



In its recent survey on the UK economy, the OECD noted that “ageing infrastructure and a growing population contribute to existing pressures on the UK’s infrastructure network”¹. These are not the only pressures that asset-intensive organisations face. Constrained budgets, loss of expertise as a result of an ageing workforce, and increasing stakeholder (e.g. regulator) and customer expectations make transforming Asset Management and Asset Operations an imperative for these organisations.

¹Organisation for Economic Co-operation and Development (OECD), 2013, Economic Survey of the UK 2013, p95



In the UK alone, the National Infrastructure Plan estimates that asset-intensive organisations will invest £300bn in coming years to maintain and improve assets that are central to service delivery². However, the picture is not unique to the UK; whether the challenge is managing ageing assets or rapid infrastructure growth, the need to do more for less remains the same.

In this environment asset managers need to focus on driving increased value from their assets by balancing investment with competing business outcomes such as extended asset life, increased performance, reduced asset risk and reduced whole life cost.

As utilities embrace the digital age, the increased availability of operational and asset data presents an opportunity to improve asset management decision making through what Capgemini calls Digital Asset Management. By targeting key decisions in key asset processes and by turning the data into genuine insights, asset managers can deliver business outcomes that directly delivery significant business value.

Digital Asset Management is required today. Fortunately, it's also achievable today. Advances in big data technologies and analytics mean it's now possible to combine multiple sources of structured and unstructured data and make sense of the information. For example, we can replace manual planning processes with near real time automated decisions. Asset investment planning that was previously done once a year or once every five years can become an integrated part of day-to-day business operations.

As companies continue to digitally transform, the requirement for Digital Asset Management will be even greater – and so will the opportunity. More data will be available from smart meters, connected devices and other new operational technologies. Assets themselves will be communicating their investment needs through the Internet of Things.

²<https://www.gov.uk/government/publications/infrastructure-investment-pipeline>

What makes us different?

While Capgemini delivers the end-to-end Digital Asset Management solutions; from defining the vision and strategy for asset management to delivering the organisational capabilities and underpinning technology, our unique specialism is in delivering business benefit by enabling better decision-making throughout the asset lifecycle and across the organisation – from senior management to engineers in the field.

Our approach to Digital Asset Management focuses on maximising the value delivered from your asset portfolios. We do this by defining, capturing and managing the right data, and by applying analytics to that data in order to deliver insight to support the important decisions that drive business outcomes. We embed this capability by means of an appropriate technology and operating model, so better decisions are made in a consistent and sustainable manner

We collaborate with businesses to build and implement solutions capable of providing decision makers with intelligent, accurate insight. This is done in a variety of ways, including visualisation of asset condition and performance, predictive analytics to suggest when and how to intervene, and prescriptive analytics to optimise investments across the asset portfolio.



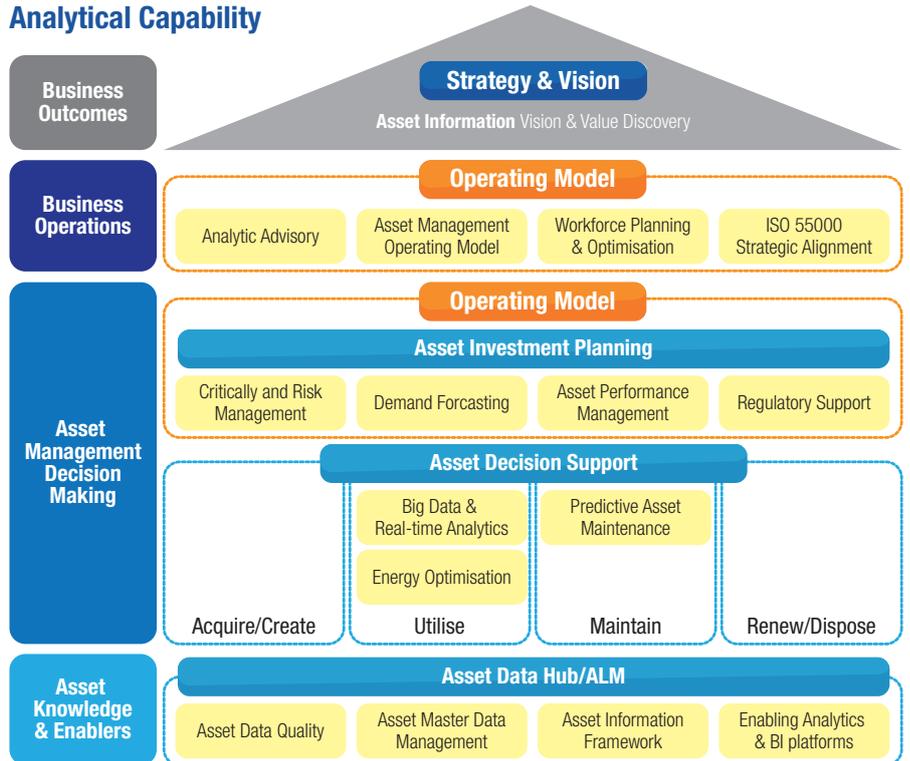
Deciding where to start

There are multiple entry points to Digital Asset Management depending on your organisation’s maturity and strategic objectives. Capgemini have developed an Digital Asset Management Framework (see diagram) outlining our main solutions and solution components.

Our specialist expertise lies in the Asset Management Decision Making area of the framework. This is underpinned with the correct data and asset information, which is achieved through the solutions in the framework’s Asset Knowledge and Enablers layer.

Some client organisations already have an idea of which area of the framework they need to focus on (e.g. they know they need an Asset Decision Support solution). Even so, we recommend an initial Asset Information Vision and Value Discovery exercise to fully define the business outcomes and ensure benefits delivery mechanism is fully understood and to engage key stakeholders in the solution. This way, subsequent technology investments will enable real improvement in asset decision making

Analytical Capability



Embedding change for sustainable value

For Digital Asset Management to deliver sustainable value, it needs to be embedded into the business. This is done primarily by creating an appropriate technology foundation and building the right operating model. With this technology and capability in place, the organisation has the ability to embed decision support solutions that enable hundreds of better, evidence based asset management decisions to be made on a daily basis.

In order to successfully embed any solution, organisations also need to address:

- Organisation design, to ensure the workforce has the right capabilities, and is empowered to make decisions
- Business change activities, to encourage user adoption and consistency of use.
- Technology integration, to remove manual process steps or single points of failure.

There is plenty of evidence of the importance of embedding change. When we recently implemented an industry-leading technology solution, the client saw usage increase and realised a multi-million pound benefits case – but these benefits only materialised after we had adapted existing processes to make use of the new asset insight.

On this project, we were supported throughout by our model office, an integrated team consisting of a group of users from across the business that is a key component of our Digital Asset Management delivery methodology. Through regular workshops and ongoing engagement, the model office enabled us to truly understand business requirements and potential barriers to change and ensure we had a business-led transformation, and not an IT-led one. Our best-practice model office approach has been recognised as delivery excellence and embedded in all subsequent projects within the £330m programme

Embedding change successfully depends on end-user participation in the model office, but even more on having the right senior sponsorship. Senior management needs to lead by example and communicate the vision for Digital Asset Management within the boardroom.

Accelerating benefit

Even after the change is embedded, some organisations struggle to realise business benefits. Usually, they are hampered by the complexity of building the technology infrastructure or by poor asset data quality.

Although these are both important pieces of the Digital Asset Management jigsaw, the need to deal with them shouldn't delay business benefit realisation. We recommend proof of concepts (PoCs) and/or extended pilots as a way of working around these obstacles.

- One of our clients found that a PoC allowed engineers working on a subset of the infrastructure network to start making better decisions almost immediately. The PoC also proved the benefits case and strengthened senior stakeholder support through illustrating the use cases immediately. Subsequently, the full national rollout of the solution made use of temporary data interfaces from source systems until the strategic integration layer could be brought online. We also considered how to use the existing data to achieve business benefits, even though it had not yet been brought up to the desired quality.
- A standalone extended pilot enabled another client to build an investment plan for using new optimisation technology within as little as six months of our starting the engagement. The pilot also de-risked the initial engagement and allowed the design of multiple technical interfaces to progress in parallel.



Single view of the asset

The retail sector regards a “single view of the customer” as a critical component for improving Customer Experience. A single view of the asset is equally important for asset management. Asset data (e.g. age, material) needs to be combined with event data (e.g. work history) and condition data. The picture can be enhanced with video surveys, geo-spatial information and even unstructured asset information such as technical drawings.

Multiple applications can then make use of this asset data hub, or present the information from it to decision makers. The fact that these applications are all using the same view of the data improves integration and reduces the possibility of engineers being presented with contradictory information from different systems, or seeing data that is six months out of date.

Our “logical application architecture”, shown in the diagram, illustrates the main technical components that enable insight through the asset lifecycle. Typically, a number of specialist applications can enhance capabilities and provide seamless integration between traditional ERP and EAM solutions. We have experience in working with or partnering with all the relevant vendors. However, we are vendor-neutral and have also helped organisations through the vendor selection process.



A **rail infrastructure provider** was “data rich but information poor”. **We delivered over £125m** of benefits by providing engineers with information to support better track maintenance and renewal investment decisions. We joined up 14 different data sets, used analytics to align the data and predict failures, and visualised the information in a single solution, available to engineers on their iPads.

A **UK water utility** had developed a £2bn, five-year investment plan, but wasn't confident that the plan was robust. We helped it **improve investment decision making** by generating insight into the effects of uncertainty in data and key assumptions.

A **Canadian electrical utility** was struggling to make consistent risk-based decisions to support its asset investment planning process. Moreover, the annual plan took months to develop and was based on multiple excel spreadsheets. Through changes in the technology and operating model, we enhanced the process to complete in weeks instead of months. We also improved the strategic framework so that risk-based investment decisions were aligned to strategic objectives and could be optimised on a regular basis as part of a revised plan-do-check-act planning process.



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About Capgemini

With almost 140,000 people in over 40 countries, Capgemini is one of the world's foremost providers of consulting, technology and outsourcing services. The Group reported 2013 global revenues of EUR 10.1 billion. Together with its clients, Capgemini creates and delivers business and technology solutions that fit their needs and drive the results they want.

A deeply multicultural organization, Capgemini has developed its own way of working, the Collaborative Business Experience™, and draws on Rightshore®, its worldwide delivery model.

Capgemini's Global Utilities Sector serves the top Utilities worldwide and draws on a network of more than 8.900 dedicated sector consultants. Our integrated Digital Utilities Transformation framework empowers utilities to drastically improve their customer experience, operating and business models through disruptive technologies.

Capgemini is a corporate member of the Institute of Asset Management.

More on industry specific solutions is available at:

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