How do you deliver the Digital Asset Management Enterprise?

Many asset intensive organisations have embarked on a journey towards digital enterprise asset management, often driven by one or more significant challenges:

- More for less: sources of funding are under pressure—whether the source is consumer billing, shareholder investment or government grants, asset owning organisations need to figure out how to meet increasingly complex demands for service with a reducing budget.
- Increasing service demands: Today’s customers have increased expectations of customer service and information availability and are also increasing their use of the services provided by asset intensive organisations. In the UK, passenger numbers on the Mainline railway are forecast to grow at 5% compound for the foreseeable future; usage of Transport for London services has increased by 30% in the last 5 years; and across the UK the need for hundreds of thousands of new homes will increase demands on power, water, gas and highways as well.
- Safety and compliance focus: Regulatory regimes are developing worldwide and are increasing the need for organisations to set and demonstrate compliance with asset management strategy. In addition, workforce and customer safety and security are taking centre stage as legislation places increased personal accountability on Executives.
- Technology advances: Today’s assets are increasingly instrumented, resulting in vast streams of new performance and condition data being available in addition to the historic installed base of SCADA systems, yet early adopters of these technologies are struggling to integrate performance data from operational technology with their asset management systems—contributing to many failed “IoT” and “Big Data” initiatives. In addition, the increasing sophistication and “always on” nature of wearable and mobile technologies are opening up opportunities to improve workforce productivity and safety—yet few organisations are able to leverage the Digital Transformation.
- Ageing workforce: Many organisations are facing a looming skills gap as experienced engineers retire so need to systemise the knowledge of how to maintain assets and deliver operational services—especially in the light of the need to reduce operational expenditure.

The track record of delivering a step change in asset management capability and transformation to a Digital enterprise is not encouraging. EAMS Group global research indicates that 90% of Enterprise Asset Management initiatives fail to deliver their expected Return on Investment, while the number of organisations which have successfully demonstrated significant value from the EAM initiatives is probably counted on the fingers of one hand.

Designing the transformation

Faced with the need for transformation rather than the incremental change implied by the confluence of these drivers, organisations need to understand their current capabilities in detail; be clear about how to structure a transformation roadmap which minimises risk but includes all elements required to deliver world class outcomes; and ensure line of sight to the benefits that the transformation will deliver.

EAMS Group has developed a comprehensive diagnostic to aid organisations in designing their Digital Transformation journey.

The Diagnostic combines leading practice insights from PAS55/ISO 55000 with over 30 years’ experience of working with clients, enabling them to become world class in asset and safety management. The latest evolution of the Diagnostic incorporates a number of new digitally focused areas of analysis:

- Maturity of information specification management as a distinct capability
- Extended analysis of the maturity of technology enablement including IT/OT integration; Building Information Modelling; Visualisation capabilities including 3D and virtual reality; mobile and wearable technology exploitation; and cognitive and predictive analytics.

The diagnostic delivers three key outcomes for our clients:

- Clarity over the current level of maturity, with the ability to compare different business units
- A programme roadmap to achieve world class performance where the risk of failure is minimised through integrating all elements of change, enabled by a Programme Governance structure which drives change from the top of the organisation
- The business case for change.

In addition, because the diagnostic aligns with the ISO 55000 Asset Management Maturity Model, organisations are able to clarify their readiness for achieving ISO 55000 certification.
The EAMS Digital Diagnostic

<table>
<thead>
<tr>
<th>Diagnostic Dimension</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAM Strategy</td>
<td>All capabilities involved in establishing and maintaining the organisation’s Enterprise Asset Management and Asset Information strategies in alignment with corporate strategy</td>
</tr>
<tr>
<td>Organisation, Culture &amp; Governance</td>
<td>Organisational structure and information culture, and the governance of asset management and asset information stewardship across the organisation</td>
</tr>
<tr>
<td>Operating Model</td>
<td>Realisation of Asset Management capabilities across the organisation and its supply chain and the sustainability of the operating model</td>
</tr>
<tr>
<td>Information and Data Management</td>
<td>Capabilities to develop &amp; maintain information specifications which support the whole life cycle of Asset Management, and data quality against the specification and future needs</td>
</tr>
<tr>
<td>Asset Information Systems</td>
<td>Asset Information systems architecture, costs and suitability of the underlying systems supporting Asset Management capabilities</td>
</tr>
<tr>
<td>Technology Enablement</td>
<td>Technologies across the enterprise and its supply chain relating to Enterprise Asset Management and their security footprint</td>
</tr>
<tr>
<td>EAM Capabilities</td>
<td>Core asset management lifecycle capabilities from strategic change planning, infrastructure change delivery, in life management, operations, and asset decommissioning</td>
</tr>
<tr>
<td>Reporting &amp; Analytics</td>
<td>Corporate, compliance and performance reporting related to Asset Management including industry and organisation specific KPIs</td>
</tr>
</tbody>
</table>

EAMS Group has developed three key frameworks which the Diagnostic tool uses:
- Business capability models for each industry
- Information models of assets, hierarchies and systems
- Reporting and analytics hierarchies
- Technology architecture reference model

The industry specific Business Capability Models which underpin the EAM Capabilities analysis and provide a comprehensive view of the business capabilities that the organisation needs to accomplish its mission. The Capability Model also provides the framework within which we maintain our reference library of over 1300 optimised business processes which can act as a template for process improvement and realisation in asset management solutions.

EAMS Group has also developed a set of Information Models which we can use as the basis for assessing an organisation’s own information specifications and supporting data.

Since they are technology agnostic and model the attributes, hierarchies and systems which represent how assets exist in the real world they also provide a line of sight to how data from embedded sensors can be integrated with asset data to ensure that “big data” and “IoT” initiatives can be aligned with the information needs of the business.

Our Reporting and Analytics framework incorporates a set of Key Performance Measures which provide line of sight or performance from executive to front line operators. When realised in an integrated enterprise asset management system, they enable real time visibility of performance and drill-down to establish root cause. They are used in the Diagnostic to provide a leading practice view of how an asset intensive organisation should report and analyse performance and establishes the data sets which are required for delivery.

The Enterprise Asset Management Technology Reference Architecture provides the framework for analysing how the organisation can leverage a range of technology capabilities securely in support of its Asset Management strategy.
The outcomes of the analysis are plotted as a radar diagram which simply shows the current and target maturity levels.

The diagnostic tool incorporates the changes which are needed to move from each level to the next, allowing a default change framework to be produced. There are also inter-dependencies between the dimensions which the diagnostic uses to ensure that change is planned in an achievable manner. For example, moving the maturity of EAM Capabilities from level 3 (Competent) to Level 4 (Optimising) can only be achieved when both Organisation, Culture & Governance; Asset Information Systems; Reporting & Analytics capabilities have also reached at least level 3 (Competent) because optimising requires a single, reliable source of asset information; systems enforcement of processes; and a culture which values information accuracy and avoids duplication of data and the “cottage industry” of data manipulation which introduces delay, error and misinterpretation.

EAMS Group, Global Leader in the provision of Enterprise Asset and Safety Management Services and Solutions, enables our clients to become world class in Asset and Safety Management. Our Digital Diagnostic provides a unique, robust insight into an organisations current maturity and the benefits which it could achieve through leveraging leading practices. Working with our clients we minimise the risk of failure and inability to achieve return on investment through our tools and crucially the experience and knowledge of our consultants - many of whom hold PhDs in asset disciplines and have run operational business units in various asset intensive industries globally. We leverage a range of business partners to ensure that we maintain our capabilities, and invest extensively in research and application of leading technologies, so our clients can be confident that the recommended roadmap is deliverable.

In a world which needs increasing sophisticated Enterprise Asset Management, the EAMS Digital Diagnostic provides the way forward.