



Engineering and the Digital Backbone

Translate your transformation strategy from ideas into tangible outcomes with a robust engineering capability, enabling faster, more reliable, and scalable delivery of change.

CGI Business Consulting and Advisory insights



An end-to-end digital framework to power your success

In today's complex and competitive business landscape, it is common for organisations to embed digital technologies that enable their growth strategies. For many, this involves implementing IT throughout their organisation, but few develop a holistic business case or transformation roadmap covering everything they do, or have a comprehensive strategy that aligns their IT with broader strategic goals.

At CGI, we believe that true digitalisation isn't just about adopting new technologies; it's about embracing a holistic mindset. As a leader in IT and business consulting, we help organisations unlock their full potential, driving our clients' growth through the power of "digital".

But digital transformation isn't simple. That's why we developed our value-led, technology-enabled Digital Backbone framework, which delivers best practices and lessons learned to inspire your journey.

The Digital Backbone offers the fundamental building blocks to drive your transformation success. It helps you envision secure and sustainable solutions that combat your challenges and support your ambitions. Combined, your new capabilities will create a robust, IT-enabled structure – a digital backbone – that transforms everything you do, enabling your organisation to thrive in our ever-evolving world.



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A foundation for organisational change

In today's digital economy, organisations face a familiar set of challenges:

- ✓ How do you deliver change faster while maintaining control?
- ✓ How do you know your investments are delivering real value?
- ✓ How do you innovate without increasing risk or fragmentation?
- ✓ How do you manage growing complexity across the organisation?

These are not just technical questions. They are barriers to sustainable transformation, growth, and long-term resilience – and modern engineering provides the discipline to solve them.



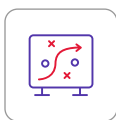
More than writing code, engineering defines how organisations design, build, and evolve digital products and services. It brings together outcomes-led thinking, modern ways of working, and the effective use of technology to develop solutions that are secure, scalable, and reliable.

When treated as a core organisational capability rather than a siloed delivery function, it connects strategy to execution and creates a more consistent, predictable approach to delivering change.

This creates the conditions for meaningful and measurable transformation, where value is delivered more continuously, risks are managed more proactively, and your organisation is better able to adapt as demands evolve.

From business challenges to strategic advantages

When engineering is approached as a core capability, its success is measured by how effectively it solves business challenges and achieves strategic goals.



Accelerate delivery and innovation

How do you deliver change faster, without increasing risk?

By improving the flow of work and embedding intelligent tooling, you will increase both speed and predictability.

AI delivers significant value here, supporting activities such as development, testing, and validation to improve productivity and free up teams for higher-value work. For example, teams using AI-assisted tools complete tasks up to 26% faster, enabling shorter, more reliable delivery cycles without increasing risk.¹



Enhance resilience and reliability

How do you innovate safely?

By embedding security, quality, and risk management into the design process from day one, issues are identified and resolved earlier.

This means engineering reduces reliance on late-stage controls and supports the delivery of stable, compliant solutions without slowing progress.



Deliver measurable business outcomes

How do you know when you've succeeded?

An effective engineering organisation focuses on meaningful measures of performance – speed, quality, reliability, and team effectiveness.

This provides clear visibility into progress, enables informed decision making, and ensures your engineering capability is translated into sustained business value.



Drive operational and cost efficiency

How do you do more with less?

Effective engineering makes resource usage visible and manageable within daily workflows.

By integrating cost optimisation into your practices, you can reduce waste, improve sustainability, and unlock capacity for reinvestment. Organisations often leave 10–20% of potential cloud savings untapped for example, simply because this discipline is missing.²



Improve change adoption and effectiveness

How do you take people on the journey?

Modern engineering practices encourage collaboration and shared ownership. By aligning cross-functional teams around clear outcomes and applying human-centred design, you will establish ways of working that are easier to adopt and sustain.

These team-centric approaches have been linked to performance improvements of up to 30%.³

¹ IT Revolution: New Research Reveals AI Coding Assistants Boost Developer Productivity by 26%: What IT Leaders Need to Know

² McKinsey & Company: Everything is better as code: Using FinOps to manage cloud costs

³ McKinsey & Company: All about teams: A new approach to organisational transformation

Engineering and the Digital Backbone

Unlocking your organisation's full potential – transformation done right

What is a digital backbone?

A digital backbone goes beyond simply applying IT to areas of your organisation as a support mechanism. When designed effectively, a digital backbone becomes the cornerstone of a successful modern organisation; it embeds technology throughout all operations, using the power of IT to create a robust structure that enables continuous innovation and transforms everything you do.



Increased efficiency and productivity across streamlined operations.



Increased revenue alongside more cost efficient processes.



Greater agility and growth with a faster time to market.



Better regulatory compliance, including empowering sustainability initiatives.



Improved service and product quality for customer, employee and stakeholder satisfaction.



Improve decision making through data-driven insights.



The Digital Backbone

Our end-to-end framework that will make IT the enabler of your success

The Digital Backbone delivers twelve fundamental building blocks to inspire digital transformation and unlock your organisation's full potential.

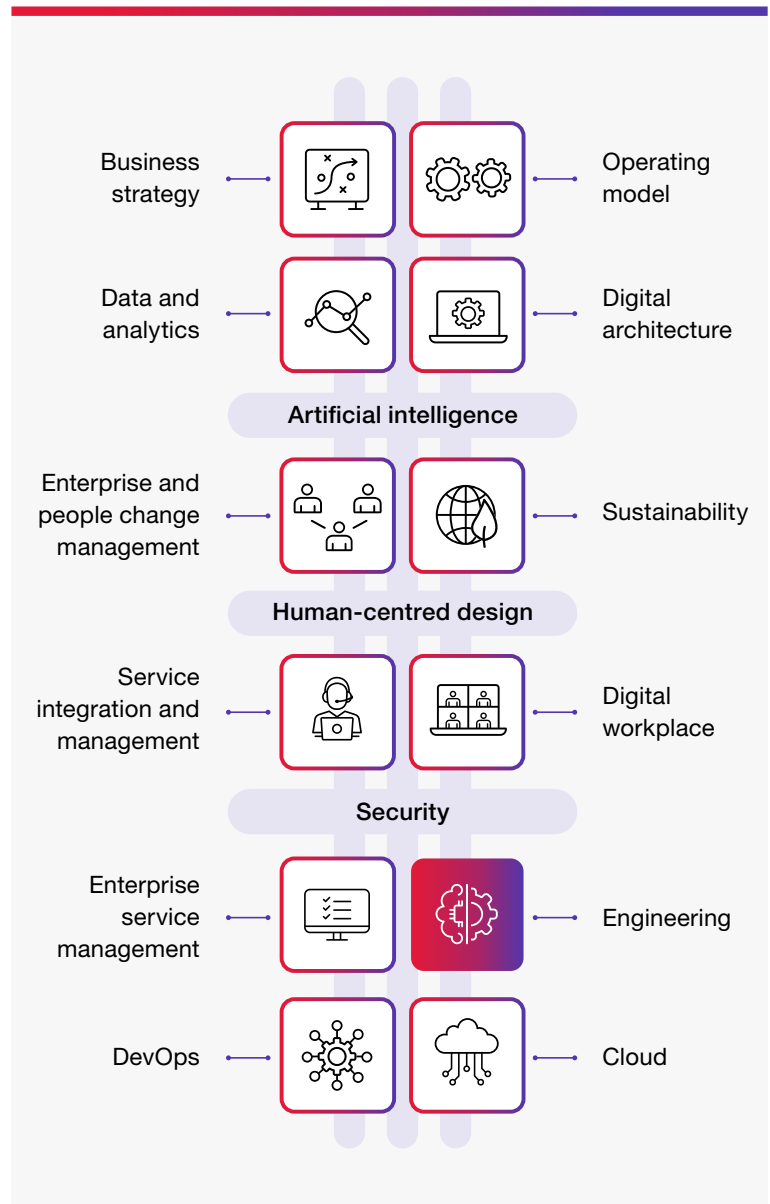
These can be implemented either individually or as a whole programme, with every step strengthened by three embedded enablers – artificial intelligence, human-centred design, and security – so no matter where you are on your journey, the Digital Backbone provides a comprehensive vision for your transformation.

Engineering is a core component of the Digital Backbone, enabling organisations to translate strategy into real outcomes.

It provides the "how to" – the discipline that governs how digital products and services are designed, built, and evolved to deliver consistent value.

By establishing a robust engineering capability, you will improve the flow of change across your entire organisation. It brings greater clarity, predictability, and control to delivery, and embeds quality and resilience throughout.

This enables your teams to work more effectively together, turning transformation from a series of one-off projects into a continuous business capability. The result is an organisation that can adapt and respond with confidence as market demands evolve.



What makes a modern engineering capability?

Effective engineering is not defined by tools alone. It is a coherent capability that brings together people, practices, and ways of working to consistently deliver value. This enables organisations to move beyond one-off projects and create more reliable, scalable, and sustainable ways of working.

A mature engineering capability brings together a set of integrated elements:



Start with outcomes, design for adoption

Engineering begins with a clear understanding of the desired outcomes. Applying design-led and human-centred approaches enables you to validate assumptions and build confidence before scaling, ensuring new capabilities are embedded effectively to achieve strategic goals.



Centre on products, empower teams

Work is aligned around products and services, with clear ownership of outcomes. Empowered, cross-functional teams can prioritise effectively, respond to change, and take accountability for the performance and evolution of what they deliver.



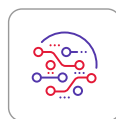
Build in reliability and risk management

Quality, security and resilience are integrated throughout the engineering lifecycle. By addressing risk early and continuously, your organisation can reduce rework, improve stability, and deliver change with greater confidence.



Augment the workflow with AI

AI delivers the greatest value when embedded throughout engineering. Emerging approaches, such as agentic product operating models, point towards more adaptive and intelligent systems that can evolve continuously – shifting engineering from building static solutions to enabling ongoing transformation.



Enable delivery flow

Engineering improves how work moves from idea to outcomes. Smaller increments, faster feedback loops, and increasing levels of automation enable teams to deliver more frequently, with greater predictability and control.

A vision for engineering transformation



Translate your transformation strategy from ideas into tangible outcomes with a robust engineering capability, enabling faster, more reliable, and scalable delivery of change.

Building an effective engineering capability is not a one-off initiative. It is an evolving organisational capability that adapts as your business needs, technologies and expectations change.

A clear vision for engineering transformation helps organisations understand their current state and define what progress looks like. It provides a structured way to move from fragmented improvements towards a consistent, repeatable approach to delivering change.

The key steps

Engineering is a connected system, not a series of disconnected activities. This mindset provides a clear and repeatable way for you to move from transformation uncertainty – what to prioritise, how to deliver and how to measure success – to greater clarity, confidence and control.

At its core, this approach focuses on improving how value flows from initial idea to delivering outcomes:

1

Clarity of intent – Transformation begins with a clear understanding of the intended outcomes. Defining your product vision, strategic objectives and success measures ensures that engineering effort is aligned to business priorities from the outset.

2

Exploration and validation – Early design, experimentation and validation enables you to test ideas, explore options and make informed decisions before committing at scale. This reduces risk and improves the quality of what is delivered.

3

Iterative delivery – Develop your ideas through incremental approaches that enable faster feedback and continuous refinement. Integration and automation support consistency, quality and predictability as your solutions evolve.

4

Built-in quality and reliability – Embed quality checks, security and resilience throughout the lifecycle. Continuous validation and proactive risk management reduce rework and ensure your systems remain stable and trustworthy.

5

Release and operation – Deliver changes frequently and safely, supported by clear visibility into system behaviour. Ongoing operation ensures your solutions remain reliable, secure and adaptable as needs evolve.

6

Continuous improvement – Engineering capability matures through ongoing measurement, learning and refinement. By understanding your organisation's performance across delivery, systems and teams, you can continuously improve and scale in a sustainable way.

This capability-led approach makes engineering a strategic component of your digital backbone – supporting long-term transformation, managing complexity and delivering measurable, sustained value for your organisation.

CGI Business Consulting and Advisory

Built over 50 years, CGI is one of the world's largest providers of high-end IT and business consulting services. We are trusted to transform organisations with innovative solutions, so developed our Business Consulting and Advisory (BC&A) team to share our knowledge and experience with you.

Offerings to support your organisation

Wherever you are on your transformation journey – whether you're looking to develop a forward-thinking business strategy, improve the effectiveness of specific processes, or implement an innovative solution – we're here to help.

We understand that transformation isn't simple. That's why **our experts developed all our BC&A offerings around the Digital Backbone's twelve key propositions**, embedding artificial intelligence, human-centred design, and security throughout to support you with the right approach and solutions to address your challenges, achieve your ambitions and build your own digital backbone capability.

Whether you'd like to build a complete digital backbone that will become the cornerstone of your growth, or if there's one specific area standing in the way – perhaps that's engineering – we have the offerings and solutions to ensure your transformation project succeeds.



Our engineering offerings include:

- **Design-led thinking and change adoption** – embedding outcomes-driven design, experimentation and adoption practices to help you achieve sustainable transformation.
- **Product strategy and empowered teams** – establishing product-centric ways of working with clear ownership and accountability to help achieve your strategic outcomes.
- **Reusable engineering foundations** – designing scalable, standardised capabilities that enable consistent, efficient transformation delivery across your organisation.
- **AI-augmented delivery** – integrating AI across engineering workflows to improve productivity, quality, and decision making.
- **Reliability and performance engineering** – building stable, secure and resilient systems with strong validation and monitoring practices.
- **Engineering measurement and optimisation** – establishing meaningful performance measures to improve delivery speed, quality, reliability, and team effectiveness over time.

BC&A places you at the heart of our offerings. We work to understand your unique challenges and opportunities – whether you require strategy development, or solutions design and implementation – and we'll guide you every step of the way.

Our teams cover a range of sectors such as higher education and healthcare, as well as specialist areas including business consulting, technical advisory, service management, and sustainability.

We remain supplier agnostic, but also have teams designated to our strategic **alliances** with the likes of Microsoft, ServiceNow, Google, Dell, NetApp (and more), enabling us to design you the right solutions, working with the right partners to deliver the best outcomes.

So whatever your specific requirements, challenges or industry, with BC&A's breadth of knowledge and experience, we'll empower you with a team that is hand-picked to enable your success.



To find out more:

Explore the Digital Backbone and its twelve key propositions in more depth on [our webpage](#).

Fill in this [short form](#) and we'll be in touch to discuss how our engineering offerings or our overarching Digital Backbone framework can support your specific needs.



About CGI

Insights you can act on

Founded in 1976, CGI is among the largest IT and business consulting services firms in the world.

We are insights-driven and outcomes-focused to help accelerate returns on your investments. Across hundreds of locations worldwide, we provide comprehensive, scalable and sustainable IT and business consulting services that are informed globally and delivered locally.

Visit cgi.com/uk/digital-backbone

Contact us to explore how the [Digital Backbone can drive your organisation's success](#)

