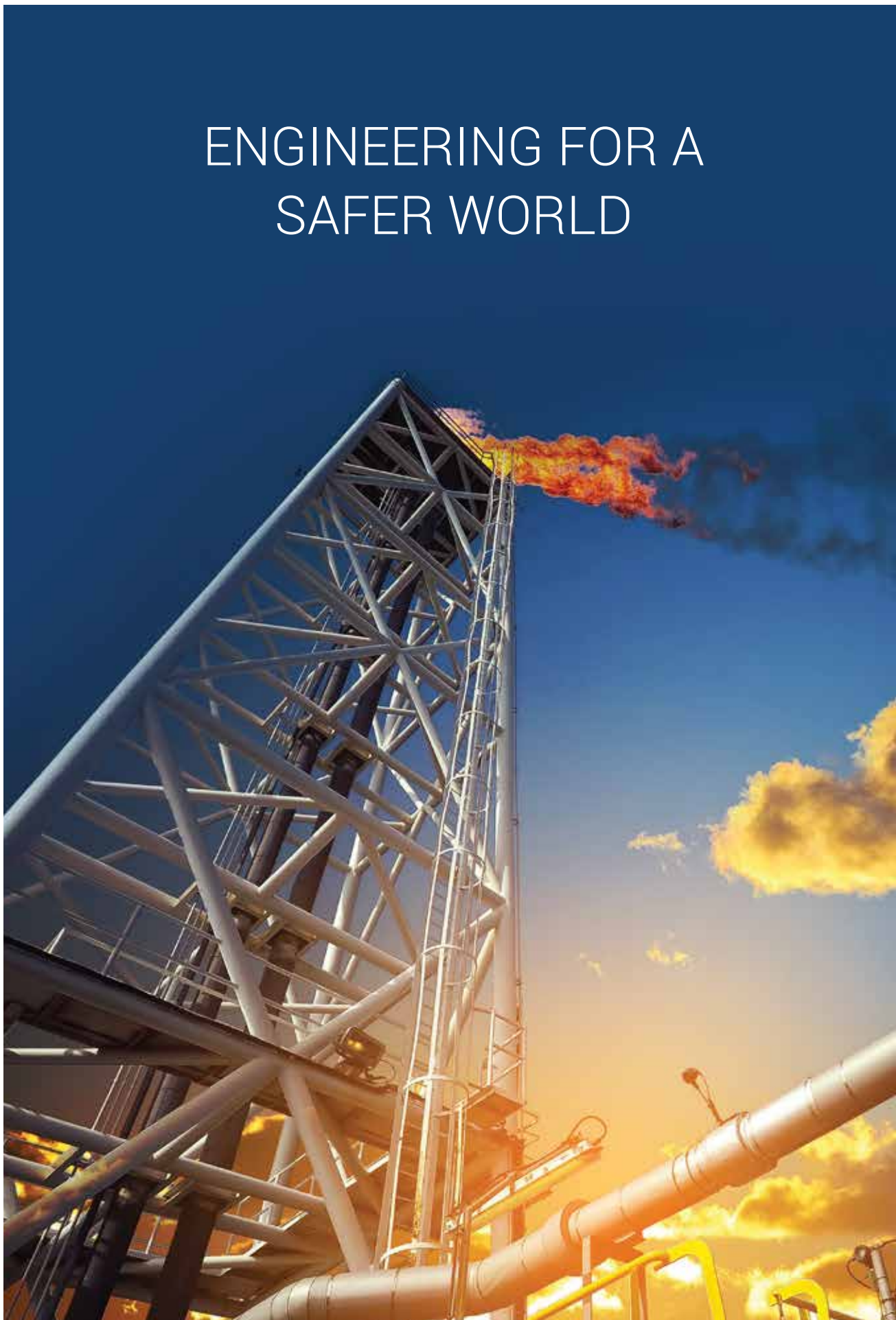
## ASSET INTEGRITY, HSE & ENGINEERING SERVICES

COMPANY PROFILE



[www.velosiaims.com](http://www.velosiaims.com)

# ENGINEERING FOR A SAFER WORLD



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# Welcome to **Velosi**



Velosi is a leading global consulting firm that provides Asset Integrity Management, HSE, Engineering Services and Software Solutions to clients in the energy industry around the world.

We offer a full range of specialist engineering consultancy services, incorporating our own proprietary software that is exclusively developed and tailor-made to match the needs of our increasingly diverse clients around the world in the energy sector.

Being a leading service provider, we are always proactive and keen to listen to the voice of our customers in order to fully understand their needs.

Within the Velosi Asset Integrity, HSE and Engineering Services, our greatest asset is our qualified and experienced employees who are experts in all engineering disciplines, multi-tasking, highly motivated and ready to serve our clients and the community we live in.

Our main business goal is to help our clients implement effective asset integrity strategies to manage the integrity of their assets by maximizing efficiency, significantly reducing operating costs, and providing the best total lifecycle cost of ownership.

**We look forward to working with you!** ”

**Mr. Ijaz Ul Karim Rao**  
Director

# Beyond **Tomorrow**

## **The oil and gas industry in the world is currently undergoing its most dramatic shifts.**

Like many other industries in the energy sector, the oil and gas industry is currently undergoing a paradigm shift. Factors like price volatilities across the oil market, geopolitical uncertainties, technological advances, mergers and acquisitions, and reporting and regulatory changes are redefining the landscape of oil and gas industry.

These fundamental changes reformulate how the oil and gas industry will move beyond tomorrow into the next decade of the 21st century and what is sustainable in energy production. We are also concerned about the fact that competition for fast-depleting natural resources is reaching new heights, which will adversely affect the communities we serve.

**We are working with you to build a business that is safe, profitable and sustainable.**

Even though it is not possible to predict the future, it is possible to make practical decisions on controlling quality and cost, with a partner like Velosi.

While some of the challenges are new to Velosi, our focus has always been

**"ENGINEERING FOR A SAFER WORLD"**





## Our **Vision**

To become the world's premier Asset Integrity, HSE & Engineering Consultancy

## Our **Mission**

To create value for our clients by providing tailored Asset Integrity, HSE and Engineering Solutions to complex problems through a renowned panel of engineering professionals

## About **Velosi**

Velosi is a leading global consulting firm that provides Asset Integrity Management, HSE, Engineering Services and Software Solutions to clients in the energy industry around the world.

We have developed a comprehensive array of tailor-made software solutions to fulfill the specific needs of energy companies worldwide.

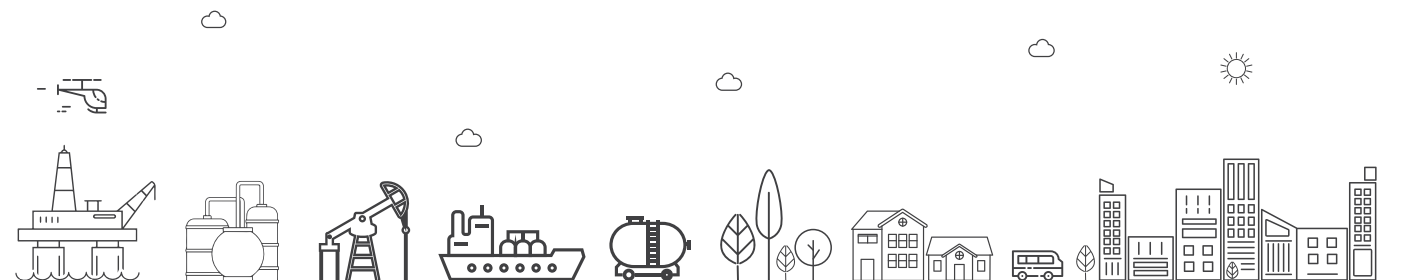
By integrating global coverage and local knowledge with our broad range of services, we are able to design custom-fit solutions to complicated issues. Our extensive range of inter-related services and modular methodologies ensures that we can accommodate a large spectrum of projects.

**37+**  
YEARS OF  
EXPERIENCE

**38+**  
COUNTRIES  
WORLDWIDE

**300+**  
SATISFIED  
CLIENTS

**600+**  
PROJECTS  
COMPLETED



# Company

## Experience & Capabilities

Velosi's expert team has almost four decades of rich experience in helping our clients by providing an absolute hierarchy of Asset Integrity Management, HSE, Engineering Services and Software Solutions. We operate through a number of associated offices in the Middle East, Africa and Asia.

Our unique way of approaching problems comes from the efforts we have taken to date to reach global goals while meeting local needs. Velosi achieves this uniqueness by delivering the type of services that is superior to its competitors and having the opportunity to associate with the world's major established and emerging markets.

From anywhere in the world, you can easily access our network to receive exceptional engineering consultancy service from local staff with local knowledge, making it easier for organizations who are trying to manage operations in remote areas.

## We are Accredited & Certified

Below-mentioned are the accreditations and certifications that Velosi acquired through four decades of experience in the energy sector.



# Partnering with **The World's Top Companies**

Since 1982, we have successfully executed more than 600 prestigious projects awarded by some of the leading multinational companies in the energy sector. We are working with some of the world's largest energy companies, including ADNOC, Dragon Oil, Saudi Aramco, LUKOIL, QAFCO, PETRONAS, TANAP, Sonatrach, PPL, SNGPL, Dolphin Energy, KPOC, OCEP, QP, KOC, ORPIC, REPSOL, BP, Groupement Berkine, Groupement Reggane (GRN), BAPCO, KJO, Petro Energy, Al-Asab and CPP, among many others, who regard Velosi as a one-stop-center for Asset Integrity Management, HSE, Engineering and Software Solutions.

We have also worked with leading Engineering, Procurement and Construction (EPC) companies in the world like JGC, SAIPEM, NPCC, HHI, Technip, TR and successfully executed various AIMS projects.

## Building **Long Term Client Relations**

Our existing, satisfied client base speaks for itself and is a testimonial of the confidence our clients have in us. Demand-driven by new exciting projects and concerns over safety and environmental quality, Velosi remains the number one choice for all the prominent energy companies in the world.

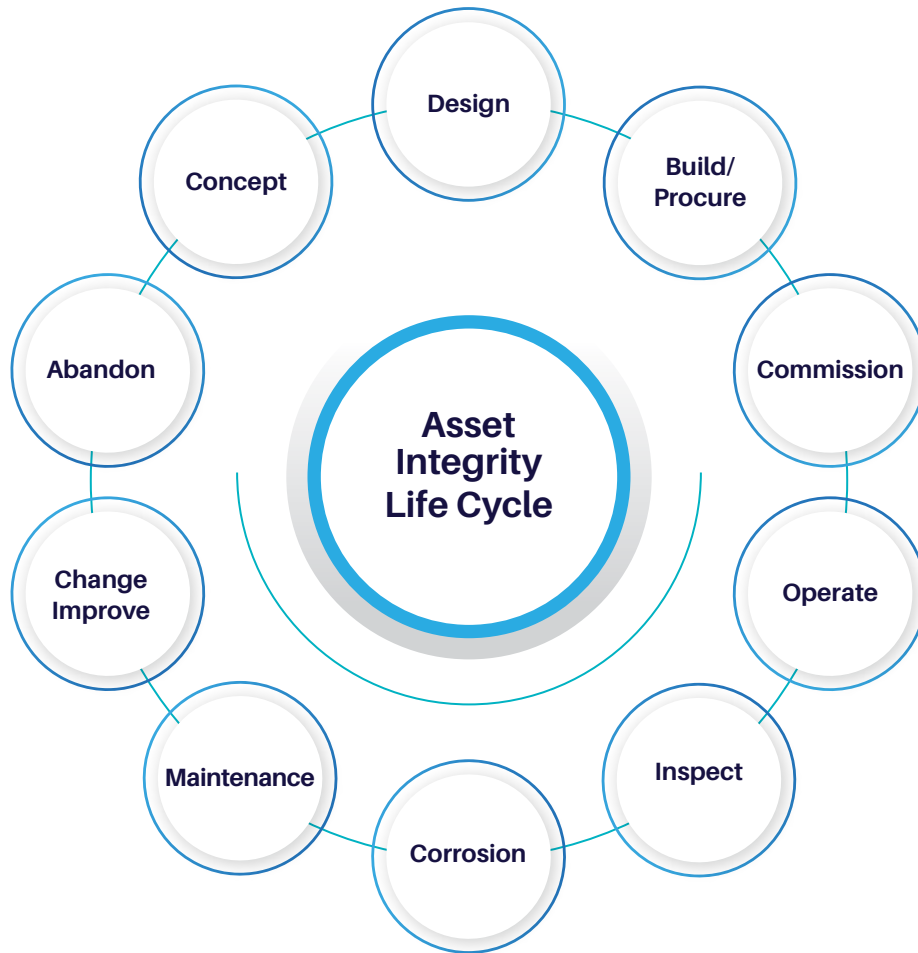
## Global Reach, **Local Service**

We operate globally through our associated offices in Africa, Asia, Europe and the Middle East. Velosi's corporate office is located in the UK and the head office is in Abu Dhabi, UAE. We have associated offices in over 38 countries worldwide. With local staff and local knowledge, we are uniquely positioned to support companies that manage operations remotely or in unfamiliar territories.





# Providing a Complete Lifecycle Solution



## Where **We Fit**



Oil Refineries



GOSP's



Gas & NGL Plants



Chemical Plants



Fertilizer Plants



Pipelines



Offshore Platforms



Wellheads



Structures

# Our **Services**



## **Asset Integrity Management Services**

**Risk Based Inspection (RBI)**

**Pipeline Integrity Management System (PIMS-Onshore & Offshore)**

**Structural Integrity Management System (SIMS)**

**Safety Integrity Level (SIL)**

**Reliability Centered Maintenance (RCM)**

**Reliability, Availability and Maintainability (RAM)**

**Wellhead Integrity Management System (WHIMS)**



## **Health, Safety and Environmental (HSE) Consultancy Services**

### **Process Safety & Risk Studies**

- **Workshop Facilitation**
- **Risk Assessment**
- **COMAH/Safety Case**
- **Health Safety and Environmental Critical Equipment Systems (HSECES)**
- **Drilling HSE Consultancy Services**

### **Environmental Studies**

### **Occupational Health Risk Assessment (OHRA)**





## Engineering Services

Conceptual Design, FEED and Detailed Design  
Engineering Consultancy Services  
Operating Manuals & Procedures  
Design Verification & Appraisal  
Fitness For Service (FFS)  
As-Built Drafting Services  
Project Management Consultancy Services



## Software Solutions

VAIL-Plant (Asset Integrity Management System)  
VAIL-PHA (Process Hazard Analysis)  
VAIL-PSRA (Petrol Station Risk Assessment)  
VAIL-MTS (Material Tracking System)  
VAIL-ERP (Enterprise Resource Planning)  
VAIL-CTR (Cost, Time & Resources Management)  
VAIL-CRM (Customer Relationship Management)  
VAIL-HRMS (Human Resource Management System)  
VAIL-Flow (Workflow Management)  
VAIL-ORP (Online Reporting Portal)  
VAIL-Feedback



## Audits and Assessments

OHSAS Safety Audits  
Technical Audits  
Environmental Audits  
Process Safety Management (PSM) Audits  
Structural Audits  
Firefighting System Adequacy Audits  
Regulatory Compliance Audits  
Flammable Storage Facility Audits  
Electrical Audits





## ISO Certification and Training Services

ISO 9001 - Quality Management System

ISO 14001- Environmental Management System

OHSAS 18001 - Occupational Health and Safety Management Systems

ISO 45001 - Occupational Health and Safety Management Systems

ISO 22000 - Food Safety Management System

HACCP - Hazard Analysis & Critical Control Points

ISO 20000 - Information Technology - Services Management System

ISO 27001 - Information Security Management System

ISO 50001 - Energy Management System

ISO 13485 - QMS - Medical Devices Quality Management Systems



## Data Management and Analytics

Data Management

Data Governance

Business Intelligence/ Analytics

Enterprise Data Management





# Asset Integrity Management Services

Asset Integrity Management Systems (AIMS) is defined as the ability of an asset to perform its necessary functions efficiently and effectively while protecting health, safety and the environment, and the means of guaranteeing that the people, processes, systems and resources that deliver integrity are in place, in use and will perform well when needed over the whole life cycle of the asset.

With almost four decades of progressive and in-depth experience in the oil and gas industry, Velosi is foremost in providing fully-integrated Asset Integrity Management Services (AIMS) that are custom-tailored to ensure the safe and reliable operation of your assets. Our prudent AIMS programs are designed to assure safety and efficiency, incorporating distinct aspects of equipment design, maintenance, inspection programs, and operational management practices.



## Risk Based Inspection (RBI)

Risk-Based Inspection is a type of maintenance business process used to analyze equipment, including pressure vessels, heat exchangers and piping in industrial plants. It is a decision-making technique to optimize inspection plans.

Led by industry experts, including senior consultants and engineers, Velosi's unparalleled Risk-Based Inspection programs feature a total quality assurance approach, resulting in substantial cost savings for the oil and gas industry.

### Benefits of RBI:

- Defines and rates the risk levels of all components
- Identifies the potential to reduce production losses during turnaround inspection
- Increases confidence in equipment integrity & reliability
- Minimizes risk to health, safety and the environment
- Maximizes resource utilization
- Improves operating efficiency



### Deliverables

- Corrosion Loop Drawings
- Inventory Group Drawings
- Corrosion & Inspection Strategy Document
- Risk-based Inspection (RBI) Findings
- Inspection Isometric Drawings for Equipment & piping
- Integrity Operating Window
- Asset Passports

## Pipeline Integrity Management System (PIMS-Onshore & Offshore)

Pipeline Integrity Management System (PIMS) is defined as the compilation of preparatory measures that jointly ensure the integrity of the pipeline. PIMS guarantees the accomplishments of your projects by identifying and reducing the likelihood of hazards and avoiding unnecessary shutdowns.

Velosi offers a consolidated Pipeline Integrity Management System (PIMS), for both onshore and offshore facilities, that boasts a set of features to help our clients conduct the inspection in compliance with international standards, such as API 1160 and ASME B31.8S.

### Benefits of PIMS:

- Monitors the technical and safety condition of the pipeline system.
- Recommends pipeline intervention work and repair when needed.
- Executes RBI to determine the condition of the pipeline.
- Protects the environment.
- Ensures continuous availability of the pipelines for transportation without interruptions.
- Minimizes risks and throughput loss.



### Deliverables

- Section Layout Drawings
- Mechanical Assessment Sheet
- RBI - PIMS Study
- Inspection Plan
- Integrity Operating Window (IOW)
- Asset Passport

## Structural Integrity Management System (SIMS)

Structural Integrity Management System (SIMS) is the method of securing compliance with regulatory as well as organizational requirements over a period of time, ensuring the structure is fit-for-purpose until decommissioning or removal. An effective SIM system is substantially critical in preventing catastrophic failure in complex industrial facilities.

At Velosi, we have endorsed the international codes, such as ISO 19900, ISO 19902, ISO 19904 and API RP 2 SIM, in order for our structural integrity experts to ensure sustainability and integrity of onshore and offshore structures during all the phases of the structure life cycle.

### As a minimum, we cover the following types of structures:

- Offshore Platforms – Subsea Structures
- Offshore Platforms – Topside Structures
- Floating Production Storage and Offloading (FPSO)
- Hull and Flexible Riser
- Onshore Structures

### Benefits of SIMS:

- Ensures the risks associated with the operation of structures are perfectly identified and assessed.
- Assures the structural designs are fit for the intended purpose and engineered to approve standards.
- Reduces risks as low as reasonably practicable.



### Deliverables

- Tag Marked Drawings
- Asset Register
- Inspection Plans
- Asset Passport
- RBI – SIMS Study

## Safety Integrity Level (SIL)

Safety Integrity Level (SIL) is an analysis or measurement of performance required for a Safety Instrumented Function (SIF) to maintain or achieve a safe state. At Velosi, we understand that it is crucial to perform a statistical measurement of how likely a process or a system is to be operational and ready to serve the function for which it is intended, including the calculated time to its likelihood of failure. Our uniquely designed SIL study services comply with global standards - IEC-61508, IEC-61511 and ISA TR 84.00.02 - to ensure the safe and reliable operation of the plant.

### Benefits of SIL:

- Effectively manages safety-critical equipment.
- Prevents or mitigates the consequences which can result in mishaps like loss of life, personnel injury, equipment damage or loss of production.



### Deliverables

- SIL Methodology
- SIL Classification Study
- SIL Verification Study
- Safety Requirement Specification (SRS)
- Safety Life Cycle Document

## Reliability Centered Maintenance (RCM)

Reliability Centered Maintenance is a unique corporate-level maintenance methodology that is executed to optimize the maintenance system of an organization or facility. Successful application of RCM can enhance reliability, cost-effectiveness, machine uptime, and a higher understanding of the level of risk that the business is managing.

At Velosi, our RCM specialists apply rigorous and systematic methods in determining the appropriate maintenance tasks to address each of the identified failure modes and their consequences.

### Benefits of RCM:

- Increases the reliability of assets to maximize the Health, Safety and Environmental (HSE) aspects.
- Reduces corrective and overall maintenance costs.
- Avoids production losses due to unexpected failures of critical equipment.



### Deliverables

- Asset Register as per ISO-14224
- FMECA (Failure Mode Effects Criticality Analysis) Study
- Job Plans
- Equipment Criticality Analysis (ECA)
- Preventive Maintenance Plans (PMRs), Task List and Identification of Spare Parts in line with PMRs

## Reliability, Availability and Maintainability (RAM)



Reliability, Maintainability and Availability (RAM) are three critical system features that have considerable influence on the sustainment or total Life Cycle Costs (LCC) of an asset. The ultimate aim of a RAM study is to manage assets which run the system with minimal cost and maximum efficiency.

### Benefits of RAM:

- Refines the downtime management method.
- Recognizes any performance shortfalls.
- Increase efficiency.
- Build successful maintenance plans.



### Deliverables

- Identification potential bottlenecks
- Estimating the on-stream availability of the unit
- Prediction the impact of equipment redundancy and sparing
- Development and mitigation strategies for expected failure modes
- Perform a preliminary equipment criticality analysis
- RAM Study



# Wellhead Integrity Management System (WHIMS)

Wellhead Integrity Management System is an integrated process used to mitigate the risk and cost of intervention in well integrity incidents, using a multidisciplinary approach and real-time intelligence.

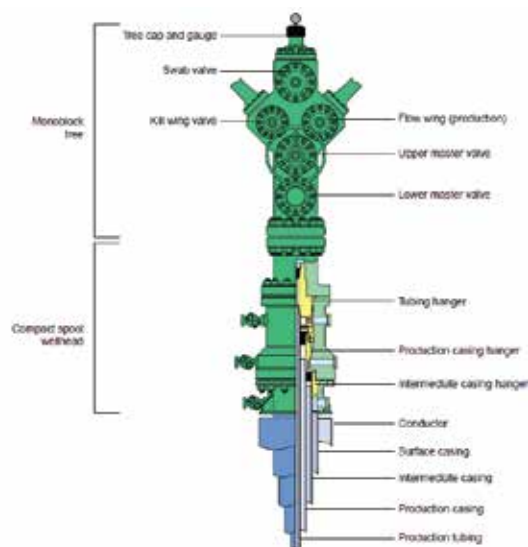
Our well integrity experts apply FMECA-based (Failure Mode Effects and Criticality Analysis) RBI methodology for wellhead integrity assessment and establish the customer methodologies according to industry standards like BS EN 60812, IEC 60812, OREDA, API 6A, API 14B, API 14C, API 7L, API RP 57 and ISOTS - 116530-2 to automate their preventive maintenance activities.

At Velosi, it's our motto to ensure that wells operate as designed for their assigned life with all risks kept as low as reasonably practicable or as mentioned, securing each well's integrity. Hence, we provide exceptional operating standards and guidelines for maintaining the well integrity parameters so that the Return on Investment (ROI) is maximized without sacrificing the safety and environment.



## Benefits of WHIMS:

- Compares different well maintenance alternatives with respect to blowout probabilities.
- Evaluates the blowout risk for specific well equipment.
- Identifies potential barrier problems in specific well types.
- Assesses the effect of various risk reduction methods.
- Analyzes potential barrier problems during well interventions/maintenance activities.



## Deliverables

- Formulization of Asset Register
- Identification of Applicable Damage Mechanism / De-gradation Mechanism
- Risk Ranking & Calculation of Criticality Based on Calculated POF & COF
- Development of Inspection Plan Against Calculated Criticality Factors



## Health, Safety and Environmental (HSE) Consultancy Services

Velosi is specialized in delivering various Health, Safety and Environmental (HSE) services for the entire project life cycle, from conceptual design to decommissioning stage, including Engineering, Procurement and Construction (EPC) phase and Operation phase as per the requirements of local regulatory authority, and the clients' standards and procedures. Our HSE services meet all the global regulatory standards with the ultimate goal of mitigating the risk to as low as reasonably practical (ALARP).

We offer the complete spectrum of HSE services ranging from facilitating the risk identification workshops, to assessing and quantifying the risk including the process safety hazards, environmental impacts and occupational health hazards and provide the risk mitigation measures.



## Process Safety and Risk Studies

Process Safety is based on best design principles along with detailed and thorough operating as well as maintenance practices. In order to achieve safe processes and operations, we propose a disciplined framework to manage the integrity of operating systems and processes and thereby preventing and controlling events that have the potential to release hazardous materials and energy.

At Velosi, we integrate Process Safety and Risk Studies to define a robust project loss prevention philosophy touching all the subjects on how process safety interacts with other engineering disciplines.

## Workshop Facilitation



Workshop Facilitation is the method of providing objective, unobtrusive guidance to a group of for collaboratively progressing towards a common goal. It is usually conducted to communicate and instruct different project teams on the specific project and industry issues and to cultivate a cooperative culture within the teams.

During workshop facilitation, the role of the facilitator is to plan and lead activities and instruction for helping the group do their best, thinking and working together. Facilitation allows each and every participant to contribute equally and fully, enabling a shared, collective outcome that the group have already defined.

At Velosi, our Health, Safety and Environmental experts are committed to providing ample support to our clients in developing their projects through informative and productive workshops, helping them connect and engage with diverse groups to work towards a common objective.

### Workshop Facilitation programs comprise the below modules:

- Equal and Full Participation
- Mutual Understanding
- Collaborative and Inclusive Decision Making
- Shared and Collective Responsibility

### Deliverables

- Hazard Identification (HAZID)
- Hazard and Operability (HAZOP)
- Safety Integrity Level (SIL)
- Simultaneous Operations (SIMOPS)
- Constructability Review
- Bow-Tie
- ALARP Demonstration
- Inherent Safe Design (ISD) Review

## Risk Assessment

Risk Assessment is the process of analyzing potential hazards and identifying sensible measures accurately to control the risks at the workplace. At Velosi, we address human factors in relation to health and safety, aiming to optimize human performance and reduce human failures. We help our clients take a proportionate approach to human factors in risk assessment based on their hazard and risk profile.

A Risk Assessment is a crucial element for health and safety management as it protects the workers and business, complying with the statutory and regulatory standards. It should be carried out following the five below steps:

- Identifying the hazards.
- Deciding who might be harmed and how.
- Assessing the risks and deciding on control measures.
- Recording the findings and implementing them.
- Reviewing the assessment and updating if necessary.



### Deliverables

- Quantitative Risk Assessment (QRA)
- Fire and Explosion Risk Assessment (FERA)
- Building Risk Assessment (BRA)
- Fire and Gas Mapping Study
- Emergency System Survivability Analysis (ESSA)
- Evacuation Escape and Rescue Analysis (EERA)
- Dropped Object Study
- Hazardous Area Classification
- Pollution Prevention and Control (PPC) Compliance Study
- Emergency Response Plan (ERP)
- Air Dispersion Modeling Study
- Project HSE Plan
- Noise Assessment Study
- Waste Management Plan
- H2S Dispersion & Zoning Study
- Human Factor Engineering Assessment Study
- Ergonomics Study
- PHSER Workshops & Study
- Construction HSE Plan

## COMAH/Safety Case

The COMAH (Control of Major Accident Hazards)/Safety Case approach is a systematic procedure for the identification, evaluation and documentation of Major Accident Hazards (MAH) and the risk levels of new projects, existing facilities and operations. It is a facility or operation-specific demonstration of the HSE Management System in action, documenting that risks have been, or will be, reduced to 'acceptable' or 'as low as reasonably practicable' (ALARP).

This will give the project personnel the systematic and identified HSE plan on how to reduce the risk/hazards that will enable them to execute the plan smoothly without sacrificing the manpower and workplace safety.



## Health Safety and Environmental Critical Equipment Systems (HSECES)

Health Safety and Environmental Critical Equipment Systems (HSECES) study is carried out by benchmarking the ongoing activities in a company and highlighting potential exposure and significant HSE risks. The business impact of these risks is studied against threat controls (Barriers), recovery preparedness measures and associated escalation controls.

Our HSE experts offer unparalleled HSECES services to help you analyze and document all the relevant procedures to effectively manage these equipment systems for minimizing their failure risk.



### Benefits of HSECES:

- Evaluates the ongoing activities in an organization, featuring possible exposure and significant HSE risks.
- Protects workers and the environment from a major hazard involving fire, explosion and the release of toxic gases and fumes.
- Ensures effective escape from affected areas of the site, evacuation of the site or transference of people to a place of safety.

### Deliverables

- Identification of HSECES
- HSECES Performance Standards for all Identified HSECES
- ICP Audit for HSECES Verification
- Quality Performance Standards

## Drilling HSE Consultancy Services

Excellence in HSE performance and Safety can only be achieved by applying effective management systems along with best practices and procedures that act on all stages of the life cycle of a production facility. We always ensure that our HSE-related services productively support the management systems implemented at the facility.

At Velosi, we strongly believe that safety can be as simple as thinking about what we do before we do it, looking after each other as we do it, and capturing lessons so that they are not forgotten.



### Benefits of Drilling HSE Consultancy Services:

- Recognizes the importance that onsite equipment is 'Fit for Purpose' and performs as designed.
- Helps you work cooperatively as part of a team with Operators and Drilling Contractors alike.
- Enables to apply sound safety judgment and common sense while evaluating the potential risks.

### Deliverables for Onshore & Offshore Rigs

- HSE Audit, Survey & inspection Study
- Complete Rig Inspection Study
- Rig Acceptance Survey Study
- Rig Condition Survey Study
- Drop Object Survey/Inspection/Audit Study
- Safety Case Study
- Working at Height Audit Study
- Rig Move Audit Study
- Noise Survey Study
- Environmental Impact Assessment Study
- Occupational Health Risk Assessment Study



## Environmental Studies

Environmental Studies are an integrative academic field that methodically studies human interaction with the environment. It incorporates better practices and more balanced approaches to reduce the impact on the environment, conserving the natural resources for future generations.

The main purpose of Environmental Studies is to build a world where people are fully aware of and concerned about the issues associated with the environment, & are devoted to working towards creating solutions for current problems and preventing future problems.



### Deliverables

- **Environmental Studies & Assessments**
  - Environmental Impact Assessment (EIA)
  - Strategic Environmental Impact Assessment
  - Preliminary Environmental Review (PER) Study
  - Construction Environmental Management Plan (CEMP)
  - Environmental Management Plan (EMP)
  - Decommissioning Environmental Management Plan (DEMP)
  - Operational Environmental Management Plan (OEMP)
  - Environmental Permit Application (EPA)
  - Environmental Action Plan (EAP)
  - Environmental Audit Report (EAR)
- **Environmental Monitoring & Testing Services**
  - Indoor Air Quality Monitoring
  - Ambient Air Quality Monitoring
  - Particulate Matter Monitoring
  - Noise Level Monitoring
  - Stack Emission Monitoring
  - Light Level Monitoring
  - Formaldehyde Monitoring
  - Site Meteorological Data Monitoring
  - Soil & Water Analysis
- **Waste Management Consultancy**
  - Waste Reduction Report (WRR)
  - Operational Waste Management Plan (OWMP)
  - Decommissioning Waste Management Plan (DWMP)
  - Waste Audit
- **Estidama/Sustainability/Green Building Consultancy**

## Occupational Health Risk Assessment (OHRA)

Occupational Health Risk Assessment (OHRA) is a process to estimate health risks from exposure to different levels of a workplace hazard. Comprehending how much exposure to a potential threat poses health risks to employees is vital in eliminating, controlling, and reducing those risks.

At Velosi, we have a panel of expert occupational health and hygiene specialists with hands-on experience in providing practical assistance and guidance on occupational health risk assessment.

### Occupational Health Risk Assessment encompasses:

- Emergency Management and Planning (EMP)
- Qualitative OHRA
- Quantitative OHRA
- Workplace Exposure Monitoring
- Industrial Hygiene Monitoring Plan



### Deliverables

- Occupational Hazard Identification (OHID)
- Workshop and Study
- OHRA Study
- Noise Survey and Assessment
- Biological Agent Assessment



## Engineering Services

Velosi offers a full range of high-quality, specialized engineering services to clients that span an array of industries. Our specialized team of experts encompasses over 200 multidisciplinary engineering professionals with a wealth of having delivered more than 600 projects around the world.

We help our clients develop and rehabilitate their existing energy assets by providing a wide range of customized engineering services such as Design Verification and Appraisal, Conceptual Design & FEED, Detailed Design, Fitness for Service Assessment and Drafting Services to maximize productivity and efficiency, reducing operational costs as well as risks.

At Velosi, we believe that our vast experience in providing world-class engineering services to our clients around the world enables us to add optimum value to the projects we undertake, resulting in the best possible eventual outcomes.



# Conceptual Design, FEED and Detailed Design

The core requirement of any engineering project is its conceptual design or feasibility study. At this stage, boundaries are defined for further Front End Engineering Design (FEED). In FEED, the major focus lies on the technical requirement along with the estimated budget investment cost of the project. FEED also serves as the base for the bidding of execution phase contracts i.e. Engineering Procurement Construction (EPC) and Engineering Procurement Installation Commissioning (EPIC).

Conceptual Design & FEED are performed in compliance with standards like ASME, API, ACI, ASCE, SHELL DEP, BS, NFPA, and other applicable industry codes and standards.



## Deliverables

### ● Process

- Process Flow Diagrams (PFDs), Utility Flow Diagrams (UFDs) and Heat & Material Balances
- Process Simulation Report Process Design Calculations
- Piping & Instrumentation Diagrams (P&ID's)
- Data Sheets
- Cause & Effects Diagrams
- Process & Operational Control Description
- Flare and Relief System Study/Sizing Calculations
- Pre-commissioning and Commissioning Manual
- Operating & Maintenance Manual

### ● Electrical Design

- Area plans
- Layout drawings
- One line diagrams showing interlocks, inter tripping, system capacity, Voltage levels, currents, impedances, generation power levels etc.
- Schematics
- Equipment drawings with major tagged equipment such as Transformers, Switchgears, MCCs, UPS, Chargers, Generators, Power supplies, PTs, CTs, Control panels, Packaged equipment etc.
- Inter Connection Diagrams
- Lists and Schedules
- Calculations
- Studies and Reports

### ● Civil and Structural Design

- Civil Design Criteria
- Structural Design Criteria
- Civil Layouts
- Structural Drawings
- Underground Services Specification
- Underground Services Layout
- Underground Service Design Details Drawings
- Cable Trench Layouts
- Paving Plan and Details Drawings
- Foundation and Concrete Structure RC Details
- Road Layouts and Details

### ● Instrumentation and Controls

- System Block Diagrams
- Instrument Specifications for Equipment and Materials
- Instrument Index
- Relief and Safety Device Index
- Alarm and Trip Schedule
- Control Room and Control Building Layouts
- Instrument Cable Routing
- Instrument Power and Utility Requirements
- Power Distribution Schedule
- Instrument Junction Box Schedules
- Loop Diagrams
- Input/ Output Schedules

### ● Piping Design

- Overall Site Plot Plan
- Piping Material Specifications
- Heat Tracing/Jacketing Specification and Schedules
- Piping General Arrangement Drawings
- Isometric Drawings
- Material Take-offs
- Key Plans
- Stress Analysis
- Pipe Supports Design details
- Special Pipe Support Register
- Pipe Support Spring Register and Calculations

### ● Firefighting and Safety

- Safety Design Philosophy
- P & ID for Fire Water Ring Main
- Fire Fighting Equipment List / Requisitions
- Fire and Gas Detection Equipment Schedule
- Extinguishing Systems Design (Where/if applicable) of fixed fire extinguishing systems (e.g. foam, carbon dioxide, clean agent, and/or dry powder systems)
- Mobile Fire Fighting Equipment Schedule
- Safety Equipment Schedule

## Engineering Consultancy Services

We have a full range of projects, construction, and commissioning management services for Oil and Gas projects. Working either in our own facilities or in client offices, we have personalized project management teams tailored to suit client practices, procedures, and standards. In particular, we believe that our vast experience can enable us to add the maximum value to our client's projects by ensuring they set off on the right track at the earliest stages leading to the best possible eventual outcomes.



### Deliverables

- Advice and supervision of all project phases from the earliest stages to start-up
- Direct assistance to client in project definition and prefeasibility stages
- Pre-FEED engineering and FEED tender production and bid evaluation
- FEED supervision and review
- Design and EPC tender evaluation, contract preparation and assistance during negotiation with contractors
- Provision of project management teams including project controls and engineering
- Provision of satellite teams to supervise design in contractor offices
- Value management
- Planning, schedule and logistics management
- Risk management
- Construction supervision and management
- QA/QC, Inspection and safety management
- Commissioning, training and handover

## Operating Manuals and Procedures



Operating manuals and procedures are formal written instructions that describe how a particular plant should be operated, the expected performance targets, associated risks, and the key roles and responsibilities of different stakeholders in plant operation in the oil and gas industry.

Being the key elements of plant operation management, operating manuals and procedures enable smooth operation of the plants by enhancing production, reducing downtime and protecting the plants themselves. Operating manuals and procedures are performed in compliance with global standards like ISO 9001: 2015 and OSHA 29 CFR 1910.119.

### Deliverables

- Standard Operating Manuals
- Standard Operating Procedures



## As-Built Drafting Service



After the construction or modification of any facility, all relevant engineering drawings, associated documents, and schedules are required to be updated to As-Built status in order to represent the actual installation. This helps you use the existing space effectively by eliminating the costly changes that might appear because of inaccurate sets of drawings, this can be used as a reference for future maintenance and planning, providing a proper outline of the existing design and offers valuable insights into the property, highlighting design opportunities or constraints on architectural, structural, electrical, mechanical, and site conditions.

Velosi is a pioneer in the region in conducting the Red Line Markup (RLMU) and upgrading the drawings in 2D & 3D through Intelligent Software i.e. AutoCAD, SmartSketch, Smart Plant PandIDs (SPPID), Smart Plant Instrumentation (SPI), Smart Plant Electrical (SPE), PDMS, PDS and SP3D.

### Deliverables

- RLMUs
- Updated Drawings
- Updated Database/Model

## Fitness For Service (FFS)



Fitness for Service (FFS) is considered as the best practice and standard usually employed by the oil and gas industries for determining its condition for continued service. FFS acts as an analytical basis to define flaw acceptance limits and enables the industry experts to differentiate between acceptable and unacceptable flaws and damage in accordance with the industry-recognized and widely accepted good engineering practices.

At Velosi, fitness for service assessments are usually measurable engineering appraisals that are conducted to demonstrate the structural integrity of an in-service component that may comprise a flaw or damage. Our FFS assessments are performed in compliance with international standards such as ASME B31G, BS 7910.

### Benefits of FFS:

- Identifies the main damage mechanisms based on the best approach and applicable standards (API 579, BS 7910, and others).
- Provides the current integrity of the asset given a current state of damage and the projected remaining life.
- Allows operating the damaged component safely for a particular period of time.
- Offers mitigation plans to run the equipment/plant safely.
- Provides recommendations in terms of remedial actions.

## Design Verification and Appraisal



Velosi offers independent third-party services in design appraisal to streamline the design and construction process by reviewing design and drawings in accordance with all the widely accepted operational, safety, environmental and industry standards. We also ensure that the design review and verification are conducted in line with the international codes, statutory regulations and client specifications.

The whole process of design verification and appraisal is crucial in identifying and resolving design discrepancies ahead of procurement and fabrication. At Velosi, it is always performed as specified by the popular global standards such as ASME, API, ACI, ASCE, BS, and TEMA, among other industry measures.

### Deliverables

- Design Verification Study

## Project Management Consultancy Services

Organizations face various challenges - from tight budgets, personnel reductions, rising costs, increasing security risks and competition for funding - that point to one basic development imperative, 'enhance project impact'. To deliver this impact, a project management team has to work hard by quickly introducing new management processes and technologies; learning new skills and tasks; and by constantly increasing efficiency to reduce operating costs.

Velosi provides world-class Project Management Consultancy (PMC) services to help you attain your investment goals. At Velosi, we have the best project management consultants who use process, discipline, and leadership to break down functional barriers, engage stakeholders, and ensure our clients' projects are finished within the stipulated budget, scope, and schedule.



### Benefits of PMC:

- Delivers detailed reviews of the project management processes and capabilities
- Provides accurate analysis of defects in the processes and/or controls
- Offers expert guidance for better processes and/or controls
- Helps in employing new tools, processes and procedures
- Provides change management and transformation support

### Deliverables

- Project Execution Plan
- Health, Safety and Environment (HSE) Plans
- Document Control
- Procurement Expediting
- Logistics Support
- Project schedule



## Software Solutions

Velosi has successfully developed and implemented multiple software solutions for a diverse range of clients in the energy sector around the world. Through our team of experienced and highly qualified software engineers, we provide innovative software services to many organizations, thus empowering them to acquire the best value from their technology investment.

We work in close liaison with technical teams at energy companies to leverage the technology and infrastructure, support operations, and to provide a market-tested and accepted one-stop customized software solution for all the asset types of our clients in the energy sector.



# VAIL-Plant (Asset Integrity Management System)

VAIL-Plant is a leading fully certified (API 580 and ASME B31.8S) Asset Integrity Software Solution specifically designed for Oil & Gas, Power and Petrochemical industries which facilitates inspection and maintenance management cycles by using RBI,RCM,SIL, and FMECA approaches. VAIL-Plant is an effective asset management tool that contributes to ensure the company's assets health and performance by enabling the plant operators to improve overall control of their asset condition by optimizing inspection, asset monitoring and linking to their maintenance systems.

VAIL-Plant helps maintain history and records, evaluates asset conditions, identifies highest risk assets, prevents plants from damage and corrosion, prioritizes and manages the efforts of an inspection program and calculates the man-hour resource planning.

VAIL-Plant incorporates the following modules to cover different categories of equipment:

- Pressurized Equipment Management System (PEMS)
- Pipeline Integrity Management System Onshore (PIMSON)
- Pipeline Integrity Management System Offshore (PIMSOFF)
- Structure Integrity Management System (SIMS)
- Pressure Safety Valve & Relief Valve Management System (PSVMS)
- Electrical, Instrumental and Rotary Management System (EIRMS)
- Lifting Equipment Management System (LEMS)
- Wellhead Integrity Management System (WHIMS)
- Civil Integrity Management System (CIMS)
- Cathodic Protection Management System (CPMS)
- Hull Integrity Management System (HIMS)
- Flexible Riser Integrity Management System (FRIMS)
- Computerized Maintenance Management System (CMMS)
- Asset Performance Management System (APMS)
- Inspection Scheduling Management System (ISMS)
- Enterprise Resource Planning System Interface (ERPI)



## Certifications

VAIL-Plant software has been designed to meet market specifications in compliance with industry standards and is Exida accredited for API 580, ASME B31.8S, and IEC 61508. VAIL-Plant is also SAP-certified for Integration with SAP ERP framework.



**API 580: 2016**  
Risk Based Inspection process compliance



**ASME B31.8S: 2012**  
Compliance with ASME B31.8S & Geographical Information System (GIS)



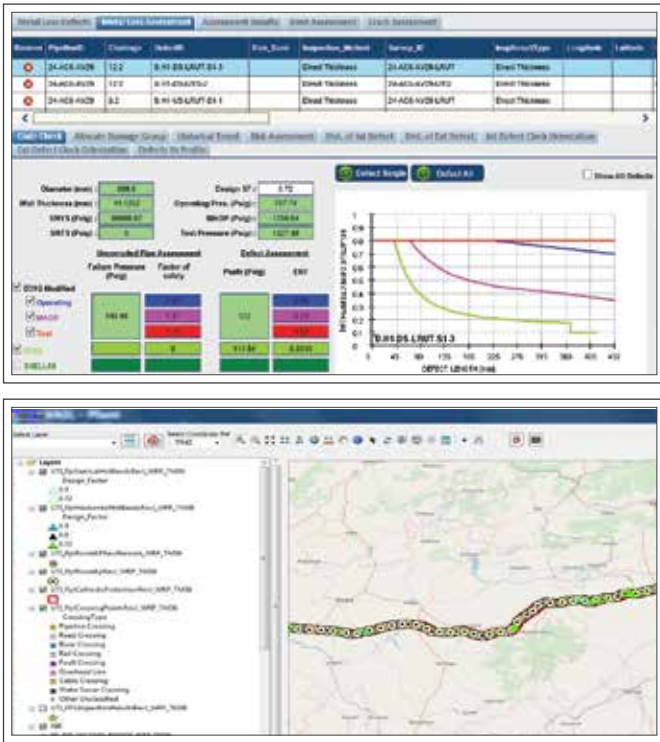
**VAIL-Plant SAP Integration:**  
VAIL-Plant is certified to be integrated with SAP PM-PCS for ECC5.0/ ECC6.0



**IEC 61508:**  
Software Development Process Certification

# Pipeline Integrity Management System (PIMS)

VAIL-Plant PIMS modules for Onshore and Offshore pipeline is capable of managing and monitoring semi-qualitative Risk Assessment and Inspection planning for pipelines. Based on API 580, this module can be integrated with GIS to view data on geographical maps (e.g. pipeline route, equipment location, pipeline sections, etc.)



## Module contains following main features:

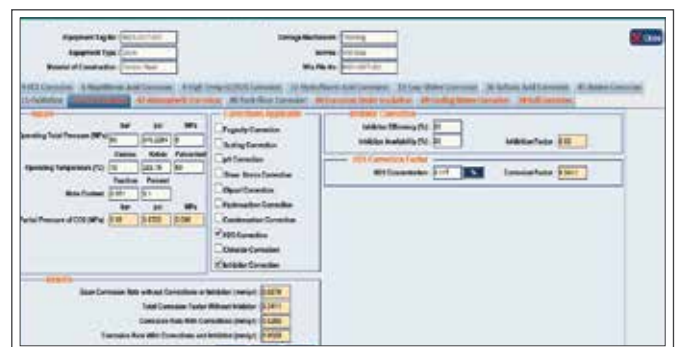
- Pipeline profile recording & Plotting
- Probability of Failure (POF) calculation and plotting along the pipeline (POF Vs TIME) against applicable damage mechanism
- Consequences of Failure (COF) calculation against applicable damage mechanism
- Risk Assessment against Stress Corrosion Cracking (SCC)
- External and Internal Corrosion Direct Assessment (ECDA & ICDA)
- Risk Assessment against third party damage
- Corrosion calculation (NORSOK M-506)
- Scheduling of integrity management and inspection
- Defect Assessment based on B31.G, B31.G Modify & Shell 92

# Pressurized Equipment Management System (PEMS)

VAIL-Plant PEMS module contains a comprehensive database for Piping and Pressurized Equipment such as Vessels, Tanks, Heat Exchangers, etc. It covers the complete Risk Assessment Process and Facilitates Inspection Planning to estimate the remaining life of an asset and the next inspection date.

## Module contains following main features:

- Engineering data capturing along with hierarchy management drawings, isometrics, PFD's and P&ID's
- Semi-quantitative RBI methodology for risk evaluation and inspection planning against identified damage mechanisms compliance with API ST. 580
- Inspection history recording with respect to multiple positions and TML's
- Estimated Corrosion Rate Models based on API 581
- Failure and replacement history recording
- KPI's identifications and calculation/evaluations
- Short term/long term corrosion rate & remnant life calculations
- Short term/long term corrosion rate & remnant life calculations
- Trends and console reporting
- Plant Inspection Requirements (PIR) generation
- Root Cause Analysis (RCA) against failures
- Data importing from excel workspace template

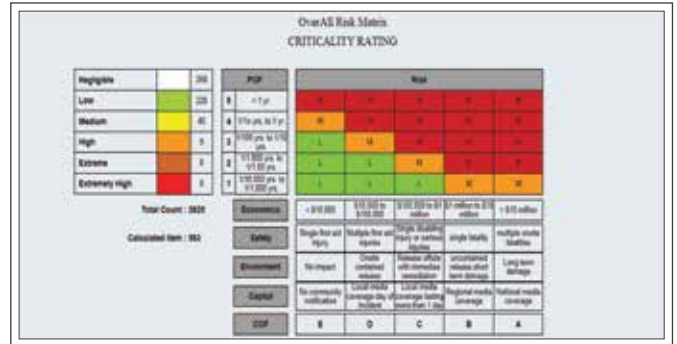


# Electrical, Instrumentation and Rotary Management System (EIRMS)

VAIL-Plant EIRMS module facilitates Reliability Centered Maintenance (RCM) and is capable of maintaining & organizing maintenance records and details of equipment such as Engine, Generators, Transmitter and Pressure Gauge, etc.

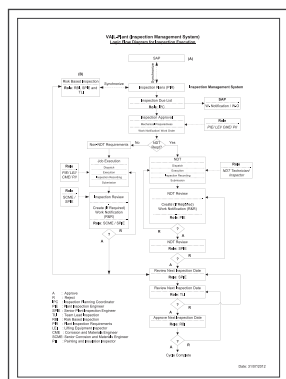
## Module contains following main features:

- Mean Time Between Failures (MTBF) and Mean Time To Repair (MTTR) calculations
- Failure Mode, Effect and Criticality Analysis and their Criticality Matrix
- Reliability Operator and Reliability Generic Data Recording
- Hierarchy Recording and Management
- Design / Operational Data Capturing
- Functional Data Recording
- Plant Maintenance Routines (PMR) generation
- Work Order and Work Packs Generation
- Inspection History Recording
- Maintenance History Recording
- Failures and Replacements Recording



# Inspection Scheduling Management System (ISMS)

VAIL-Plant ISMS module coordinates with other VAIL-Plant modules to facilitate their Inspection planning and recordings. With ISMS, the operator can schedule and execute inspection schedules generated while documenting the inspections to create work orders.



## Module contains following main features:

- Capable to manage inspection activities for all types of assets/ equipment (tags)
- Allows users to plan, schedule and execute PIR's
- Allows users to create work scopes, work packages for execution of PIR on a tag or a set of tags (package like boilers, pipe)
- Allows Reviewers and Approvers to enter remarks and comments
- Allows monitoring process of the PIR Plan
- Bulk data importing from excel workspace templates for fast data feeding
- Role based access, audit trails, data security and integrity
- Color coding to have a one-look summary of the status of inspections



## Asset Performance Management System (APMS)

VAIL-Plant APMS module is an operator's single window specifically designed to equip oil and gas organizations to monitor the overall status of System Integrity parameters such as Remnant Life, Inspection Activities, Leaks/Failures, Risk Ranking, Corrosion Rate, and Replacements via the dashboard. It allows the operator to perform extensive filtering to preview the desired output in form of graphs and reports for data analysis.



### Module contains following main features:

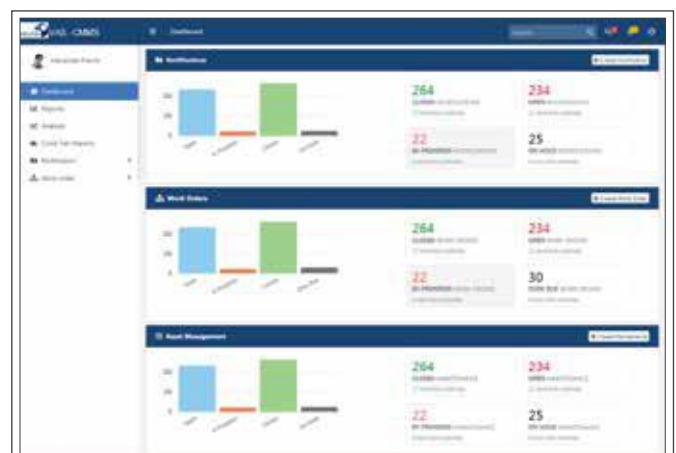
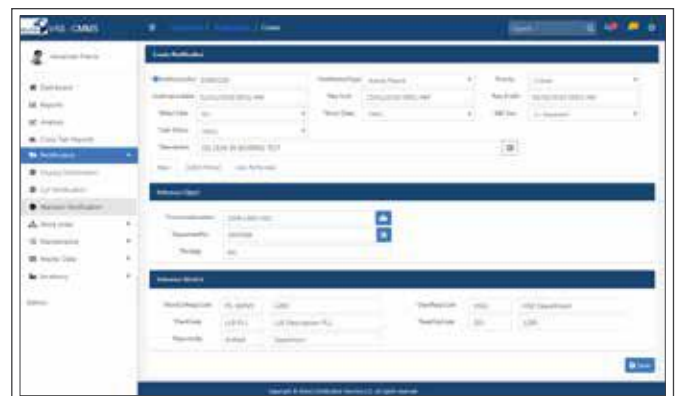
- Single dashboard for RBI, RCM, Pipeline, Structure and Process Information Historian studies
- View overall status of VAIL-Plant modules individually and altogether
- Filter out the graphs with respect to the area and modules on the navigation tree
- User-defined graphical charts and data
- View Total Tag Counts, Total number of completed RBI studies and Total number of completed FMECA studies on the screen
- View the relevant details of the metric by clicking any graph or reported figure
- Redirect to the modules to view the particular metric details

## Computerized Maintenance Management System (CMMS)

VAIL-Plant CMMS module addresses the complete lifecycle of a technical object including Notification and Work order creation until inspection maintenance closeout. Using VAIL-Plant CMMS, it gets easier for operators to create and track work activities, parts usage, and asset lifecycle.

### Module contains following main features:

- Generates and prioritizes work
- Monitor the status of equipment or assets
- Allows operator to plan, manage, schedule maintenance and approve work orders
- Keep a track of all scheduled and unscheduled maintenance activities
- Improved planning and scheduling
- Maintains past historical records of all work orders that have been issued
- Produce real-time records of current job activities
- Tracks resource, budget, and labor costs for every component
- Facilitates inventory control with an integrated range of capabilities
- An effective and affordable application that facilitates the efficient use of resources





## VAIL - PHA (Process Hazard Analysis)

Process Hazard Analysis (PHA) is defined as the analysis of potential causes and consequences of fires, explosions, releases of toxic or flammable chemicals and major spills of hazardous chemicals. It focuses on instrumentation, equipment, utilities, human interference, and external elements that can possibly impact the process.

**VAIL- PHA SIL** software is Velosi's proprietary software and is built to execute all stages of SIL Classification, SIL Verification and preparation of Safety Requirement Specifications (SRS). The software also supports testing interval and Spurious Trip Rate (STR) calculations of SIFs.

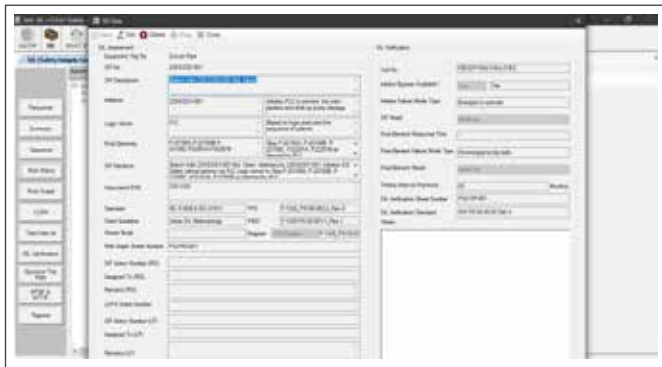
### VAIL-SIL offers the following features:



- Overview of Safety Integrity Level (SIL) with Layer of Protection Analysis (LOPA), Risk Matrix, and Risk Graph comparisons.
- Perceives dynamic changes and shows risk as well as SIL levels in the Risk Matrix
- Target PFD calculations
- Calculates the test interval
- Calculates Mean Time between Failure (MTBF) and Mean Time to Repair (MTTR) along with general reliability data.
- Dynamic reporting
- Records management of the SIL study session team

**VAIL- PHA HAZOP** software tool is used to identify potential hazards to a process system. It was developed by using API 750, API 14J and API 1150 as reference documents.

### VAIL-HAZOP offers the following features:



- Project Team & Session Recording
- Dynamic Reporting for project and facility
- Nodes data and scenarios recording
- Dynamic action sheet and worksheet generation
- Analysis summary
- Actions and tasks allocation, their status and priority ranking
- HAZOP study screen view

## VAIL-PSRA (Petrol Station Risk Assessment)

Velosi's VAIL-PSRA is a professional software solution categorically developed in accordance with the guidelines set out in HS (G) 146: Dispensing Petro, NFPA 30A, and PSSI-S-GDL-001 for the risk assessment purposes at petrol stations.

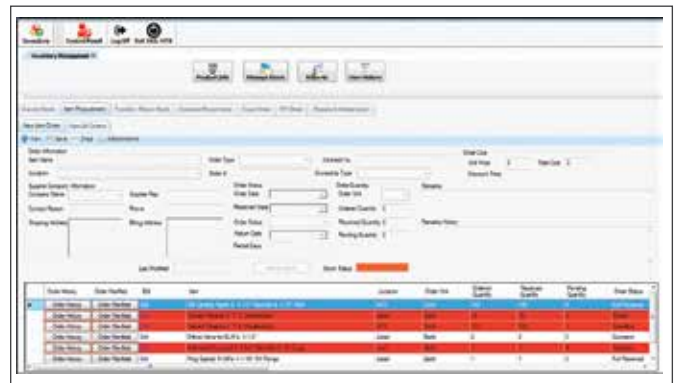
This pragmatic tool acts as a guide or useful checklist to ensure that the precautionary measures at petrol stations are in place and are observed properly during operations. VAIL - PSRA incorporates a systematic approach to provide risk and hazard management services to the oil and gas sector.



## VAIL-MTS (Material Tracking System)

The VAIL-MTS is a fully-functional software which is particularly developed as part of the asset tagging, tracking & verification purposes to help users effectively track, distribute, and maintain their assets. This easy-to-use software facilitates tracking the location of all the rental and owned equipment, drawing periodic reports and configuring alarms based on predetermined critical stock values.

VAIL-MTS can organize and track materials in different disciplines used in the Energy industries.



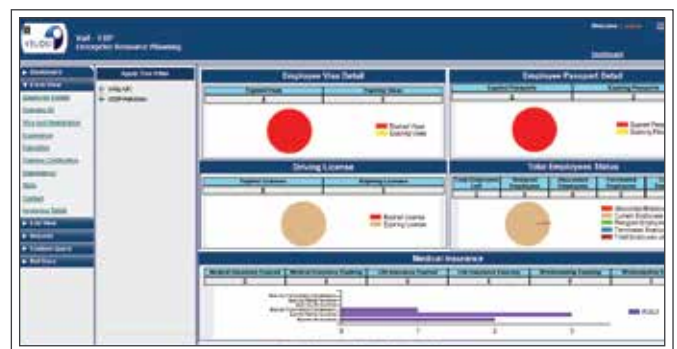
## VAIL-ERP (Enterprise Resource Planning)

VAIL- ERP is an Enterprise Resource Planning Software or business management application that provides integrated, cost-effective and comprehensive ERP solutions. VAIL- ERP package is designed to support and integrate almost every functional area of a business process such as procurement of goods and services, sale and distribution, finance, accountings, human resource.



**VAIL - ERP comprises the following modules:**

- Accounts Management System
- Human Resource Management System (HRMS)
- Sales and Purchase
- Customer Relationship Management (CRM)
- Project Management
- Help Desk
- Asset Management System
- Material Tracking System (MTS)
- Cost Time Resource Management (CTR)



## VAIL-CTR (Cost time & Resources Management)

Cost, time and resource are three key aspects of projects that contractors and engineers need to account for. A Cost, Time and Resource Management module is usually used for generating the onshore man-hour estimate and cost estimate linked with the man-hours for the assigned project by the use of CTRs.

**Benefits of VAIL - CTR:**

- Accessible through any browser on the internet
- Adjustable resource allocations
- Better planning and better project tracking
- Capacity planning and management
- Demand fulfilment is done right
- Evolving stakeholder communication
- Fostering team collaborations
- Customized reports



## VAIL-HRMS (Human Resource Management System)

A Human Resource Management System (HRMS) is a type of human resources (HR) software that incorporates a range of systems and processes to assure the smooth management of human resources, business processes and data. Velosi's VAIL - HRMS software is developed for businesses to help combine a range of necessary HR functions, including managing payroll, storing employee data, time and attendance, recruitment, benefits administration, employee performance management, and tracking down competency and training records.

VAIL HRMS includes the following modules:

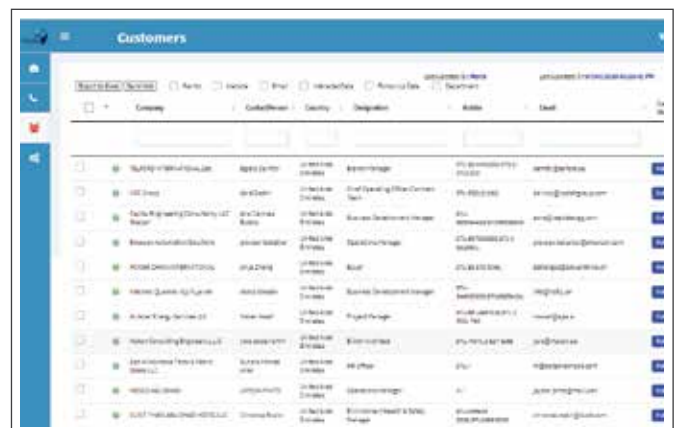
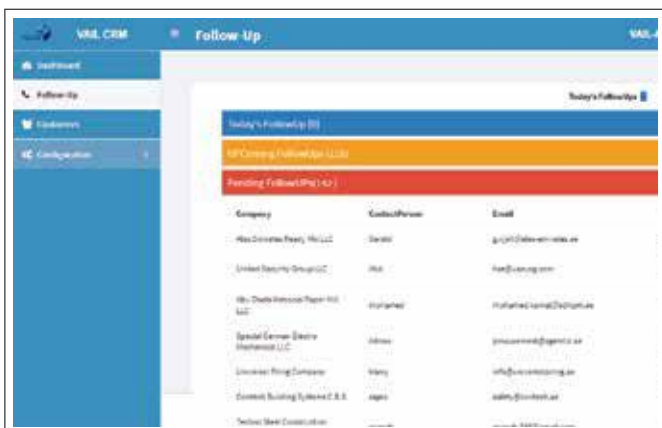
- Managing payroll
- Recruitment and onboarding
- Accounting
- Keeping attendance records and tracking absenteeism



## VAIL-CRM (Customer Relationship Management)

VAIL CRM is a full customer relationship management (CRM) suite with marketing, sales, and service capabilities that are fast, familiar, and flexible, to help businesses of all sizes find, win, and grow profitable customer relationships. VAIL CRM is a carefully built software by professionals which gives importance to the data & its security along with features like:

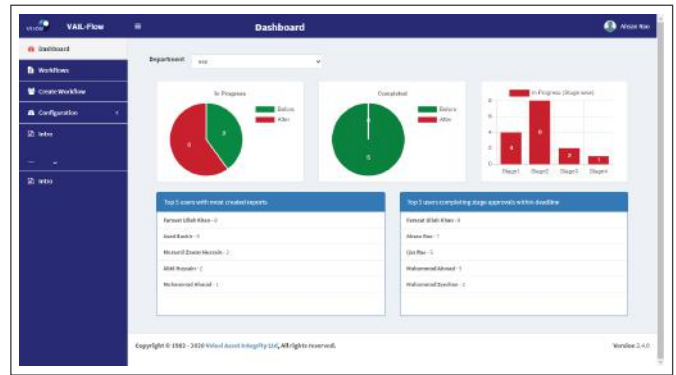
- List Generator
- Campaign management
- Contact Management
- Sales Team & Customer Opportunity Management
- Reports and Dashboards
- Sales Analytics
- Mobile CRM
- Sales Forecasting
- Email Client Integration
- Sales Performance Management
- Meeting Scheduling
- Email Marketing



## VAIL-Flow (Workflow Management)

Workflow Management Software is an application designed to set up and monitor a specific group of approval processes along with its sequence. It allows users to collaborate and automate processes, as well as to define different workflows for various kinds of processes and applications. It can also help reduce the manual efforts involved and automate redundant tasks.

VAIL-Flow is a dynamic approval management software exclusively developed to revolutionize the way your documents are approved. This software can be used to manage the approvals of various types of documents from internal HR approvals to the issuance of technical reports.



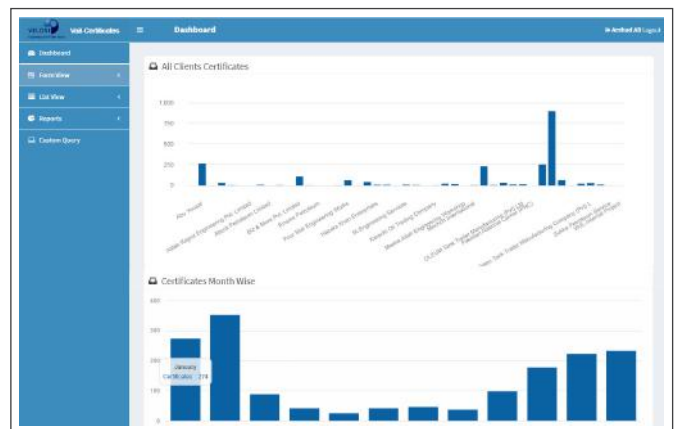
### The main benefits of VAIL-Flow software are:

- Digitally sign documents with 1 click
- Automatic alerts and reminders
- Design customized workflows
- Expedite document approvals
- Dashboard to provide approval status of all documents
- Improved team collaboration as all comments are recorded in 1 window
- Improve quality of document due to timely feedback
- Auto-maintaining project submissions folder for all revisions
- Save resources and time required in scanning and printing documents multiple times
- Provide key performance analytics and reporting

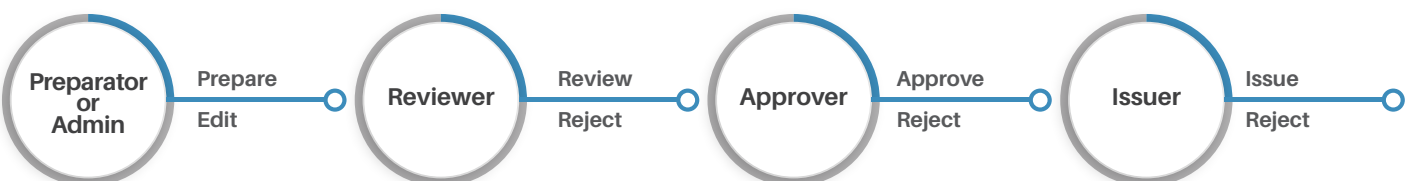
## VAIL-ORP (Online Reporting Portal)

VAIL- Online Reporting Portal is a web-based application which enables our clients to issue inspection/service reports after the completion of a particular assessment by our technical team.

The application allows its users to view their inspection/service reports and conveniently download them whenever required. However, in order to get those reports, users need to have the specific authorization i.e. preparatory, reviewer, approver and issuer.



### The users and their roles are illustrated in the diagram below:





## VAIL-Feedback

VAIL-Feedback is Velosi's exclusively designed omnichannel Customer Feedback software. It encompasses a platform for cross-channel feedback management and versatile survey solutions to collect and analyze websites as well as mobile feedback in real-time.

Our feedback software comes with an abundance of features to adequately accumulate reviews, opinions or any data that is vital to the smooth operation of a business. VAIL-Feedback allows you to build stronger relationships with your guests and customers while providing you with the utmost flexibility on when and how to compile feedback.

### The main Benefits of VAIL-Feedback software are:

- Easy to set up and use
- Collects feedback from customers and employees
- Offers instant alerts and real-time, customized reports
- Assess location-based cumulative and comparative reports
- Easily analyzes the customer feedback response rate
- Helps identify the needs & dissatisfaction of customers
- Evaluates customer loyalty, satisfaction and effort perfectly
- Helps improve the productivity of employees



PROVIDING MULTIPLE  
SOFTWARE SOLUTIONS  
**TO EVERY BUSINESS  
DEMANDS AND  
REQUIREMENTS**





## Audits and Assessments

An audit is an evaluation of how work processes are regulated within an organization. An assessment is a method of gathering information by evaluating the answers to formulated questions. Professionally conducted Audit and Assessment are crucial in ensuring the long term compliance, maintenance and performance of all businesses.

At Velosi, our expert auditors provide professional audit and assessment services for a range of industries, including the oil and gas, energy, petrochemical, construction, and many more.

## Velosi offers the following Audits and Assessments:

<b>OHSAS Safety Audits</b>	A globally recognized standard used to evaluate the status of an organization's occupational health and safety management system in compliance with the specific requirements.
<b>Technical Audits</b>	A form of assessment used to analyze environmental compliance and management system implementation gaps, besides associated corrective actions.
<b>Environmental Audits</b>	A sort of audit done by an auditor, engineer or subject-matter expert to evaluate the flaws or areas of improvement in a system, process or proposal.
<b>Process Safety Management Audit</b>	An audit method used as part of the responsible and meticulous industrial measurement to ensure the safety of workers, and the whole environment of facilities and assets.
<b>Structural Audits</b>	A complete health and performance analysis of a building.
<b>Firefighting System Adequacy Audits</b>	An audit method that carries out a systematic, crucial evaluation of all possible fire hazards including personnel, premises, services and operation process.
<b>Regulatory Compliance Audits</b>	A type of audit used to assess an organization's compliance for testing the adequacy of controls in place and verifying that the organization complies with the standard policies and operational procedures.
<b>Flammable Storage Facility Audits</b>	A method of audit used to evaluate high-risk issues related to the storage and handling of flammable materials.
<b>Electrical Audits</b>	An audit that comprises measurement, visual inspection, thermal scanning and appraisal of results to comprehend the circuit condition and any potential or existing overheating of the circuit.



## ISO Certification and Training Services

Velosi provides unique ISO certification and training services to help companies achieve greater performance by defining required business standard procedures that the companies must follow to accomplish their goals and objectives. Our best-in-class ISO certification services also help companies create an organizational culture that spontaneously engages in a constant cycle of self-evaluation, correction, and advancement of operations and processes by boosting the level of employee awareness, management, leadership and commitment.



## ISO Certification and Training Services

We are committed to providing ISO certification and training services to help companies meet international standards & business protocols. Our certification programs help enterprises engage in continuous in-house development leading to the advancement of operations by increasing the level of employee awareness, management and safety.

Our highly qualified ISO experts have the practical experience to achieve results that will provide clients the following benefits:

- Effective use of resources & enhanced financial performance.
- Improved risk management and protection of people as well as the environment.
- Ability to deliver constant and improved services & products, thereby boosting value to customers and shareholders.



### Velosi offers Certification and Training Services for the below ISO Standards:

- ISO 9001 - Quality Management System
- ISO 14001- Environmental Management System
- OHSAS 18001 - Occupational Health and Safety Management Systems
- ISO 45001 - Occupational Health and Safety Management Systems
- ISO 22000 - Food Safety Management System
- HACCP - Hazard Analysis & Critical Control Points
- ISO 20000 - Information Technology - Services Management System
- ISO 27001 - Information Security Management System
- ISO 50001 - Energy Management System
- ISO 13485 - QMS - Medical Devices Quality Management Systems
- And All Other Standards (Compliance)

### Accreditation Bodies\*

\*We are accredited through our associate office



## Data Management and Analytics

Data Management and Analytics are the key elements used in the quantitative method to derive insights from data for making informed business decisions and thereby driving organizational performance. We help our clients in deciding which data management and analytics method to employ to achieve their business goal and to monitor the progress of the business situation at hand.

Velosi guides and supports our clients to access information enclosed within huge volumes of data, combine it with external data from third-party providers and social networks, and to integrate it with the clients' core business operations. We provide insights into our clients' strategy and processes, contributing to effective decision-making. Our data scientists and quantitative experts can also help source, cleanse, organize and interpret raw data into advanced business information through modelling and visualization.

## Data Management and Analytics

We offer comprehensive Data Management and Analytics solutions across various verticals in information management, data governance and advanced analytics that can unleash organizational potential by helping the organizations make informed decision making and leveraging the organization's most valuable data assets to increase stakeholder value.

Velosi's Data Management and Analytics solutions enclose the following elements:

<b>Data Management</b>	Our exclusive range of Data Management services - that comprise data verification, data mining, data cleansing, data entry, and data processing - help our clients effectively manage their data in a secure way, ensuring to achieve their business goal.
<b>Data Governance</b>	We offer the best available Data Governance services that help organizations monitor and control data quality processes from a single location, improve data rapidly.
<b>Business Intelligence/ Analytics</b>	We provide excellent Business Intelligence/Analytics solutions to help our clients extract the maximum value from the data, enabling and empowering them to succeed in a risk-based, competitive business environment.
<b>Enterprise Data Management</b>	Our exceptional Enterprise Data Management solutions help our clients achieve their data management goals in terms of quality, security, and accessibility, maximizing operational efficiency and reducing costs.







# Our Experience

Velosi, with its global presence and continuously expanding service offerings, have almost four decades of rich experience in providing a complete range of Asset Integrity, HSE, Engineering, and Software solutions to leading local and international companies in the oil and gas industry. Besides, we have completed over 600 distinguished projects for various clients around the world.

Our team comprises highly qualified and experienced multidiscipline engineers, specialists and subject matter experts to fulfill your specific requirements.

Here is the preview of some of our project case studies with our satisfied domestic and overseas clientele.

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**Client:**  
Dragon Oil



**Location:**  
Turkmenistan



**Region:**  
Central Asia



**Services:**  
Vibration Risk Assessment



## Objective

Velosi was assigned to produce a Vibration Risk Management Strategy which meets statutory obligations, corporate objectives and standards in the most effective manner.

This included:

- Identification of Vibration Excitation source.
- Physically examine the identified excitation sources to check the severity of the integrity threat due to vibration induced damage.
- Prepare anomaly reports including results and recommendations for “concern” and “problem” areas as per the criteria defined in Energy Institute – Guidelines for the Avoidance of Vibration Induced Fatigue Failure in Process Pipework.
- Preparation of an overall summary of the work carried out including survey findings, anomaly reports and marked P&IDs / ISO Drawings.
- Determine when risk based surveys and specific vibration investigations are required and how these are initiated.
- Implementation and closeout of remedial actions and for the on-going monitoring of remnant vibration risks.

## Scope of Work

- Identify the piping, instrument tubing, and structural elements or ancillary static equipment elements across the production facilities that represent an integrity threat due to vibration induced fatigue
- Visual site survey as well as review of documents to identify if any
- Potential vibration problems and poor installation and design
- Plant defects from original design intent
- Observe vibration problems onsite
- Perform vibration risk assessment
- Preparation of anomaly reports
- Provide recommendations for mitigation of vibration threat
- Development of Vibration Management Strategy

## Deliverables

Velosi successfully completed the project and following reports were delivered as part of:

- Detailed Site Survey Report.
- Vibration Risk Management Strategy for Dragon Oil Facilities (LAM-28, LAM-A & CPSF)
- Vibration Risk Assessment Report



**Client:**  
TANAP



**Location:**  
Turkey



**Region:**  
Europe



**Services:**  
AIMS, Risk Based  
Inspection (RBI), Software  
Implementation &  
Management



## Objective

The objective was to provide Asset Integrity Management System (AIMS) for TANAP Gas Pipeline & Stations to manage the operational risk for gas to flow safely along 1850 kilometer pipeline traveling from Azerbaijan through Turkey and onto Europe.

Strategize & establish a Continuous Threat Management Program to identify plausible risk sources & also propose mitigation to enhance and prolong asset life beyond the intended life of 25 years.

Develop an Asset Integrity Management Software to enable TANAP to schedule, prioritize and execute the inspection plan along with database management and data collection for Risk Assessment. Integrate AIMS Software with TANAP's SAP, GIS & Envision.

## Scope of Work

Establish a comprehensive Risk Based Inspection (RBI) Program based on best practices & industrial standards to effectively manage corporate assets in order to gain maximum value, profitability & returns while safeguarding personnel, the community, and the environment.

### AIMS:

Conduct corrosion monitoring and control, software installation, development of inspection drawings and training of TANAP personnel in order to ensure proper long-term management of AIMS.

### VAIL Plant Software:

Provision and Implementation of VAIL Plant Software to continually manage AIMS for TANAP Facilities.

## Deliverables

### 1. Asset Integrity Management System:

- Comprehensive RBI Program for On-Shore Phase-0 (1350km), along with Results and Conclusions
  - Remnant Life Assessment
  - Defect Assessment
  - Inspection Plan
  - Failure Rate and Risk Allocation
- Comprehensive RBI for Fixed Equipment at Stations
- FMECA Study & Maintenance Plan for PSVs
- Written Schemes of Examination (WSOE)
- Standard Operating Procedures (SOPs) & Asset Integrity Management Documents
- Comprehensive of full AIMS Training for RBI to TANAP personnel by Velosi

### 2. VAIL Plant Software Modules:

- PEMS - Pressurized Equipment Management System
- PIMSON - Pipeline Integrity Management System Onshore
- PIMSOFF - Pipeline Integrity Management System Offshore
- PSVMS - Pressure Safety Valves Integrity Management System
- ISMS - Inspection Schedule Management System

Velosi successfully integrated VAIL Plant Software with TANAP's SAP, Envision and GIS software and achieved GO LIVE of VAIL Plant Software (PEMS, PIMSON & PSVMS) before Commercial Operations Date (COD)



**Client:**  
Groupement Berkine



**Location:**  
Algeria



**Region:**  
Africa



**Services:**  
Risk Based Inspection (RBI), FMECA Analysis, Software Provision



## Objective

Provide Inspection Guidelines for GB assets & establish Standard Operating Procedures for safe execution of various inspection activities whilst maintaining quality at GB HBNS and El-Merk Facilities.

Customization of Asset Integrity Management System (AIMS) Software to enable GB to schedule, prioritize and execute the inspection plan along with database management and data collection for Risk Assessment.

## Scope of Work

Establish a comprehensive Risk Based Inspection (RBI) Program based on best practices and industrial standards to effectively manage corporate assets in order to gain maximum value, profitability and returns while safeguarding personnel, the community, and the environment.

### RBI:

Establish a comprehensive Risk Based Inspection (RBI) Program for Pipelines, Pressurized Equipment and Piping at HBNS and El-Merk facilities based on best practices and industrial standards to effectively manage corporate assets in order to gain maximum value, profitability and returns while safeguarding personnel, the community, and the environment.

### FMECA:

Implement an FMECA based Risk Assessment Methodology for Pressure Safety Valves and Wellheads at HBNS and El-Merk facilities to optimize the preventive maintenance activities.

### VAIL Plant Software:

Provision, Implementation and Management of VAIL Plant Software to continually manage assets for GB for HBNS and El-Merk Facilities.

### Training:

Comprehensive Training and hands on familiarization of GB Engineers during implementation and development of designated software at GB Facilities.

## Deliverables

### 1. Asset Integrity Management System:

- Risk Based Inspection (RBI) Study at GB HBNS and El-Merk Facilities along with Results and Conclusions for the following assets:
  - Equipment & Piping
  - Pipelines
- FMECA Study & Maintenance Plan for Wellheads and PSVs at HBNS and El Merk Facilities along with Results and Conclusions
- Preparation of Standard Operating Procedures (SOPs)

### 2. VAIL Plant Software Modules:

- PEMS - Pressurized Equipment Management System
- PIMSON - Pipeline Integrity Management System Onshore
- WHIMS - Wellhead Integrity Management System
- PSVMS - Pressure Safety Valves Integrity Management System
- ISMS - Inspection Schedule Management System





**Client:**  
Petronas



**Location:**  
Malaysia



**Region:**  
Southeast Asia



**Services:**  
Risk Based Inspection  
(RBI), Software  
Implementation



## Objective

Establish a Risk Based Inspection (RBI) Program for Topside Structure Including Turret, Hull Structure including Cargo Tanks, mooring system and flexible riser by carrying out comprehensive risk analysis. Integration of recommended RBI IRP with class survey requirement including endorsement/ approval from current Class Society.

## Scope of Work

A Risk Based Inspection Program Development for Petronas FLNG 1 (L) LTD Topside structure and Hull Structure including for:-

- Topside Structure Including Turret
- Hull Structure Including Cargo Tanks
- Mooring System
- Flexible Riser
- RBI Software

### VAIL Plant Software:

RBI Software Package for risk assessment and recording of RBI data including inspection plan with database which shall be valid throughout the FLNG1 design life.

## Deliverables

### 1. Risk Based Inspection Program:

- Comprehensive RBI Study for Topside Structure.
- Tag Marked Drawings for SIMS and HIMS.
- Failure Rate and Risk Allocation
- RBI Report with results and conclusions.
- Recommendation on additional safeguards and action(s) where required.
- Inspection plan comprising of inspection method, coverage and frequency.

### 2. VAIL Plant Software Modules:

- SIMS - Structure Integrity Management System
- HIMS - Hull Integrity Management System
- ISMS - Inspection Schedule Management System
- Integration of VAIL-Plant Software with SAP



**Client:**  
JGSK



**Location:**  
Kuwait



**Region:**  
Middle East



**Services:**  
Risk Based Inspection  
(RBI) Study



## Objective

The objective was to conduct the Risk-Based Inspection (RBI) Study for KNPC Clean Fuel Project MAA Package in order to assure asset integrity and therefore to reduce the risks to Mina-Al-Ahmadi Refinery's operation objectives.

The effective application of RBI principles will reduce unplanned equipment failures and associated plant shutdowns. Such failures should be infrequent or have low consequences to Company's objectives.

## Scope of Work

- Scope of work includes carrying out Shell RBI (Level-3) assessment for 38 New (Process/Utility) units, and 41 Revamp and Tie-In (Process/Utility) units, at Construction stage and As-Built stage
- Shell RRM software will be used in the linkage of risks with appropriate inspection, process control or other risk mitigation activities. S-RBI program will be applied to all process static equipment and piping where inspections are to be planned

## Asset Count:

Asset Type	Construction Phase	As Built Phase	Total
Equipment	1857	2010	3867
Piping System	30215	43150	73365
Total	32072	45160	77232

## Deliverables

Velosi successfully submitted the following deliverables:

### Risk Based Inspection (RBI) Study

- Risk Based Inspection methodology/execution procedure
- Corrosion Loop Drawings over PFS and PEFS
- Optimized Inspection Plan
- Corrosion Risk Assessment Summary Study
- Risk Management with Inspection Activities
- Data population in Shell RRM software
- API 650 Tank Assessment results from Tank RRM module
- Corrosion loop smart sketch



**Client:**  
Saudi Aramco



**Location:**  
Saudi Arabia



**Region:**  
Middle East



**Services:**  
Risk Based Inspection (RBI),  
Corrosion Management  
Program (CMP) Study and  
On-Stream Inspection (OSI)  
Program



## Objective

### RBI Study:

- Establish current risk levels for equipment items & in-plant piping in order to reduce risk through inspection
- Improve cost-effectiveness of inspection resources
- Provide recommendations & propose improvements to manage the operational risk to acceptable industry levels; ALARP and optimized future inspection plans

### CMP Study:

Develop an effective corrosion management strategy that results in:

- Improved plant integrity and safety
- Reduced corrosion failures
- Optimized mitigation, monitoring & inspection expenditure

### OSI Program:

The main objectives of establishment/optimization of the OSI Program are:

- Validate if all equipment items and piping systems (included under RBI assessment) are covered in the OSI program as per applicable P&IDs
- Review and validate the OSI program based on API RBI study & applicable damage mechanisms
- Identify existing gaps, & then give suggestions to revise or update the OSI program

## Scope of Work

RBI, CMP & OSI Study was to be performed for the Equipment Items and Piping Systems of following units in Shaybah NGL Plant:

- Power Generation and Heat Recovery Unit
- Residual Gas Compression
- NGL Recovery
- Launcher & Receiver Area
- Gas Treating
- NGL Storage and RMU
- Utilities
- Acid Gas Compression
- Inlet Area

## Deliverables

### Comprehensive RBI Program along with Results and Conclusions:

- Corrosion Loop Drawings & Description
- Inventory Group Drawings
- API RBI Software Databases
- Inspection Plan
- Risk Analysis
- RBI Study

### Detailed Corrosion Control Document:

- Detailed Process Description
- Major Corrosion Challenges
- Corrosion Control Methodology
- Major Corrosion Challenges

### Established OSI Program:

- OSI Drawings for Equipment and Piping
- OSI Register detailing CML Points as per RBI Risk
- Presentation and Reporting of OSI Program through OSI Study





**Client:**  
Dolphin Energy Ltd.



**Location:**  
Ras Laffan, Qatar



**Region:**  
Middle-East



**Services:**  
Reliability Centered  
Maintenance (RCM)



## Objective

Dolphin Energy Limited (DEL) Qatar hired Velosi to carry out Reliability Centered Maintenance (RCM)/Failure Mode generic maintenance strategy per object type for assets at Company's Ras Laffan Industrial City (RLIC) Onshore Facility in order to have an effective optimized maintenance strategy.

## Scope of Work

Perform Reliability Centered Maintenance (RCM) Study which includes:

- Failure Mode and Effect Analysis (FMEA)
- Identify Failure Mode Characteristics
- Identify Equipment Criticality/ Failure Mode Criticality

Define Maintenance Strategy and Tasks Lists Optimize Maintenance Strategy and Tasks List which includes:

- For each failure mode, define maintenance strategy and tasks that will reduce the failure mode criticality to as low as reasonably possible
- Determine task frequency based on Failure Mode information (experience, history)
- Perform Failure Mode tasks effectiveness assessment for cost benefit evaluation

## Deliverables

1. Detailed Method Statement for full fledged RCM Study
2. Detailed Method Statement for Failure Mode Task List/ Generic Task List based on Object Type
3. SAP Templates
4. RCM Report with results and attachments:
  - Complete Asset Register
  - Dominant Failure Modes per Object type
  - Failure Mode scenarios. (The combination of a dominant failure, failure effect and failure mode characteristics are the failure mode scenario)
  - Failure Mode Criticality and Equipment Criticality
  - PM task list per equipment per failure mode after rationalization along with task duration and resource requirement
  - Preventive Maintenance manpower requirement and changes from existing PM manpower requirement
  - Critical Spares Review for Full Fledged RCM Assets aligning with task list and failure mode



**Client:**  
ADNOC Refining



**Location:**  
Abu Dhabi, UAE



**Region:**  
Middle East



**Services:**  
Integrity and Remaining Life Assessment



## Objective

ADNOC Refining intended to carry out Integrity and Remaining Life Assessment in one of its Boilers (Tag No. 421-B-001C) of Refinery Unit Plant at Ruwais Refinery East.

The objective of this project was to perform Boiler Integrity and Remaining Life Assessment, identify integrity related issues and provide recommendations to ensure continued safe and uninterrupted operation at least for the next 10 years.

## Scope of Work

- Assessing the present condition of the main boiler parts & accessories by way of Condition Assessment study and Remaining Life Assessment study
- Analyzing the data collected and predicting the Residual Life of the boiler for reliable and safe operation
- Recommending specific corrective actions and predictive maintenance actions to restore/increase the useful service life of the boiler
- Predicting expected life after implementation of the recommended actions

## Deliverables

1. Destructive and Non Destructive examination results
2. Integrity Assessment of the Boiler components by following activities:
  - Visual Inspection
  - NDT Reports
  - In-Situ Metallography Inspection
  - Deposit Scale Analysis
  - Fiber Optic Inspection
  - Tube Sample Tests
3. Remaining Life Assessment calculations and results of all components
4. Recommendations for safe operation of the boiler



**Client:**  
Ma'aden Aluminum



**Location:**  
Saudi Arabia



**Region:**  
Middle East



**Services:**  
Preventive Maintenance Program for Civil and Structural elements



## Objective

Ma'aden Aluminum intended to conduct a thorough study of the available Civil and Structural elements in smelter area and to develop a comprehensive Preventive Maintenance Program.

The objectives was to develop a comprehensive strategy to identify, analyze and implement a robust maintenance program for the available civil and structural elements. The Phase-1 of the project is data collection and overall site inspection and audit for civil & structural assets. The Phase-2 of the project is development of PM program based on Risk analysis and criticality ranking of structures.

## Scope of Work

- Assessing the present condition of the Civil and Structure in the Smelter and Development the recommendations for safe operation of the Smelter area
- Performing the site visit to get accustomed to site conditions with due emphasis on type of structural elements and age loading
- Preparation of asset register and performing the FMECA based RCM study for civil and structure elements
- Reviewing the operation and maintenance history and development of recommendations based upon asset criticality
- Development of PM Program for all the assets of smelter area

## Deliverables

Velosi successfully submitted the Preventive Maintenance Plan and Report:

- Site inspection Report
- FMECA Study of Civil and Structure Assets
- Preventive Maintenance Plan for all assets
- Recommendations for safe operation of the Plant



**Client:**  
Dragon Oil



**Location:**  
Hazar, Turkmenistan



**Region:**  
Middle East



**Services:**  
Preventive Maintenance  
Program for Civil and  
Structural elements



## Objective

The objective of the project was to develop an effective Enterprise Asset Management System (EAM) to automate maintenance processes, improve efficiencies, and to help the maintenance department become more agile, and provides better decision support. An operational asset management is required at practical completion of each DOTL works package or project to enable and ensure the efficient operation and maintenance of DOTL assets.

## Scope of Work

To carry out RCM studies in order to implement Enterprises Asset Management (EAM) System of assets for LAM-F and Tank Farm Facilities of DOTL, which includes:

- Asset Database (ADB): Preparation of asset register for assets
- Asset Functional Build: Equipment Hierarchy
- Identification of Equipment's Criticality
- FMECA based RCM Analysis Study
- Maintenance Optimization
- Recommendations & Development of PMRs
- Materials: SPIR (Spare Parts Interchangeability Report) with min/max level
- Physical Tagging: Validation of tags on site
- Transferring of data into ERP System (ORACLE Templates)

## Tags Covered:

- Total Tags (LAM-F): 2300  
Mechanical (419), Electrical (1170), Instrumentation (400), Fire & Gas (311)
- Total Tags (Tank Farm): 650  
Mechanical (247), Electrical (88), Instrumentation (315)

## Deliverables

Velosi has successfully submitted the following deliverables:

1. As-Built / Marked-up Drawings (P&IDs and SLDs) for LAM-F Facility
2. Site Walkthrough Report
3. RCM Report with results and attachments;
  - Asset Data Bases (ADB) / Asset Register
  - Failure Mode, Effects and Criticality Analysis (FMECA) Sheet
  - Equipment Criticality
  - Developed / Scheduled Planned Maintenance Routines
  - Spare Parts inline with Task List.
  - ERP System (ORACLE Templates)





**Client:**  
Sonatrach



**Location:**  
Algeria



**Region:**  
North Africa



**Services:**  
Development of a Study for the Compliance of the Facilities & Equipment of Regional Management STAH



## Objective

The objective of this study was to bring the facilities and equipment of STAH Regional Directorate as required in the Executive Decree 14-349 of 15 Safar 1436 corresponding to 08 December 2014, in compliance with facilities and equipment related to hydrocarbon activities.

The benefit for this BD must meet the following criteria and guidelines:

- Assessment of the facility based on quantitative and qualitative risk studies assessing hazards and criticality levels
- Risk assessment on a criticality grid that will be used to prioritize recommendation plan rehabilitation and compliance actions
- Development of a detailed compliance action plan
- Development of a plan to implement the compliance program jointly with the Client

## Scope of Work

- Detailed study to be carried out in accordance with Algerian regulatory requirements, SONATRACH standards and international standards and good practices
- The conformity diagnosis of the installations and equipment of the STAH Regional Directorate must be indicative & non-limiting on the elements of Executive Decree No. 14-349 of 15 Safar 1436 corresponding to December 08, 2014, article 07 laying down the conditions of compliance of installations & equipment related to hydrocarbon activities

- Below are the minimum elements covered in this study:
  - Integrity of facilities and equipment
  - Operations
  - Prevention of major risks
  - The preservation of the health and safety of workers
  - Prevention of risks related to hazardous substances, chemicals and / or preparations
  - Environmental protection

## Deliverables

Velosi successfully delivered the following:

1. The detailed diagnosis report on the conformity of installations and equipment with prioritization of the actions and an exhaustive list of the criteria according to which the diagnosis has been established (regulations, norms and standards)
2. An action plan with prioritization of actions according to the ARH's criticality grid
3. Implementation schedule of the compliance program
4. Preparation of various studies requested as deliverables:
  - Safety Management system (SMS)
  - Environmental Management Plan (EMP)



**Client:**  
ADNOC Onshore



**Location:**  
Abu Dhabi, UAE



**Region:**  
Middle East



**Services:**  
Operating Manuals and Procedures



## Objective

For each of its operating sites, ADNOC Onshore has Operating Manuals (OMs) and Operating Procedures (OPs) that were developed progressively over the last 40 years as part of the phase-wise field development plans. As a result of the integrity benchmarking exercise of existing OMs, it was recommended to update the OMs and OPs to reflect the new modifications & expansions to existing facilities.

ADNOC Onshore hired Velosi to update Operating Manuals and Operating Procedures to allow ADNOC onshore to carry out Operation activities in a safe manner and to sustain the integrity of its assets.

## Scope of Work

- Assess the existing OP&Ms in SOW-Assets against ADNOC onshore requirements, industry best practices and recommend areas for improvement
- Develop/ Update OP&Ms for the SOW-Assets
- Upload these Documents on the ADNOC onshore OP&Ms interactive Web Based Framework (WBF)
- Develop an E-Learning system that will enable young engineers to understand the design features, functionality and key parameters that affect the operational performance of key process equipment
- Upload of E-Learning Modules on the ADNOC onshore interactive Learning Management System ( LMS)
- Train Assets' Operation staff on how to use and update the new Operating Manuals and E-learning Modules
- Monitor and support the deliverables and implement necessary enhancement

## Deliverables

1. Project Definition Report
2. Operating Manuals (Total Qty. : 64 No.s)
3. Operating Procedure (Total Qty. : 856 No.s)
4. 2D E-Learning Module (Total Qty. : 35 No.s)
5. 3D E-Learning Module (Total Qty. : 42 No.s)
6. Population of web Based Framework and LMS
7. Monitoring & Training



**Client:**  
ADOC



**Location:**  
Mubarraz Island,  
AR & GA Fields, UAE



**Region:**  
Middle East



**Services:**  
FEED for Risk Assessment



## Objective

ADOC hired Velosi to perform Basic Engineering Study for Fire Risk Assessment Implementation to review the adequacy and integrity of the existing fire water system and then perform detailed engineering study to identify gaps and recommend updates to the existing fire protection systems.

## Scope of Work

- To produce technically viable, cost effective designs and technical documentation for Fire Risk Assessment Implementation (Phase-1) at Mubarraz field, Umm Al Anbar Field (AR), Neewat ALGhalan Field (GA) and Central Facilities Platforms (CFP)
- To prepare EPC contracting documentation for implementing the above designs
- To generate cost estimates for the additions and modifications to the existing systems
- To establish the long lead items and prepare bid documentation for the same
- To update the project execution strategy and an optimum execution schedule

## Deliverables

1. Fire & Gas Mapping Study
2. Sprinkler System
3. Fire-Water Curtain
4. Fire & Gas Block Diagrams
5. Data Sheets
6. Fire & Gas Layout
7. Method Statements
8. Method Statements
9. Specifications
10. Schematics
11. Material Take Off (MTOs)
12. EPC Costing Sheets



**Client:**  
ZADCO



**Location:**  
Abu Dhabi, UAE



**Region:**  
Middle East



**Services:**  
Creation of Primitive 3D Model (As-Built) from the Laser Scans and Updation of critical drawings



## Objective

ZADCO facilities were designed and built in the early 1980's. During the past, many changes and improvements have been made to these facilities. As a result of the uncontrolled process on drawing production by consultants/engineers, most of the drawings are of poor quality with out-of-date and/or duplicated data, each carrying different information pertaining to the project, it was originally produced for ZADCO hired Velosi to perform 3D Laser scanning and production of Primitive 3D model. This also includes the preparation of As-built of critical drawings.

## Scope of Work

- Laser Scanning.
- Creation of 3D Panoramic (360 degrees) view of the facilities in color, capturing all As-built physical data
- Creation of a Primitive 3D Model (As-Built) from the Laser Scans
- Generation of a complete package of a master "As Built" drawings from "Primitive 3D Model"

## Deliverables

1. Design Document Report including:
  - Primitive 3D model
  - Piping and mechanical drawings
  - Electrical, Instrumentation and Telecom drawings
  - Electrical TSD Drawings
  - SLD'S
  - Cable Schedule
  - Telecom Drawings
  - Instrumentation Drawings
  - Fire protection equipment/safety equipment/escape route layouts





**Client:**  
ADNOC LNG



**Location:**  
Das Island, UAE



**Region:**  
Middle East



**Services:**  
Remaining Life  
Assessment (RLA)



## Objective

ADNOC LNG has implemented a comprehensive Integrity & Reliability Management System (AIRMS) and has carried out additional studies to identify and monitor specific damage mechanisms for various plant areas. To enhance the existing knowledge-base, ADNOC LNG requires a further detailed assessment of specific plant areas and systems, particularly to identify measures to extend the lifetime of such systems whilst ensuring required integrity and reliability.

Detailed assessments have already been carried out for various assets in the house or through specialized outsourced studies to vendors and consultants.

Velosi was appointed for an independent overall integrated review and verification of all the studies and work carried out /being carried for extending the operating life of all LNG Train-1, 2 and 3 & their associated facilities.

The LNG Trains Operational Life Extension Project focused on known damage mechanisms/life cycle limiters, as well as any other integrity & reliability issues identified through various studies and assessments.

## Scope of Work

- "The Overall Review of LNG Trains Operational Life Extension Approach" - ADNOC LNG established a road map to conduct the study for all the disciplines: Integrity, Reliability of the Rotating/Mechanical Equipment,

Electrical and Instrument & Control. Different packages were identified and the scope of work of each package was defined. Some particular packages implying deep analysis were outsourced. Velosi reviewed the Study Approach in order to address any complementary package (s) or aspects related to the addressed packages by providing recommendations and methodology for addressing the identified gaps.

- "Independent Validation, Verification & Providing Consistency of Study Outcomes" - Velosi reviewed the outcomes from the different packages in order to verify and validate the conclusions and the recommendations and address, if required, any additional analysis or study to assure the asset integrity and fitness for service

## Deliverables

1. Operational Life Extension Approach Review Report for the Phase-1
2. Presentation to ADNOC LNG Management on Operational Life Extension Approach Review for Phase-1
3. Report for Phase-2 including Investment and Implementation Plan
4. Presentation to ADNOC LNG Management on Phase-2



**Client:**  
Sonatrach



**Location:**  
Arzew & Skikda, Algeria



**Region:**  
Africa



**Services:**  
Safety Integrity Level (SIL) studies



## Objective

Sonatrach has given the project to Velosi to carry out SIL Study of all safety instrumented functions for Complexes GL1Z, GL2Z, GL1K, GP2Z and GP1Z" and the training of the Client's staff in IEC61508 and IEC 61511 for intended safety and fit for purpose for the next 20 years.

## Scope of Work

- Conducting Training Standards IEC 61508 And IEC 61511, by an accredited consultant
  1. Requirements of the standard 61511
  2. Risk processing instrumentation / control identification of SIS and required SIL
  3. Design/Commissioning/editing and analysis tools SIS (Safety Instrumented System)
  4. Managing the safety lifecycle (Maintenance and Operation of SIS)
- SIL calculation software with license and training operations
- Conduct review SIL instrumented safety functions

## Deliverables

1. Finalisation of IEC 61508 and 61511 Training
2. Delivery of "VAIL -SIL" software
3. SIL classification/verification study Reports
4. Safety Requirements Specification Document
5. Safety Lifecycle Document



**Client:**  
Qatar Petroleum



**Location:**  
Mesaieed, Qatar



**Region:**  
Middle East



**Services:**  
Safety Integrity Level  
Assessment (SIL) in  
accordance with IEC 61508  
and 61511



## Objective

Qatar Petroleum has appointed Velosi to carry out SIL Integrity Study for all operating units at QP Refinery MESAIEED, for intended safety and fit for purpose for the next 20 years. In accordance with IEC 61511 and to verify through SIL Verification calculations that the design meets the integrity levels.

## Scope of Work

To carry out SIL study as per the following four (4) stages.

- Prepare master plan
- Carryout SIL review
- SIL verification and analysis
- Generate report and recommendations

## Deliverables

Velosi successfully submitted the following deliverables:

1. Master plan for safety life cycle management
2. Calibrated risk graph matrix
3. List of all SIF with assigned SIL
4. SIL verification report with calculation sheet for each SIF
5. SRS study
6. Gap analysis report & recommendations for each SIF
7. Master PM Plan for each SIF devices to maintain SIL level
8. Spurious trip study
9. Guidelines for QA/QC of effectiveness of PM plans for all SIL
10. Guideline to suggest ways and means for all actions need to be logged and for how many years the records need to be maintained
11. Guideline for carrying out periodic auditing of SIL validation and verification program
12. A written procedure for all SIL Identification program comprising above activities
13. Software and license of exSILentia or equivalent software
14. Guideline for carrying out SIL assessments for future modifications done in house at different stages



**Client:**  
ACES



**Location:**  
Abu Dhabi, UAE



**Region:**  
Middle East



**Services:**

- Detailed Site Assessment (DSA)
- Site Management Plan (SMP)
- Site Remediation



## Objective & Scope of Work

The objective was to conduct a detailed Site Assessment for the proposed project site as per EAD Technical Guideline "Assessing Sites for Soil Contamination in Abu Dhabi Emirate-EAD-EQ-PR-TG-10" and to provide the management plan and to propose remediation Plan.

## Deliverables

### 1. Detailed Site Assessment (DSA):

- Development of project objectives
- Development of a conceptual site model
- Planning and implementing a soil sampling and analysis plan to meet the project objectives
- Data Evaluation
- Identifying risks and any uncertainties or limitations in the context of the proposed land use for the site
- Identification of the environmental values relevant for that land use

### 2. Site Management Plan:

- Determination of the remediation by achieving the screening guidelines as per EAD's User
- Guide including numerical remediation criteria
- Development of the Remediation Plan (RP), including timeframes
- Undertaking the site remediation and validation (SRV) study

- Environmental Management Plan
- Long term management requirements

### 3. Site Remediation:

- Identification of the proposed land use for the site
- Identification of the environmental values relevant for that land use
- Determination of the remediation endpoint by achieving the screening guideline as per
- EAD's User Guide, including numerical remediation criteria
- Long-term management and monitoring applicable to the site

### 4. Chemical Analysis of Soil:

The following parameters will be analyzed

- Tetraethyl Lead
- Methyl Mercury





**Client:**  
Core Engineering



**Location:**  
Abu Dhabi, UAE



**Region:**  
Middle East



**Services:**  
Preliminary Environmental Review (PER) Report



## Objective

The objective was to perform preliminary environmental to get environmental permit during the design stage of the project.

## Scope of Work

The scope of work includes the preparation of a Preliminary Environmental Review (PER) Report on the basis of an environmental permit application for the construction and completion of new road links sketch Khalifa road from Maleha through Al-Madam to Showaib Area (Phase-3)-Sharjah Border to Al Showaib Area-Al Ain.

The Preliminary Environmental Review (PER) was prepared as per EAD technical guideline (RAD-BQ-PCE-TG-01). The baseline studies were also conducted to meet the EAD's requirements.

## Deliverables

- Preliminary Environmental Review (PER) Study
- Ambient Air Quality Study
- Ground & Surface Water Sample Study
- Soil Analysis Study
- Noise Monitoring Study



**Client:**  
TOTAL Abu Al Bikhoosh



**Location:**  
Abu Dhabi, UAE



**Region:**  
Middle East



**Services:**  
EBA-Soil & Ground Water  
Sampling & Analysis



## Objective

The objective was to carry out Soil and Groundwater Sampling and Analysis in order to assess soil and groundwater contamination at Total ABK Musaffah Base Site.

## Scope of Work

The scope of work includes the collection of soil and groundwater samples. The soil sample was collected from twelve locations from different depths in order to assess potential contamination. The ground water samples were collected from three locations and two samples from each location were collected. The study was carried out:

- Evaluate the potential for site contamination on the basis of historical land uses, anecdotal & documentary evidence of possible pollutant sources
- To investigate the degree of any potential contamination by means of limited intrusive sampling and laboratory analysis, for relevant contaminants
- Evaluate potential risk that identified impacts may pose to human health and the environment
- Where site contamination is confirmed, make recommendations for the appropriate management of any contaminated soils and /or Ground water

## Deliverables

- Soil and Groundwater Sampling & Analysis Study



**Client:**  
KCA DEUTAG



**Location:**  
Pakistan



**Region:**  
South Asia



**Services:**  
Third-party services for drops survey of onshore rigs



### Objective

The objective involved in conducting these audits/surveys/studies is to lead to a greater health and safety awareness amongst the workers and management of KCA Deutag onshore rigs. All the risks to the worker's health, equipment safety & environment are effectively managed and sufficient barriers are there to control these risks in compliance with KCA Deutag HSE procedures/work Instructions and guidelines. Another objective is to provide a platform for demonstrating to the workforce as well as the shareholders and relevant authorities in Pakistan, that health & safety are being managed effectively within KCA Deutag.

### Scope of Work

The Dropped Objects Survey includes a DROPS Management System verification, a visual mast inspection & an inspection covering all the equipments installed at height around the rig that is not an integral part of the structure on which it is mounted. This includes areas that are not limited to the substructure, mud section and general walk through areas etc. The Dropped Objects Survey will identify potential hazards and review the drilling contractors' Dropped Objects management system and its effective implementation.

### Deliverables

Detailed Drop Object Survey Report comprises of the below contents:

- Identification of potential causes of drop objects on the rig
- Picture book of all surveyed installations/equipments
- Description of the item/equipment inspected with exact location
- Identification of Primary and secondary fastenings
- Management of temporary equipment fixed in the assessment areas
- Management of temporary or loose equipment – such as hand tools and spares
- Assessment of small pad eyes on fittings such as lighting supports, for age integrity
- Assessment of all outside equipment for protection from accidental crane damage
- Review of historical records on all drop objects incidents to ensure that corrective action has been implemented to prevent re-occurrence and that design review on corrective action has been properly risked, assessed and document.
- Risk assessment for all drop objects with pass/fail status & high, medium & low risk levels
- Recommendations to improve safety of the drop objects
- Development of drop objects checklist for inspection by rig crew on weekly basis
- Action tracking register of all open findings of the survey
- Training of rig crew for drop objects awareness



**Client:**  
ADNOC Drilling



**Location:**  
United Arab Emirates



**Region:**  
Middle East



**Services:**  
HSE Audit Survey at  
Onshore & Offshore Rigs



## Objective

The objective involved in conducting these audits/surveys/studies is to lead to greater health and safety awareness amongst the workers and management of onshore /offshore & island rigs. All the risks to the workers' health, equipment safety & environment are effectively managed and sufficient barriers are there to control these risks in compliance with ADNOC Drilling HSE standard procedures and guidelines. Another objective is to provide a platform for demonstrating to the workforce as well as the shareholders and relevant authorities in the UAE, that health & safety are being managed defectively within ADNOC Drilling.

## Scope of Work

- Updating/development of safety cases for onshore, offshore & island rigs
- Carry out drop object surveys for onshore, offshore & island rigs
- Carry out working at height audits for onshore, offshore & island rigs
- Carry out noise surveys for onshore, offshore and island rigs
- Carry out rig move audits for onshore rigs

## Deliverables

1. Safety case study reports for onshore, offshore & island rigs
2. Drop object survey reports for onshore, offshore & island rigs
3. Working at height audit reports for onshore, offshore & island rigs
4. Noise survey reports for onshore, offshore & island rigs
5. Rig move audit reports for onshore rigs





**Client:**  
Exalo



**Location:**  
Pakistan



**Region:**  
South Asia



**Services:**  
Drop Object Survey of  
Onshore rigs



## Objective

The objective involved in conducting these audits/surveys/studies is to lead to a greater health and safety awareness amongst the worker's and management of EXALO onshore rigs. All the risks to the worker's health, equipment safety & environment are effectively managed and sufficient barriers are there to control these risks in compliance with EXALO HSE procedures and guidelines. Another objective is to provide a platform for demonstrating to the workforce as well as the shareholders and relevant authorities in Pakistan, that health & safety are being managed effectively within EXALO Drilling.

## Scope of Work

The Dropped Objects Survey includes a DROPS Management System verification, a visual mast inspection & an inspection covering all the equipments installed at height around the rig that is not an integral part of the structure on which it is mounted. This includes areas that are not limited to the substructure, mud section and general walk through areas etc. The Dropped Objects Survey will identify potential hazards and review the drilling contractors' Dropped Objects management system and its effective implementation.

## Deliverables

Detailed Drop Object Survey Report comprises of the below contents:

- Identification of potential causes of drop objects on the rig
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- Risk assessment for all drop objects with pass/fail status & high, medium & low risk levels
- Recommendations to improve safety of the drop objects
- Development of drop objects checklist for inspection by rig crew on weekly basis
- Action tracking register of all open findings of the survey
- Training of rig crew for drop objects awareness



**Client:**  
ADNOC Refining



**Location:**  
Abu Dhabi, UAE



**Region:**  
Middle East



**Services:**  
Integrity and Remaining  
Life Assessment



### Objective

The objective was to perform Health, Safety and Environmental Impact Assessment (HSEIA) for the New Linear Alkyl Benzene (Lab) Complex at Ruwais

### Scope of Work

ADNOC & CEPESA are jointly setting a new processing facility to produce LAB & NPF at Ruwais site, consisting of One Kerosene prefractionation unit, One Distillate union fining unit, One Molex unit, One Pacol unit, One PEP unit, One Detal plus unit, & a hot oil system.

In addition to process units mentioned above the LAB complex is endowed with a tank farm of sites & utilities

### Deliverables

- Best Available Techniques Review
- HSECES Performance Standards and Written Scheme for Examination
- Noise Assessment Study and Contours (includes modeling and mapping)
- Review Inherent Safe Design
- QRA
- Fire Risk Assessment
- Building Risk Assessment
- H2S & SO2 Dispersion Analysis
- Emergency Escape and Rescue Assessment (EERA) including the toxic gas refuge design
- Emergency System Survivability Analysis Study (ESSA)
- Review the Fire and Gas Detection Mapping Study
- Review the SIL Assessment and Verification Study
- Review the Flare & Vent Dispersion Study
- Review Toxic Gas Refuge Impairment Assessment (TRIA)
- Conduct SIMOPS Workshop
- Conduct Risk Reduction (ALARP) Workshop
- Actively participate in PHSER Workshops
- Study and provide report for Control of Major Accident Hazards (COMAH)
- Review the Deviation Management Register
- Review Design HSE Plan
- Review HSE Plan for Early Works
- Review Human Factor and Ergonomic Study
- HAZID/ENVID/OHID Workshops
- HAZOP Workshops
- Bow-Tie Workshops
- Air Dispersion Modelling
- Effluent Dispersion Modelling
- EIA Report
- HSE Management System (HSEMS) Review and Analysis
- HSE Management System (HSEMS) Review and Analysis
- Pollution Prevention and Control Compliance Study



**Client:**  
Qatar Petroleum



**Location:**  
Dukhan, Qatar



**Region:**  
Middle East



**Services:**  
Quantitative Risk Assessment (QRA)



## Objective

The objective of the contract was to provide a technical survey and HSEF QRA study for the facilities. The technical survey shall enable QP to be aware of the current risk status (non-conformities) in the Facilities by department & asset. The findings of the technical survey shall be carried forward into the HSEF QRA study which outcome shall be risk-based recommendations for risk reduction (closing of gaps to ALARP) where necessary with clear, feasible and prioritized recommendations consisting of potential corrective measures/actions and improvements for risk reduction to ensure safe operations.

## Scope of Work

### Phase I:

To conduct a baseline technical survey of the Facilities which findings shall be further used as input to the HSEF QRA study. The survey shall enable QP to be aware of the current risk status and non-conformities.

### Phase II:

Upon completion of the Phase-1 (Technical Survey) and approval by QP of related deliverables, the next phase shall be the execution of the HSEF QRA study for all Dukhan Facilities.

### Phase III:

To conduct QRA study for 37 critical pipelines & 73 critical wellheads.

## Deliverables

1. Technical Survey Reports of all Dukhan Fields (20 facilities)
2. Quantitative Risk Assessment Study of all Dukhan Fields (20 facilities)
3. Combined Quantitative Risk Assessment Study for all Dukhan Fields (20 facilities) & 37 critical pipelines & 73 wellheads



**Client:**  
ADNOC Refining



**Location:**  
Abu Dhabi, UAE



**Region:**  
Middle East



**Services:**  
FEED Phase-HSEIA Study



## Objective

General Utility Plant (GUP) is the main power and water hub for Ruwais industrial sector as well as for Ruwais residential sector with an installed power generation capacity of 650 MW and water production of 14 MIGD. The objective of WHRP was to produce high energy steam for improving energy efficiency and reducing environmental impact.

## Scope of Work

### FEED Phase:

Velosi is appointed by ADNOC Refining to carry out a Health, Safety and Environmental Impact Assessment (HSEIA) study of the FEED Stage for this project. The scope of the project is to recover waste heat to produce high energy steam (HP) and water for improving energy efficiency and reducing environmental impact through:

- Addition of one (1) new dual pressure waste heat recovery boiler at GTG-24 exhaust
- Replacing existing WHRBs of GTG-25,26 & 27 with three new dual pressure WHRBs to utilize the maximum potential of exhaust heat from these GTGs
- Addition of two new steam Turbine generators and MED type Desalination units proposed to produce more power & desalination water utilizing the steam produced from four WHRBs
- Associated deaerators, BFW pump, blowdown drums, seawater supply pumps, desalinated water storage tanks & transfer pumps to be considered

## Deliverables

- HAZID/ENVID/OHID Workshops & Study
- EIA Scoping and Screening Study Study
- HSEIA Scoping Study
- HEMP Register
- OHRA Study
- QRA Methodology & Assumption Register
- HSEMS Review Analysis Study
- PPC Study
- Air Dispersion Modeling
- QRA Study Study
- EIA Study
- Noise Assessment Study
- ESSA Study
- F&G Mapping Study
- EERA Study
- SIMOPS Workshop Study
- ALARP Demonstration Study
- Fire Risk Assessment Study
- Bow-Tie Assessment Study
- COMAH Study
- FEED Phase HSEIA Study





**Client:**  
BOROUGE



**Location:**  
Abu Dhabi, UAE



**Region:**  
Middle East



**Services:**  
FEED Phase-HSEIA Study



## Objective

The objective of Carbon Black Master Batch (CBMB) was to produce the carbon black powder which is used for coating power cables to protect from ultraviolet rays and weather conditions. Carbon Black Master Batch (CBMB) is used as a UV Stabilizer.

## Scope of Work

### FEED Phase:

The HSEIA scope of work for the new CBMB Project which will be located within the BOROUGE 3 facilities, and shall include, but not limited to:

- Design, supply, testing and installation of CBMB Plant with 2 lines each of 3.5 t/Hr. including the raw material & finished product handling with provision to install third line.
- Product handling
- New substation and new SIS
- IPCS & integration with the existing Borouge-3 system.
- Modifications of existing facilities outside the CBMB plot
- New control room
- Instrumentation and Automation tie-ins in existing BOROUGE-3 CCB
- Integration with existing BOROUGE 3 facilities, including expansion wherever required
- Utilities tie-ins with existing B3 U&O3
- Electrical power tie-ins from XLPE substation of B3 plant
- Connecting roads with existing plant

## Deliverables

- Technical Bid Evaluation
- HAZID/ENVID/OHID Workshops Procedures & Study
- QRA Methodology & Assumption Register
- OHRA Study
- HSEMS Review
- EIA Study
- Environmental Baseline Scoping
- ESSA Study
- Quality Performance Standards
- HSECES Performance Standards
- Dust Explosion Study
- QRA Study
- Bow Tie Workshop Procedure
- Bow-Tie Assessment Study
- COMAH Study
- FEED Phase HSEIA Study



**Client:**  
ADNOC LNG



**Location:**  
Abu Dhabi, UAE



**Region:**  
Middle East



**Services:**  
Implementation of VAIL  
Plant Software



## Objective

ADNOC LNG intended to acquire a customized Inspection Management System software package. The implementation included assisting the user department to migrate and clean up the existing inspection and other relevant data, train the user department on administering the system, installation of the system and provide post implementation maintenance and support of the system.

## Scope of Work

- Supply of software package for the Inspection Management System
- Customization of the Inspection Management System to meet the user requirements
- Assist users to clean up and migrate the existing inspection and other relevant data
- Train the users in using/administering the system
- Provision of services for installation of the system
- Post implementation maintenance and support of the system.
- Documentation

## Deliverables

Following seven (7) modules of VAIL-Plant Inspection Management System were supplied and installed with complete implementation for ADNOC LNG along with provision of documentation and User Training:

- PEMS - Pressurized Equipment Management System
- PSVMS - Pressure Safety Valves Integrity Management System
- SIMS - Structure Integrity Management System
- LEMS - Lifting Equipment Management System
- MEMS - Miscellaneous Equipment Management System
- CPMS - Cathodic Protection Management System
- ISMS - Inspection Schedule Management System

Currently, ADNOC LNG have an Annual Maintenance Contract with Velosi to receive yearly VAIL-Plant Software Maintenance and Support services.



**Client:**  
SNGPL



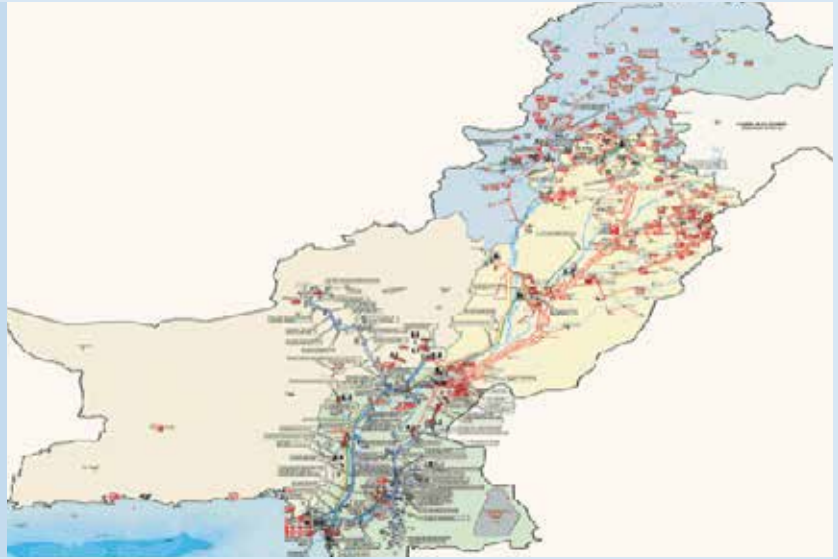
**Location:**  
Pakistan



**Region:**  
Asia



**Services:**  
Pipeline Integrity Management Program (PIMP), Risk Based Inspection (RBI), Software Implementation



## Objective

Strategized Pipeline Integrity Management Program (PIMP) for SNGPL's pipelines and stations in order to equip SNGPL with a transparent and auditable working method to identify degradation mechanisms while proposing effective risk mitigation of earmarked assets. Development of Pipeline Integrity Management Program (PIMP) Software in accordance with ASME B31.8S.

## Scope of Work

### PIMP:

Development of Pipeline Integrity Management Manual in line with ASME B31.8S. Implementation of PIM Program (PIMP) includes all the required field surveys & activities for 2 Buried Pipelines, Sales Metering Station & 1 Over Head River Crossing Line.

### Training:

Comprehensive Training and hands on familiarization of SNGPL Engineers and IT Officer during development, implementation of PIM Manual and designated software.

### VAIL Plant Software:

Development of customized software in accordance with ASME B31.8S for various modules.

## Deliverables

### 1. Asset Integrity Management System:

- Implementation of PIM Program (PIMP)
- PIM Manual (ASME B31.8S)
- Comprehensive Training of VAIL-Plant software to SNGPL engineers
- Preparation of Standard Operating Procedures (SOPs)

### 2. VAIL Plant Software Modules:

- PEMS - Pressurized Equipment Management System
- PIMSON - Pipeline Integrity Management System Onshore
- ISMS - Inspection Schedule Management System
- EIRMS - Electrical Instrumentation Rotary Management System
- CPMS - Cathodic Protection Management System



**Client:**  
Dragon Oil



**Location:**  
Turkmenistan



**Region:**  
Central Asia



**Services:**  
Software Supply &  
System Implementation  
Documentation,  
training & support



## Objective

Dragon Oil required a robust Asset Integrity Management Software tool to manage the integrity of assets support all of its assets Onshore & Offshore Pipeline, Pressurized Equipment, Structures, PSVs, Electrical & Rotatory equipment.

The software was intended to store all relevant data in accordance with industry or other relevant standards, allow for future upgrades and future developments of modules to enable a variety of analyses that are expected to be used for decision-making.

## Scope of Work

- Software System Supply
- System Implementation
- Documentation
- Training
- Maintenance and Support
- Pilot study for Topside Equipment (94), Process Piping (160), Structures Platforms (3) & Pipeline (5)

The software should be able to integrate into the Oracle E-business Suite applications database and handle inspection records for the following asset types:

- Pressurized Equipment & Piping
- Pressure Safety Valves (future)
- Onshore Pipelines
- Jacket Structures
- Offshore Pipelines

## Deliverables

VAIL-Plant Software, which is an **Asset Integrity & Inspection Management Application** developed on modular approach to meet all the objectives of Dragon Oil Turkmenistan Limited. The following modules of VAIL-Plant were successfully implemented for Dragon Oil Turkmenistan Limited along with training, User Acceptance Testing and pilot study:

- PEMS - Pressurized Equipment Management System
- PIMSON - Pipeline Integrity Management System Onshore
- PIMSOFF - Pipeline Integrity Management System Offshore
- SIMS - Structure Integrity Management System
- APMS - Asset Performance Management System
- ISMS - Inspection Schedule Management System
- PSVMS - Pressure Safety Valves Integrity Management System
- EIRMS - Electrical Instrumentation Rotary Management System
- CMMS Interface (ORACLE interface module)





**Client:**  
Dragon Oil



**Location:**  
Iraq



**Region:**  
Central Asia



**Services:**  
Asset Integrity Management System (AIMS), Risk Based Inspection (RBI), Software Implementation & Training



## Objective

The development, implementation and support of RBI programs for field production facilities and pipelines during phase 1 and phase 2 development of the West Qurana-2 Field.

Implementation and maintaining RBI system properly, improves plant reliability and safety while reducing unplanned outages and repair costs.

Implementation of RBI helps to:

- Select cost effective and appropriate maintenance and inspection tasks
- Shift from a reactive to proactive maintenance regime
- Produce an auditable system
- Implement a risk management tool (VAIL-Plant)

## Scope of Work

- Development of Asset Integrity Management Systems
- Perform specific corrosion study for each equipment, piping & pipelines. Implement the RBI program for inspection data management and RBI analysis
- Development of Written Scheme of Examination
- Development of RBI software with inspection data management capabilities
- Integration of RBI Software with ERP system (SAP)

## Asset Count:

Asset Type	Length (Km)
Pipeline 1	3.8
Pipeline 2	6.7
Pipeline 3	4.4
Pipeline 4	4.4
Pipeline 5	6.3
Total	25.6

Asset Type	Total Count
Equipment	263
Piping System	4096
Total	4359

## Deliverables

### Asset Integrity Management System:

- Comprehensive RBI Program for Equipment, Piping & Pipelines, along with Results and Conclusions
  - Remnant Life Assessment
  - Inspection Plan
  - Failure Rate and Risk Allocation
- Written Scheme of Examination

### VAIL Plant Software Modules:

- PEMS - Pressurized Equipment Management System
- PIMSON Pipeline Integrity Management System Onshore
- ISMS Inspection Schedule Management System

# Some of our Clients

# WE AIM TO PROVIDE HOLISTIC SOLUTIONS FOR ALL YOUR ASSET REQUIREMENTS





# **Velosi**

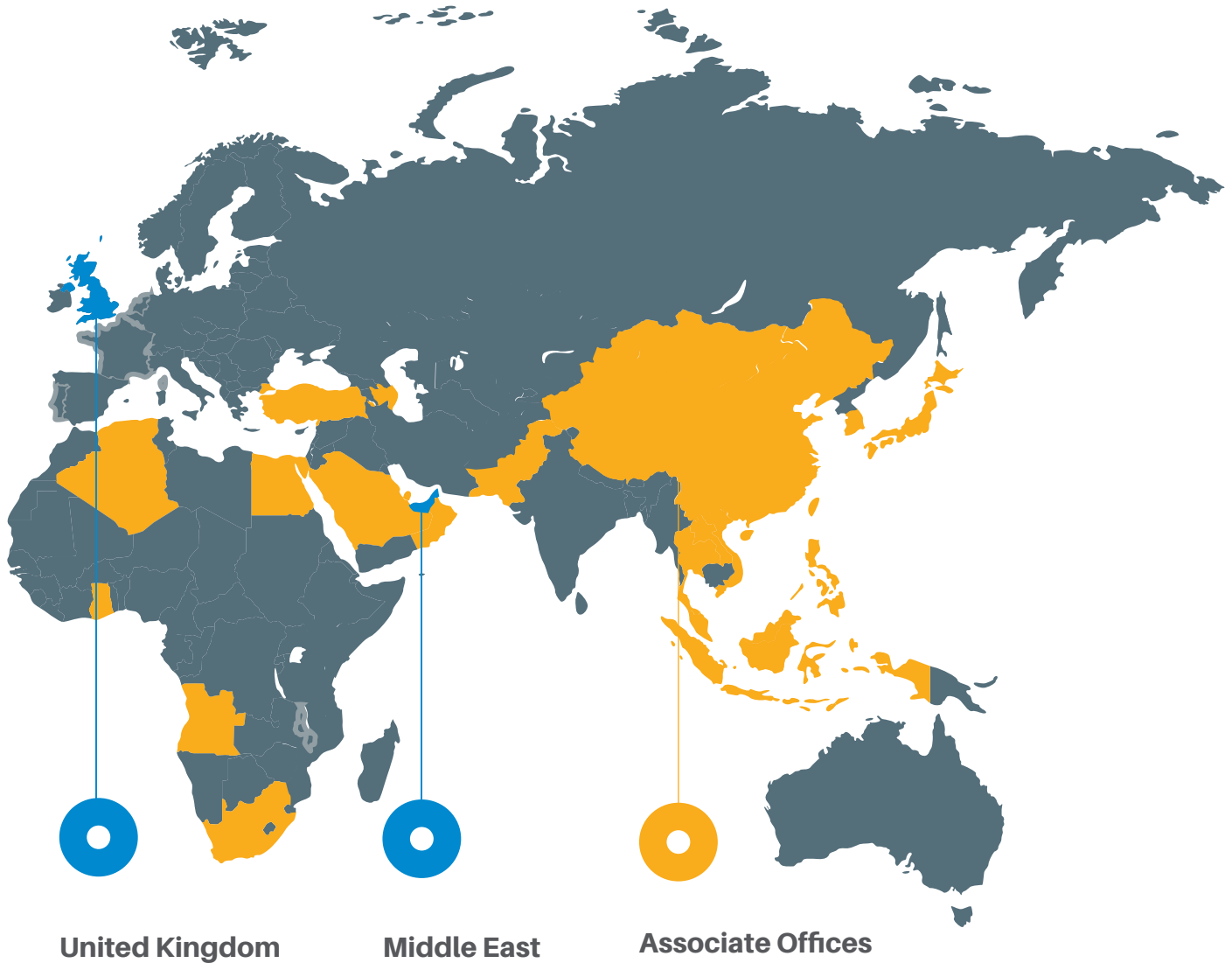
## Worldwide Existence

We operate globally through our associate offices in Africa, Asia, Europe, and Middle East. Our corporate office is in UK and Head office in UAE (Abu Dhabi). We have associated offices in 38+ countries worldwide. With local staff and local knowledge, we are uniquely positioned to support companies that need to control operations remotely or in unfamiliar territories.





# Velosi **Worldwide**



**United Kingdom**

**Middle East**

**Associate Offices**



**UK Office (Corporate Office)**

United Kingdom (Jersey)



**Middle East Office (Headquarters)**

United Arab Emirates (Abu Dhabi)



**Associate Offices Worldwide**

Algeria, Angola, Bahrain, Brunei, Cambodia, China, East Timor, Egypt, Ghana, Indonesia, Japan, Kuwait, Laos, Malaysia, Mongolia, Myanmar, Oman, Pakistan, Philippines, Qatar, Saudi Arabia, Singapore, South Africa, South Korea, Taiwan, Thailand, Turkey, Vietnam

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