Our Digital Futures
The Digital Landscape

aurecon

Bringing ideas to life

Our Digital Futures
The Digital Landscape

'Digital' transforms the physical - our cities, our workplaces, our homes, our environment, our people, our systems, our assets.

It can help us solve problems and overcome challenges, be more efficient, work smarter and generate new opportunities. But achieving these outcomes **now** and into the **future** heavily depends on how well you transition into, and how effectively you navigate through, this complex digital world.

Helping others make sense of the **'now'** and be **future ready** is important to us at Aurecon. So important that we set out on one of our most intensive market research journeys yet – with the ultimate destination being to help our clients understand the actions they can take to navigate the labyrinthian digital landscape of 2019 and beyond.

Unearthing digital challenges and barriers

Our research - a combination of online surveys and deep dive interviews with a wide range of professionals and specialist futurists from across the world - uncovers what 'digital' means to our clients and their businesses, revealing the major barriers and challenges in the constantly evolving digital space.

To be released over three waves as *The Digital Landscape, The Future of Digital* and *Your Digital Strategy,* the results of Our Digital Futures research provide key insights into the issues - and opportunities - that digitisation creates.

Identifying actionable insights

The insights shared will help our clients recognise what they can be doing now, and will answer their most pressing questions relating to digital:

- How can I improve clarity on what digital means in my business?

- What can I do to get better return on digital investment?

- I'm ready for digital ways of working, but where do I start?

- Who should own my digital strategy?

- How can data help me drive better efficiency?

- I'm not prepared for digitisation, or upcoming technologies, how can I get ready?

- How can I leverage the power of automated data collection on physical assets?

- How do I create a culture that's willing to embrace digital change?

- How is digital changing my customers, my market and my competition?

Building on the discoveries unearthed in Aurecon's 2016 Digital Futures research, our latest insights lay an even stronger foundation for Aurecon and our clients to tackle challenges and realise the possibilities created by digital ways of working, now and into the future.

Our research reveals **major barriers and challenges** around digitisation and provides insights into **the opportunities** created by digital ways of working now and into the future.

Issues

- Digital literacy
- Iterative digital strategy
- Digital ownership
- Demonstrating return on investment
- Regulatory compliance

Opportunities

- Improve consensus/understanding of digital: ensure the definition of digital is shared within organisations.

- Asset performance: use digital to create new revenue streams and show return on digital investment. Also, introduce automated systems to collect data on the physical performance of assets.

- Organisational performance: bring focus, strategy, people, revenue together and elevate and specify responsibility for digital out of singular departments and up to the chief digital executive.

- Connecting systems: combining technology, experience, people to gain a competitive advantage (connecting disparate systems and platforms, helping them talk to each other).

The Digital Landscape

The pace of digital change is unlike anything we've witnessed before and understanding the current - and ever changing - landscape is a critical step in planning for the path ahead.

According to Aurecon's **Our Digital Futures** survey data, when it comes to the current state of play, ironically, 'digital' is exposing a lack of connectivity. Organisations are grappling with the complexities of the digital landscape, many fall short in understanding what 'digital' means and are also under pressure to demonstrate financial return on digital investment (ROI).

Nine out of 10 organisations have faced some sort of challenge in embracing 'digital', highlighting a pressing need for intervention and consultation.

Top organisational challenges
(top three, % ranked #1)

Only 5% have not begun to embrace digital

Only 4% are yet to face any challenges

#1

"Not many of my key decision makers understand what 'going digital' actually means"

29% Decision-makers lack understanding

#2

"Because any anticipated revenue uplift is currently academic. Hence there is uncertainty around profits while focused very strongly on initial costs."

24% Need to show immediate ROI

#3

"The financial cost of moving to digital with peta-scale infrastructure is large. There are other priorities to be funded."
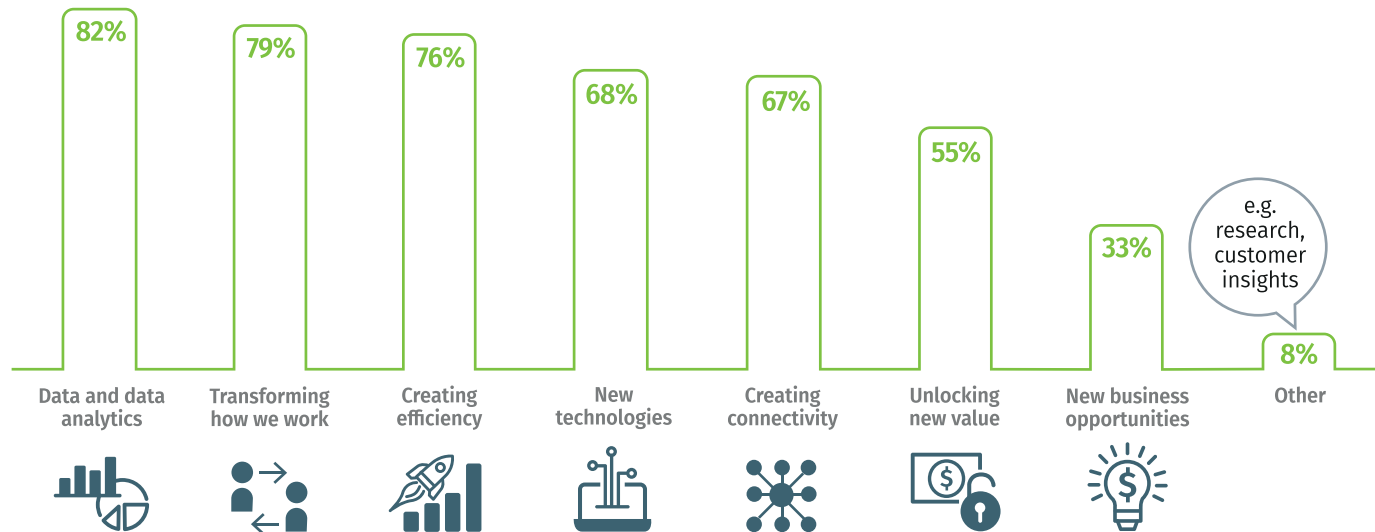
24% Cost

Narrow definition of digital

The data reveals a majority of organisations are focussed 'internally' on the present and see analytics and organisational factors - such as changing how businesses operate and creating efficiencies - as the starting point for their digital journey.

When asked what 'digital' means for your business, 82% of respondents said 'Data and analytics', 79% 'Transforming how we work' and 76% 'Creating efficiency'. Just 33% defined digital as 'Creating new business opportunities'.

Definition of Digital

82% Data and data analytics	**79%** Transforming how we work	**76%** Creating efficiency
68% New technologies	**67%** Creating connectivity	**55%** Unlocking new value
33% New business opportunities	e.g. research, customer insights	**8%** Other

"Insights from the depth interviews suggest this is because many organisations are still preparing their internal systems and processes to 'plug in' to an increasingly digital business world. Also, many organisations believe that creating efficiencies will help to prolong the life and utility of existing assets, by leveraging technologies such as internet of things and approaches such as predictive maintenance."

Dr Andrew Maher,
Group Managing Principal, Eminence, Digital & Innovation, Aurecon

Creating revenue opportunities

Interestingly, despite the pressure to show ROI, factors directly relating to revenue streams - such as creating new business opportunities and unlocking new value - are less salient.
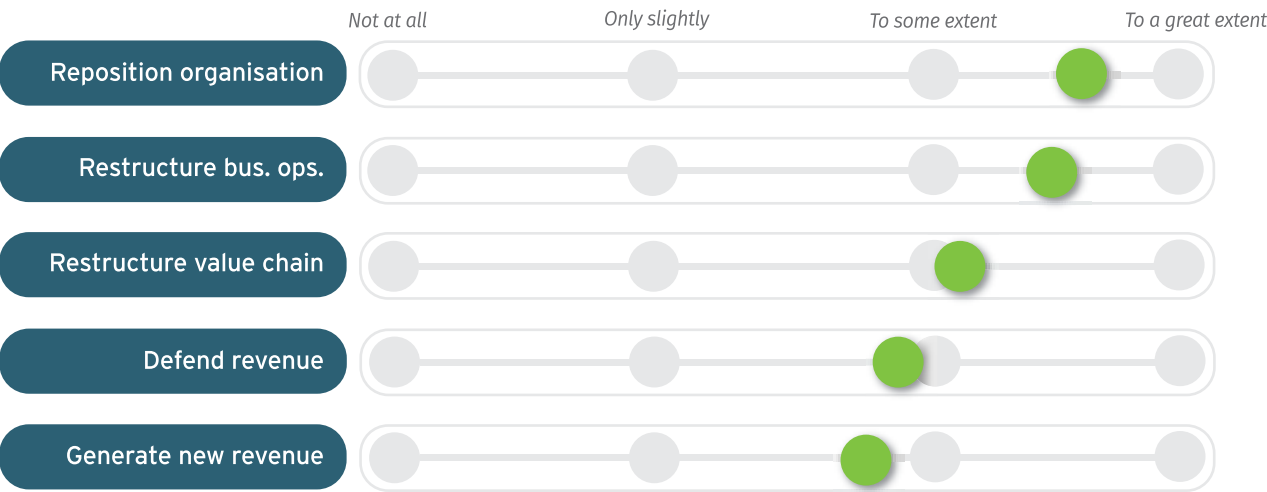
Currently, physical assets don't play a major role in many of our clients' digital strategies. They don't see that digitising their assets can better support their overall business objectives and be a competitive advantage. This means those focussing only on digital ways of working to improve organisational efficiencies are missing opportunities to connect assets to business strategy, adapt and repurpose assets, and use it as a source of differentiation. Organisations who create strong business cases and invest in the right digital approaches are likely to be at less risk in terms of demonstrating future ROI.

Analytics might be a starting point for many, but there is so much more potential for business.

> *"It is not so much the technologies that are the challenges but it's the adaptability of the organisations to actually pivot the business model in the face of disruption."*
> **Dion Chang,**
> Futurist, South Africa

'Digital' driving core business outcomes

|	Not at all	Only slightly	To some extent	To a great extent
Reposition organisation				●
Restructure bus. ops.				●
Restructure value chain			●	
Defend revenue			●	
Generate new revenue			●	

Most respondents thought digital was a vehicle to 'Reposition an organisation' and 'Restructure business operations', whereas 'Generating new revenue' was thought to be the least likely outcome

Case studies

A cutting edge network of IoT sensors, to be installed at **London Bridge station,** will gather a broad range of data to help prevent delays and train cancellations. Using an IoT-enabled platform for rail assets monitoring and predictive maintenance, rail operators will have immediate and clear visibility (via a 3D virtual model of the station and tracks) of information on when and where faults are likely to occur. The system will enable companies to fix a problem before it becomes one, and at a time when commuting is not disrupted.

Australia's SA Water faced challenges in identifying when and from which reservoir to transfer water across their treatment plants. With a digital strategy connecting assets, data is now being used to help make better decisions for this complex system, and to more efficiently distribute water across the state and through metropolitan Adelaide. SA Water is also in the process of using digital to regain control over one of their single largest operational expenses, by using solar and advanced analytic and optimisation tools to contribute to its goal of a zero cost energy future.
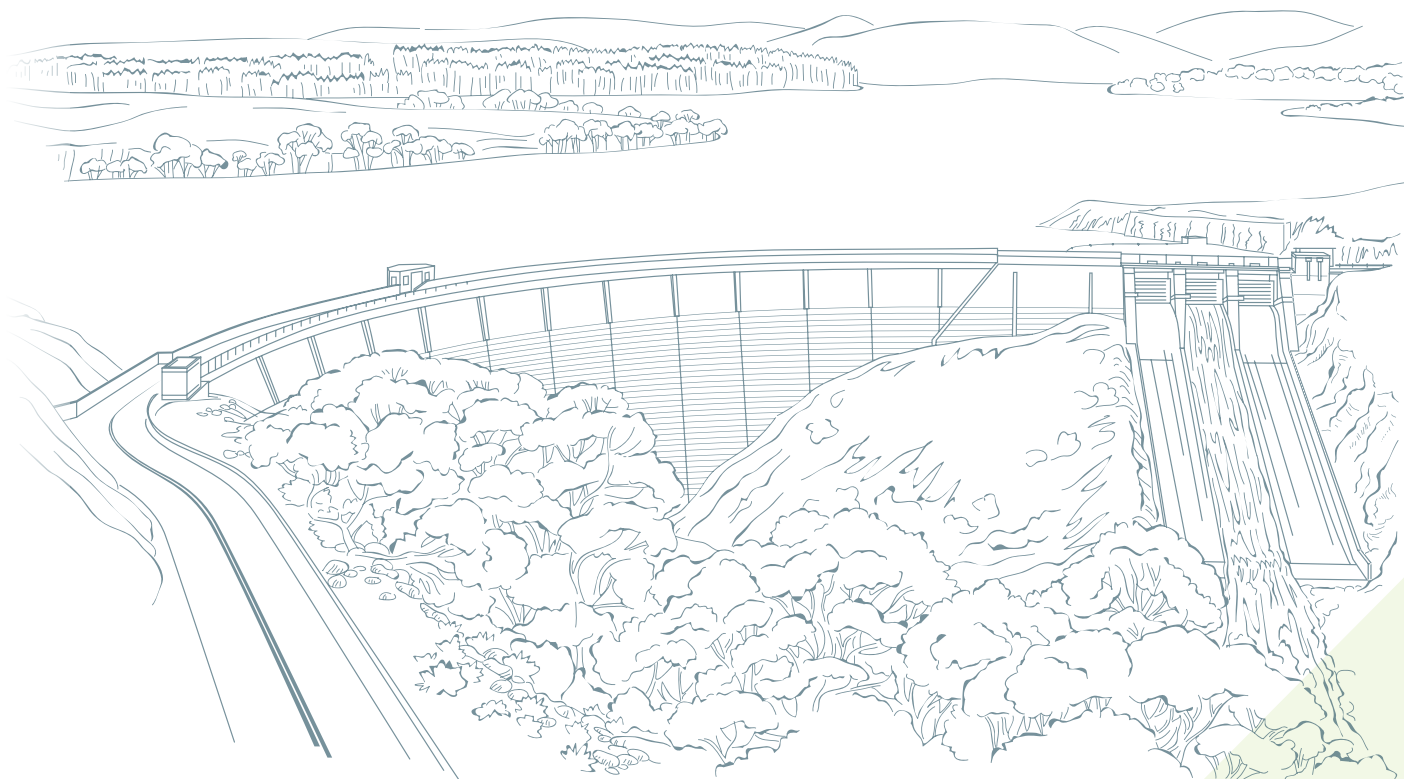
Case studies

The creation of **Sasol's Digital Office** in South Africa is uplifting their capability and driving digital through the organisation. Sasol created a dedicated digital office, a senior level digital management and digital budgets for digital initiatives to understand how the world is changing, how to leverage technology and to develop digital citizens within the organisation i.e. how to stay relevant in the world today. Sasol has changed the way they do business by understanding what their customers need so that they can develop products that sell.

Victoria's Department of Premier and Cabinet demonstrates an exemplar multi-pronged digital approach – with both an internal and external focus. The State Government application programming interface (API) shares information and data in four broad use cases: within an individual department, between departments, Government to its partners and then finally open data. The result? "It really lifts up our open data to be truly programmatic, machine readable, reusable."

Students at the **University of Western Australia** were faced with delays of up to several weeks during the application and admission process. After the university turned to digitisation (automation) to connect assets and drive a better 'customer experience', they reduced the admission process to just a few days, enabled faster decisions, and realised significant business improvements in collecting and managing huge volumes of information.
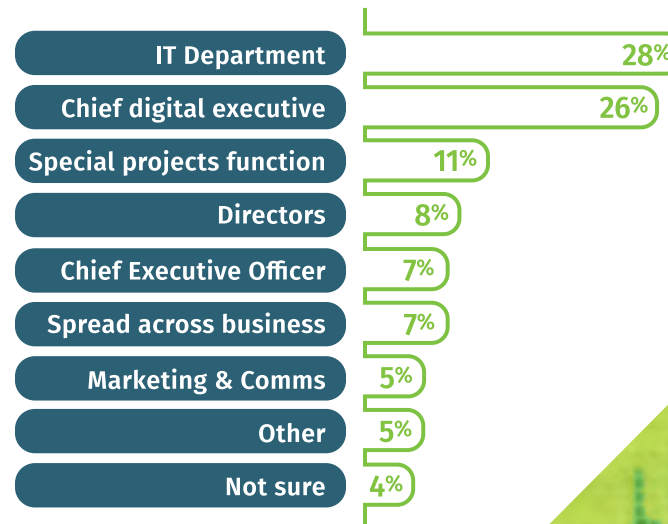
The importance of owning and understanding digital

The survey data revealed some concerning trends relating to understanding 'digital' and owning 'digital' within organisations - two factors which are critical in effectively preparing organisations to move forward in their digital journey.

Digital ownership and strategy

The research reveals that although many have begun to embrace digital ways of working, responsibility and digital ownership is disaggregated in a majority of organisations, resulting in focus being only on specific areas such as IT or systems. A lack of leadership results in limited focus on new revenue and inward facing strategies, yet where organisations employ a chief digital executive to oversee digital strategy and implementation, the opportunities to connect strategy, performance, revenue and ROI are much clearer.

Responsible for digital strategy

IT Department	28%
Chief digital executive	26%
Special projects function	11%
Directors	8%
Chief Executive Officer	7%
Spread across business	7%
Marketing & Comms	5%
Other	5%
Not sure	4%

29% of respondents believe decision makers' lack of understanding of digital is their biggest challenge

Depth interviews suggest that a lack of ownership within businesses and 'too many chiefs' contributes significantly to a murky understanding of what 'digital' means, and ultimately reduces digital competency and value gained.

"There aren't off the shelf solutions which you can just pick up and apply to your business. It requires a program of strategic business transformation and a dedicated full-time digital team to manage that transformation."

Simon Vaux,
Director Digital Engineering,
Transport For NSW

"The biggest challenge is leadership and commitment and openness of the organisation to change HR processes and systems to support the digital aspiration. Sasol's are now finding that to thrive in the digital world, one needs to develop and build in an ecosystem environment."

Natalie Naidoo,
Chief Digital Officer, Sasol

"UWA has an extensive IT team led by the Chief Digital Information Officer, who owns the digital strategy and is responsible for persuading the rest of us that our strategy has the right components that will fundamentally improve our competitiveness and the quality of what we deliver."

Simon Biggs,
Senior Deputy Vice Chancellor,
University of Western Australia

"Many of us are comfortable in adapting a new technology but we still tend to use the same mindset."

Kristin Alford,
Futurist

"We were definitely at risk – we had no clear ownership, and projects were being conducted with isolated teams rather than organisation wide efforts."

**Anonymous**

Defining and understanding digital

Aurecon's 2016 research revealed 'digital' was used in a variety of ways and had a multitude of different meanings. Our latest research shows that while for many organisations the definition of 'digital' has become somewhat clearer in the last few years, this clarity is not necessarily shared deep within businesses, with just 1 in 5 feeling confident that their definition is shared across their organisation.

> *"As an end to end property solutions provider; we have a vested interest in defining and owning the digital delivery process. It's the way we maintain accountability for the highest safety and quality outcomes on our projects."*
>
> **Richard Kuppusamy**
> Head of Digital Integration, Asia Lendlease

> *"The definition of 'digital' goes back to 'ones and zeros', though what we have done with this is re-platform our methods of communicating, storing, transacting from a physical platform into a platform of 1's and 0's. Ultimately, we're seeing the world become more and more connected."*
>
> **Pete Williams,**
> Futurist
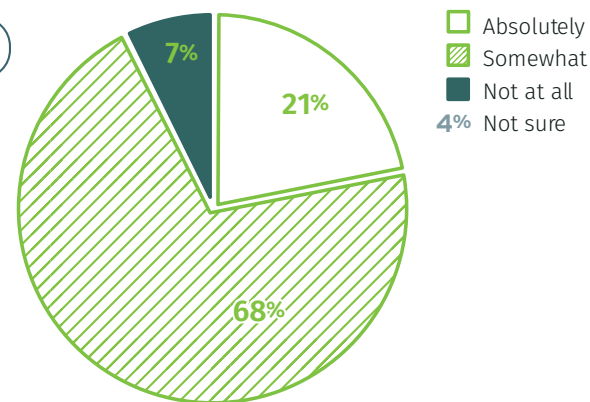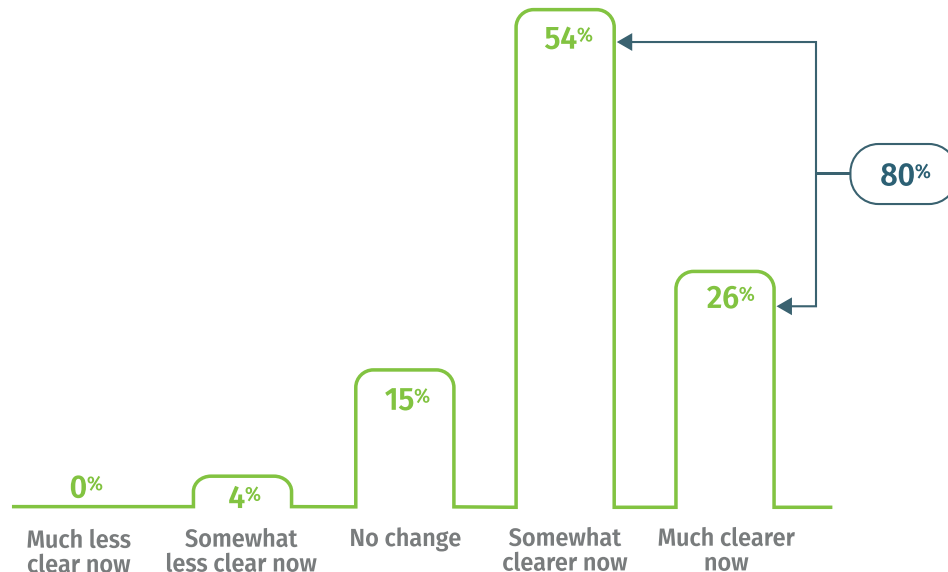
> *"To understand the meaning and the language of digital equates to digital competency."*
>
> **Dr Andrew Maher,**
> Group Managing Principal, Eminence, Digital & Innovation, Aurecon

Bar chart:
- Much less clear now: 0%
- Somewhat less clear now: 4%
- No change: 15%
- Somewhat clearer now: 54%
- Much clearer now: 26%

80%

Pie chart:
- Absolutely: 21%
- Somewhat: 68%
- Not at all: 7%
- Not sure: 4%

> "The transformation opportunity that 'digital' brings is about a few different layers: how can you use the medium to inform; gather and disseminate information to create greater understanding, how you can use the medium in interactions and then transactions - and I don't mean purely a financial transaction, but a transactional event. Then break this opportunity down between your consumer, your employees, your partners, your governance structures etc."
>
> **Jithma Beneragama,**
> Director of Digital,
> Victorian Department of
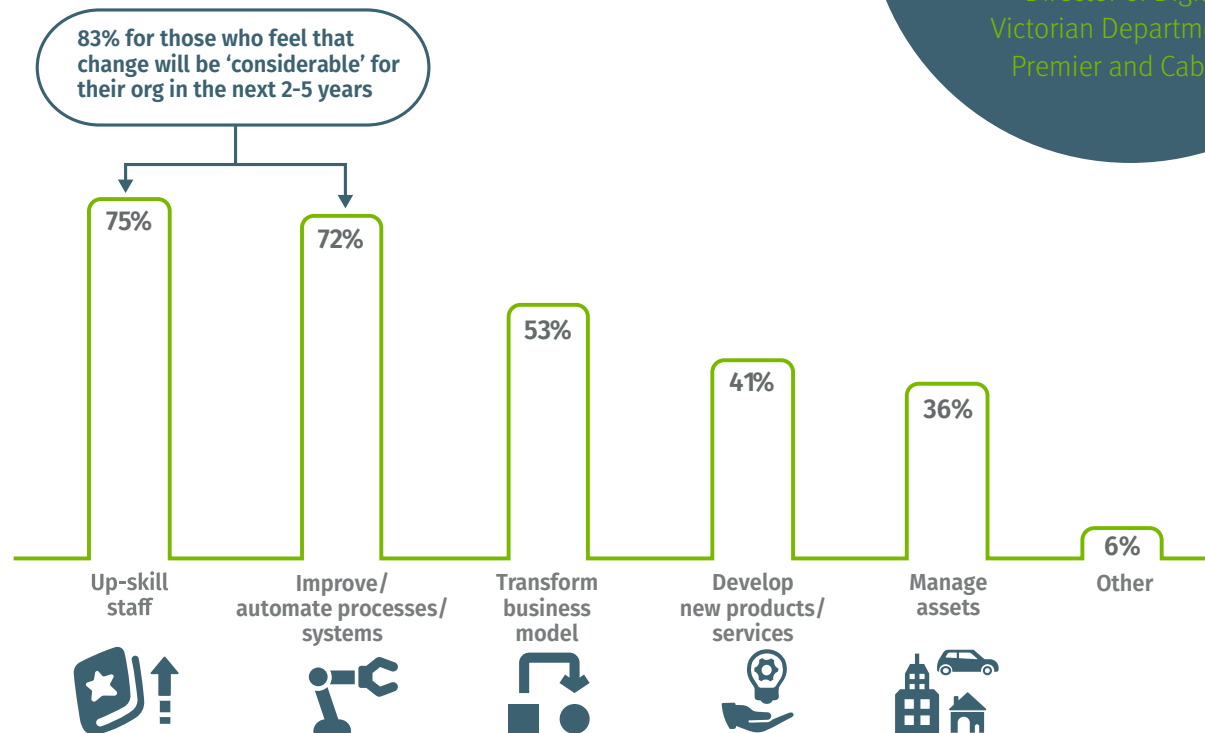> Premier and Cabinet

Case studies

Transport for NSW observed disparate definitions and implementation of 'digital engineering', limiting data driven insights and opportunities for data exchange or re-use on transport projects. By leading in the development of the Digital Engineering Framework, they have transformed their business with a focus on managing data and information as an asset, ensuring that it is consistent, reliable and reusable. This long term strategy has the power to provide valuable insights, create efficiencies and enable more collaborative and productive methods of project delivery and asset management.

The world has witnessed significant major players fall by the wayside – **Kodak, Blockbuster, Nokia** to name a few. While these are complex stories of leadership, one commonality they all shared was the inability to work together as an organisation to solve challenges posed by digital disruption. Understanding digital, owning digital and making it meaningful and tangible for an organisation are all critical factors in moving from 'at risk' to 'best in class'.

Digital unreadiness

While there was clear consensus that digitisation will change organisations considerably - both immediately and increasingly into the future - the majority of respondents feel their organisations are not properly prepared to thrive currently.

When considering what they need to thrive, the issue of where to start was a common theme, yet many believed up-skilling staff and automating systems were potential key areas to address now before they can move forward.

"You can't just close yourself off to new ideas and new approaches, but there needs to be some analysis before you dive in head first."

Jithma Beneragama
Director of Digital,
Victorian Department of
Premier and Cabinet

"We need to identify gaps in the digitisation journey. Understand where clients want to be, what their North Star is that they want to work toward. Then they need to understand how to fill those gaps, either with technology, with different skill sets, or a combination of both."

Yvonne Lim,
Futurist

83% for those who feel that change will be 'considerable' for their org in the next 2-5 years

75%		
72%		

- **75%** Up-skill staff
- **72%** Improve/automate processes/systems
- **53%** Transform business model
- **41%** Develop new products/services
- **36%** Manage assets
- **6%** Other

Make sense of the now, now!

The message from the first wave of **Our Digital Futures** is clear: the digital world can be complex and challenging and many organisations aren't making the most of opportunities to grow revenue, reduce costs and risk, enhance user experience and create efficiencies.

As our clients continue to traverse an increasingly digital landscape, at Aurecon we are committed to ensuring these new insights pave the way for smart **digital ways of working** which will bring out the best in our clients' operations and their people and help them thrive in the digital present and future.

aurecon

Bringing ideas to life

About Aurecon

Aurecon is a design, engineering and advisory company. Our purpose is bringing ideas to life, to imagine and co-create with our clients a better future for people and the planet.

For more information please visit
www.aurecongroup.com