

Resource type: Project 13

Digital Transformation maturity matrix: asset management

Asset Management	Traditional	Simple collaboration	Integrated functions and relationships	High performing enterprise	Interconnected industry
<p>Data availability How well does data meet all of your business needs?</p>	<p>Limited data available for most assets from historic records. Low quality of most data types with many omissions and inconsistencies. No visibility of data controlled by other functions, or partners.</p>	<p>Asset registers are largely complete, although multiples may exist with some duplication and inconsistencies. Asset performance defined, with some through-life performance and condition data available for high value/risk assets. Limited visibility across different Owner functions and partners of non-personal data (i.e. system, organisational and asset data), with some limited use of third party/open data.</p>	<p>Data visibility spans Owner and partners to meet functional needs (including customer, network, organisational, asset and environmental data). Master asset register exists, with performance and condition data available for all assets, but generally of limited granularity. Recognition that data variety more important than quantity reflected in decisions over what unstructured data to collect for future use. Extensive use of third party/open data, with plans in place to share more Owner data.</p>	<p>Data available by default to meet enterprise needs, with required granularity, timeliness and completeness for all functions. Non-personal data (including network, asset and organisational data) shared wherever possible, accounting for security, privacy and legal considerations, to help stimulate innovation. Digital twin adequately reflects the physical world - including operational activities.</p>	<p>Information compliant with National Framework for Data on Infrastructure and integrated into a national digital twin that covers multiple Owners and infrastructure sectors.</p>
<p>Information management How do you ensure that information is fit for its intended purpose and can be shared and reused?</p>	<p>Poor information not recognised as a business risk. Few requirements exist and most information is non-compliant. Information exists in silos, often duplicated on different systems.</p>	<p>Owner knows what types of information it holds and which processes generate it. Risks of existing uncontrolled information assets are understood. Metrics developed for information quality, quantity and usability. Data housekeeping includes processes for reporting errors/discrepancies and improving compliance.</p>	<p>Information created in different applications for different uses can be shared and reused across Owner functions and partners. Robust governance of quality, including provenance, provides assurance. Information requirements with identified owners provide clear direction with well-structured, prioritised use cases for new information.</p>	<p>Requirements are shaped and influenced by all partners in enterprise and deliver effective through-life information management. A culture of personal responsibility for information, comparable to construction's health and safety culture, exists throughout the enterprise.</p>	<p>Full interoperability between information management systems, both internal and external</p>
Sense	Focus on reporting	Integration of data	Predictive	Analytic	Analytics

<p>making How do you use and combine information to inform decisions?</p>	<p>for compliance. Static dashboards with limited functionality developed by individual Owner functions. Complaints of information overload, struggle to extract real value, much data never analysed nor stored.</p>	<p>streams in analysis of historic trends reveals insights from previously unused data sets and new combinations spanning Owner functions. New analytics developed and tested in exploration environment, before release to 'business as usual' systems.</p>	<p>analytics forecast future states from available data (e.g. impact of operations on customer outcomes; predictive maintenance scheduling). Real-time analytics available where required. Widespread use of machine learning unlocks value of existing and legacy data.</p>	<p>capability fully meets enterprise needs, informing decisions across all functions to help optimise value. Algorithms are valued for their ability to help improve outcomes.</p>	<p>incorporate diverse impacts of other sectors and interdependency of system-of-systems.</p>
<p>Decision making How are decisions supported by data-driven insight?</p>	<p>Decisions made according to prescribed standards/procedures; or on basis of experience, instinct and judgement - often not informed by evidence. High proportion of reactive decisions.</p>	<p>Decision support tools available to inform some high value/risk decisions, generally require manual analysis/assessment and input. Decisions based upon historic predictive models for performance, not actual operational performance.</p>	<p>Decision support systems inform all critical decisions with timely, dynamic output. Interdependence mapping starting to be considered. Insight available on demand, irrespective of physical location. Decisions based upon actual performance and foresight. Significant automation to optimise routine processes across all functions.</p>	<p>Decision support systems integrated across all owner functions and timeframes from real-time operation to long-term investment planning. All routine processes automated to optimise value, anticipating where human judgement is required, particularly for strategic decisions.</p>	<p>Decision making and optimisation accounts for interdependency of system-of-systems across multiple Owners and sectors.</p>