



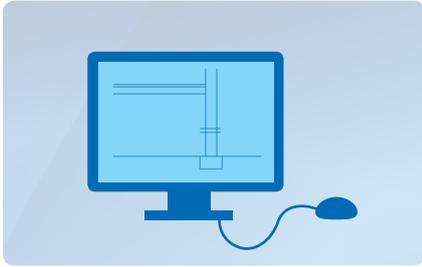
HCL

iAIM

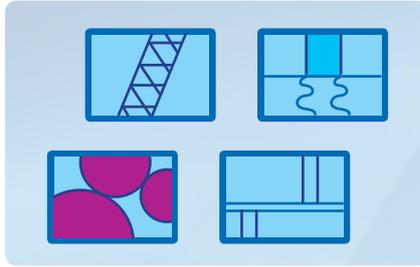
Enabling Asset Integrity Management
for the Oil & Gas Industry

THE CHALLENGE

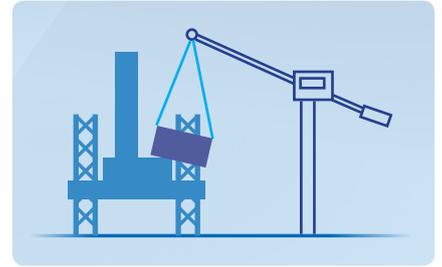
Ensuring operational integrity of critical assets and installations is of paramount importance to oil field operators and the companies who manage major systems and assets on their behalf. Historically different Asset Lifecycle phases have been managed in different, often completely separate, unconnected systems:



As-Built configuration is recorded in CAD systems.

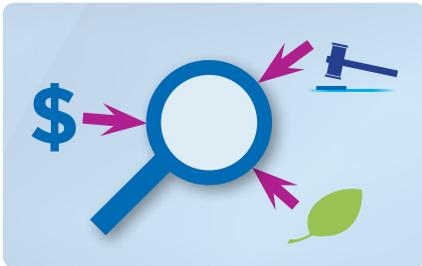


As-Maintained systems focus on individual components, with only very basic visibility of the complete asset structure.

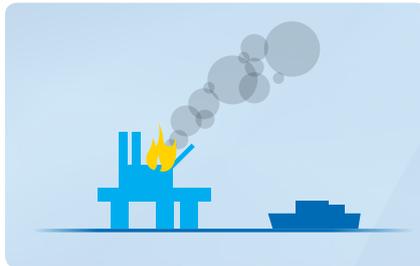


Decommissioning tends to leverage home-spun solutions which are unlikely to stand either the tests of time or regulatory scrutiny.

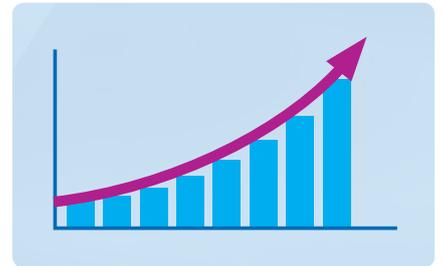
While Asset Integrity Management has always been acknowledged as an important discipline, a number of drivers have contributed to it becoming a critical capability:



Increased commercial, regulatory and environmental focus.



Recent high profile incidents.



Increased pressure to maximize asset contribution.

HOW CAN HCL HELP?

HCL has been implementing complex asset management solutions for over 20 years, in many cases leveraging SAP processes as the foundation for our solution. We were the first organization to develop and implement a fully integrated, end-to-end maintenance planning, execution and spares supply chain management solution. Originally implemented in the highly regulated aerospace industry, the solution was soon leveraged to become the first SAP after market solution for a major defense contractor. For the last 6 years we have been jointly developing with SAP, a comprehensive Asset Lifecycle solution that supports Asset Integrity Management. Our solution enables

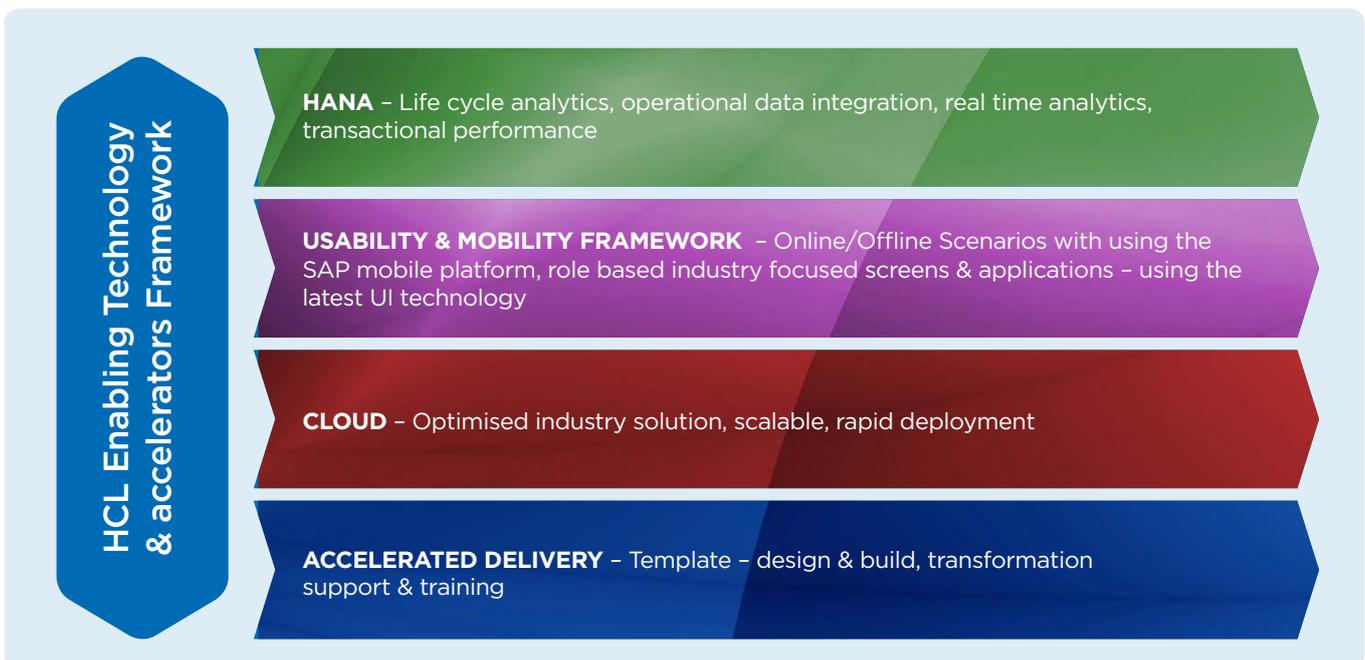
asset intensive organizations to manage their assets from commissioning through operations to decommissioning. Central to our solution is the design of a set of processes aligned to the way that engineers and maintenance technicians actually perform their work, dramatically simplifying the IT centric approach which most asset and maintenance management solutions force users to adopt. By leveraging the latest technologies including mobile, high performance computing and cloud provisioning, we are now able to bring highly intuitive, streamlined asset management functionality, supported by advanced analytics to workers in the field.

OUR PROPOSITION

iAIM is a full Asset Lifecycle solution that supports Asset Integrity Management, which can be deployed on SAP's HANA high performance computing platform, accessed from users' own mobile or ruggedized devices, provisioned in the cloud or on premise.

As the following diagram illustrates, the solution supports core commissioning, operational and decommissioning processes and can be used to support any of these processes individually or to provide more complete lifecycle asset management support.

OPERATIONAL INTEGRITY - ASSET INTEGRITY FOCUSED EXAMPLES



iAIM is an integrated solution, built on the latest technologies, offering distinct advantages and significant operational efficiencies compared with existing solutions or point solutions traditionally used to support Asset Integrity management:

<p>Process centric design ensures that iAIM operates in the same way as maintenance and engineering staff perform work</p>	<ul style="list-style-type: none"> • Dramatically improved user adoption • Reduced system transactional effort and increased user productivity • Improved data accuracy and completeness
<p>iAIM focuses on full lifecycle asset integrity management from installation, post commissioning, operational lifecycle to final asset decommissioning</p>	<ul style="list-style-type: none"> • Complete Asset Lifecycle history & documentation • Complete asset performance and cost history
<p>Asset structure based – either imported from design systems or built as maintenance/decommissioning activity occurs</p>	<ul style="list-style-type: none"> • Full asset integrity database is built and maintained as work is performed, minimizing additional effort
<p>Fully supports smart and ruggedized devices enabling full mobile operations and mobile operative scheduling</p>	<ul style="list-style-type: none"> • Automatic asset identification • Improved job recording • Improved job scheduling • Remote maintenance support • Dynamic job scheduling • Integrated image capture • Remote support via audio integration
<p>iAIM is fully integrated with Right Hemisphere (SAP Visual Enterprise) providing access to step-by-step, 3D Asset Visualization, assembly/dis-assembly animated procedures and work instructions</p>	<ul style="list-style-type: none"> • Reduced training and support costs • Process and procedure compliance
<p>iAIM includes a fully integrated document repository to manage all commission, inspection and decommissioning documentation linked to executed work history.</p>	<ul style="list-style-type: none"> • Reduced information retrieval times • Full traceability of documentation
<p>iAIM can be deployed on the SAP HANA platform enabling high performance real time analytics.</p>	<ul style="list-style-type: none"> • Near real-time decision support • Maintenance schedule optimization • Enhanced root cause analysis • Earlier notification of emerging incidents • Reduced equipment downtime
<p>iAIM is available both on premise or as a cloud enabled service</p>	<ul style="list-style-type: none"> • Faster provisioning time • Elastic, usage based pricing

In addition to the benefits outlined above, as a native component of the SAP business suite, iAIM offers a solution that can be deployed, grown and extended to meet additional business needs including processes such as:

- *Maintenance Cost Management*
- *Personnel Competency and Training*
- *Sub-contract Services Management*
- *Spares Supply Chain Management*
- *Resource Management*
- *Maintenance Cost Management*

THE HCL DIFFERENCE

HCL is unique amongst system integrators in that we have a total focus on implementing solutions that deliver quantifiable business outcomes. We believe that our incentives should be aligned to those that our clients are trying to achieve; as such we are fully prepared to contractually commit to delivering mutually agreed business outcomes. Specifically, in the asset management space, we've written contracts which included putting our fees at risk against:

- *Increased asset availability*
- *Reduced maintenance costs*
- *Reduced spares inventory holding costs*
- *Faster defect resolution rates*
- *Reduced resource non-productive time*
- *Reduction in overall asset base*

This approach to partnership, is not merely a demonstration of our own faith in our capabilities and ability to execute, it also highlights what we believe to be a fundamental best practice - programs that are aligned to business performance improvement have a significantly greater likelihood of being successful, than those that merely focus on the technology.

THE NEXT STEP

We believe the investments we have made in developing the iAIM solution provides quantifiable improvements in the management of assets leading to direct financial and performance improvements.



Please arrange a session for our experts to demonstrate the complete lifecycle management capabilities of iAIM to key stakeholders in your organization. Contact us at integrated.applications@hcl.com to arrange your session.

CASE STUDY: MAJOR US REFINER



THE CLIENT

HCL has been working with one of the largest refiners of fuels in the US. The Client's operations are strategically located to serve major markets and include a seven-plant refining network, a comprehensive terminal and transportation system, and extensive wholesale and retail marketing operations. This includes all of their businesses including one of the nation's largest chains of company-owned and operated retail gasoline and convenience stores.

THE PROBLEM

With the client operating across 6 diverse business units, the primary objective of this strategic project was to deploy one Enterprise Wide Enterprise Asset Management Solution, which addressed the following business challenges:

- *Process diversity and compliance*
- *Complex interface and extensive manual data input*
- *Data consistency/quality*
- *Extensive system diversity*
- *Diverse reporting framework, quality and consistency*
- *Poor visibility of warehouse and inventory lifecycle*

HOW HCL HELPED

HCL were the Prime Implementation Partner, engaging with all 6 business units to deliver a harmonised EAM solution to deliver against a defined business case and benefits. The scope of which included:

- *Supporting the harmonization of the EAM process across Business Units and within Business Units, supporting all asset types covering:*
- *Fixed Assets - refinery, terminal, gas stations, marine*
- *Fleet Assets - road and marine*
- *Linear Assets - pipeline*

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- *Mobilizing the work force – mobile solution deployed across all Business Units*
 - *Enabling the retirement of disparate legacy systems*
 - *Enabling the management of warehouse and inventory, operational spares and tracking of major components by serial number*
 - *Supporting optimized maintenance plan and schedule management*
 - *Enabling the resource management of operational maintenance staff to meet maintenance requirements across all Business Units*
 - *Consolidating data source for management/performance reporting*
 - *Creating a user interface that is easier to use*
 - *Fully Integrating TAR and Shutdown solution*

BENEFITS

The program was delivered on time and within budget and is on track to deliver the following business benefits:

- *Reduced unplanned downtime or outages*
- *Reduced annual service and maintenance costs (% Revenue)*
- *Inventory Turns for Service and Maintenance Parts*

ABOUT HCL

HCL is a leading technology organization with revenues of \$6.2bn and 92,000 employees operating from 31 countries around the world.

HCL's Enterprise Application Services (EAS) division helps clients transform, sustain and evolve their businesses through the effective deployment of enterprise technology. Focused on creating best run businesses, EAS primarily utilizes SAP, Oracle and Microsoft technology in achieving these goals.

HCL's EAS practice is a leader in disruptive enterprise technologies including cloud, mobility, social media, big data & analytics and engineered systems.

TRUE GLOBAL DELIVERY

HCL operates as a single global organization allowing us to deploy consulting teams which leverage proven industry and solution best practices from our offices and delivery centers around the world.

HCL AND SAP

HCL has been a certified partner in the SAP Ecosystem for over 15 years. The HCL and SAP relationship delivers value to our customers through industry focused excellence, innovation, and orchestrated innovation through diverse resources. Our global delivery team of 5,500 SAP experts are recognized as being the most experienced SAP consultants in the market and combine the best local SAP business transformation expertise with world class offshore SAP factory services. HCL is ranked in the top 4 SAP SI's by Forrester, Gartner & IDC. We are regularly ranked #1 for client satisfaction.

HCL

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