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MOTT  
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# Magic number

Seven key strengths  
for better-performing  
infrastructure and  
happier customers.

1  
Capable  
organisation

2  
Coherent  
strategy

3  
Integrated  
planning

4  
Targeted  
delivery

5  
Smart  
infrastructure

6  
Adaptive  
resilience

7  
Continuous  
improvement

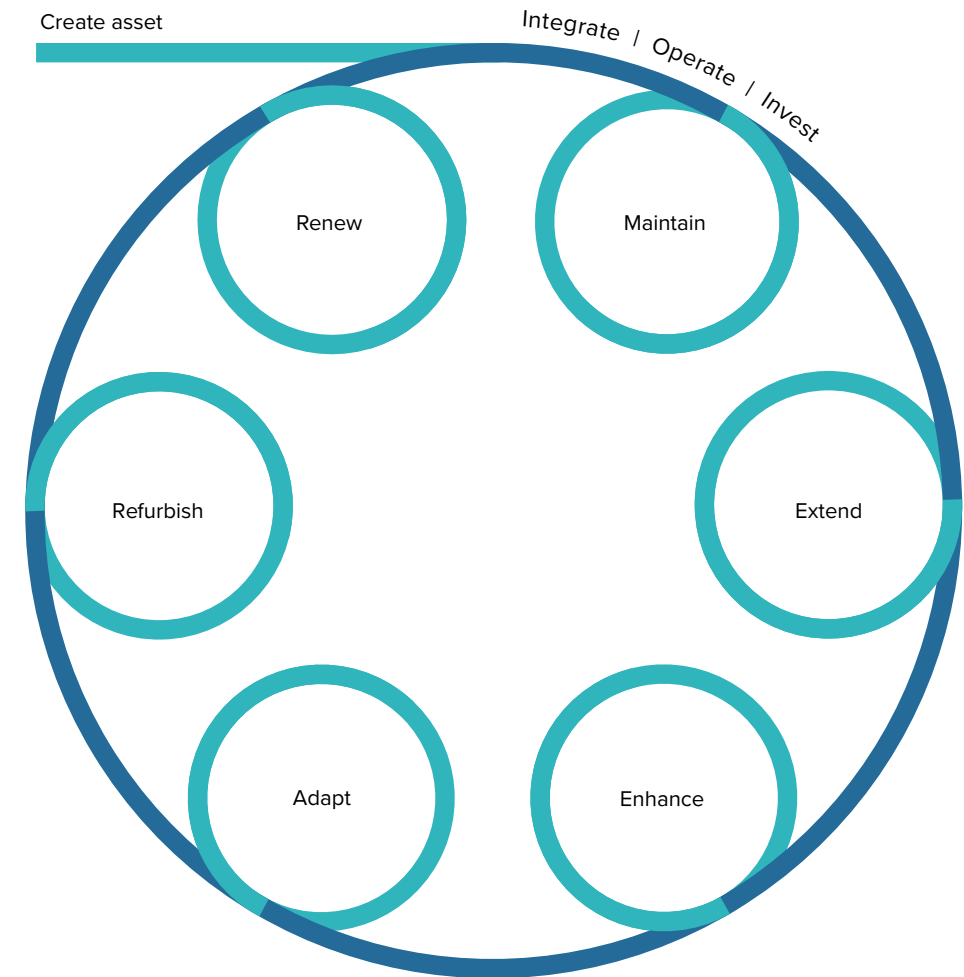
Asset management optimises the whole-life performance of individual assets and integrated asset systems for the benefit of owners, operators and customers.

People commonly, and mistakenly, think asset management is what happens after an asset has been created – and is only about assets! We view things much more holistically.

For us, asset management is about the whole life of assets.

It's about the integration of discrete assets into bigger asset systems – even systems of systems – and how they perform not just individually but together. It's also about the organisational capabilities and strengths that are required to plan, invest in, create, operate, maintain, adapt and dispose of or renew assets.

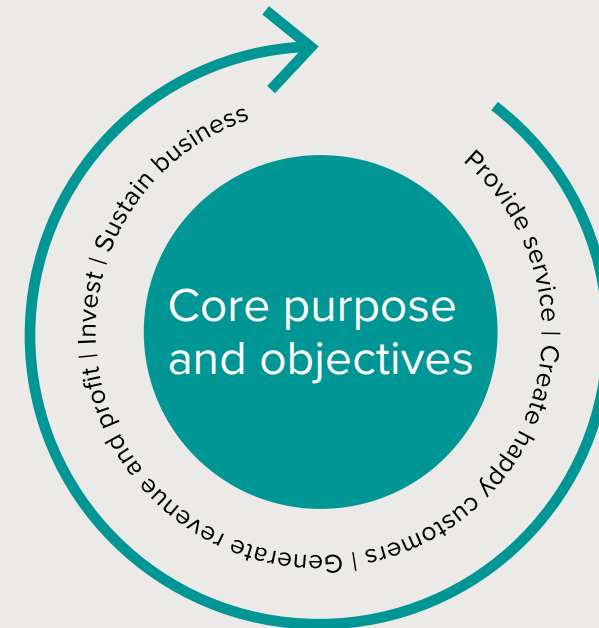
Fundamentally, asset management is about running a strong, successful and sustainable organisation.



Asset management  
brings together  
people, processes,  
technology and data...

...to enable better  
decisions, drive  
value for money  
and manage risk...

...build trust with  
stakeholders, and  
improve customer  
satisfaction.

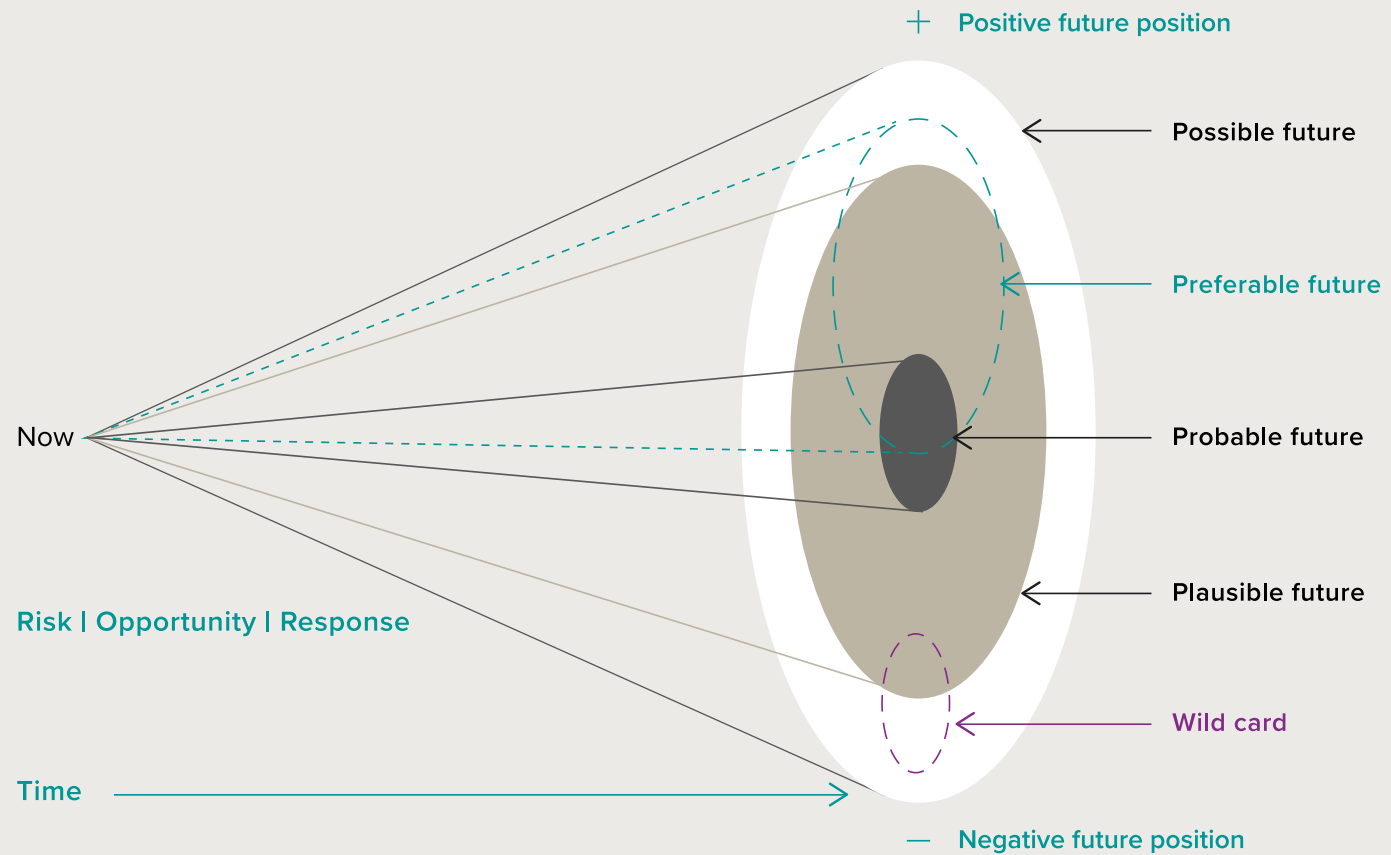


Put another way,  
asset management  
is about opening  
opportunities with  
connected thinking.

### **An existential issue**

Your organisation exists to fulfil a 'core purpose' – to provide water, power, transport, communications, or waste management, for example. You also have objectives – to evolve in response to changing market conditions, or to achieve growth, perhaps.

The right balance has to be struck between service provision, customer satisfaction, revenue and profit and access to capital. If any of these is compromised, the ability to sustain operations and the viability of your organisation are reduced.



## Where do you want to be in 20 years?

These two questions are fundamentally important. For the majority of people, the here-and-now absorbs most if not all of their attention and time. Business plans are redrafted annually. The practical forward horizon of business strategy is about five years.

Yet assets last decades – and organisations aspire to, too.

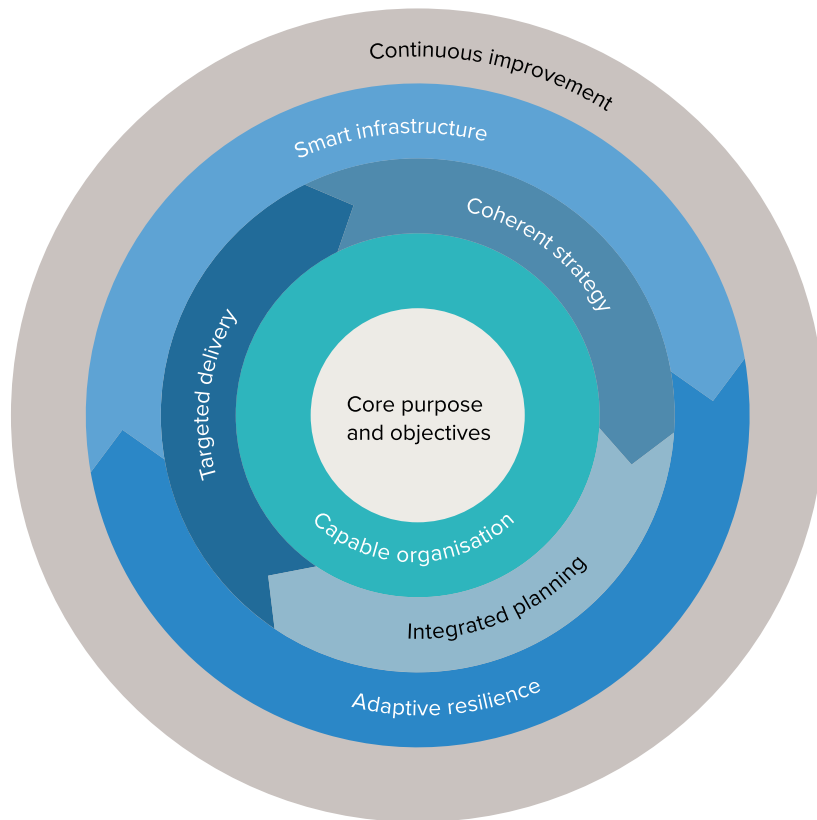
## What must you do to get there?

Looking ahead into an uncertain future, the only thing that can be predicted with confidence is that your organisation will face risks and encounter opportunities. How it responds – and how it is set up to do so – will make the difference between attaining a preferable, positive future, or an undesirable negative one.

# Seven key strengths to...

Protect against risks and seize opportunities.

Make 'no regrets' decisions in the face of uncertainty.



Our approach to asset management looks at the key areas of strength that an organisation needs to cope with today's challenges and plan for the future.

We know that, when any of them is weak, an organisation will be poorly protected against risk and may be unable to adapt in response to opportunity. It may even struggle to fulfil its core purpose and objectives.

**Conversely, the greater an organisation's overall strength, the better protected and more capable it will be.**

We'll help you achieve that, looking at your infrastructure, people, processes, investment, techniques, tools and technology. In partnership with you and your stakeholders, we'll tailor our approach

to your individual needs. The objective is a well-oriented and clearly mapped direction of travel for you, enabling practical steps for making the journey, providing the means to measure progress – and leading ultimately to improvement.

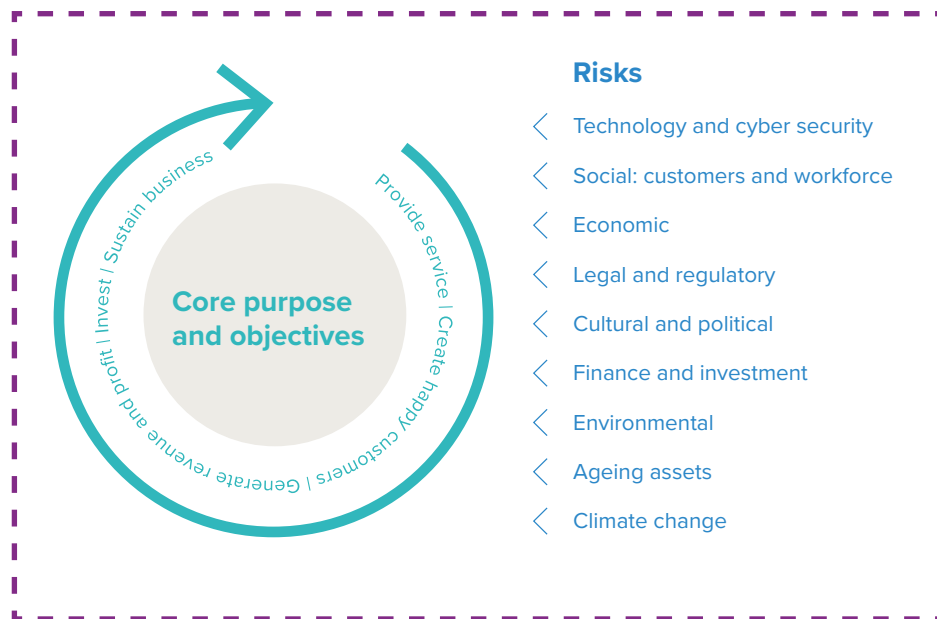
In developing our seven strengths approach we've taken care to align with the Institute of Asset Management's '39 subjects'; ISO 19650, the international standard for information management; and ISO 55000, the international standard for asset management. Why have we taken a different approach? For starters, seven strengths are just easier to comprehend than 39 subjects! And we believe that the organisation must be at the heart of an asset management strategy if it is to be any good. So that is where our approach is centred – on you, our client.

# Getting started: market and business insight

Before beginning on the seven strengths, it's important to understand the organisation we're working with – to check knowledge and challenge assumptions.

We therefore start with some context-setting questions:

## Operating environment/market context



### Operating environment/ market context

What economic, social and environmental needs or desires do you fulfil – what's your core purpose?

How do you do it?

What matters to your customers and on what basis do they buy from you?

What do your competitor, regulatory and legislative landscapes look like?

What's the prevailing political, social and economic environment?

Who are your key stakeholders – and what do they think of you?

### Core purpose and objectives

Are you fulfilling your core purpose effectively?

What objectives have you set for your organisation? Are you achieving them?

How do you measure success – and how do your customers? Are you achieving it?

What measures do you use to track performance?

### Risks

Which are your current risks and opportunities? How are those risks and opportunities changing?

How do you assess your vulnerabilities?

What future risks/opportunities lie on or over the horizon?

Which risks actually or potentially hinder your core purpose and objectives, and threaten the sustainability of your organisation?

Which risks are within your direct control and which lie with third parties?

What cascade effects might you be susceptible to?

# 1

## Strength

# Capable organisation

Asset management is as much about people as assets.

In a capable organisation everyone is aligned to achieve the same goals, from boardroom to plant room. There is visible leadership on, and clear communication of, purpose and objectives, values and culture, supported by policy and governance.

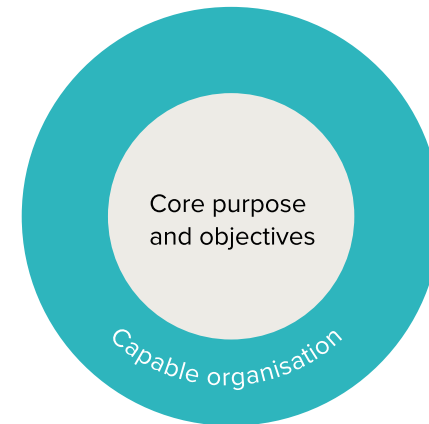
There is strong engagement and action across the organisation. People know what they're doing, how to do it, and why. They're bought in and working together with purpose.

Organisational capability is the foundation for strategy, planning and delivery, adaptive resilience, smart infrastructure and continuous improvement – which in turn are fundamental for effective operation, management and decision-making.

It encompasses:

- **Infrastructure** – assets and asset systems.
- **Human resources** – the right people with the right skills, doing the right tasks with the right tools, efficiently and effectively.
- **Corporate structure and systems** – appropriate management, governance, processes and tools.
- **Knowledge** – the right information, supplied at the right time for the right purpose.
- **Capital** – investment, loans, insurance, profit.

Contextualised by the following six strengths, how capable is your organisation?



**We can help you to...**

Enhance your business processes and organisational structure in order to manage assets effectively.

Identify and train the right people to strengthen asset management capability across your organisation. (Training includes Institute of Asset Management certification.)

**In partnership with you, we will:**

- Clarify the core operational functions, needs and expectations of your organisation.
- Understand your culture, leadership, governance and management, and their impact on asset management.
- Identify key stakeholders and understand their competence.
- Understand how you measure performance.
- Explore risks and their potential consequences.
- Absorb lessons from past events.
- Evaluate the purpose and effectiveness of work already under way.

# 2

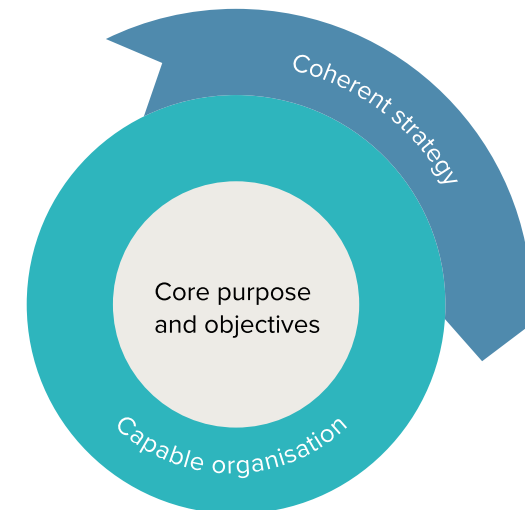
## Strength

# Coherent strategy

### To fulfil your core purpose and objectives, what must you do and how?

An effective, coherent policy framework and strategy set this out, encompassing:

- Goal-setting; decisions to hold or grow market position (organic/acquisition), or exit – and consequential investment in assets, people, systems, technology.
- Understanding and fulfilment of duties of care/corporate responsibilities.
- Market, customer and competitor analysis; activity and cost forecasting.
- Scenario planning, risk/opportunity analysis and optioneering.
- Development of business cases, prioritisation of investment and identification of co-benefits.
- Marketing and customer relationships.
- Performance measurement, baselining and review/analysis.



Where is your policy and strategic focus?

How far forward does it look?

Is it guiding you towards your desired future?



## What impact could strategic weakness have?

### A coherent strategy sets your direction and focuses planning efforts.

Your organisation has diverse assets. A coherent strategy understands:

- their roles and criticality in achieving operational continuity, efficiency, quality and safety, and guides decisions about their management.
- assets individually, as classes, systems and even systems of systems.
- the interfaces, connections and interdependencies between assets and supporting systems or services – utilities, external supply and logistics chains, insurance and investment, for example.
- the probability and severity of different risks.

This understanding guides fundamental approaches to asset management – where it is necessary to perform running hands-on upkeep, where automation can be employed, where to invest in digitally enabled performance optimisation, or where it is acceptable to ‘fix on fail’, for example.

The art of writing the strategy lies in knowing what level of detail is needed.

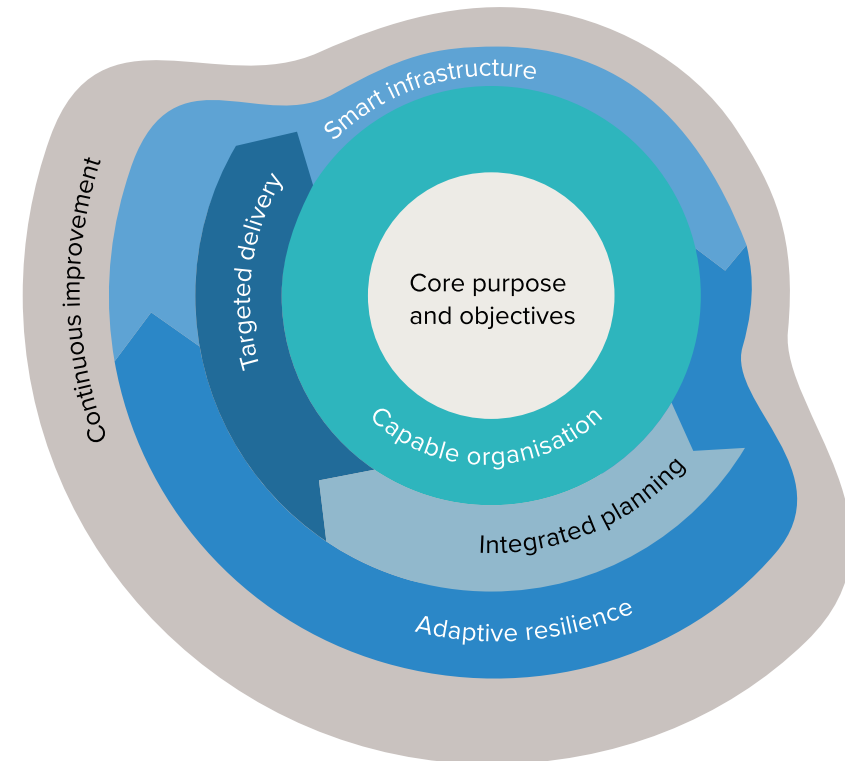
### We can help you to...

Develop a pragmatic, actionable and affordable asset management strategy aligned with your core purpose and objectives.

Define the right level of detail – enough to inform effective planning and delivery, but not so much as to overwhelm.

### In partnership with you, we will:

- Understand current assets by type, role, location, condition, performance and criticality.
- Identify key threats, drivers and opportunities.
- Develop route-maps for reducing exposure to risks, achieving change and realising opportunities.
- Explain decisions to internal and external stakeholders.
- Develop robust business cases for funding/investment.



### Weak strategy results in poor planning, low value for money and reduced capability.

A coherent strategy prioritises investment. But, with many competing demands for investment, organisations that have weak strategy are vulnerable to misallocating money – funding too often goes to those who shout loudest, not those who most need it.

# 3

Strength

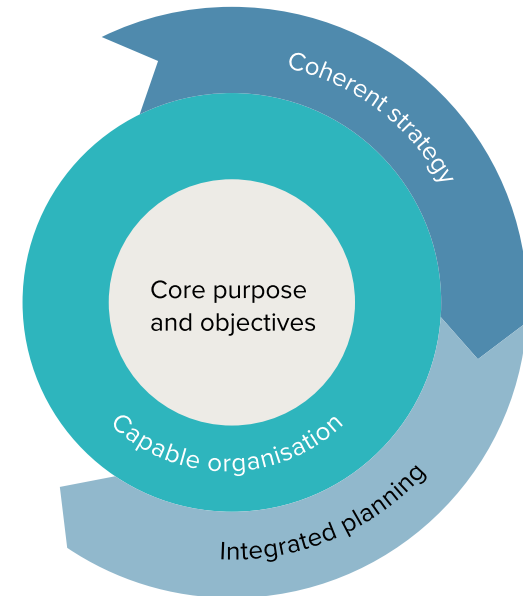
## Integrated planning

**Integrated planning turns strategy into action, supported by targets for and measurement of performance – typically working to horizons of between a year and five-years rolling.**

It addresses the creation, extension, improvement/optimisation, renewal, repair and maintenance of individual assets, with awareness of their importance to asset systems and wider systems-of-systems.

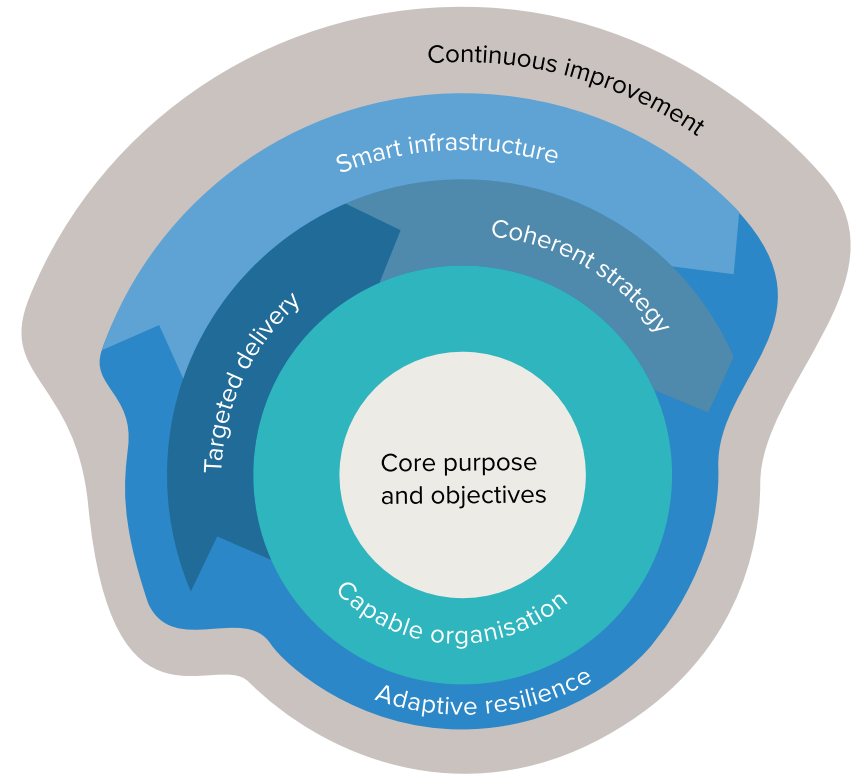
Looking at overall performance and outcomes, integrated planning protects product/service delivery and business continuity by considering:

- changes to the operating environment, risk and opportunity
- the social, economic and environmental impacts (positive as well as negative) of actions taken



What 'gaps' in asset capacity/performance could hinder your purpose, objectives and strategy?

What transitions must be achieved to accomplish them?



**We can help you to...**

Prioritise investment and draw up a programme of activities to proactively address risks and strengthen asset/ organisational performance.

Identify the optimal solutions, informed by engineering, operational, digital and investment advisory expertise.

**In partnership with you, we will:**

- Assess the condition and performance of existing assets.
- Identify the best way of meeting needs, taking a whole asset lifecycle view of performance and cost.
- Secure investment.
- Apply digital solutions to aid the delivery of new assets and the performance of existing ones.
- Address emerging and uncertain risks such as climate change.
- Manage energy and resource use, while cutting carbon and waste.

**Integrated planning involves decisions about where, when and how much to invest, and establishing the mechanisms to initiate, deliver and evaluate projects.**

It takes account of the probability, severity and consequence of the risks associated with your assets over time.

It looks ahead and schedules interventions to gain maximum value. It's often a balancing act between deferring action to extract the best return on past investments, or investing proactively either to prevent loss of performance or failure, or to take advantage of an opportunity.

**What impact could weak planning have?**

**If an organisation is not planning effectively then, by default, it becomes reactive, responding to asset failures.**

It results in a 'fire-fighting' culture that may be effective in fixing problems but is otherwise aimless and wasteful.

If you have a sound strategy but your planning is poor, you know what you want to do, but will struggle to achieve it – and may be unprepared when something goes wrong.

It could also mean that investment is not made early enough to prevent an identified risk turning into a potentially avoidable crisis.

# 4

## Strength

# Targeted delivery

**Targeted delivery is about implementing your integrated plan through a costed schedule of activities:**

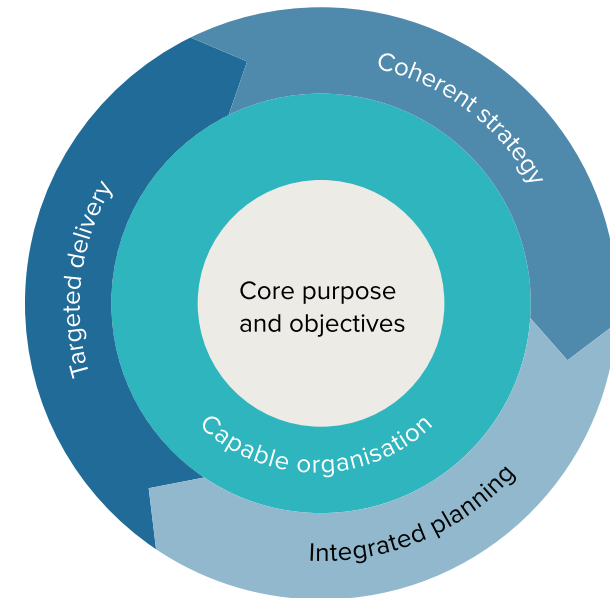
- Capital investment in new or enhanced assets, skilled and experienced people, or business tools and processes.
- Operational investment to optimise the through-life performance of assets, management systems, technology – the organisation overall.

Achieving capital and operational improvements involves change. The right changes must be uniquely identified for each organisation and situation. However, here are two approaches to consider:

Enterprise working and smart procurement – engaging and incentivising your supply chain to:

- focus on what's most important for you and your customers
- outperform targets throughout the life of the project/asset
- bring the benefits of innovation, research, development, and new technologies.

Benchmarking performance, revising targets and re-incentivising suppliers.



### Setting up for success

We contributed to the Infrastructure Client Group's 'Project 13: transactions to enterprises' report and methodology, leading the digital transformation workstream. P13 promotes an enterprise approach to project delivery, with an integrated team focused on achieving the best outcomes per whole life pound for the client and their customers and stakeholders.

What goals have you set your team and supply chain, and how are you motivating them to deliver great outcomes for your organisation and customers?

Across the infrastructure industry there is a preoccupation with building new assets.

Targeted delivery includes construction but is every bit as much about day-to-day operation and maintenance of assets in service, and their enhancement, expansion or life-extension.

Targeted delivery requires its own planning, activity by activity:

- capital spending works, including new build and refurbishment, expansion, enhancement or life extension projects
- everyday maintenance, repair and operational activities

Delivery must be monitored and evaluated to show where corrective steering is necessary and inform strategy and planning, for the benefit of asset management now and in the future.

#### We can help you to...

Select the right combination of physical and digital solutions ('smart infrastructure') to meet your needs.

Identify the correct procurement/delivery model for the activities you must undertake.

Secure investment.

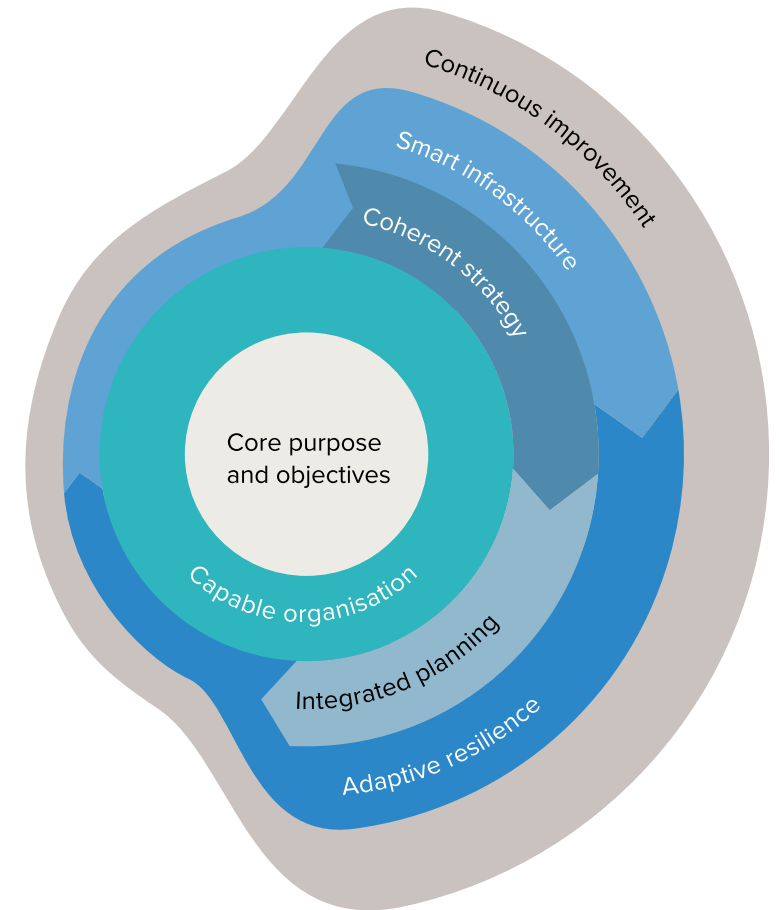
Set the right targets, monitoring and evaluation methods to track performance.

Incentivise your internal and external value chains to innovate for the benefit of the project, your organisation, the delivery team and your clients.

Encourage and enable development of technical solutions, processes, specifications and standards.

#### In partnership with you, we will:

- Set up the right commercial arrangements.
- Drive performance by optimising processes, from inception to implementation.
- Target expenditure and effort to best effect by developing smart infrastructure solutions.
- Manage innovation, research and development.
- Challenge specifications and standards.
- Generate, store and manage data for the long-term benefit of your assets and organisation.
- Monitor performance.
- Model and manage programme, cost, quality and value.
- Provide supervision, review and assurance.



## What impact could weak delivery have?

Poor delivery represents the inability to fulfil your strategy and plan, and to learn and improve.

Without the ability to plan and execute, monitor and evaluate effectively, effort invested in strategising and planning are in effect wasted.

# Strength 5

## Smart infrastructure

**Smart infrastructure is about providing insight into what's really going on across your organisation and asset base to enable better decisions faster and cheaper.**

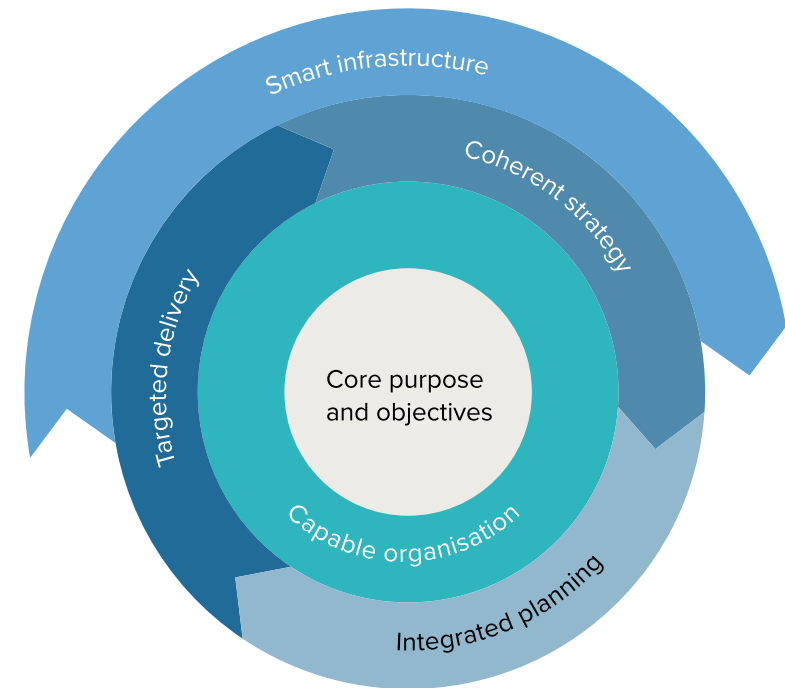
Its purpose is simply to achieve better outcomes and value for money over the lifetime of an asset. Data management, analysis, modelling and visualisation show you the status, condition, capacity and efficiency of assets.

The benefits provided by smart infrastructure are an enhanced ability to:

- Pinpoint and understand problems, faults and performance issues.
- Increase and automate control, with accelerated response times.
- Drive greater accuracy through machine learning.
- Understand the whole system and system-of-systems complexities better.
- Target investment more effectively.
- Review the efficacy of interventions.

The art and science of smart infrastructure is to invest in hardware, software and skills appropriate to what you want to achieve.

Often the right solutions need not be as comprehensive, complex and expensive as some advisors would have you believe.



What smart infrastructure solution is needed to help you realise your objectives and outcomes more efficiently?

## What impact could lack of smartness have?

### We can help you to...

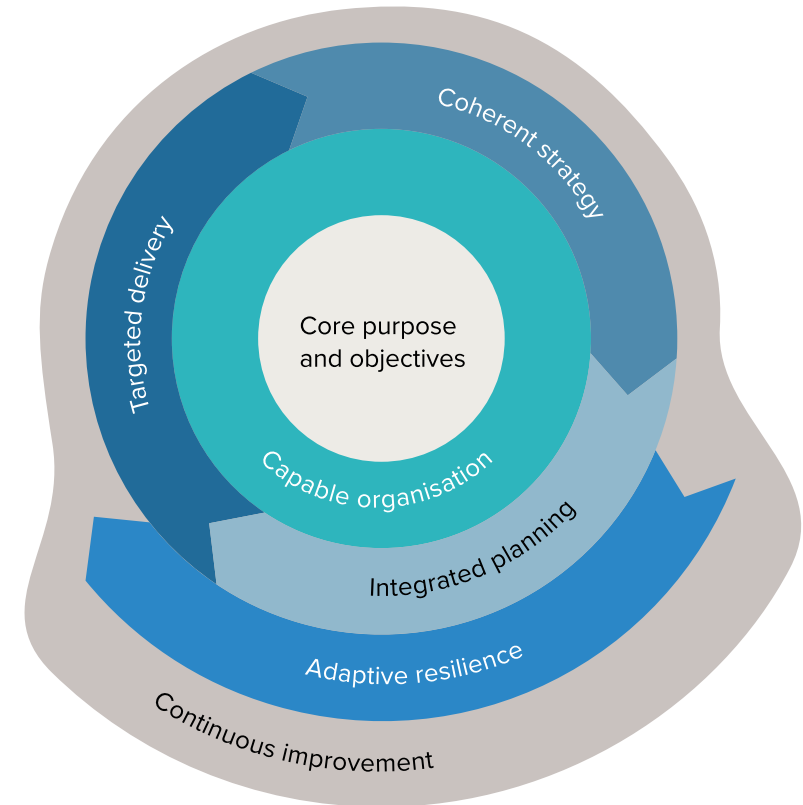
Strike the optimal balance between traditional physical and digital smart infrastructure solutions. Develop a smart infrastructure strategy suited to your asset base, organisational needs and objectives, digital 'maturity' and budget. Pragmatically identify skills, systems, hardware and software required to add value – avoiding unnecessary and wasteful 'gold-plating'. Develop a phased approach to developing smart infrastructure capability, with investment prioritised where it will yield the greatest benefit, fastest.

### In partnership with you, we will:

- Assess your level of digital maturity using our Smart Infrastructure Index.
- Guide the development of your information management platform, tools and processes at project and system levels.
- Begin making sense of your data, using our technology platform Moata.
- Develop a portfolio of tools and dashboards to provide insight and enable improved real-time and long-term decision-making.
- Take advantage of AI and machine learning to enable risk-based maintenance and resilience.

**Benefits of smart infrastructure include increased capacity and output, de-bottlenecking, swift identification and prioritisation of faults and failures, real-time control, and improved information for operators and end users.**

Smart infrastructure involves gathering, managing and analysing data about assets, to gain insight into their performance. It complements and, in some instances, can substitute for physical solutions.



**Weakness in smart infrastructure can be as varied as having too little data or inadequate processing capability to add value; collecting too much data, which makes processing, management, analysis and insight difficult; or simply investing in the wrong technology.**

The key is knowing what data is relevant and building digital capability that is useful, functional and secure, with insights communicated effectively.

Digital transformation is an enterprise-wide programme, encompassing changes to business strategy, culture and behaviours. It's not simply an ICT project.

However, when it comes to making technology investments, we are vendor-agnostic. Our technology solutions service helps you make the right choices and get the best value from the growing range of industry suppliers.



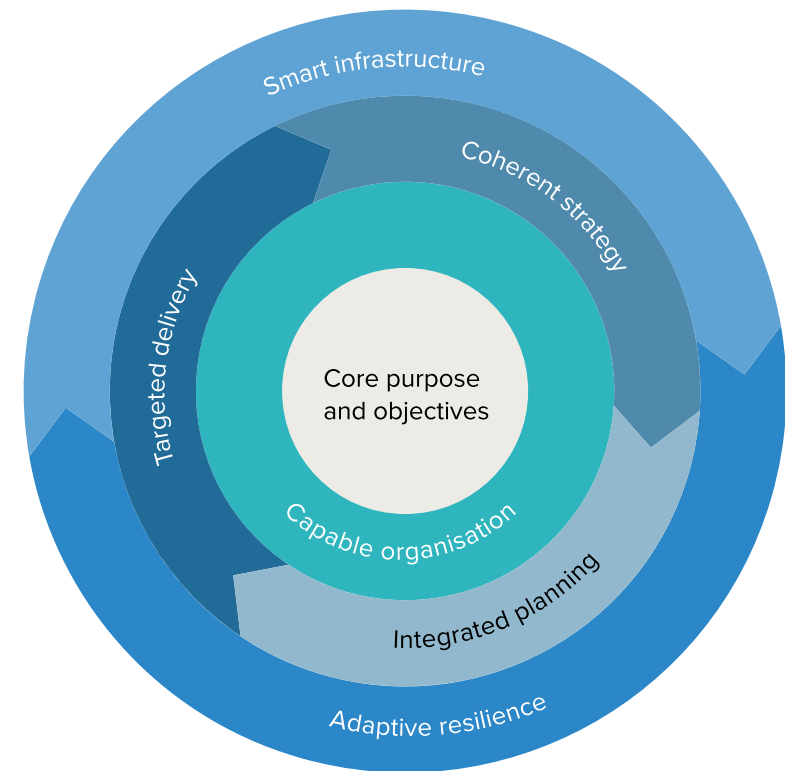
## Adaptive resilience

### To manage assets is to manage risk.

Adaptive resilience is about anticipating and acting to prevent avoidable losses, and to bounce back rapidly from those that cannot be avoided, with minimum harm. It involves risk and criticality analysis, scenario planning, recovery planning and business continuity planning.

Building adaptive resilience involves:

- Identifying critical dependencies within and outside your organisational boundaries
- Using your strategic decision-making and business planning to transition your organisation and its assets from high to low risk
- Investing to eliminate all but 'residual losses' – those that can be absorbed into business-as-usual
- Identifying co-benefits to achieve stronger business cases for investment, and greater rates of return



What critical risks does your organisation face?

Which do you have control over, and which do you need to work with others to address?

What cascade effects should you be aware of?

How do you go about building a case for resilience investment?



**The risk landscape is constantly shifting, with new risks emerging and others growing in significance.**

At the heart of adaptive resilience lies an understanding of the full breadth of risks and their consequences, and an adaptation plan that can be implemented in response to changing conditions.

It can be more difficult and expensive to plan for avoidance than recovery.

It can also be more difficult to plan for a particular cause of failure than for the response. For example, a water main may burst because of cold weather, a vehicle crash, pipe corrosion or a terrorist attack – but the immediate problem is the same: restoring the water supply. Scenario planning should be carried out to identify possible causes of failure and mitigate them where possible.

There should also be a clearly planned and rehearsed process for damage limitation and recovery, if failure occurs. This should include stakeholder engagement – informing staff, supply chain, customers, regulators, emergency responders and others what could happen and what to expect or do. The knowledge and reactions of those on whom you depend – or who depend on you – can be fundamental to the effectiveness of your resilience plan.

**We can help you to...**

Identify systemic and ‘system of systems’ risks within and beyond your organisational boundaries.

Gauge what level of ‘residual loss’ to accept, as it is rarely practical or affordable to wholly eliminate risk and entirely protect against loss.

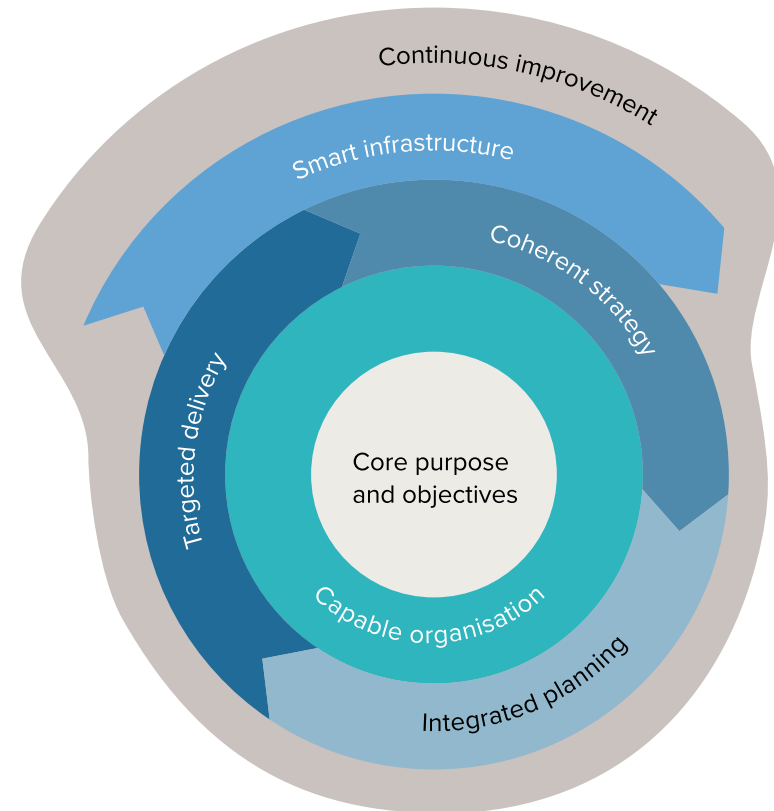
Model scenarios and understand/communicate exposure to risk.

Make the business case to invest in resilience – including joint investment by potential co-beneficiaries.

Identify the right combination of robustness, redundancy, recovery and responsiveness to defend against or recover swiftly from setbacks.

**In partnership with you, we will:**

- Detail your assets, the roles they perform and what constitutes ‘good performance’.
- Understand hazards, magnitudes, uncertainties and cascade effects, and develop scenarios to anticipate their impact on your operations.
- Understand the criticality, interdependencies and vulnerabilities of your assets and supply chain.
- Identify resilience option and affordability.
- Understand resilience and cost co-benefits for your business and other organisations.
- Select measures for phased implementation, with no regret solutions for long-life assets.
- Monitor performance to enhance the resilience strategy over time.



**Insufficient resilience causes loss – of resources and money, time and productivity, employee, customer and supervisory confidence, and in the worst cases, life.**

It exposes organisations to:

- regulation and legislation
- litigation
- reputational harm
- loss of market share and share price
- the costs of repairs and legal action
- damaged supply and distribution chains
- lost productivity
- market disruption

**What impact could poor resilience have?**

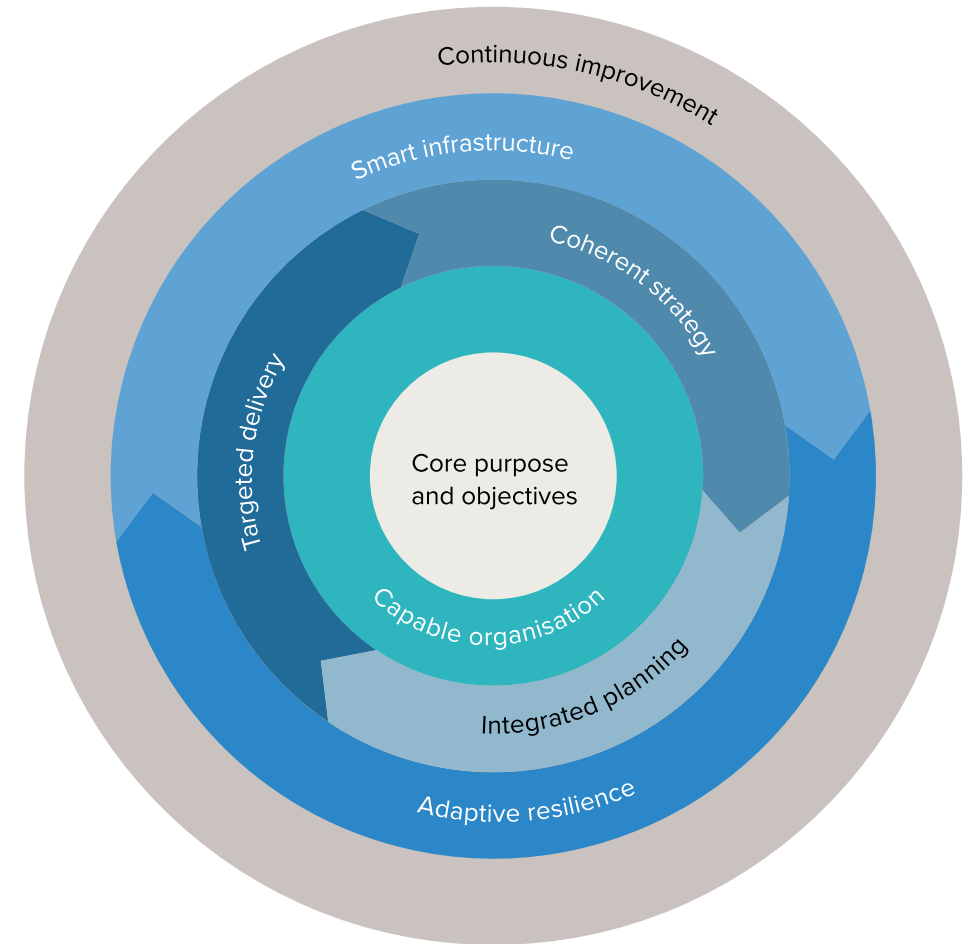
# Strength

## Continuous improvement

Continuous improvement is the ability to evolve, innovate, manage risks and deliver better value, even as your organisation and operating environment change. It is about further building strengths one to six.

It involves:

- Putting in place appropriate systems for monitoring and measuring performance.
- Reviewing outcomes against internal benchmarks and understanding the causes of under- or over-performance.
- Benchmarking performance against peers/competitors.
- Reviewing competencies and providing staff training to fill gaps.
- Driving the innovation and R&D agendas within your organisation and supply chain.
- Strengthening relationships with customers, stakeholders, suppliers and staff.



## What impact could lack of improvement have?

**Continuous improvement is about meeting ever higher customer, regulatory, investor, and political expectations – and about your duty of care to society and the environment.**

Asset management is a continuum, and it is easy to lose focus when the goal is simply to 'keep things running smoothly'.

Meaningful performance metrics are needed across all the other six steps. They must be reviewed at regular intervals. There must be real consequences for under-achievement. And there need to be rewards for exceeding them.

To improve continually it is necessary to benchmark performance against that of peers within your industry, and organisations in other sectors too, and to learn from what you observe.

Continuous improvement requires visible executive board leadership and support.

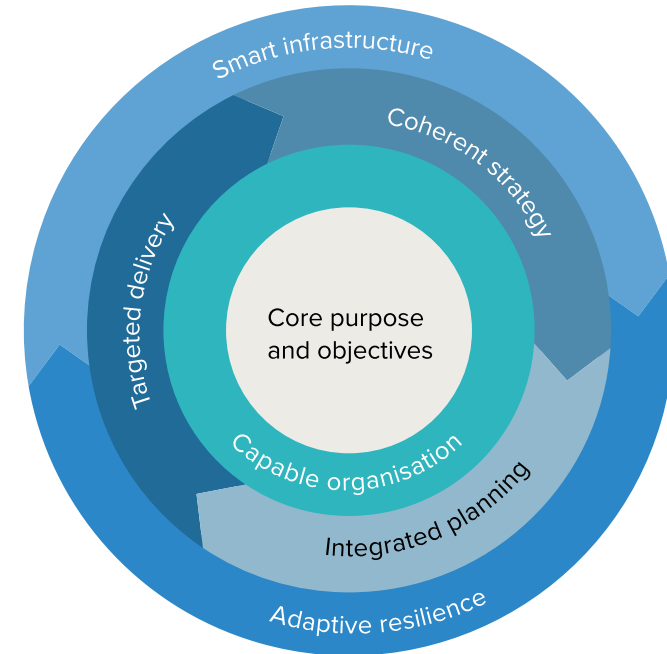
### We can help you to...

See how you're performing using Institute of Asset Management, ISO or BSI frameworks, or developing a bespoke review framework to suit the unique needs of your organisation or situation.

Identify and tackle any blockers to continuous improvement in the areas of coherent strategy, integrated planning, targeted delivery, adaptive resilience and smart infrastructure – assisting you to become a more capable organisation.

### In partnership with you, we will:

- Review performance across the preceding five strengths.
- Set performance targets and systems for measuring, scoring and reporting progress.
- Benchmark against peers, identify best practice and distil learning points.
- Institute any leadership, management and communication needed to achieve continuous improvement.



### Organisations that remain static are at risk of being outflanked by more agile competitors.

Failure to improve may indicate weaknesses in leadership, organisational structure, or culture and communication; it may also be a symptom of difficulty in addressing/resolving an issue in one of the six preceding steps. Lack of improvement should sound an alarm and warrants investigation.

There are several well-established frameworks for reviewing clients' approach to asset management, including the those of the Institute of Asset Management, ISO and BSI. We use them all, as appropriate, and sometimes create a bespoke review framework to suit a unique situation. Thanks to the multi-sector makeup of our own business we can identify transferable best practices from other industries.

**The seven strengths not only enable your organisation to achieve its core purpose and objectives.**

**They also provide protection against risk and the muscle needed to take advantage of opportunity.**

The stronger your organisation is in each strength, the better protected and more capable it will be.

Opening opportunities  
with connected thinking.

**Talk to us:** [asset.management@mottmac.com](mailto:asset.management@mottmac.com)

[mottmac.com](http://mottmac.com)