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Driving Sustainability by Digitising Enterprise Asset Management

Adopting a 'digital first' approach to Asset management improves efficiency and reduces waste.

As the race to deliver a net zero economy gathers pace, the business case for embedding digital solutions into day-to-day operations becomes ever more compelling.



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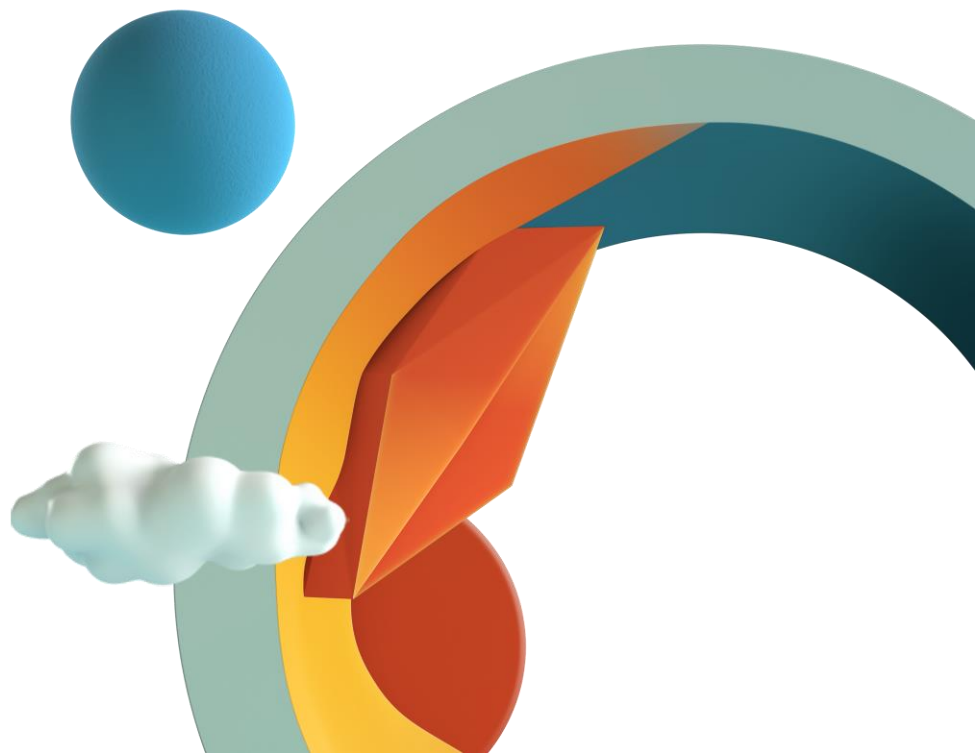
Asset intensive organisations have seen an increase in the adoption of Enterprise Asset Management tools. This has been pushed by technology advances from vendors, and pulled by leaders. As a result, there is now a robust platform for transforming operations, improving sustainability and increasing resilience - while also delivering operational improvements.

As the evolution of Enterprise Asset Management solutions continues to accelerate, Deloitte believes following three key elements shall drive the future of Enterprise Asset Management –

Asset management solutions typically cater to Operations, Maintenance, and reliability functions. The below framework intends to highlight how operations can be more sustainable, resilient, and human centric by Digitising and transforming Asset Management solutions. **This article focuses on capabilities which makes a significant impact on sustainability.**

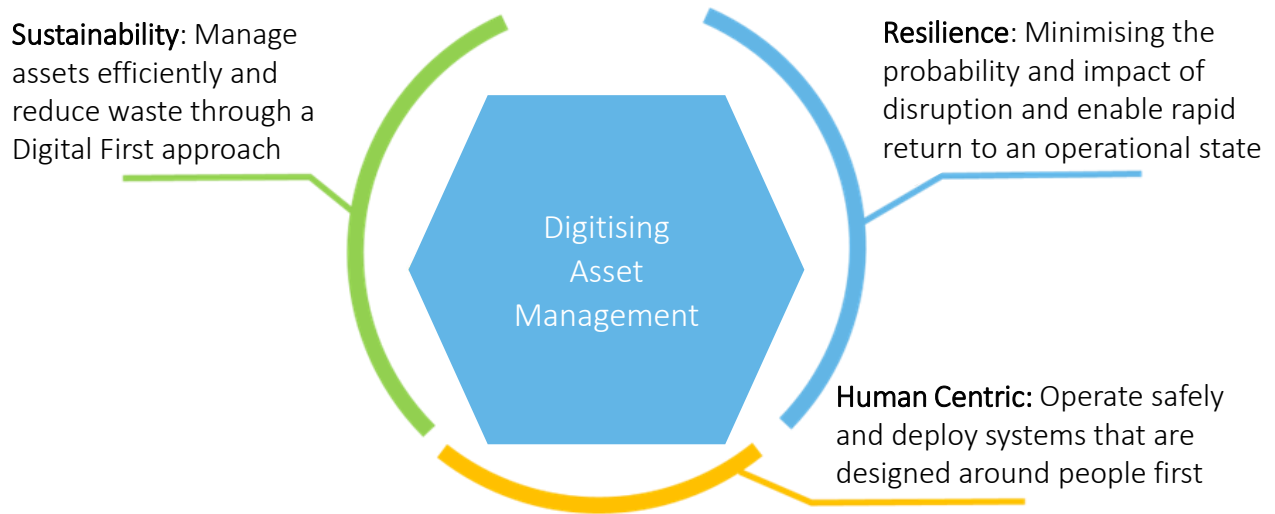
There's little doubt that the emerging green economies - which are low carbon, resource efficient and socially inclusive economies, will in fact be a digital solutions-based economies.

There are environmental challenges arising from the rapid scaling of digital solutions, like carbon footprints in running such solutions, but benefits outweigh such challenges and ensure even greater impact on the decarbonisation of our economy.



Digital First Approach

A Digital First approach to Asset management is identified as most effective and technology must be embedded to enable everything we do in Operations and Maintenance.



It has long been recognised that Capturing and digitisation of Operational Assets and Maintenance execution information is crucial in enabling sustainable operations by following the principles established in the waste hierarchy: Reduce, Reuse, Recycle.

A few of the sustainability impacts from this approach include:

- Higher Machine efficiencies (because of improved asset maintenance/reliability) increase overall equipment effectiveness (OEE) and hence ensure reduced wastage during production.
- Track source of spare parts giving higher preferences to Sustainable vendors and sustainable parts
- Reduction in greenhouse gas emissions from Assets
- Improve efficiency and resilience in operations.
- Identify Avenues for Energy saving.
- Efficient use of raw materials, consumables, and spare parts
- Enables circular processes for repairs, refurbishment, and recycling.
- Waste elimination during Maintenance execution
- Optimising maintenance routes for utility/field service engineers enables reduced travel and carbon footprints.
- Higher Machine efficiencies (because of improved asset maintenance/reliability) increase overall equipment effectiveness (OEE) and hence ensure reduced wastage during production.
- Reporting and tracking for Sustainability KPIs.



Digital areas to enable sustainability

Deloitte believes Digitalisation will be central in helping companies master their sustainability transformation.

As we understand, Digitalisation, on one level allows for automated and more efficient processes that directly save energy and raw materials. On a different level, digitalisation enables improved simulation, planning, and transparency, greatly benefitting both, environmental and business management.

Having accurate, real-time data can help organisations monitor plan and report appropriately.

Research shows that leaders in sustainability are concentrating on four key digital areas to accelerate their transformation



Process transformation



Value chain transparency



Portfolio enhancement



Ecosystem enablement

1. PROCESS TRANSFORMATION

Improving resource efficiency and reduce carbon footprint by using digitised asset management to:

- Develop a detailed understanding of existing processes and categorise these in terms of environmental and sustainability impacts. During any transformation engagement multiple process management tools are setup and utilized to manage these processes. For e.g., Signavio Process Manager, Process Intelligence
- Gain insights on performance of equipment or equipment categories – including the identification of “bad-actors” in terms of Operational Equipment Effectiveness (OEE). For e.g., Signavio Process Intelligence

- Deep-level analysis of maintenance activities, Tooling, and materials/spares. Further process improvements can be identified using existing waste elimination techniques or by applying state-of-the-art process mining technologies to rapidly identify and correct the system and process bottlenecks.

2. VALUE CHAIN TRANSPARENCY

Organise parts and services suppliers to determine and build green pathways.

- Tracing parts origins and carbon footprint categorisation. The goal here is to examine usage, supply logistics and recycled content to ensure the lowest possible environmental impact.

- Manufacturer / Service provider Collaboration - Enable transparency and collaboration on equipment failures and maintenance among your Equipment Manufacturer and service partners to achieve optimal equipment effectiveness. For E.g., SAP Business Network for Asset Collaboration
- Monitoring operational activities to reduce waste and improve recycling. For example – vehicle fleet operators can track distance travelled and correlate with vehicle type to calculate emissions.
- Cost effectively enable green pathways such as repair, recycle and refurbish.

3. PORTFOLIO ENHANCEMENT

Provide support for systems and tools that improve efficiency:

- Extended Warehouse Management
- Asset Integrity Management – supporting and evergreening RCM leading to effective use of Time-based, Condition-based and Predictive maintenance approaches. For e.g. – SAP Asset Performance management (APM)
- Improving Planning and Scheduling processes across Maintenance and Operations. For e.g., Resource Scheduling for Asset Management, Integrated Business Planning for MRO

4. ECOSYSTEM ENABLEMENT

Develop platforms and solutions to promote data sharing and collaboration within and beyond the Organisation:

- Mobile based Work Management – mobile technology used to speed communication, improve security, and even reduce paper and administration. For e.g., SAP Service & Asset Manager, Field Service Manager
- Maps, and GIS based Spatial Asset management – enabling route optimisation to speed response and reduce time and fuel waste (and associated emissions). For E.g., SAP Geographic Enablement Framework

- Application and extension of ISO Standards (e.g., ISO 14224) to improve analytics and support collaborations with suppliers and customers.
- MRO processes for sub-contracting and repair/refurbishment.

Given the scope and complexity of topics covered above the key question that arises is, where do we start?

Organisations can start with an honest evaluation of their current maintenance system/ process/ data capabilities.

Our experience and resources have helped our clients to evaluate and transform their asset management solutions through the [Deloitte Enterprise Asset Management Centre of Excellence](#).

Contact us for further information.



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