



Causeway

Beyond the basics – how UK construction is using digital solutions to achieve efficiency, integration and sustainability

CAUSEWAY INSIGHTS REPORT





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Executive summary

How mature is the UK construction industry in terms of digitalisation? What are the key factors driving or holding back digital initiatives in construction? How integrated are current digital solutions? And what might be the benefits of software solutions in terms of achieving our Net Zero carbon targets?

Industry-leading construction software provider Causeway Technologies worked with market research specialists Vanson Bourne to answer these questions, unlocking a deeper understanding of the current

state of play and the positive impacts of data, efficiency and sustainability.

Featuring data and analysis, with feedback and commentary from industry experts, this research report looks at how principal contractors and large subcontractor companies are approaching the common challenges that come with digital transformation. It shows how they are starting to see the benefits of joined-up solutions and are turning these superpowers towards some of the most pressing issues of our time.

Please note that percentage figures have been rounded to the nearest whole number throughout this report. In some instances, the graphics may not total 100% due to the presence of decimal places; this excludes the demographics which are displayed in count.



96%

of respondents agree that **data standardisation** is critical to the **success** of their organisation



57%

of the **industry specific software solutions** used by respondents' organisations are **not integrated** with one another, on average



95%

of respondents agree that **integrated/automated** processes and technologies are **key for driving success**



96%

of respondents agree that their organisation would **benefit** from the use of **digital tools** to help drive **decarbonisation** and **energy efficiency**



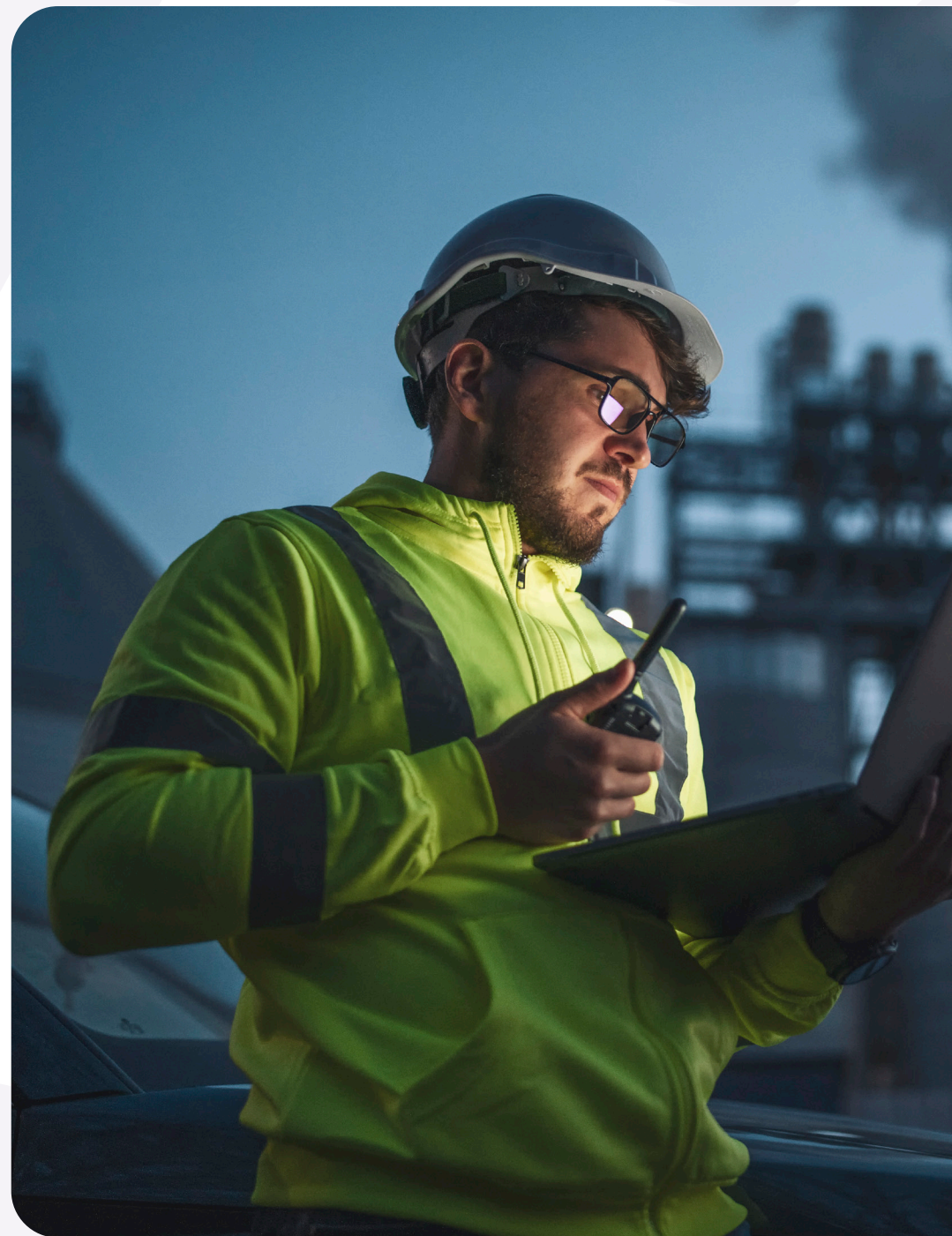
Introduction

The headlines from this research confirm that, although every business we spoke to considers itself somewhat or very 'digitally mature', the reality is less clear-cut, with common challenges across the sector when it comes to the consistent adoption and use of new technology. Accurate, standardised and real-time data is critical for construction businesses making strategic business decisions, with respondents reporting that it would also improve planning, efficiency and productivity.

However, industry-specific software solutions lack integration, with employees spending a considerable amount of time moving data between disparate solutions. The almost compulsory customisation of software and the lack of integration present big challenges

to construction companies, including increased costs to maintain and update software, reduced data visibility and continuity, and security concerns. Our research reveals that UK construction is urgently in need of a single, integrated software solution that covers all aspects of an organisation's processes.

Perhaps one of the most exciting opportunities to emerge from this research is the clarity that it gives about the industry demand for technological support to help meet sustainability goals. Indeed, nearly all respondents to our survey said that their organisation would benefit from the use of digital tools to help drive decarbonisation and energy efficiency. This is also going to be an area of increasing importance for Causeway in the months and years ahead.





Research methodology

Causeway Insights 2023

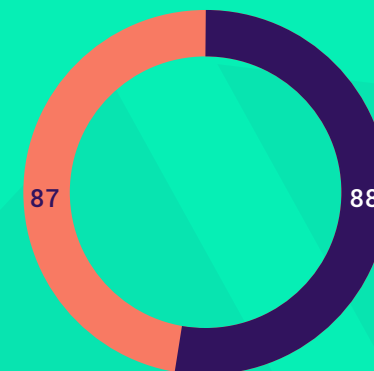
In April 2023, we spoke to 175 people who authorised or influenced the purchase of software in their organisation. Companies ranged from SMEs to the largest brands in the industry. Their expertise spans construction, infrastructure maintenance, and civil

engineering. Participants were asked about the main objectives, success factors, challenges, and pain points facing their organisations. Following the participant research, a panel of industry experts provided their insights and commentary on the findings.



Audience breakdown

→ by organisation sector



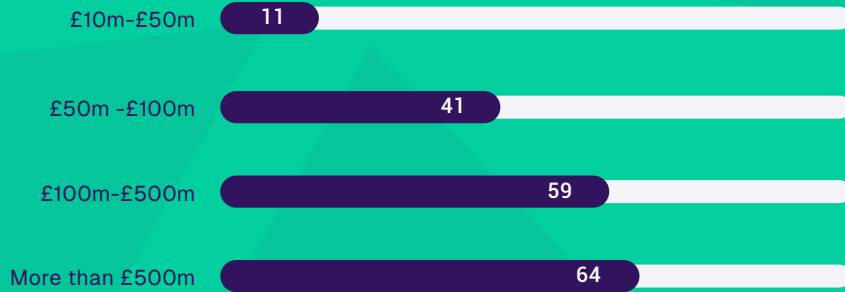
● Civil Engineering ● Construction

→ by organisation size



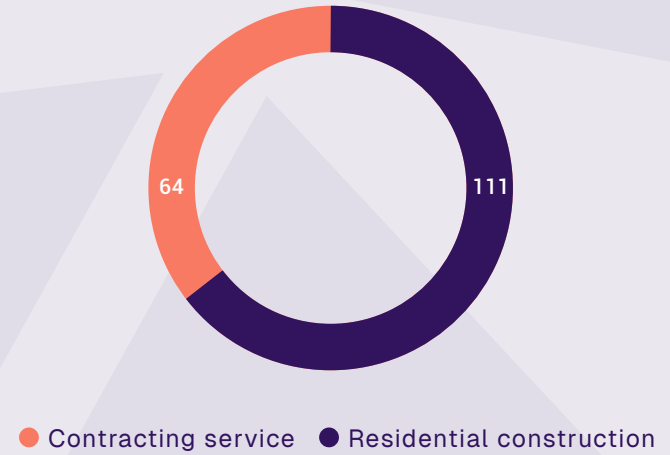
How many employees does your organisation have globally? [175]

→ **By global annual revenue**



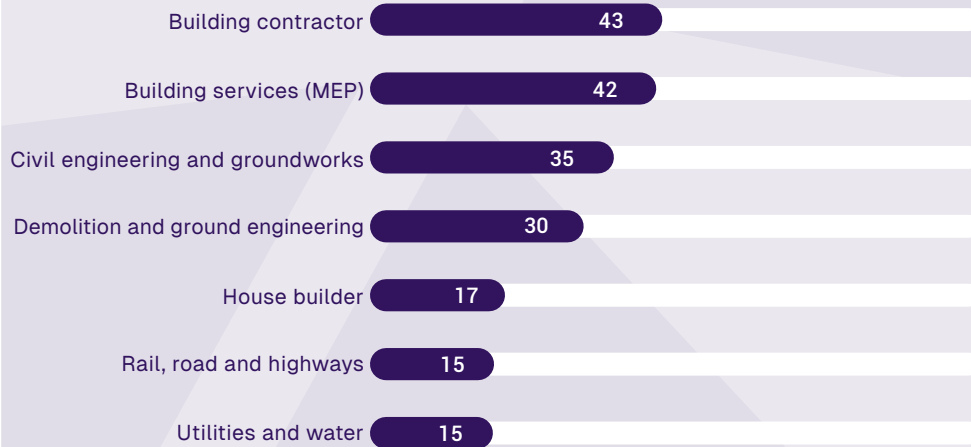
What is your organisation's global annual revenue in GBP? [175]

→ **By operation area**



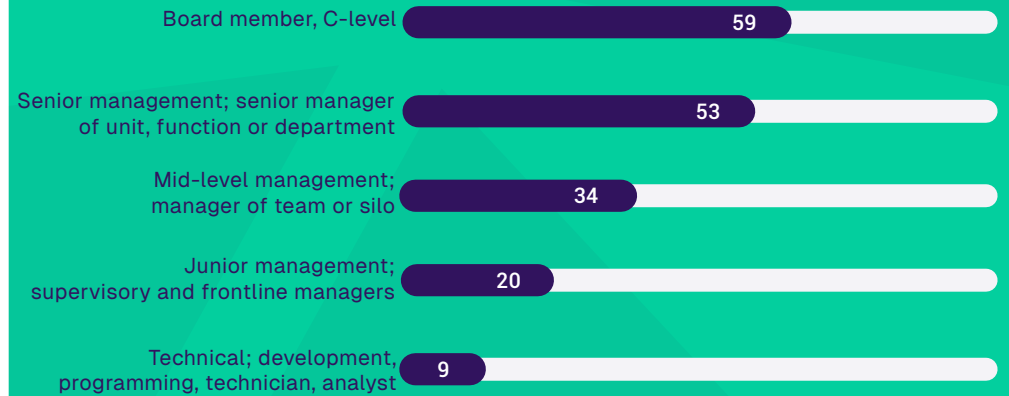
● Contracting service ● Residential construction

→ **By contracting service**



Which contracting services does your organisation provide? [64], only asked to those from organisations that did not primarily operate within the residential construction industry

→ **By operation area**



Which of these best describes your position in the organisation? [175]



Panel of industry experts



Rob Christie

Finance Director
EKFB

Rob joined Kier (partner company of EKFB) back in 2006 and has been primarily involved in the financial running of large infrastructure construction projects through joint ventures.

Those 17 years of experience have been instrumental in supporting the delivery of those projects, ensuring compliance and governance are paramount, while striving to maximise returns for the business.



JOHN CRADOCK LTD

Barry Desmond

Financial Director
John Cradock Ltd

Barry has been with John Cradock for 20 years and has extensive knowledge of the commercial and financial aspects of civil engineering construction, having spent all his working life employed with civil engineering contractors.

He has vast experience of working under all types of construction contracts and is well-versed in contract administration. He oversees all aspects of the company's financial requirements from financial reporting to cost control.



David Emery

Consultant
Supply Chain
Sustainability School

David is a consultant with the Supply Chain Sustainability School and has almost 50 years' experience within the industry.

With his background as an architectural technologist, he was BIM manager on the first 5D BIM projects in the UK and his company was the first in the UK to be awarded Graphisoft Registered Consultant status.

He has presented at workshops and industry events on the topics of BIM, DfMA and offsite construction to thousands of people over the last 20 years.



Moving towards maturity

For the purpose of this report, digitalisation is defined as the transformation of business processes through the use of digital automation.

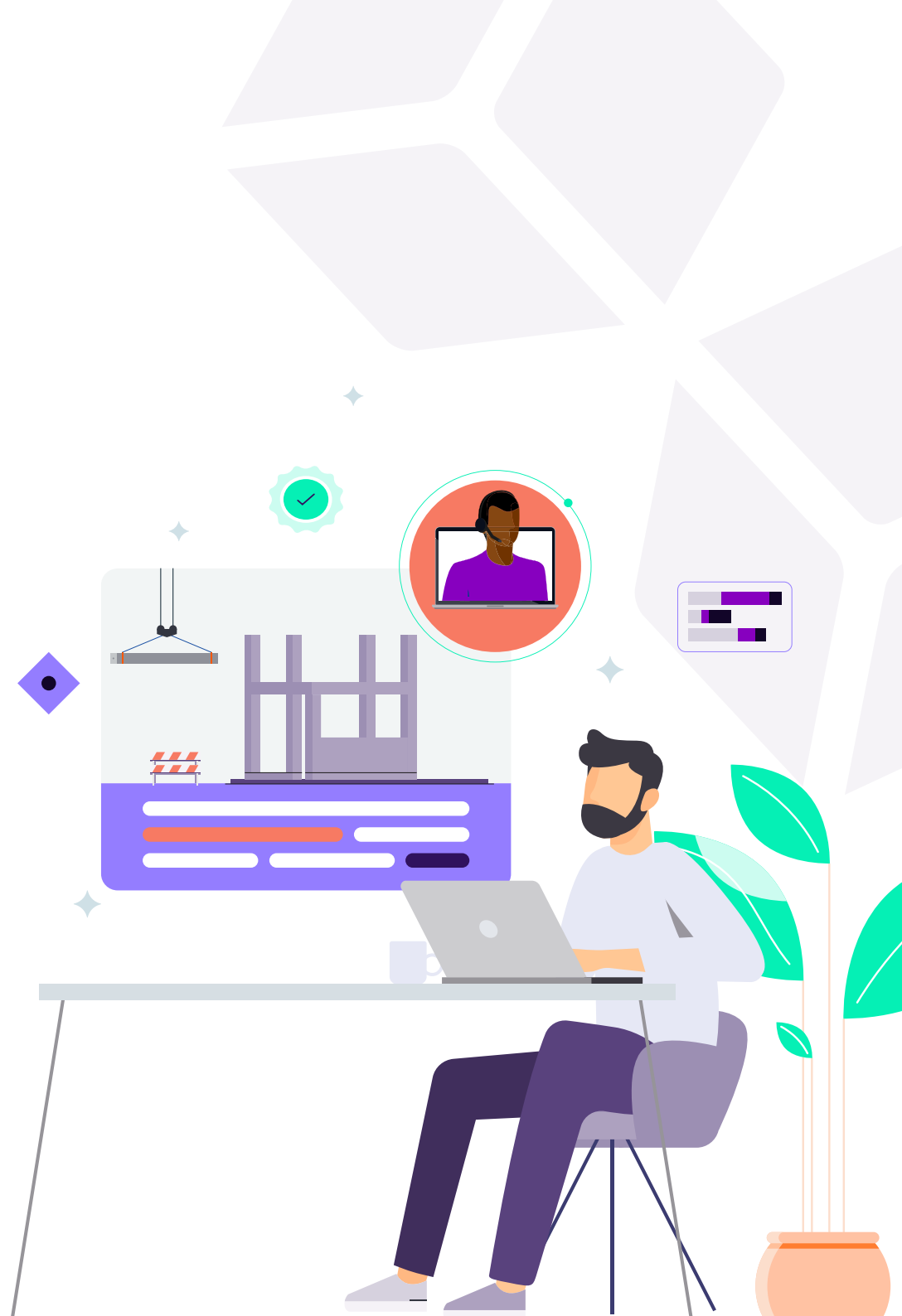
And as our research confirms, digitalisation is now on everyone's agenda in the UK construction industry.

Across all parts of the sector, we see businesses large and small taking a proactive approach to implementing digital initiatives, all trying to facilitate progress and drive efficiencies, boost productivity and help their organisations maintain their competitive edge.



“Digital adoption has been a big focus and investment at John Cradock Ltd and, through the use of industry-specific solutions, we have seen benefits including increased productivity, less time spent on manual paperwork and client buy-in.”

Barry Desmond, Finance Director, John Cradock Ltd



The vast majority of people we surveyed reported that their organisation is currently implementing an initiative to digitalise an aspect of their business process. Of those that aren't doing it now, all are planning to start within the next year.

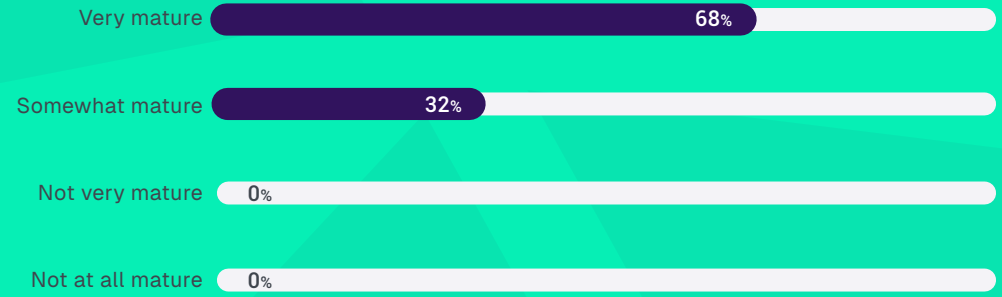
Maybe this is why around two-thirds (68%) of respondents believe their organisation to be very digitally mature. This view is particularly prevalent among those who hold C-suite or management positions (71%). It's slightly lower among non-senior managers or those in technical roles (62%).



95%

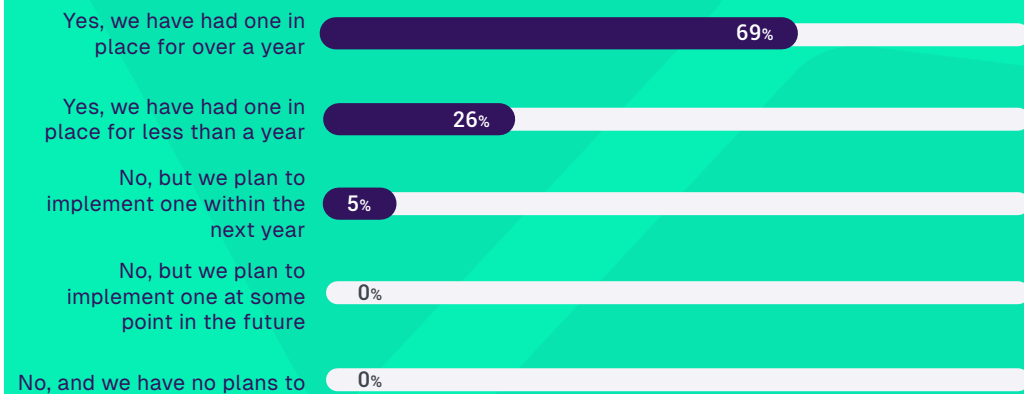
of respondents report that their organisation currently implements an initiative to digitise an aspect of their business process

→ **How mature do you consider your organisation to be in terms of digitalisation? [175]**



% of respondents that consider their organisation to be very mature in terms of digitalisation	C-suite and senior management [112]	71%
	Non-senior management and technical [63]	62%

→ **Is your organisation currently implementing, or planning to implement, an initiative to digitise an aspect of the business process? [175]**



However, over a third of respondents still report administrative tasks (ie, paperwork) as their organisation's greatest challenge. A third of contractors and large sub-contractor businesses also bemoan the lack of digitalisation in their supply chains.

Manual spreadsheets are still ubiquitous; 94% of organisations in the survey still use them, despite the adoption of technology. 87% of respondents say that inconsistent processes and technologies pose a challenge to their organisation.

This raises a question about just how digitally mature construction actually is.

Clearly, the implementation of single-point, industry-specific software solutions cannot guarantee maturity. This only comes when technology is fully integrated into a business, being consistently adopted and its value is felt and understood throughout all areas of the business.

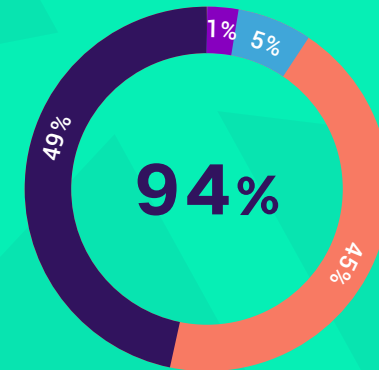
Our research indicates we are witnessing a construction industry embracing digitalisation, but there is some way yet to go before it can reap the full rewards.



87%

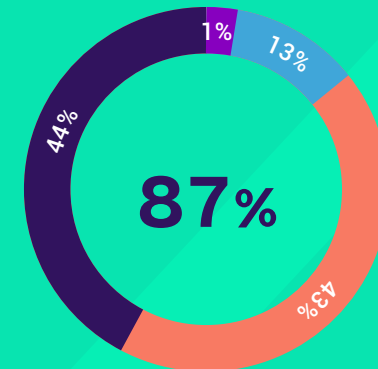
of respondents say that inconsistent processes and technologies pose a challenge to their organisation.

→ **Manual spreadsheets are still used by my organisation despite the adoption of technology [175]**



- Strongly agree
- Somewhat agree
- Strongly disagree
- Somewhat disagree

→ **Inconsistent processes and technologies pose a challenge for my organisation as a whole [175]**



- Strongly agree
- Somewhat agree
- Strongly disagree
- Somewhat disagree



“The perception is that ‘it’s all digital’. But I’d argue that it’s only truly digital if all the inputs and processes behind the raw data and the collection of data are also digital.

For example, if your teams are manually inputting data from paper into an Excel file and uploading this file to create a power BI dashboard – in my opinion, this isn’t ‘digital’. It’s only when you understand the source of the data and its inputs that you can be confident that controls and processes are in place to allow the digital thread to flow through.”

Rob Christie, Head of Finance, EKFB





Achieving a digital transformation

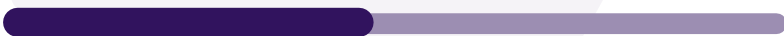
The drivers for digital initiatives in construction companies are typically linked to improving the user experience for employees, improving the accuracy and standardisation of datasets, or getting access to this data in real time.

A growing number of construction organisations are also focused on using data to meet and measure their sustainability goals (see page 22).

Everyone surveyed believes digitalisation does, or will, bring benefits. These include increased productivity

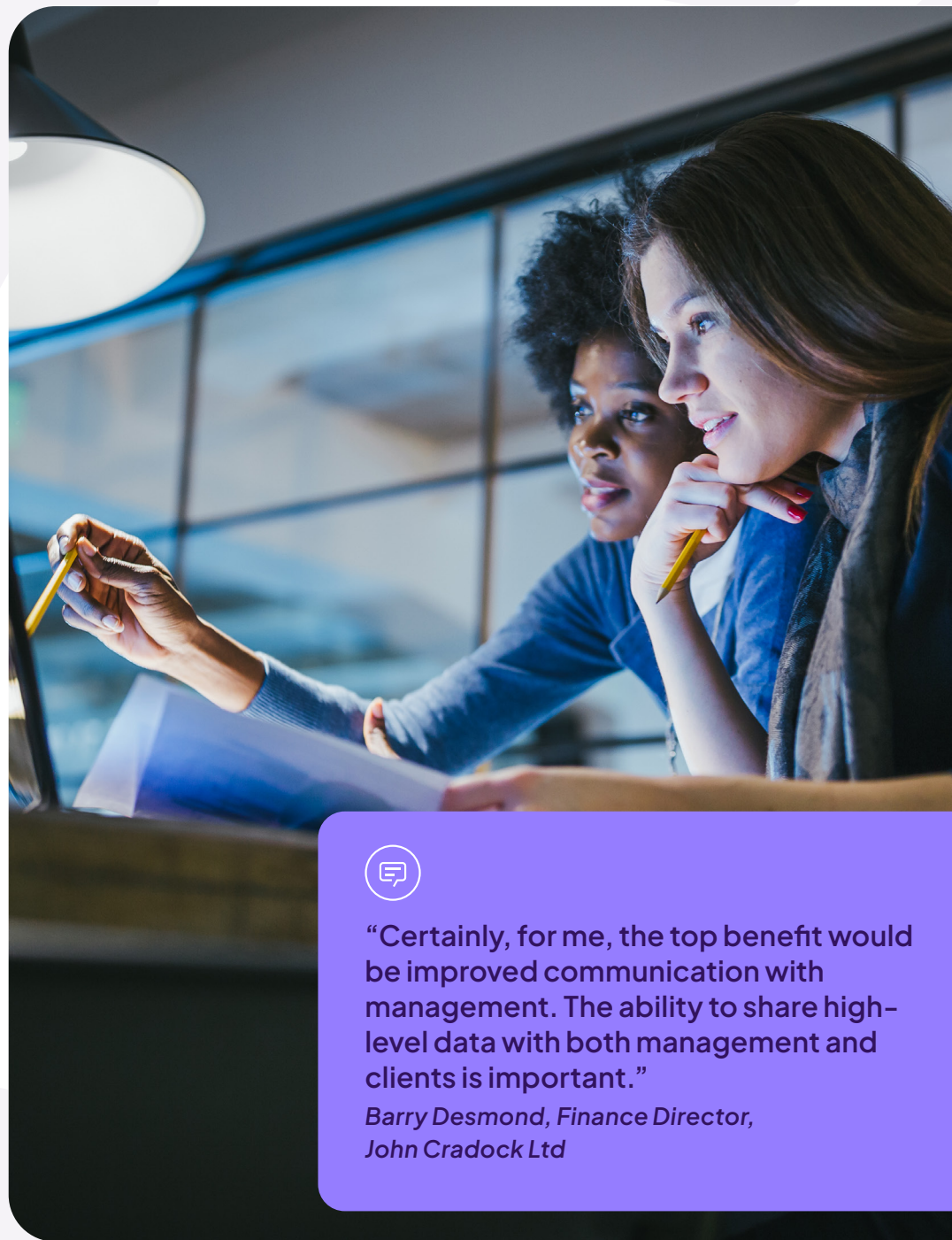
(49%), improved employee job satisfaction (47%), improved communication with management (42%) and even a reduction in employee fatigue (30%). Every one of these provides a compelling argument for the internal perks of digital transformation.

But despite the widely acknowledged practical, operational and workforce wellbeing benefits that digitalisation can offer, there are also common challenges facing construction businesses when it comes to achieving that transformation.



47%

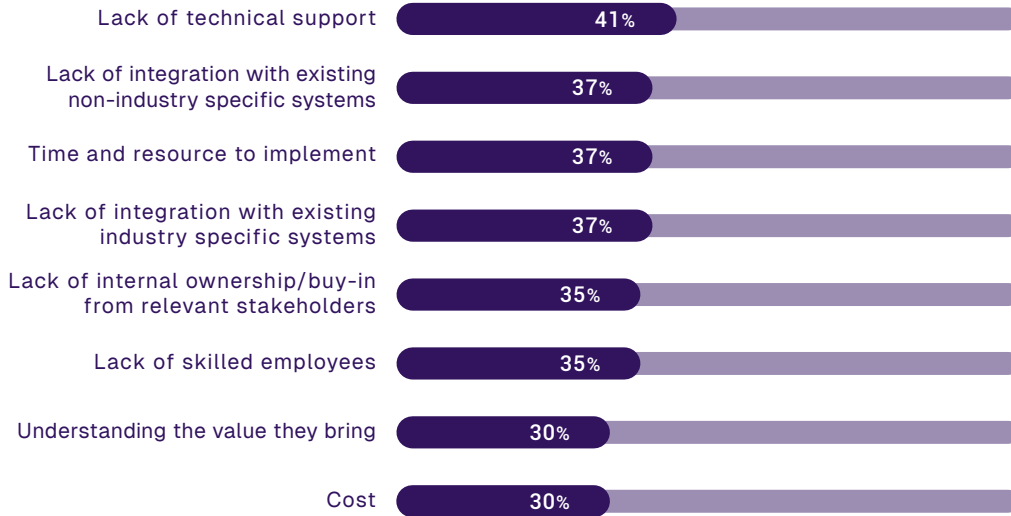
of respondents believe digitalisation improved employee job satisfaction



“Certainly, for me, the top benefit would be improved communication with management. The ability to share high-level data with both management and clients is important.”

*Barry Desmond, Finance Director,
John Cradock Ltd*

→ **What challenges, if any, does your organisation currently face when using industry specific software solutions? [175]**



41%
of respondents said lack of technical support was the biggest challenge when using industry specific software solutions

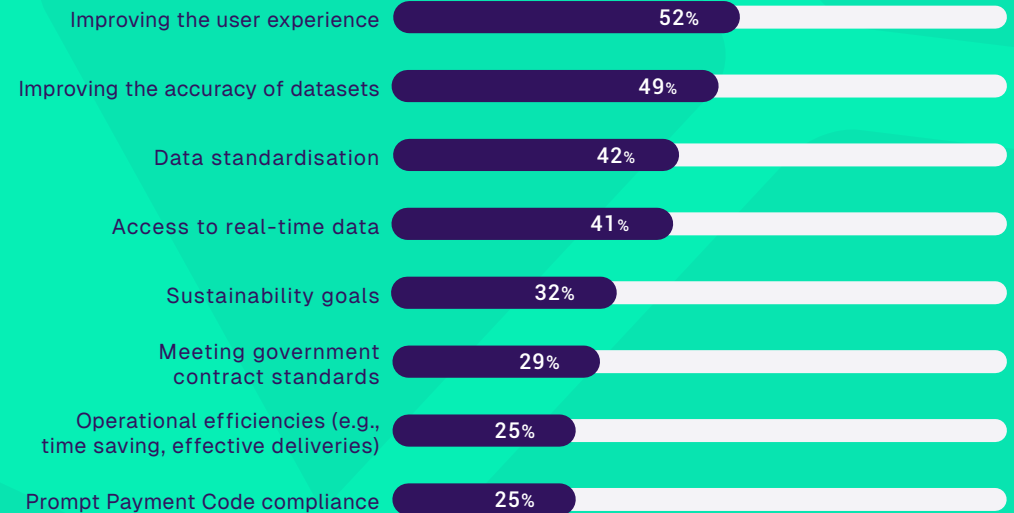


Key factors driving digital initiatives

- Improving the user experience
- Improving the accuracy of datasets
- Data standardisation

→ **What are the key factors driving your organisation's digital initiatives?**

Combination of responses ranked first, second and third. [175]

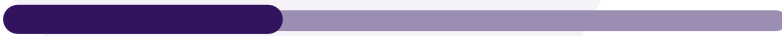




31% of those surveyed report that employee resistance to adopting new technology is among their organisation's greatest challenges. 35% say they face a lack of internal ownership and buy-in from relevant stakeholders, with a similar number reporting a lack of skilled employees to

implement digital solutions. 37% of respondents said they lack the time and resource to implement the solutions they need.

Meanwhile, a quarter recorded challenges with poor management and communication – the two criteria for all business success.



37%

of respondents said they lack the time and resource to implement the solutions they need



'Behavioural changes' was the top answer for 48% of people when asked what challenges, if any, their organisations experience – or expect to experience – as a result of the workforce adopting digital initiatives. Almost four in 10 (37%) said their workforce prefers traditional methods.

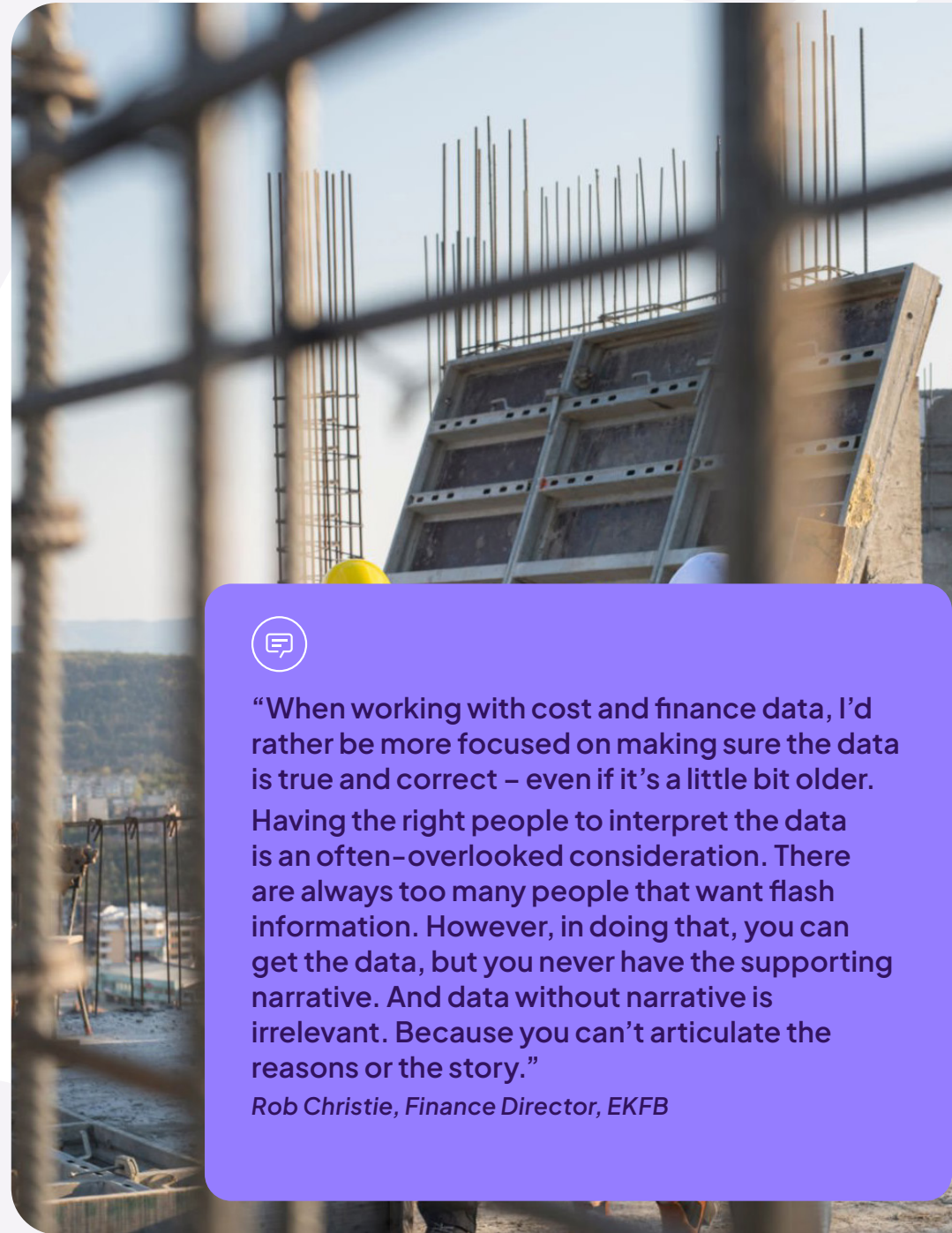


The value of integration

Clearly, good data is critical when making strategic business decisions.

Our research indicates that 49% of construction businesses are therefore driven in their

digitalisation efforts to improve the accuracy of datasets, and 41% want access to more real-time data – although respondents tell us that data accuracy is more important than accessibility or automation.



“When working with cost and finance data, I’d rather be more focused on making sure the data is true and correct – even if it’s a little bit older. Having the right people to interpret the data is an often-overlooked consideration. There are always too many people that want flash information. However, in doing that, you can get the data, but you never have the supporting narrative. And data without narrative is irrelevant. Because you can’t articulate the reasons or the story.”

Rob Christie, Finance Director, EKFB



More data visibility is seen as essential for regulatory compliance, along with reducing reliance on legacy technology, which not only has the potential to hamper productivity but also incur fines for non-compliance.

On standardisation, 96% of our respondents confirm that this is critical to the success of their organisation. But there is also the increasingly important issue of the integration of that data.

Respondents to our survey are

clear that integration is the way to unlock operational efficiencies across all parts of a business, and 95% of respondents agree that integrated and automated processes and technologies are key for driving success.

93% feel that connected finance, commercial and operational datasets through an integrated solution would be beneficial, and the same proportion of respondents agree that such integration would enhance the data available for decision-making.

→ **What positive impacts, if any, do you believe standardising your organisation's data would have on the business? [175]**



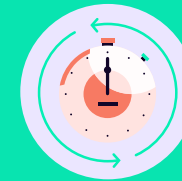
→ **In particular, organisations feel that more integrated solutions would deliver:**



Increased ability to complete a project on time



Improved supplier and internal buy-in



Increased efficiencies across business-wide processes



Greater flexibility and adaptability

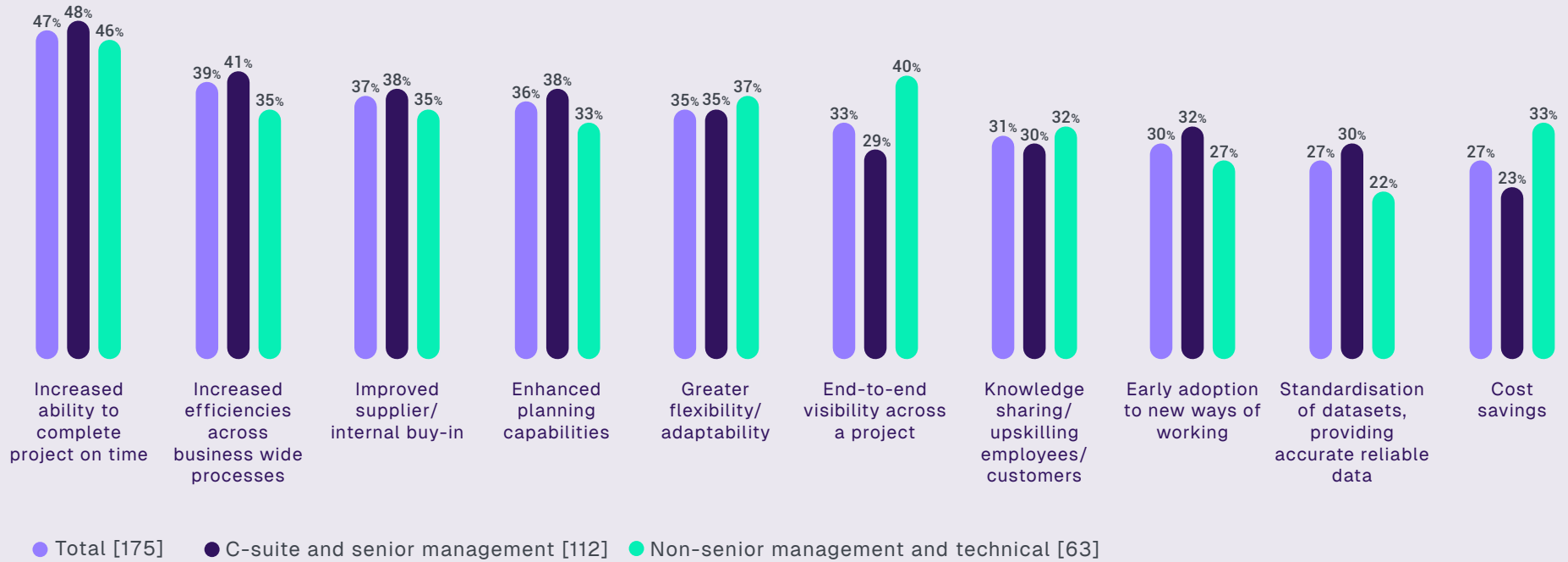


Enhanced planning capabilities



End-to-end visibility across a project (this was particularly pointed out by managers and technicians)

➔ **What benefits, if any, do you believe your organisation would/does experience as a result of integrating industry specific software solutions?**



All our research respondents say that they have used industry-specific digital solutions to some extent, particularly software for safety and compliance (42%), infrastructure design (41%), supply chain management (40%) and cost/budget management (36%).

But herein lies one of the big problems. Organisations are currently using seven different industry-specific solutions, on average, the majority (57%) of which are actually not

integrated with one another. Despite the known benefits of joined-up systems and processes, no one reported that their organisation's software solutions were fully integrated with one another. Most respondents have achieved 25-50% integration so far, but 59% say they face challenges with integration, and 41% report a lack of technical support. Construction companies are therefore vulnerable to issues and lack the support they need to achieve their digitalisation goals.

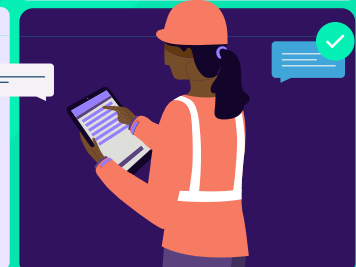
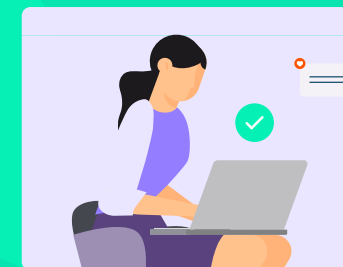
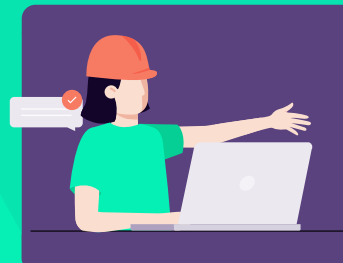
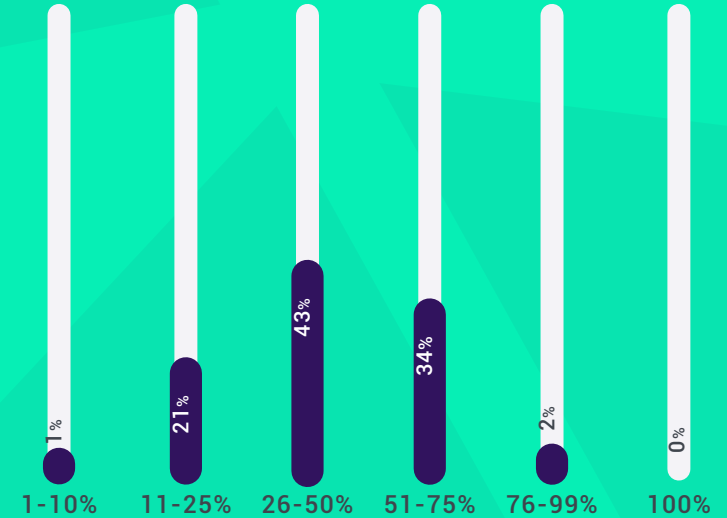


59%

of respondents report that their organisation face challenges over integration



Please estimate what percentage of your organisation's industry specific software solutions are integrated with one another. [174]



One of the most shocking results from the research was therefore the view that, on average, employees are spending 48% of their time moving data between disparate industry-specific software solutions.

What's more, every single organisation we spoke to said that they customise these software solutions to some degree to meet their needs – and 54% say the products are “completely” customised. This is even when customising solutions

frequently leads to higher costs, compromised quality, and a lack of data cohesion.

Taken together, these findings suggest that construction is struggling to find a single offering with the functionality or flexibility to cater to its full business needs and is increasingly reliant on a complex web of bespoke solutions. This implies that industry-specific software solutions are not meeting construction's fundamental requirements.

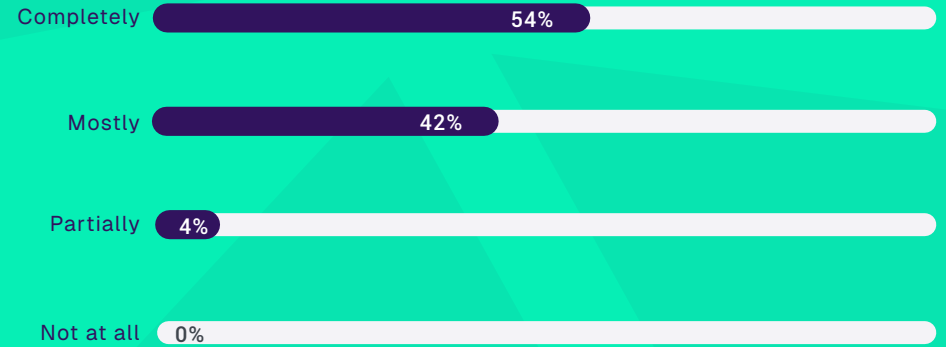


“People don't have time to update processes, upgrade or tweak developments. When you customise solutions, everything is bespoke and module based; therefore, the technology support is different for each customised solution, so they have to adapt for each company set up.”

Rob Christie, Finance Director, EKFB



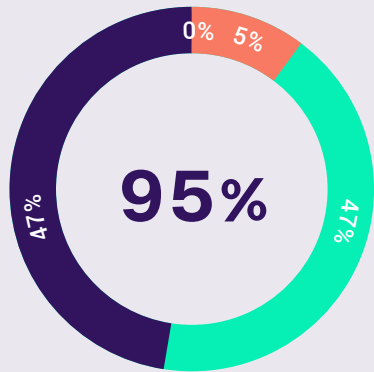
To what extent are your organisation's industry specific software solutions customised? [175]



48%

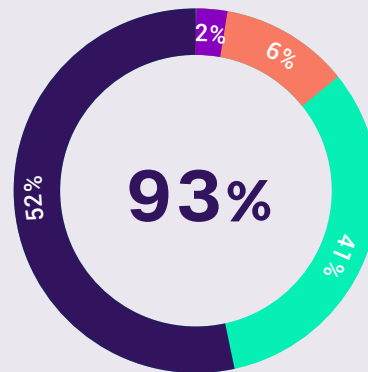
on average, employees are spending 48% of their time moving data between disparate industry-specific software solutions

Integrated/automated processes and technologies are key for driving success [175]



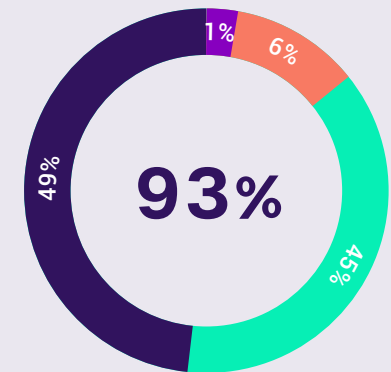
- Strongly agree
- Somewhat agree
- Strongly disagree
- Somewhat disagree

Connecting finance, commercial and operational datasets through an integrated solution would benefit my organisation [175]



- Strongly agree
- Somewhat agree
- Strongly disagree
- Somewhat disagree

Integrated software solutions will enhance the data available for decision making [175]



- Strongly agree
- Somewhat agree
- Strongly disagree
- Somewhat disagree



“Most industry projects are government-led, with schemes such as Network Rail, HS2, future power stations or roads.

So, for improvement in this space, the government needs to mandate software systems through the journey – from contracts down to supply chain, not just high-level reporting.

Because currently, businesses are making their own system customisations, creating different journeys and outcomes.”

Rob Christie, Head of Finance, EKFB





The benefit of digital tools to help with sustainability goals

Given the increasing focus on achieving Environmental, Social and Governance (ESG) good practice in the construction industry, frequently driven by the non-negotiable demands of clients, investors and policymakers, it is no surprise to see that 97% of our research respondents believe it's important for their organisations to measure their carbon footprint.

A third of respondents report

that meeting sustainability and corporate social responsibility goals are among their organisation's greatest challenges.

Of course, regulatory compliance is a huge motivation. But outside this, it is interesting to see sustainability practices driven not just by client and public perception but by hard business needs to cut costs and to improve recruitment and retention.

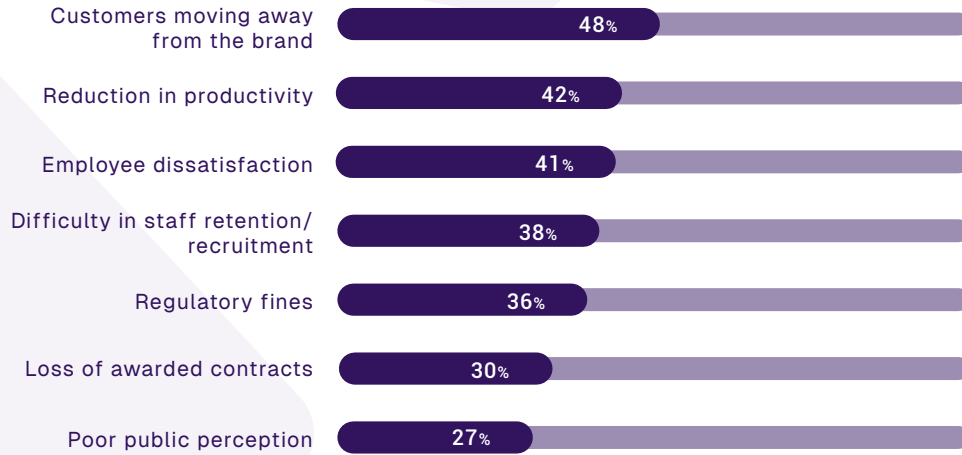


“Sustainability has always been a focus, but I think the industry now truly appreciates that. And as a result, social value is creeping up the rankings. Public scrutiny is increasing. The industry recognises it needs to do better, and be seen to do better.”

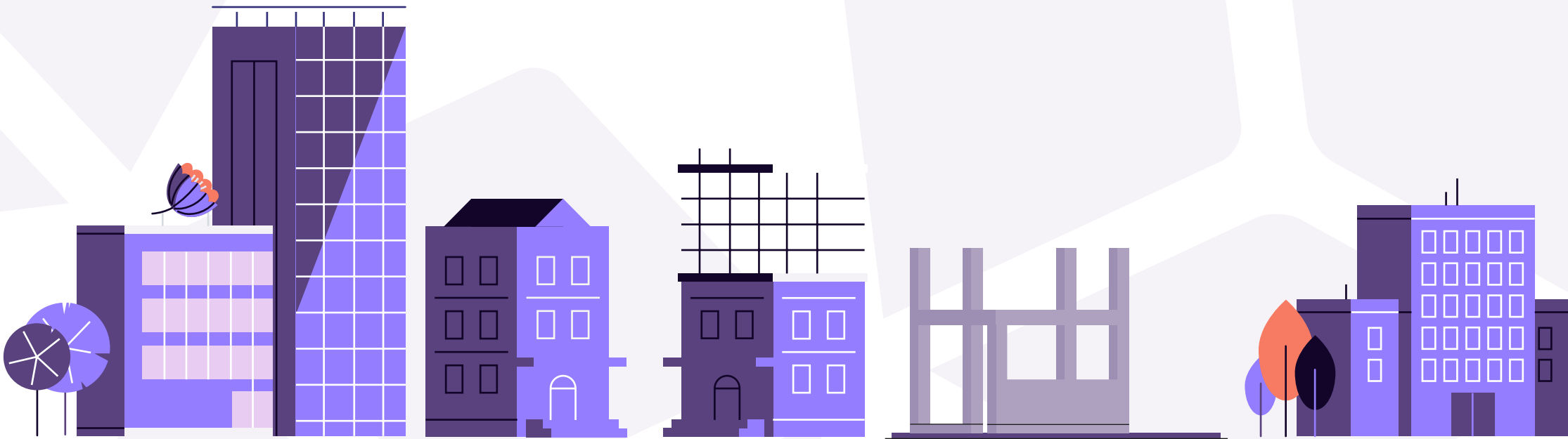
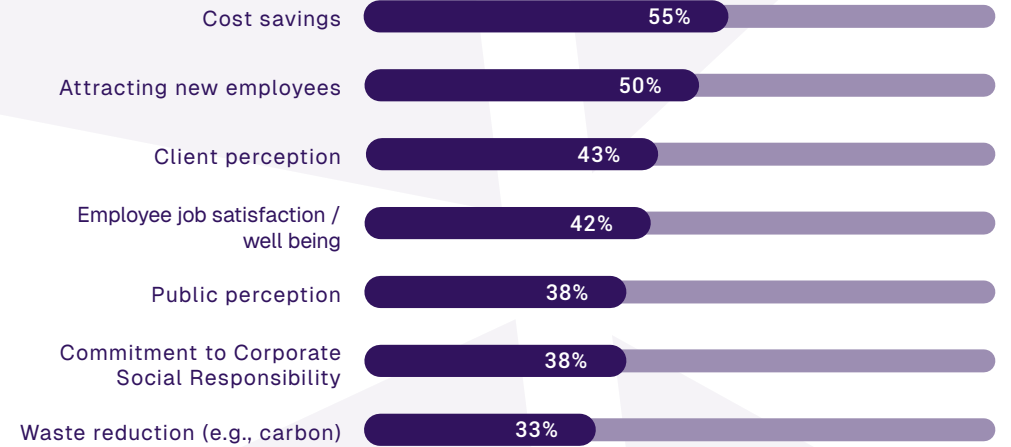
*David Emery, Consultant,
Supply Chain Sustainability School*



→ **What impacts, if any, do you expect your organisation to experience if it fails to successfully adopt its sustainability goals? [175]**



→ **Excluding Government Legislations, what are the main factors driving your organisation's adoption of sustainable practices? Combination of responses ranked first, second and third. [175]**





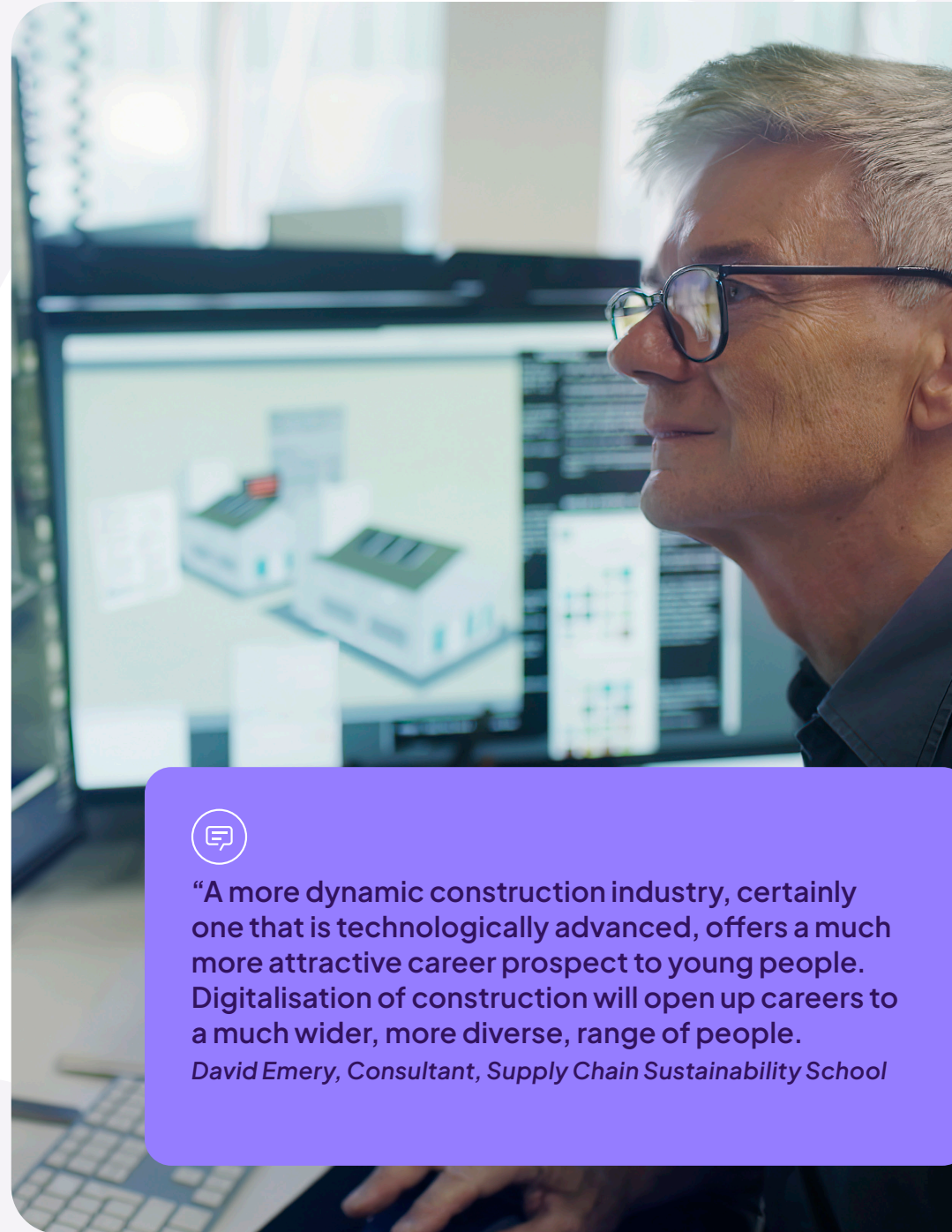
The vast majority (95%) of respondents expect their organisation to experience impacts if they fail to address their sustainability goals. For example, almost half believe that customers would move away from their brand, which would undoubtedly have considerable financial implications.

So, one of the most interesting issues to come out of our research is the increasing view that digitalisation – in particular the buy-in to new technologies, integrated processes and data standardisation – is likely to make a tangible difference to construction companies meeting their sustainability goals.



97%

of respondents said it's important for their organisation to measure its carbon footprint



“A more dynamic construction industry, certainly one that is technologically advanced, offers a much more attractive career prospect to young people. Digitalisation of construction will open up careers to a much wider, more diverse, range of people.

David Emery, Consultant, Supply Chain Sustainability School



96% of construction businesses say that they would benefit from the use of digital tools to help drive decarbonisation and energy efficiency. A similar proportion (94%) say that technical innovations are key to driving decarbonisation.

Technology is also seen as vital in addressing carbon targets. 38% think it's about using technology to help benchmark carbon targets, and 33% say the most difference will come from using technology to support evidence of accurate carbon levels.

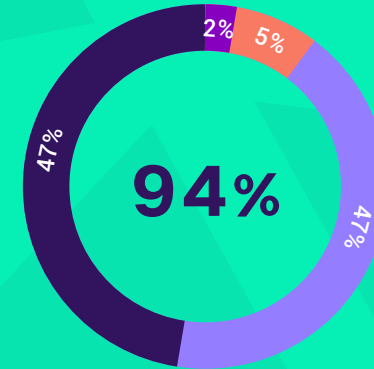


“People really struggle to calculate a return on investment for digital tools, particularly in terms of sustainability. And it’s really hard to make the business case sometimes. But what we often hear from our members is that, when they do invest in digital tools, they usually exceed the return on investment because things happen that you didn’t anticipate.”

*David Emery, Consultant,
Supply Chain Sustainability School*



Technological innovations are key to driving decarbonisation and greater energy efficiency [175]



- Agree strongly
- Agree slightly
- Disagree strongly
- Disagree slightly



96%

of respondents agree that their organisation would benefit from the use of digital tools to drive decarbonisation and energy efficiency



New and emerging solutions are committed to addressing this, with the accurate measurement of Scope 3 emissions increasingly seen as the biggest challenge to reducing the construction industry's carbon footprint. Scope 3 emissions are indirect carbon and greenhouse gas emissions that come from an organisation's supply chain. In the case of construction, this could include the embodied carbon from the production and transport of concrete, steel and timber.

Given the nature of the construction industry's complex supply chains, very few construction product suppliers can provide consistent transaction-level data on the carbon emissions of their products, and so contractors

are heavily reliant on using generic carbon calculators for recording Scope 3 emissions. These calculators are useful estimating tools, but do not provide a full picture of the actual materials and products used, making it difficult for contractors to make informed decisions as they implement their Net Zero strategies.

Causeway is currently working on an innovative collaborative venture with major contractors and suppliers to develop an automated, real-time solution for Scope 3 emissions reporting using invoice data to reflect actual materials and products used, not just what was planned.

Read more at:
causeway.com/scope-3



“I think that those companies that are seen to be more collaborative and less adversarial, particularly with sustainability goals, will have a supply chain that is more willing to work with them. If they collaborate, they become more profitable, their businesses become more sustainable.”

*David Emery, Consultant,
Supply Chain Sustainability School*





Conclusion

Thank you to all the organisations who took part in our research to create Causeway Insights 2023.

A clear thread throughout the report is this: although data is great, the real power lies in an organisation's ability to understand it, and using data in a way that is meaningful is truly beneficial to a business. It is the connectivity and standardisation of data across the construction lifecycle that will genuinely unlock productivity and drive transformative change. The benefits are endless, including

increased efficiencies across business processes, consistency and simplicity of reporting, accurate and reliable data, end-to-end project transparency, completion of projects on time, employee productivity and wellbeing, and communication.

The future is looking positive, with innovative technology solutions that span the entire lifecycle already boosting effectiveness and profitability in leading construction organisations.

Read more at Causeway.com





Next steps

If you are a construction business on its own digital journey, we offer three recommendations in light of this research:

1. Prioritise technology that makes life easier for your teams.

With employee resistance a key concern, careful consideration should be given before adding more software into the mix just for the sake of digital maturity. Prioritise tools that will simplify and streamline workloads, automate manual data processes, and connect disparate data into one single source of truth.

2. Focus on data context, confidence and quality.

Access to real-time data can be useful, but that the data is true and correct is more important. Therefore, put steps in place to establish high-quality data that you can be confident in. Ensuring you have the right tools and people in place to interpret the data is a great starting point.

3. Partner with an organisation which provides integrated solutions that cover all aspects of your business processes.

Comprehensive, integrated solutions that work from infrastructure design to cost-planning, bidding and tendering, through to build, trade and property maintenance will break down data silos to give better visibility and control of your entire project, from beginning to end.





About Causeway

Causeway Technologies is the largest specialist software provider to the UK construction market, supplying powerful solutions that digitalise the entire construction lifecycle, giving our customers the visibility and control to make better decisions.

Our software solutions and deep expertise help customers see greater value in every construction phase. Leading to lower costs for business owners, higher profitability for contractors and their suppliers, and higher wages for workers.

Causeway offers access to intelligent real-time data and smart development tools – empowering our customers to successfully plan, deliver and operate the buildings and infrastructure their businesses are built on.

About Vanson Bourne

Vanson Bourne is a market research agency with more than 20 years' experience in the industry. The Vanson Bourne team are experts in collecting robust and credible data from a range of respondents around the world to deliver valuable insights.



Want to learn more?

If you have any questions about our research or you'd like to learn more about how Causeway can help your organisation, get in touch with us today.

causeway.com