



# Asset Management meets the digital future

## Disrupted morning commutes, customers without power, equipment downtime impacting supply chains because of failure to predict asset failures.

These scenarios underscore the criticality of effective asset management, including asset inspection, maintenance, and monitoring. Inadequate asset management leads to failures, unplanned maintenance, and, critically, safety concerns for staff and potentially customers.

Decades ago, asset managers faced the difficult task of overseeing geographically scattered, ageing assets without comprehensive tracking systems or clear management strategies. The advent of Enterprise Asset Management (EAM) revolutionised this, enabling holistic management across asset lifecycles, optimising utilisation, minimising downtime, and ensuring regulatory compliance.

The EAM market is expected to grow at a 9% CAGR from 2023 to 2032, driven by the integration of Asset Performance Management (APM) solutions and the convergence of emerging technologies. This shift towards predictive, data-driven asset management is being facilitated by Software-as-a-Service (SaaS)-based solutions and the use of operational data for insightful, context-specific asset analytics.

The optimum blend of technology evolution and innovation can help asset-focused organisations to navigate the path of digitalisation and tap into the benefits like increased asset efficiency, improved asset reliability and sustainability, and optimised Whole Lifecycle Cost (WLC) of the assets.



# The bold Target Zero Ambition

Today's interconnected world demands uninterrupted, exceptional service, leading to what we call the bold Target Zero Ambition: the goal of zero asset downtime.

Achieving this requires overcoming strategic, systemic, and operational challenges, including legacy systems, data management issues, and workforce limitations. Asset-heavy organisations face significant pressure in maintaining assets, managing costs, and delivering quality service.

## Key Challenges in Asset Management

- Asset management costs range from 10% to 30% of total fixed asset expenses. Maximising ROI requires reducing operational costs, enhancing efficiency, and extending asset lifecycles.
- Increasing maintenance costs and service demands, coupled with unsustainable funding models, strain organisations' ability to manage assets and deliver customer service.
- The lack of real-time asset maintenance information impedes consumer communication about downtimes or improvements.
- Fragmented technology landscapes hinder full realisation of digitalisation benefits, leading to inefficient decision-making and increased operational costs.
- Organisations struggle with insufficient data on asset lifespans and maintenance responsibilities, especially in multi-party scenarios, leading to emergency response delays.
- Challenges like an ageing workforce and low digital literacy among field workers slow down processes.

These challenges also present opportunities for smoother digital transitions in the era of the Digital Infrastructure Revolution.



# The Digital Infrastructure Revolution

The asset management industry is experiencing a seismic shift due to digitalisation, unlocking new opportunities and driving cultural changes in asset maintenance for enhanced efficiency and safety.



## Unlocking digital opportunities



**IoT/Interactive 3D modelling** Digitising assets, through tools including IoT and interactive 3D modeling, enhances decision-making and predictive maintenance capabilities.



**GIS** Geolocating assets with Geographical Information System (GIS) technologies streamlines maintenance processes, optimises resource use, and enhances operational efficiency.



**AI/ML/Image & video AI** AI and ML algorithms applied to image, video and sensor analysis can preemptively identify maintenance needs, preventing costly repairs and incidents.



**IoT/AI** Remote condition monitoring via IoT sensors and AI technologies reduces manual inspections and optimises maintenance scheduling.



**AR/VR** Simulated scenarios using augmented technologies accelerate training and skill development among engineers and operatives.

## The value of digital technologies

By implementing modern solutions, asset-rich organisations can benefit in various ways that will help them to drive efficiencies and create safer environments.

### Some of the key benefits of digital technologies are:



reduced time to serve



reduced downtime



lower costs



resource optimisation



preventative maintenance



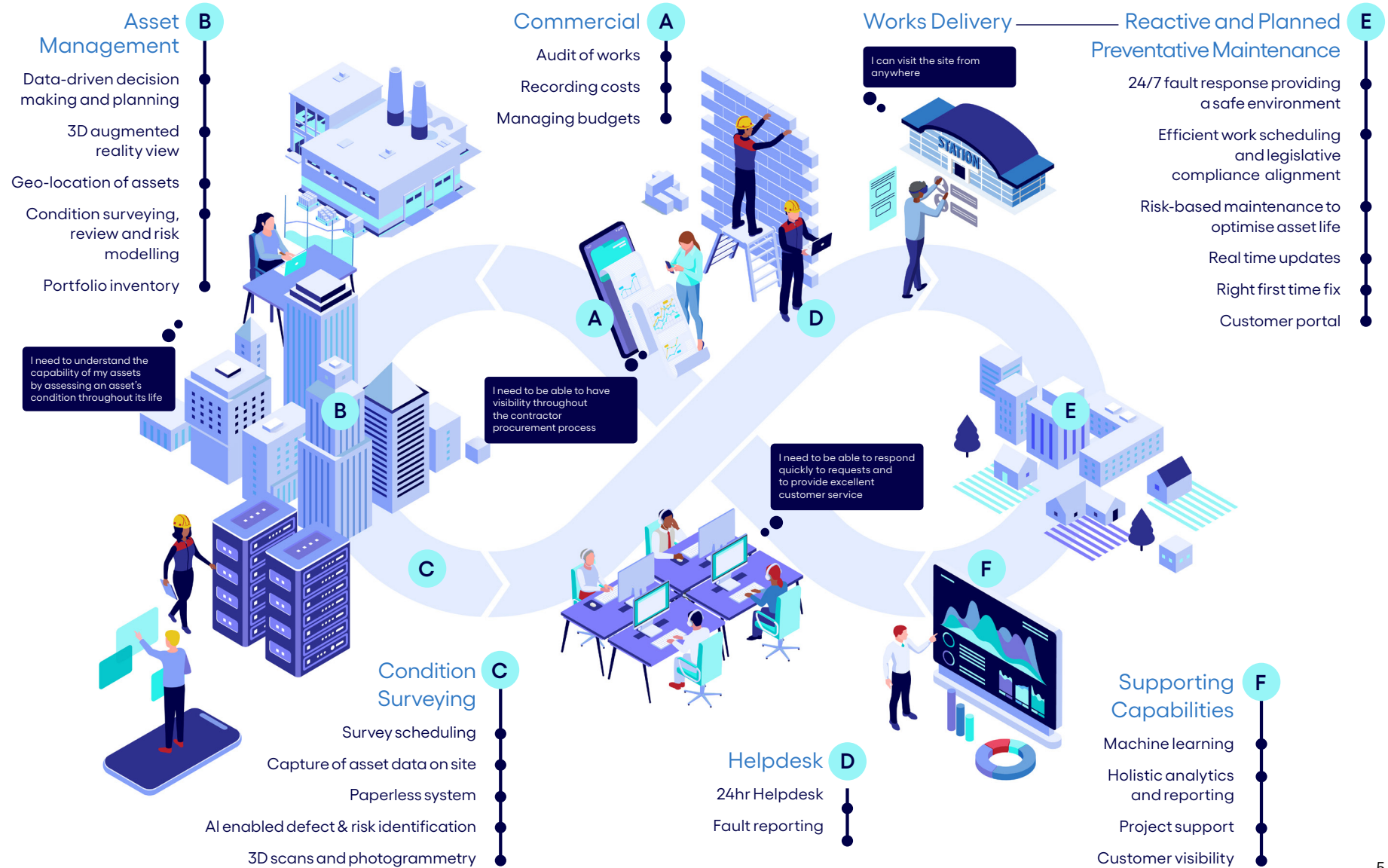
safety



sustainability



# Manual to Digital: Transforming asset management processes





**Asset heavy organisations today contend with unprecedented volumes of data in order to run their operations safely, timely and efficiently.**

The transition from manual to digital asset management involves leveraging AI and ML to analyse vast data, breaking down siloes, and optimising decision-making. Digital technologies, and cross-enterprise collaboration, enable automation and process optimisation across the asset management value chain, enhancing efficiency and reducing environmental impact.

As an example, the asset inspection journey can be modernised using digital technologies, streamlining how the asset condition data is collected, recorded, and analysed. Based on the asset condition, decisions can be taken to make proactive and timely interventions that minimise or avoid disruptions.

Underpinned by five core principles, every digital step of the process should be:



Completed within five clicks



Completed within five seconds



Image-based



In plain language

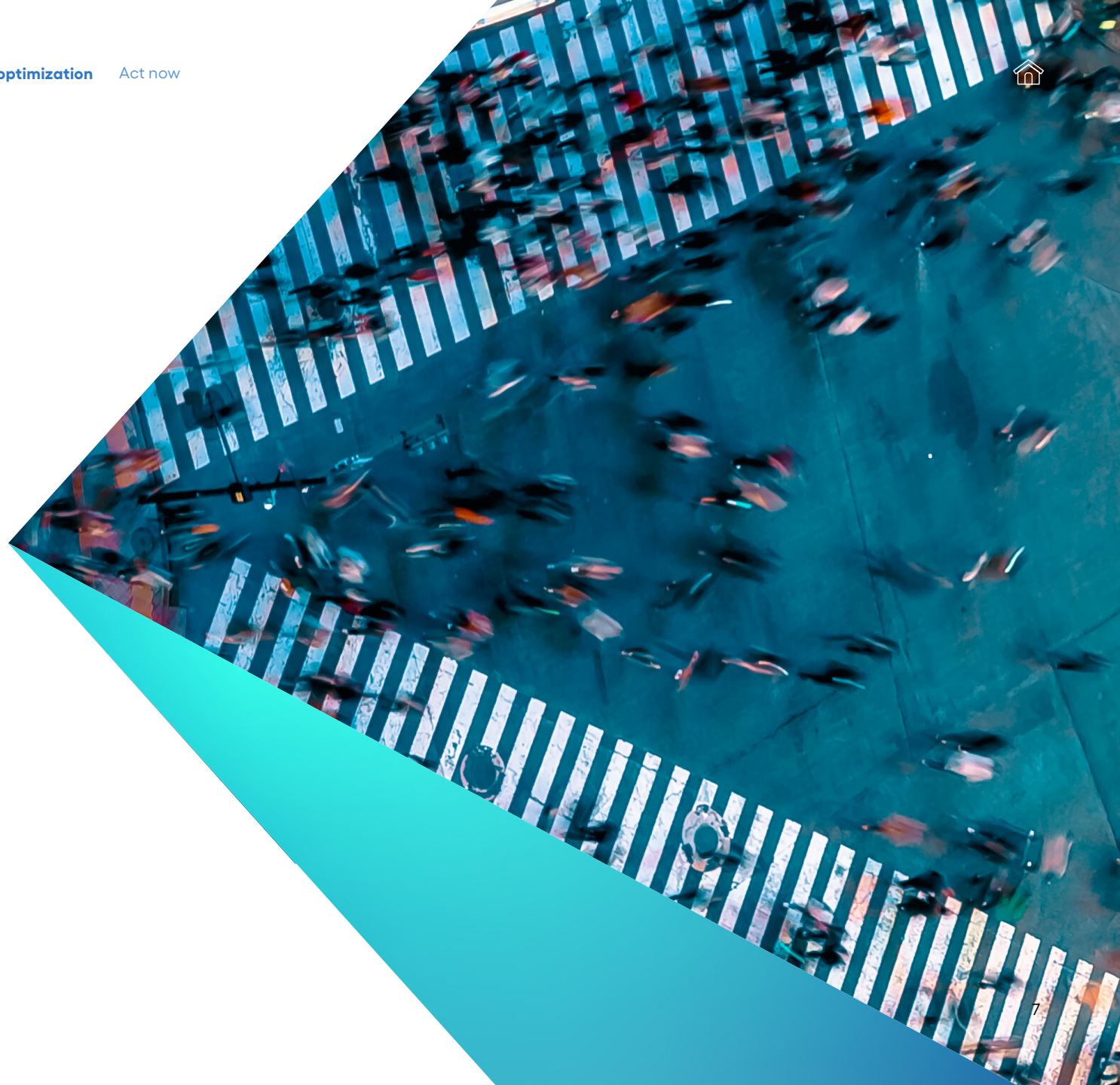


Intuitive to use

# Blueprint for optimising digital asset management

The future of digital asset management will deliver groundbreaking innovation. These include augmented 3D visualisation, advanced GIS mapping for linear and non-linear assets, adherence to BIM and SFG20 standards beyond facilities and buildings, comprehensive data collection, sophisticated asset risk scoring, detailed analysis of asset performance indicators, and the integration of AI and ML algorithms. The ability to respond to problems quickly will be enabled by predictive and condition-based maintenance methods supported by the insight provided by digital twins.

Our approach to realise the vision of digitally managed physical assets is summarised on the next page.



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- 1** Complement your asset management strategy with a digital roadmap
- Craft a digital transformation plan for asset management, aligning short and long-term goals with strategic objectives and ESG targets.
  - Develop a maintenance strategy integrating both reactive and preventive measures.
  - Create an enterprise reference architecture which is adaptable to maintenance workflows and external collaborations.
  - Enable the phased integration of advanced tech such as AI/ML and AR/VR.

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- 2** Modernise your enterprise asset management system to manage assets
- Digitize the entire asset management value chain gradually and evaluate the market to select compatible products fitting the modular architecture.

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- 3** Build a common information model that can scale to meet your future data needs for assets
- Establish a Common Information Model (CIM) for comprehensive asset views, serving organizations and regulators.
  - Employ various data management tools and AI/ML for efficient data handling.
  - Develop scalable infrastructure for advanced asset management capabilities.

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- 4** Make your data analytics platform fit for purpose
- Create a cloud-based data platform for asset condition data, improving surveying, maintenance and planned preventative activities.
  - Use real-time analytics tools and implement AI/ML algorithms to minimise errors.
  - Experiment with advanced technologies to reduce maintenance costs and enhance customer health and safety.

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- 5** Develop solutions with user personas at-heart
- Adopt an empathy-driven approach that keeps ‘user centricity’ at the heart of any solution.

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- 6** Adapt new software delivery models
- Implement Agile and SAFe practices for software delivery.
  - Establish strong partnerships with technology providers.
  - Develop roadmap for medium- and long-term goals.

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- 7** Redesign your user journeys with automation
- Automate manual processes and utilise AI to enhance data accuracy, lower asset maintenance costs and make better asset management decisions.





# Act now with Cognizant and Salesforce

Cognizant and Salesforce deliver innovative digital solutions to asset-rich organisations. Reach out to us today for guidance on your asset management transformation.

Get in touch at [Pulin.Baghela@cognizant.com](mailto:Pulin.Baghela@cognizant.com)



**PARTNER**

