ASSET MANAGEMENT SERVICES

Petrofac Engineering & Production Services
Introducing Petrofac

Petrofac is an international service provider to the oil and gas production and processing industry. We have been supporting the industry for over three decades. More than 13,500 Petrofac people support our operations in 29 countries worldwide.

Nothing matters more to Petrofac than the safety of our people.

Our vision is to reach Horizon Zero; a future with no safety incidents.

Our safety culture is entrenched in everything we do, supported by a series of programmes and campaigns that underpin our vision and our commitment to continuous improvement in this area. We reinforce our safety culture through initiatives such as our Golden Rules of Safety, Right Choice, Safe Choice messaging and our Core Safety Behaviours programme. This is supported by our Control of Work and Lessons Learned tools.

In October 2016 we attained 77 million man-hours worked across our Group with no Lost Time Incidents (LTIs).

We believe in:

- Strong and sustainable safety leadership
- Continually raising standards to improve our health and safety performance
- Effective management of integrity
- Communicating internally and sharing lessons across our industry
- Ensuring our workforce is fully engaged

Introducing Petrofac Services

A key area of our capability is Asset Management Services. We support our clients to manage and maximise value from their assets and systems. We help them achieve optimised performance at minimum cost and acceptable risk, whilst ensuring compliance. Our capability and experience helps existing and new clients on their journey; whether that’s at project start-up, through ongoing and late life operations or onto decommissioning.

Asset Management Services

Our Asset Management Services are an integral part of our wider Engineering & Production Services capability. We integrate these services where appropriate to unlock value for our clients across the asset life cycle.
Our services

Through our specialist team of consultants, we identify and deliver solutions across the asset life cycle. As part of this we address the various contributors to asset performance to help our clients achieve safe, reliable and effective performance.

We provide significant value, including:

- Improved safety and integrity
- Increased reliability and availability
- Reduced cost
- Assured compliance
- Management of risk

The below diagram gives an overview of how our services fit together and can complement each other.

Across our portfolio we are responsible for developing and assuring the maintenance and integrity programmes for assets with a combined value of over US$150 billion. Our consultants are experienced in a variety of sectors including oil and gas (upstream, midstream and downstream), chemicals and power (including renewables).

Supported by our wide reaching service capability we identify opportunities and can support their realisation.

Whether you are looking for consulting or managed services we have the in-house resources to define and realise asset improvement.

PERFORMANCE CONSULTING:
Benchmark the current state of asset performance and identify opportunities for improvement

ENTRY POINT:
If opportunities for improvement are unknown

TECHNICAL CONSULTING:
Deliver the necessary documentation, processes and plans to realise the opportunities

ENTRY POINT:
If opportunities are known but solution unknown

MANAGED SERVICE:
Our specialist teams will achieve and sustain the desired improvement

ENTRY POINT:
If solutions are known and execution is needed

ISO ACCREDITED
We are an ISO accredited supplier (ISO9001:2015) and understand the importance of quality in every project we deliver. Through our bespoke processes and leading technical authorities we strive to ensure all deliverables are right first time, every time.
Performance consulting

We benchmark physical assets to identify opportunities for improvement and define a practical approach for their realisation.

Using our knowledge, protocols and benchmarks, and evaluation of the maturity of your approach in relation to international standards and your own objectives, we can:

- Address all the contributing elements to asset management
- For new assets, establish best practice from day one of operations
- Provide assurance that existing performance is on track with targets
- Drive improvements for existing assets to achieve sustainable performance
- Benchmark processes, standards and safety across multiple assets/locations
- Help ensure compliance with standards, along with the adoption of industry best practice

Through our technical consultancy and managed services, we can provide a one-stop implementation solution, working directly with clients to realise the opportunities identified.

Our highly experienced consultants address six complementary areas necessary for an effective asset management approach.

Enhanced by AssureME

AssureME, our proprietary tool for performance consulting, acts as a repository for the information gathered during an assessment. Our consultants use the tool to store and rank a client’s approach to all aspects of physical asset and infrastructure management, across six key areas. AssureME is robust enough to cover the complete asset management spectrum down to individual contributing elements such as maintenance.

AssureME delivers a complete report, aligned to the principles of ISO 55000, an increasingly recognised standard for good asset management practice, as applied to the management of physical assets.

We use this report to:

- Provide a thorough insight into current activities
- Assess activity maturity against good practice
- Identify opportunities for improvement
- Prioritise these opportunities in relation to the achievement of specific business objectives
Technical consulting

We develop asset management systems, processes, programmes and competency solutions that deliver performance objectives. Our solutions are tailored to each client’s requirements.

Our solutions range from the provision of operations readiness to maintenance, inspection and inventory optimisation, right through to late life asset management and decommissioning strategies.

Our consultants develop fit-for-purpose business processes, that underpin the achievement of operational excellence.

We ensure seamless business level integration of information management by considering enterprise asset management (EAM), enterprise resource planning (ERP), engineering and production management systems as part of our clients’ business systems strategy.

Our solutions range from the provision of operations readiness to maintenance, inspection and inventory optimisation, right through to late life asset management and decommissioning strategies.

Our consultants develop fit-for-purpose business processes, that underpin the achievement of operational excellence.

This comprehensive solution can address the complete asset management spectrum or be targeted to specific elements.

We develop practical solutions that deliver results, drawing upon our breadth of capability and asset management experience in challenging environments.

The delivery of these services is enhanced by our in-house BuildME™, CBMnet and AIRS solutions.

Enhanced by BuildME

As a cloud-based application, BuildME can be used to support short term objectives such as programme reviews, data cleansing or planning optimisation. It can also be used for continuous data sustaining activities such as managing the change of Computerised Maintenance Management System (CMMS) master data.

Once integrated into your management of change processes, BuildME is then available for any future projects or modification works. This removes the requirement for many other additional software licenses normally required to complete project based activities.

BuildME contains modules to manage: tag data and hierarchy, critically assessments, maintenance and inspection programmes, maintenance strategy libraries, risk based inspection assessments, piping vibration assessments and material (spares) data cleansing.

It incorporates significant knowledge gained from our extensive experience working globally with many different asset operators in a range of environments.

Together with our technical delivery models, BuildME ensures cost-effective, time-efficient, auditable development or review of asset management data.

BuildME can enable immediate results, through easy implementation into client EAM, ERP or CMMS systems.

AREAS OF FOCUS AND TYPICAL SERVICES

- Safety critical element identification and performance standard development
- Integrity assurance reviews
- Design verification
- Criticality assessment
- Risk analysis
- Maintenance and integrity programme optimisation
- Availability and reliability studies
- Condition monitoring
- KPI framework and visualisation
- Maintenance and integrity programme development
- Maintenance strategy development
- Mechanical integrity (including risk based inspection, vibration, fitness for service and benchmarking/audit)
- Inventory and spares optimisation
- Evaluation of current processes and systems
- Process mapping
- Systems and technology selection and implementation
- Data development and enhancement

- Asset management policy and strategy
- Investment planning and decision support
- Late life asset management strategy
- Organisation design
- Manpower planning
- Technical competency assessment
- Resource profiling

- RISK AND COMPLIANCE MANAGEMENT
- STRATEGY AND DECISION MAKING
- PERFORMANCE
- PEOPLE AND ORGANISATION
- PHYSICAL ASSETS
- SYSTEMS AND PROCESSES
Managed services

We can provide manpower, functional support and supervision to realise the strategies identified through our performance and technical consulting services. We draw upon our expertise from full service operatorship through to operations and maintenance, brownfield rejuvenation, and specific asset optimisation strategies, to drive efficiencies, optimisation and uptime.

Enhanced by CBMnet

CBMnet is our internet-enabled management reporting tool that allows clients to optimise maintenance and manage the risk to delivery of their business objectives through the assessment of critical rotating machinery condition.

CBMnet collates condition-based maintenance information, reports risk levels, assesses schedule compliance and provides clients with recommendations for action. It is a bespoke solution designed to meet the needs of the oil and gas industry.

CBMnet provides a complete integrated service from design to operation. Starting with the development of condition-based maintenance strategies and criticality assessments, through to system specification/configuration, training, baseline surveys and acceptance testing, we implement fit-for-purpose condition monitoring programmes.

These programmes are then supported through the asset life cycle by our team of experienced analysts and consultants.

SERVICES INCLUDE:

**COMPLETE ASSET MANAGEMENT:** A full asset management solution that aims to deliver reduced OPEX and improved production and efficiency in line with each client’s strategy for asset growth.

**FUNCTIONAL SUPPORT:** A complete service to address specific asset management requirements to meet each client’s needs. This includes condition monitoring, CMMS management and administration and reliability.

**MANPOWER AUGMENTATION:** Specialist asset management skills and capability to work within client teams.
Supporting technologies

We develop proprietary asset management software solutions that ensure effective, efficient and consistent delivery of all our services. This includes:

**AssureME**
Stores the information gathered as part of our performance consulting assessment and acts as a ranking system to understand the performance of all aspects of a client’s asset management system.

**BuildME™**
Integrates the management, quality control and enhancement of asset management data and information to build specific programmes for performance improvement. Provides ease of implementation into client EAM, ERP and CMMS systems.

**CBMnet**
Optimises maintenance and manages the risk to delivery of client business objectives through the assessment of critical rotating machinery condition.

**AIRS**
Integrates integrity management with audit tracking and associated risk mitigation to help clients identify and evaluate threats to asset integrity performance.

**SkillsVX**
An integrated training and competence management system with market leading features, such as low bandwidth optimisation and the ability to compute multiple matrices and roles.

**Computer-based training**
Supports the delivery of our blended learning solutions, combining class-room based and on-screen training elements. We have a library of eLearning modules and can develop bespoke materials.

**WellAtlas®**
A comprehensive, integrated, web-based, project management system with a bespoke project hierarchy. It provides clients with complete visibility, transparency and auditability of our and their own projects.

**POISE**
Primary screening of study options that can dramatically save time at the concept selection project phase and assist clients in their decision making processes.

In-house delivery technology

A set of well-established systems and processes, support our people. By using a mixture of best-of-breed commercial applications and nimble, built for purpose in-house applications we achieve high quality delivery, with flexibility for individual client requirements.

BESPOKE SOLUTIONS

We recognise the important role that technology has to play in ensuring safe and efficient asset management. As such, we have developed relationships with a range of world-class technology providers. Through these partnerships we can incorporate their technologies in the development of asset management solutions to meet specific client requirements.

Further information can be provided on request.
Our track record

PERFORMANCE CONSULTING
We identified opportunities to improve maintenance management, execution strategies and associated support for a number of onshore and offshore assets in the UK and Europe. These opportunities gave the client the necessary strategy to realise major cost savings.

We conducted a complete maintenance effectiveness assessment. This included high level maintenance strategy, work planning and execution, performance standards, reliability, condition monitoring and integrity management, amongst others. To gather the data we conducted interviews with client personnel and reviewed relevant documentation. Findings were recorded and scored using our in-house tool, AssureME, to provide an overview of the client’s approach to maintenance.

64 recommended actions were presented in total, with about half classed as high priority. Actions included improvement opportunities and the practical solutions needed to achieve their realisation, along with best practices to follow.

By adopting these changes, the client will be able to unlock value through improved maintenance performance and reductions in associated OPEX.

TECHNICAL CONSULTING
We completed a safety management system audit and associated programme development and delivery for a major international oil company. This was achieved over a five year period through a continuous cycle of audits across the client’s North Sea assets.

The audit programme provided an assessment of the client’s safety and risk management system procedures and processes. It also consisted of a visual inspection of the facilities, concentrating on those areas highlighted as being of immediate concern. The relevant documents, drawings, standards, guidelines and records were examined both onshore and offshore. Interviews were held with management, operators, staff and contractors to determine how the guidelines, standards and procedures were being used in practice.

Thanks to this long term, rolling programme we provided the client with assurance on the risk management of major accident hazards and compliance with statutory legislation and their compliance management framework.

MANAGED SERVICES
For thirteen years we have been the condition monitoring provider for a fleet of global FPSO vessels. This has included strategy development, criticality analysis, systems specification and procurement. We have also provided training for client personnel in the fundamentals of condition monitoring, condition based maintenance, data collection and analysis.

This service has been enabled through our proprietary CBMnet software which stores the data for each item of machinery along with associated vibration data assessment and maintenance recommendations.

As a result of our work the client has been able to move from a reactive to a proactive approach towards maintenance and realise the benefits of predictive based maintenance. This includes reducing through life costs and avoiding catastrophic failures by focusing maintenance on the areas of highest risk.

The Petrofac difference
By combining the capabilities and experience held across our business, we deliver optimised solutions to offer a truly differentiated service:

- Flexible and responsive organisation with global resource and capability
- Global track record across a diverse range of assets
- Services span the complete asset life cycle from operations readiness to normal operation through to late life and removal
- Integrated, specialist in-house services give us the ability to identify solutions and implement them
- Proven systems, tools and processes that ensure effective, efficient and consistent delivery of all our services
- Proprietary software allowing for ease of implementation into client systems and faster realisation of the benefits
- A committed and process driven approach to getting it right first time including meeting the requisite priorities of safety, environment, and reputation