



Asset Integrity Management Software



Offshore • Subsea • Onshore

Integrity management for all components and infrastructure.

ONE - past, present and future efficiency

ONE - Asset Integrity Management Software

Provides engineers with the information they need on a daily basis to **make decisions**.

ONE provides each client with a single source of knowledge and fact. **Standardised and centralised**, without reverting to spreadsheets or legacy systems.

By reducing the number of systems used to **track anomalies and components**, ONE enables increased visibility and accountability within organisations.

ONE's functionality continues to be specified by **oil & gas experts**, Integrity Engineers and consultants from around the world, developed by IQ Integrity into the **new standard** for Asset Integrity Management Software.



Trusted to support multi-discipline asset integrity on
worldwide Offshore, Onshore, Subsea and Pipeline assets

Anomaly / Defect Management

Track anomalies throughout their life cycle, from the point they are discovered, managing all repair and mitigation tasks, to final close out on any asset and equipment type.

Workpacks and Inspections

Create workpacks and send to your workforce via online, PDF or Mobile Device tasks. Works with any compatible device, including intrinsically safe hardware.

Risk Based Assessment (RBA)

Transparently generate RBA's and calculated inspection frequencies; on any component or other system element.

Component Asset Register

Dynamically adjusts to suit your evolving asset register requirements. Record any information for any component, at a level that suits your organisation.

Performance Standards

Complete Performance Standards module functionality, including change management. May be linked to Components and barrier management.

Reporting and KPIs

Centralised Performance Management, allowing reporting on a per Asset or Field level, from component status through to individual task tracking.

Key Benefits

ONE sets the new standard for Asset Integrity Management Software.



Efficiency

Streamlined and comprehensive standard workflows, to enable informed decisions and reduce user errors.



Accountability

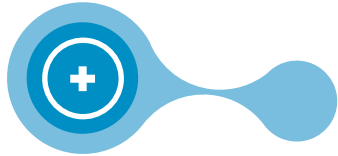
Full transparency on all user generated actions and data changes throughout the application.



Cost Reduction

Reduce multiple handling of data, saving time and money while maintaining the integrity of each asset.

ANOMALY / DEFECT



Anomaly Details

Easily search and associate a component to the anomaly. Add information including leak state, priority, location and damage mechanism.



Testing Information

Record and trend testing and inspection information for multiple points and features for each anomaly.



GPS Location

Using either Latitude/Longitude or Easting/Northing, store multiple GPS information for each Anomaly. Overlay components and anomaly data on combined heatmaps.



Documents / Pictures / Videos

Upload documents, pictures and videos for each anomaly. User defined file categorisation allows fast and easy location of key information from a central source.



Integrity Recommendations

From initial anomaly discovery, through mitigation and to close out, authoritative recommendation and updates are recorded by key personnel on each anomaly.

In 2009, we asked the **North Sea integrity management community** what the requirements were to manage their multiple common repair registers and remove the historic problems; which were predominately centered around spreadsheets. We applied our software engineering knowledge and created the first **standardised anomaly management system**.

Defects includes our **industry standard anomaly creation wizard** to ensure the information you need is captured from the initial reporting of the issue.

Supporting **documents, images and video clips** can be stored within each anomaly. Users add recommendations, assessments and review

comments directly to each anomaly record. All changes to the anomaly details, status or completion timeline, **require a justification comment**, which is stored in each anomaly's individual history log.

Providing a **fully transparent and comprehensive history** log helps ONE users manage anomalies appropriately and to a safe conclusion, which also assists during HSE and compliance audits. A range of **remediation and mitigation task types** may be added to each anomaly, to detail the work which the assessment driven outcome requires.

An **extensive suite of live and historic anomaly reports** have been developed based on client

users requests - to visually represent the status, parameters and monthly trends of all anomaly data types.

This reduces the time to **collate key management information**, in some cases from days and hours, to a single click of a button.

Our clients tell us that there is no other anomaly management system for oil & gas operators, which offers a fraction of the benefits that ONE provides for them.

ONE has **completely revolutionised our clients anomaly management**: reverting back to spreadsheets is not an option.

“The implementation of ONE has significantly increased the visibility and control of anomalies, therefore reducing the overall risk profile of our assets.”

Kevin Young, Asset Integrity Team Leader



Tasks

Create unlimited independent tasks, and sub-tasks, per anomaly. Each task can be assigned against key departments, groups or individuals, with their own completion dates and priority.

Send Notification

Email the relevant user group for the asset or anomaly, keeping them updated on the progress of the anomaly at any stage.

Assessment / Review

All staff, onshore and offshore, can assess and review the anomaly at any time, to provide advice and updates as appropriate.

Completion

As each task is independent, they can be marked as completed during the lifecycle of the anomaly. Once all tasks are complete, the anomaly is closed by authorised users.

Close Out

Closing the anomaly indicates all the tasks and supporting work have been completed. All Open and Closed anomalies are searchable.

Additional Features:

- Use on any asset type: Offshore, Onshore, Subsea & Pipelines
- Use with any equipment types, including Pressure Containment; Structural; Mechanical; Pipeline
- Industry standard workflows and customisable actions
- Wizard based anomaly creation workflow
- Single solution for all anomaly types including Fabric Maintenance; Engineering replacements and repairs; Temporary Repairs.
- Stores ongoing assessments, recommendations and comments
- Capture authoritative reviews and sign offs
- Calculate and record risk and/or priority per anomaly
- Integrates with ONE's Component Asset Register
- Over 30 live and historic trend reports
- Import legacy repair register data and documents
- Recognised best practice solution by the UKCS Step Change in Safety organisation
- Exceeds requirements of UK HSE-OSD KP4

Module Benefits:

- Central source of anomaly management, analysis and reporting
- Drives standardised anomaly data input from discovery to closeout
- Visibility of all anomalies on multiple assets in a single window
- Maintains a live Temporary Repair register
- Improved risk perception and visibility
- View open & closed records by dates, system, location and a range of search parameters
- Apply remedial and mitigation task types
- Track & trace progress by task type, assigned action party and due dates
- Knowledge transparency benefits from day ONE
- Fast implementation and rapid efficiency improvement
- Minimal training required, standard users require less than an hour on average.
- Readily adopted, accepted and relied upon by personnel at all levels and job roles.
- Large reduction in administration time and upkeep of anomaly information
- Cost reduction by using up to date information for informed decisions

COMPONENT ASSET REGISTER

ONE's Component Asset Register is the Integrity Backbone.

Each Asset - which is a physical site - has its own **independent component asset register**. Standard templates and terminology ensure common references and reporting across the entire organisation.

This module is a highly functional replacement for the many spreadsheets which may be in use by integrity engineers **onshore and offshore** to assist with their daily work.

ONE may also be used to replace complex older systems which may not provide the **ease of operation** and flexibility built into ONE.

After consulting with many asset integrity professionals about their ideal Component Register, they requested a **modern and flexible alternative** to their legacy systems.

Key to the module is a system of rapidly **configurable attributes** and equipment templating, **defined by each client**.

This enables large or small changes **without any time delay** or, bespoke software development.

ONE's Component Asset Register was built to enable key functions foremost, **reducing complexity** and simplifying operations.

When delivering ONE, the Component Asset register is implemented and configured to **meet your company requirements** at every level.



Additional Features:

- Standard solution for all component registers
- Use on any asset type: Offshore, Onshore, Subsea & Pipelines
- Use with any equipment types, including Pressure Containment; Structural; Mechanical; Pipeline
- Easily customisable content structure and terminology
- Store fixed and updateable attribute details for any equipment type
- Links to anomalies on each component
- Add one-off or repeating maintenance, inspection and other task types
- GPS references to overlay with built in map views
- Condition monitoring storage attributes
- Links to Systems, Performance Standards, fluid types and all other asset definitions
- Links to Risk Based Assessment module
- Import components and all data from external sources

Module Benefits:

- Single point of reference for all components and related activity on all sites
- Live bi-directional link to anomaly records per component and sub components
- Automatically include component data within anomaly records
- Helps with maintaining production availability
- Enables a 'build as you need' approach, reducing implementation time
- Operating status history and dynamic dashboards
- Maintenance shift handover outputs and knowledge base
- Central P&ID register per site, linked to components
- Search for components by any combination of attribute values or ranges
- Reporting outputs by component and equipment type
- Easy to use, no complex user interface

“ONE gives us a simple but robust means of managing data, with a single repository accessible for all of our Assets. The efficiencies created with ONE, remove those inflexibilities and the pitfalls normally associated with a spreadsheet.

Importantly, the ONE system offers a cost effective tool and its structure enables the user to build their maintenance and integrity platform and develop further improvements by integrating other critical parts of the business to represent a clear image of plant and equipment health and risk. The opportunities are endless ...”

Craig Reid, Mechanical Engineering Technical Authority, Apache North Sea



CASE STUDY: FABRIC MAINTENANCE - COMPARATIVE

Standard workflow and spreadsheet/documentation versus enhanced workflow supported by a ONE software system.

The application of IQ Integrity's ONE and development of supporting processes has been fundamental in realising significant efficiency increases and cost savings, during Inspection reporting and Fabric Maintenance execution.

Our company Inspection and FM procedures and process improvements have been coded and embedded into ONE, meaning every anomaly is reported, reviewed and assessed against our standards consistently across our facility base.

With pro-active optimised workflow, we carry out an appropriate and timely FM mitigation in line with our Live line blast intervention period. This generally enables us to push out the next inspection to the following RBI cycle and reduces or removes the requirement to monitor less than the RBI interval.

Following that inspection we, if required, install a DLR/Temporary repair or further FM certified until cessation of production. Therefore we reduce our known risk and requirement to repeatedly inspect without mitigating the issue, supported by the knowledge management in our ONE system.

The ONE system offers huge benefits in conjunction with our pro-active workflow:

- Efficiency and productivity increase
- Cost reduction
- Providing a full audit trail, data consistency and control.
- Rationalising data repositories
- Clear alignment of Anomaly, Defined Life Repair and FM task tracking.
- Offshore execution and onshore preparation.
- Client 'owned' system and data - future proofs and de-risks service provider contract changes.

Platform B comparisons are:



80% Reduction
in average cost per anomaly
from £4778.00 to £920.00*
(* Costs at June 2017, UK Sterling.)



Increased anomaly close-out:
53 (2015) vs 724 (2016)




Inspection reporting efficiency: +36%

CASE STUDY: FABRIC MAINTENANCE

Key points as Workflow differences

The significant differences in our platform workflows and execution strategies are listed in this table. There is clear evidence that moving away from the 'standard methodology' has benefits for the integrity of all platforms, for transparency of risk and remedial actions and, a streamlined workflow.

PLATFORM B FM/INSP – SINGLE CONTRACTOR	PLATFORM C FM/INSP – TWO CONTRACT MODEL
ONE  FULLY INTEGRATED	SPREADSHEET BASED REPORTING & DOCUMENTATION
Minimised Data Handoffs	Multiple interfaces both on and offshore
Single entity system	Multiple data repositories and hand-offs
Current Inspection Data utilised to execute FM	Multiple site revisits and inspection activity to facilitate FM
All scope captured via inspection input and discipline engineer review.	Multiple inputs into FM priority (independent from Risk Based approach)
Direct credit taken for executed FM in RBI reassessment	No hard wired connection between FM executed activity and RBI reassessment.
Aligned Contractor KPI's to full lifecycle risk reduction	Fragmented approach with multiple activity owners
Clear demonstration to facilities regarding approach/intent and success factors	
Clear articulation of facility threats and risk profile	
Clear ownership of offshore scope	
Combined Planning process. Aligned conservation/decision making	

WORKPACKS AND INSPECTIONS

Efficiency is key to the inspection, verification and collection of data from assets and components.

To **gain efficiencies** and improve the quality of information, manual handling and re-keying of data must be reduced as far as possible. This is particularly relevant to Workpacks / Job Packs and Inspection schemes.

Significant cost reductions are possible by simplifying the collation and scheduling of inspection task requirements into electronic Workpacks.

ONE **streamlines** the entire process of **building a Workpack** and collecting and processing of Inspection Tasks and Results, by utilising work activity task templates to ensure terminology and data gathered is consistent throughout the organisation and across all asset types.

From within ONE, it is easy to **track the progress** of individual tasks and all Workpacks across all assets.

The Workpacks contain all the information that the team on the ground require to complete the task activities. Optionally choose to group by inspection or equipment type; system discipline; location or campaign window, to enable a workflow flexible enough to suit existing processes.

From allocating the tasks to the Inspection and Maintenance Teams, through to the return of the results; by entering results directly into each Inspection Task, ONE stores the user entered **data, documents and images** against the components and automatically produces reporting outputs, reducing manual data handling and achieving greater efficiency and cost reductions.

Anomalies may be raised within the same workflow, **reducing time and data-entry**. ONE automatically transfers key data about the component, feature and result information to create the anomaly, enabling time savings by removing the need to re-enter data.

A **comprehensive dashboard** provides both tabular and graphical reporting, allowing data views of information at any level of detail.

Module Benefits:

- Reduce errors from re-keying data
- Dynamic update of task completion
- Send and Receive live information in wifi-data zones
- Enables offline and remote location use

Mobile Workforce

ONE's Inspection tasks can be integrated to mobile technology and sent to handheld devices and tablets. Advantages gained through improved efficiency and quality of data results are achieved across the entire workflow. With the seamless ability to add photographs during reporting coupled with using a structured approach to the inspection process, increases the speed and reliability of measured data.


Our mobile solution operates on Android and IOS devices enabling you to choose hardware from simple handheld devices through to rugged intrinsically safe devices from your preferred local suppliers.



“CASE STUDY: INTEGRITY LED & PERFORMANCE DRIVEN

Inspection Reporting

Systemised Inspection and anomaly reporting has realised increased efficiency levels; whilst also increasing reporting standards and auditability.

PLATFORM B		PLATFORM C	
ONE  - FULLY INTEGRATED		NOT SUPPORTED BY ONE	
Total inspection reports	732	Total inspection reports	868
Inspection man-days available	696	Inspection man-days available	1312
Cost per Inspection Report	£831.00	Cost per Inspection Report	£1,011.18

System – Integrity Threats

All Anomalies are risk assessed with tasks and timelines identified for mitigation.

Within the ONE system we have live visibility of anomalies by System and their risk grade, along with the anomaly location area and access requirements for intervention.

This allows us to strategically target focus areas that provide maximum risk reduction. It also gives increased visibility and understanding when shaping business planning assumptions for future integrity presence on our facilities.

Clear Concise Reporting & Anomaly Progression

Contractor monthly/annual KPI's are driven around targeting and execution against the biggest risks.

Our live and historic reporting options visualise anomaly reduction progress and efficiency.

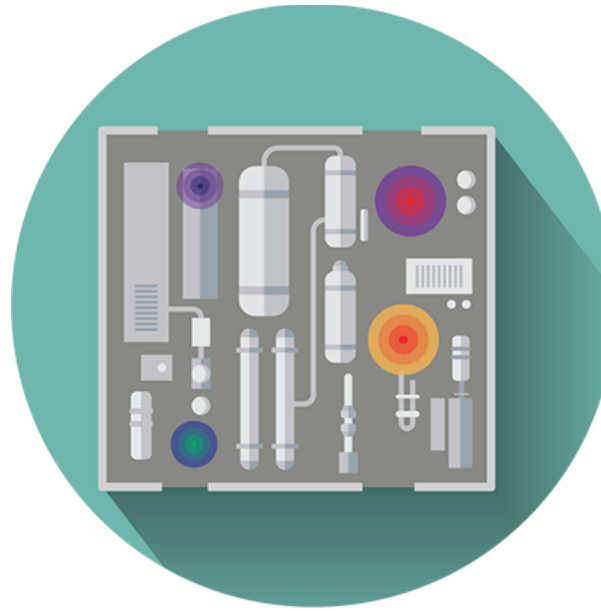
The application of ONE and development of supporting processes has been fundamental in realising significant efficiency increases and cost savings, during Inspection reporting and Fabric Maintenance execution.

VISUALISATION



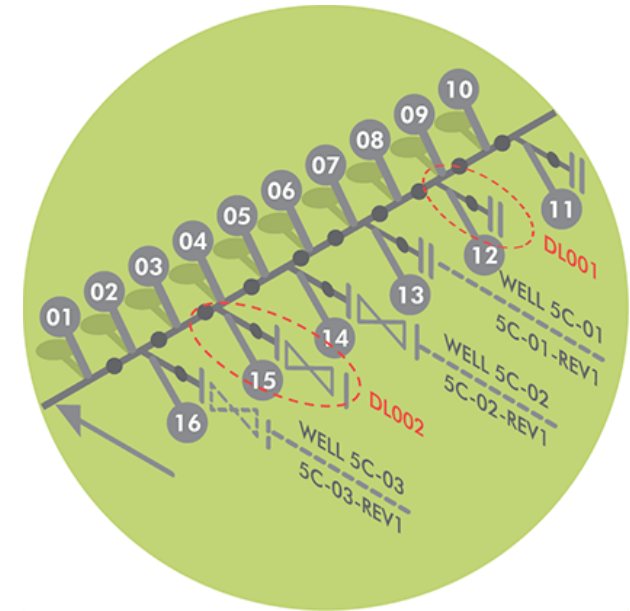
Geospatial Mapping

All Components and Anomalies within ONE can be assigned multiple GPS co-ordinates, enabling the **display of positional information** including anomaly heatmaps and other data.



Plot Plans / Heat Maps

Overlaying **anomaly** and **component** information on Plot Plans can help **visualise** and highlight **key problems** on equipment, locations and systems. This can assist with risk assessments, campaign planning and 'the big picture' to make smarter decisions with joined up data.



Mark-up P&ID / ISO Diagrams

ONE has a **central repository** for P&ID and ISO's enabling clients to mark-up and highlight diagrams electronically in the browser window. This removes the need to print, markup, scan and upload information or, to attach it to a spreadsheet or within another document. **Marked up diagrams** may be saved within the anomaly, component or inspection task being worked on.

RISK BASED ASSESSMENT

Manages RBAs in a way that is unique to your workflow.

ONE's flexible RBA module enables a mix of qualitative and quantitative methods.

This module enables per **client methodology** to record your judgement, producing **internal and external inspection** frequencies based upon the risk factors calculated from your inputs.

Used on corrosion circuits, pipework and pressure vessels, structural or **any other equipment type**.

Integrity threats are associated as templates to each component equipment type, to mirror your organisations process. Each **threat is ranked** by Susceptibility and Consequence, with required Mitigation inputs.

The **risk is calculated** by using 'worst case' and output through copies of your internal and external risk matrix settings. This risk is then referred against your **integrity confidence** value to generate the inspection frequencies.

Supporting **documentation and images** can be stored inside each RBA. The RBA 'task' is then



set to be due for review according to the **agreed inspection frequency** due date.

RBAs can be superseded to enable history tracking and review of previous decisions and documentation, without re-input of the data each time.

ONE RBA is a completely configurable module, which is implemented to **suit your requirements**.

Features:

- Entire RBA analysis in a single wizard driven system
- Threat factor templates for any equipment type
- Link to condition state data on each component
- Uses your standard Probability, Consequence and Confidence levels
- Uses your risk and inspection matrices and gradings
- Outputs risk and frequency for internal and external inspections
- Supersede existing RBAs, allowing updating without having to start from the beginning each time
- Upload documents and images to each RBA

Module Benefits:

- Simple and rapid risk assessment recording
- Easy to learn and use
- Works with any integrity model
- Minimal data setup required

PERFORMANCE STANDARDS

Complete Performance Standards module with Verification, Compliance and Change Management workflows.

Specifying performance expectations for components, infrastructure, roles or duties, is what makes Performance Standards a **key function** within an organisation.

Performance Standards are **comprehensively managed** in ONE as parent-child tree structures to any level, with **total control of content and details**.

Performance Standards may be **associated to any component or process**, with verification activities to monitor compliance. A **change management** module provides **complete transparency** over suggested changes to performance standards and final outcomes.

“Apache have added a performance standard aspect which allows real time updates to performance standards with TA and Tech Safety sign off.”

“The result is that the changes (agreed and proposed) to performance standards can be viewed in ‘real time’ and Apache have a record of all changes with the associated governance.”

Phil Rothnie, Verification Engineer, Apache North Sea Limited.

Features:

- Per site listing of Performance Standards and Associated Assurance Routines
- Parent-Child-Grandchild hierarchy with unlimited levels
- Allocate Performance Standards to Components & Anomalies
- Report on quantity of anomalies per Performance Standard
- Live performance standard documents, all text sections and print version
- Interface with Verification Management Module
- Change management Request & Review process

Module Benefits:

- Single source working version of Performance Standards
- Exports for document management systems
- View available to all authorised users, edit restricted to Admins
- Basis for live ONE Verification system and action tracking
- Promotes SCE/SECE compliance

REPORTING / KPI

Working with our clients to meet their requirements has developed ONE into a powerful reporting tool.

Previously data gathering for integrity management reporting would take hours or days, particularly for annual reports.

With a simple click of a button graphical reports can be generated,

detailing live and historic information.

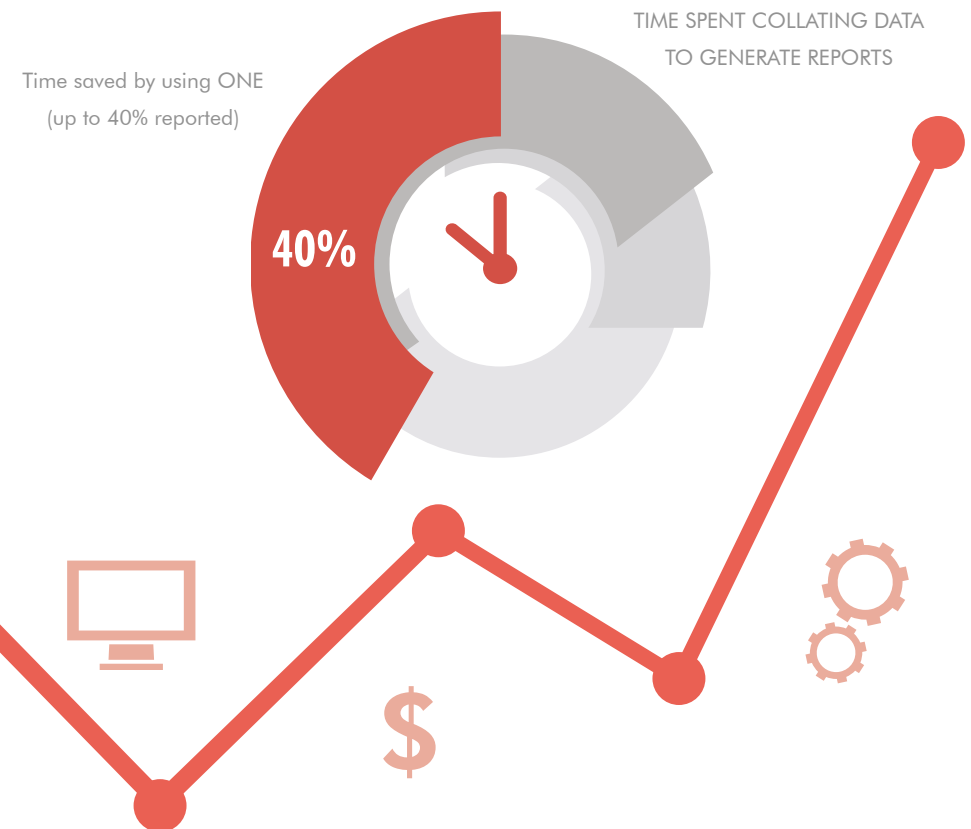
Each report can be exported as an image or PDF format, allowing it to be used within other business information and KPI data.

All of the reports within ONE have been developed to meet specific Oil & Gas operators' reporting requirements.

Key reports include:

- **Field Reports** - compare results across multiple Assets
- **Component** - open/closed anomalies per component
- **Location** - breakdown of each module, deck or asset
- **Discipline** - e.g. Mechanical; Pressure Containment; Structural
- **Action Party / Responsible Group** - task totals per group
- **Tasks** - e.g. Verification; Maintenance; Anomaly
- **System** - e.g. Containment; Deluge; Control Systems
- **Temporary Repairs** - e.g. Wraps and Clamps of all types
- **Leaks** - e.g. Yes / No; Major; Minor; Weep; Seep
- **Anomaly** - e.g. Open / Closed; damage mechanism;
- **Risk / Priority** - by client definable gradings and timeframes

"What is the cost of making decisions and planning based on out of date information?"



"ONE's transparency and action tracking is absolutely total, the quality of information has increased significantly. It has cut about 40% off the administration time and we have an audit trail that makes compliance easier."



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FEATURE MODULES

- **Anomaly / Defect Management**
- **Component Asset Register**
- **Workpacks / Mobile Workforce**
- **Risk Based Assessment (RBA)**
- **Performance Standards**
- **Reporting and KPIs**

FEATURES

- Use on any asset type: Offshore, Onshore, Subsea & Pipelines
- Use with any equipment type: including Pressure Containment; Structural; Mechanical; Pipeline
- Adapts to your workflow and terminology
- Store documents, images and video clips
- Comprehensive reporting of live dynamic and historic trends
- Customisable user permissions and security profiles
- Designed by users approach for effective solutions to real issues
- Web based, secure online solution
- Handheld device integration for tasks and inspections
- Simple to use interface with powerful functions

BENEFITS

- Average 40% time saving plus efficiencies and cost reduction
- Comprehensive and transparent Knowledge Base
- Instant access to your information: any time, any where
- Runs on any browser or tablet with an internet connection
- No local software or dedicated hardware to install or maintain
- Cost reduction with increased knowledge efficiency
- Promotes information standards and higher quality data input
- Assists all audit & compliance through total information transparency
- Compliments SAP and Maximo systems
- Minimal training required

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