

Construction's Digital Front Line

How an industry is stepping up to its transformation opportunity



Contents

1. Contributors
2. Foreword
3. Introduction
4. Unlocking new design efficiencies
5. Towards more intelligent bidding
6. The networked supply chain
7. Front line intelligence; the key to greater operational control
8. Biometric identity, labour management and beyond
9. A productivity revolution in the field
10. Conclusion

Contributors



Mohammad Mayouf

Lecturer in Construction Management, Birmingham City University

Mohammad is currently a Lecturer and Course Leader at Centre for the Built Environment at Birmingham City University.

He completed his PhD research in enhancing the delivery of Building Performance through the use of Building Information Modelling (BIM) from Birmingham City University.

His teaching and research activities focus on BIM process optimisation across the life cycle of construction projects.



Philip Hoare

President, Atkins

Philip Hoare is responsible for leading a 22,000 strong global team working across multiple sectors including transportation, water, property, energy, aerospace, defence and security.

He is committed to collaborating with clients and partners to face the future, taking full advantage of digital transformation to improve the efficiency and productivity of infrastructure delivery through best-in-class capabilities in engineering, design and project management.



David Lowery

Executive Director of Eiffage GC UK and Eiffage Kier

David Lowery has led national and international complex, major civil engineering projects. He is the Executive Director of Eiffage GC UK and of Eiffage Kier, a joint venture appointed to deliver civil engineering works of 80km of HS2. David is committed to transforming the engineering and construction industry and was the National Centre for Diversity's 'Director of the Year' for 2018/19.

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Foreword



Phil Brown

Chief Executive and Executive Chairman

For many like myself who have worked in construction for most of their careers, it is an industry which has felt perpetually on the verge of a revolution, both in terms of productivity and technology.

Yet, over two decades since the Latham Report shone a light on the sector and even after Mark Farmer's more recent review of construction, the revolution has arguably failed to arrive.

Since establishing Causeway over two decades ago I have been aware that when it comes to innovation, construction is often presented as a laggard. Recent data from McKinsey lays bare that construction sits at the bottom of the digitisation table alongside agriculture and hunting, with low adoption on pretty much every measure. As an industry we can surely do better.

From problematic contract models to low margins, the industry is systematically wired for risk to be passed onto the contractor who in turn passes as much as possible onto the supply chain. This, together with the temporary 'project based' relationship model, means there's little collaborative innovation going on.

The key question for construction however is what can be done and how can we do it?

This report focuses on core parts of the UK construction sector where innovation could unlock the biggest productivity gains. These include a look at how bidding processes could be optimised; how construction can integrate its supply chain more progressively; managing

the diverse workforce, making gains in operations on site and in the field as well as labour management.

Following an in-depth survey of over 200 people across all areas of the construction sector, and interviews with some of the leading professionals, I have found green shoots of optimism are now beginning to emerge. There are signs that construction is finally beginning to press ahead with digital innovation.

New technologies and government measures, particularly since the collapse of contracting giant Carillion, do arguably give some hope that as a sector, construction is beginning to move the dial. As you will read, changes to procurement models have the potential to invigorate how firms tender for projects, and how employees view the digital world - both as an opportunity and a threat.

Causeway has commissioned this report with an aim to understand how to best incorporate these new technologies and innovations now, both at the front line and at the infrastructure level of our businesses, and share insights into how the industry views itself in terms of embracing innovation and where key issues lie. It is imperative that changes implemented now - and not in ten years time - can help boost construction's laggard productivity.

With a focus on the "digital front line" Causeway's research also consulted leaders in the field such as Atkins as well as those working on game-changing projects to gain an insight into how firms at the digital front line are shaping their own businesses for the decade ahead.

We found that our in-depth piece of research has also reaffirmed previous lessons, such as the need for construction CEO's to embrace change, the need to stop chasing the lowest price on contracts, and to work collaboratively together. However, what we have learned, is that respondents at all levels feel that change is coming, even if implementation of those changes has so far been found wanting.

Construction across the globe is changing, and the UK is a leader in the field. By continuing to grasp the opportunities new technologies present, it can stay one step ahead on the digital front line.

Introduction

The construction sector has finally begun embracing digital technologies but still needs to overcome historic attitudes to innovation and the inability to invest at all levels of the sector.

The industry-wide survey of construction firms from £1bn+ turnover Tier One contractors and consultants to SMEs found that businesses across the sector expected to enact or initiate plans to improve their business digitally in the next 12 months. However over half (54%) admitted that the sector as a whole had been slow to adopt new technologies.

With an aim to unearth the core issues which can hold back investment in innovation, the Construction's Digital Front Line report found a number of well-known issues in construction were still relevant, despite a number of government and industry-led initiatives to tackle poor productivity. Survey respondents cited low margins, a disconnected supply chain, and an inability to free up resources to invest in new technologies.

The research highlights how support for smaller businesses could be essential if construction is to truly innovate. Survey results showed that businesses with greater than £1 billion turnover have experienced the benefits of investing in innovation, with 81% stating it reduced operating costs and a huge 88% saying it increased employee productivity. Just over half of large firms said that the allure of digital-focused practices had played a part in attracting and retaining new digital talent.

However, even large construction firms found that despite savings being made, 56% of those questioned said they were still restricted from investing in new technology due to low margins.

A core bugbear of the industry was payment and delays - whether internal or external - in how payments

81%

OF COMPANIES PLAN TO ENACT OR PUT IN PLACE AN INITIATIVE TO IMPROVE THEIR BUSINESS DIGITALLY IN 2020

were processed. Almost 6 in 10 construction professionals responding to the survey told Causeway that invoicing issues were one of their "biggest challenges". Yet, half of firms who had implemented reforms to their supply chain managed to accrue savings of up to 20% on operating and project costs.

Speaking to staff at all levels about what they perceived as both the biggest challenges and opportunities they faced, both within their business and in the wider sector as a whole, revealed board level support as the key pathway to securing any digital transformation, with 56% of respondents saying C-Suite support would help them.

For an industry grappling with change, construction professionals do believe that the 2020s will be a turning point, with 81% expecting their company to enact or put in place an initiative to improve their business digitally in the next 12 months.

Unlocking New Design Efficiencies

Better management of changes through the design process

Construction firms are failing to incorporate new technologies into their design processes despite government measures such as the BIM Mandate for public procurement and a renewed industry focus on innovation and life-cycle design for new projects. Causeway's research into construction attitudes to design innovation has revealed little over a third of construction professionals have an integrated technology solution in place for infrastructure design.

Making the most of technology to ensure that firms can measure a positive return on investment (ROI) was among the biggest challenges professionals said they faced, with 10% noting that ROI was a key measure of performance many new systems or products were matched against. More than a quarter said that adapting their business models to accommodate new technologies was also a major challenge.

Causeway Chief Executive, Phil Brown, says that until design is taken as seriously in construction as in other sectors, the industry could continue to lag behind productivity-wise.

He said: "As long as design remains completely disconnected from construction across the project lifecycle the real win that BIM offers will be missed and that's a big problem. It would be inconceivable in other asset heavy industries such as aerospace that design, build and supply chain integration are completely separate processes. In construction, they are totally separate."

Mohammad Mayouf, lecturer in Construction Management at Birmingham City University, believes that ultimately, the adoption of new technologies may come as buildings and infrastructure itself is modernised. "New processes are all about the workflow, and an understanding of the data/information journey in order to create more informed decisions across all stages within a construction project.

53%

HAVE SAVED BETWEEN 11-20% OF TIME
BY STREAMLINING DESIGN WORKFLOWS

"As we are heading towards smart cities, understanding the implications of data/information produced during the delivery of buildings can ultimately impact how we apply smart technologies to maintain our buildings on the long term".

However, despite the sluggish uptake in technology, the results showed that attitudes towards adoption of new technology in design may have reached a tipping point. Ensuring adoption is implemented as easily as possible is one key way of making sure any construction firm's workforce makes innovation part of their everyday work schedule.

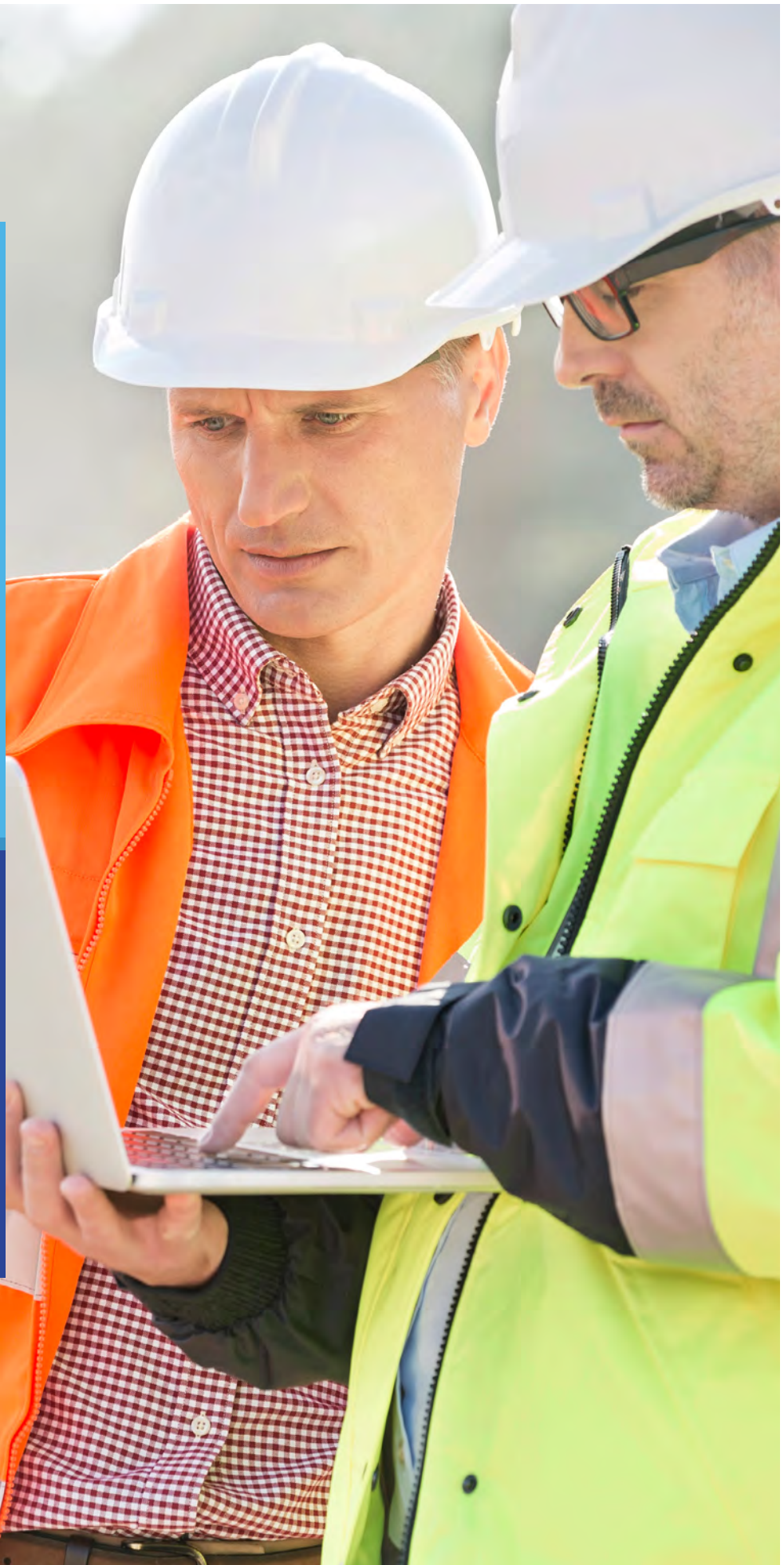
According to the survey results, almost two thirds of construction professionals said that an integrated design solution could help streamline their workflows, with over four fifths also agreeing that adopting technology would be a way to optimise their resources.

**Atkins President
Philip Hoare:**

"By investing more at the planning phase of major projects we can better prepare for and mitigate any changes which are likely to impact cost and delivery once work commences onsite. This, of course, benefits clients and their customers who simply want to see projects delivered on time, to budget and with minimal disruption."

25%

25% OF THOSE WHO
HAVE ADOPTED
DESIGN SOLUTIONS
SAID THEY HAVE
ALREADY SEEN
RESULTS IN TERMS
OF EFFICIENCY
SAVINGS



Towards More Intelligent Bidding

Data collaboration to improve accuracy in estimating and bidding

Bid preparation and submissions are among the most costly as well as unpredictable aspects of any construction firms' pursuit of new contracts.

And, with high profile projects such as London's £15bn Crossrail project both over time and budget, accuracy of bidding has come under renewed focus by both private clients and central government.

Construction professionals surveyed also stated bid accuracy as a core issue for their business, with 68% of those surveyed saying accuracy of bids was a "major challenge". A further 58% agreed that costing and estimating was a core challenge for any business.

The research unearthed that many in the industry were still relying on outdated processes such as manual inputting, invoicing, and slow often inaccurate tracking of workers. Crucially, only 54% of respondents said that they had an integrated technology solution in place for estimating and bidding.

Phil Brown, Causeway's Chief Executive, said that the current culture of bidding has also had a detrimental impact on the sector: "There is no sense in awarding subcontract packages time and time again to the lowest bidder, when often the out-turn costs of these packages are thirty percent higher than the original bid. Low pricing leads to a culture of variations, which in turn impacts delivery and cost to the end client."

The government has listened to the voice of business when it comes to bidding, and has begun changing the parameters of what is at the forefront of any tender package that central government procures. This could have an impact in redefining how construction and architecture firms approach their own bids. The Department for Education's new £3bn offsite schools framework has placed quality, not cost, at the

heart of the tender documents. According to the department, projects delivered within a standard DfE rate, with savings achieved over the lifetime of the framework, rather than each individual project. The aim of the new tender is to "level the playing field on costs", and measure quality and productivity within a fixed affordability envelope.

71%

SAVED BETWEEN 6-15% OF TIME
SPENT ON AN AVERAGE BID
USING ESTIMATING SOFTWARE

David Lowery, Executive Director at Eiffage GC UK and Eiffage Kier, believes that the sector is 'three to four years' away from reaching an innovation tipping point when adoption of new technologies such as artificial intelligence becomes standard practice, however a number of steps need to be addressed if a productivity boon is to take shape.

He says: "To leverage AI and machine learning, you have to make sure that the systems you have in place allow you to feed data. A lot of people haven't invested in this at the right time. It's really exciting for us and requires a fundamental change in the way these systems are designed. We are thinking about all of this up front,



which means that we can get it right. So often in the past it has been an afterthought."

Construction firms themselves have begun to recognise the benefits that technology allows to any bidding process, with 70% of firms stating that estimating software and collaborating around data either has or could have increased their own bid accuracy.

Similarly, just under half of construction professionals (46%) agreed when questioned that risks could be "significantly" reduced through the availability of real-time cost intelligence in estimating solutions.

Again, 2020 marks a turning point in the adoption of digital bidding solutions, with 60% of those surveyed saying that they would deploy estimating solutions that incorporate real-time market intelligence on material and labour costs.

Philip Hoare, President of Atkins, says that bid standardisation would also be a boon for construction firms looking to de-risk their bidding processes.

He says: "Half the time you spend on a bid is trying to work out exactly what we're being asked. In my view we should be looking at the myriad of different contract forms that we have around the country and revising them

"To leverage AI and machine learning, you have to make sure that the systems you have in place allow you to feed data."

David Lowery, Eiffage GC UK and Eiffage Kier 2019

to what matters. I think standardisation of contract form is one answer [to bidding costs]. And I think in terms of certain markets, standardisation of the product type is another answer so that we [as bidders] bespoke only 20% of a bid rather than bespoke 100% of it.

"We as an industry have to think about where we really want innovation to happen in the bid cycle. Innovation costs money but as a business you still want to make sure that you've got some innovation in what you deliver. So standardising what you can and innovating on the bit that really matters is a way forward."

The Networked Supply Chain

Improving cash flow for reinvestment into innovation

Construction firms which invest in streamlining how they work with their supply chains, are managing to bring in savings of up to 20% on operating costs.

When it comes to supply chain management the survey found that almost half of construction professionals who had invested in technology to streamline operations such as e-invoicing had seen their costs reduced by 10% to 20%.

Mohammad Mayouf, lecturer in Construction Management at Birmingham City University, said: "Technologies such as 5D BIM has potential beyond cost estimation as it is an agile technology which can be used on more significant aspects of a project including cash flows, management of work packages and tracking potential cost variations".

The fragmented nature of the construction sector's supply chain has long been a thorn in both government and industry's own attempts to streamline the sector. Invoicing in particular was among the biggest concerns for many, with almost 6 in 10 respondents saying that the simple issue of sending and receiving invoices was one of their biggest challenges.

The survey also found that less than half of firms had an integrated solution in place for payments such as e-invoicing and receipting. Adoption, however, is expected to accelerate with 59% of those surveyed saying their firms will adopt e-receipting in the coming year, and just under half looking to roll out e-invoicing across their supply chain in the next 12 months.

Mohammad Mayouf said that firms needed to concentrate on how the processes of any new innovation integrate with their current business.

He said: "When a new technology comes in firms need to ask themselves 'how are we going to improve....'"

44%

SAID TO HAVE REDUCED THEIR COSTS BY BETWEEN 10 AND 20% BY USING E-INVOICING

"A lot of the time this is not done as people simply expect technology to just make things better."

The insecurity of the long lead time for payments in the industry has long been an issue for subcontractors and SMEs within the industry. The UK Government has also introduced measures to solve the payment issues including the launch of a late payment charter and the Prompt Payment Code which have begun to have an effect. Operated by the Chartered Institute of Credit Management on behalf of the government, the Prompt Payment Code has begun imposing suspensions on late-paying firms for the first time for failing to meet new standards.*

Causeway Chief Executive, Phil Brown, says that payment problems are a "culturally deep-rooted" issue. He said: "Business is hard enough when margins are tight without adding the extra funding burden of late payment.

*Source: <http://ppc.promptpaymentcode.org.uk/ppc/news.a4d>



“Business is hard enough when margins are tight without adding the extra funding burden of late payment”

Phil Brown, Causeway 2019

Carillion hurt the industry with their payment programs, pushing terms out to 120-days but offering earlier payment only in return for supply chain finance discounts via a bank that is making a margin from it. That's money leaving the industry that it could ill afford to lose.”

Despite the considerable obstacles in tackling payments, a number of construction professionals said that improving invoicing could be a long-term benefit for their business, with 71% stating that e-invoicing could enable easier payments from clients, 62% agreeing the

practice could reduce errors, and 53% stating it could improve cash flow management.

Atkins President Philip Hoare says that allowing more cash to flow within the business should help SMEs in particular: “A more reliable and predictable cashflow would certainly give SMEs greater scope to invest, just as it does multinational organisations who turnover billions of pounds. At the end of the day, companies can only invest if there's the cash to do so, regardless of size or structure.”

However, the construction sector has begun to wake up to the benefits of digitally integrating supply chains. With over two-thirds seeing reduced costs as the major benefit of innovating their supply chain management and 65% citing better supplier relationships as one of their main benefits.

Just over half of professionals felt that improving supply chain collaboration and finding ways to standardise technology or processes within the sector would be a key factor for the construction industry if it is to fully take advantage of the digital revolution.

Front Line Intelligence - The Key to Greater Operational Control

Utilising real-time data to improve commercial decisions

A key aspect of delivering any construction project on time is being able to keep operational control and reporting in check, both when it comes to understanding the productivity of a construction firm's own workforce and the progress of third-party contractors, specialist teams and even suppliers.

The complexities and changing nature of the construction sector mean that project management can be monitored more accurately than at any time, however investment in systems is essential.

Survey respondents said that commercial control and reporting was a key issue, with 61% stating it was a "major issue" for them.

Two thirds of those surveyed said that digital solutions led to improved decision making, and 61% said that data sourced via a new digital solution improved collaboration, with 55% believing that real-time information was a key benefit of utilising new techniques.

Executive Director of Effiage GC UK and Eiffage Kier David Lowery believes that investment in IT solutions is a key area for construction if it is to press ahead with innovation. He says: "The best way to identify areas where innovation can be a game changer would be to look at areas where investment hasn't necessarily been made in the past. In construction and engineering this is in the IT space. As an industry we could do with getting ahead on IT innovation, but the default is to fall back on tried and tested methods."

Yet despite the perceived benefits, the research found that work needed to be done to help firms adopt digital reporting solutions and avoid old fashioned 'tried and tested' methods. Less than half of respondents were said to have an integrated technology solution in place for project control and project performance management.

Phil Brown, Chief Executive of Causeway, said: "In most other industries such as manufacturing, finance, and logistics the front office is also the place where they have their most responsive and sophisticated IT systems.

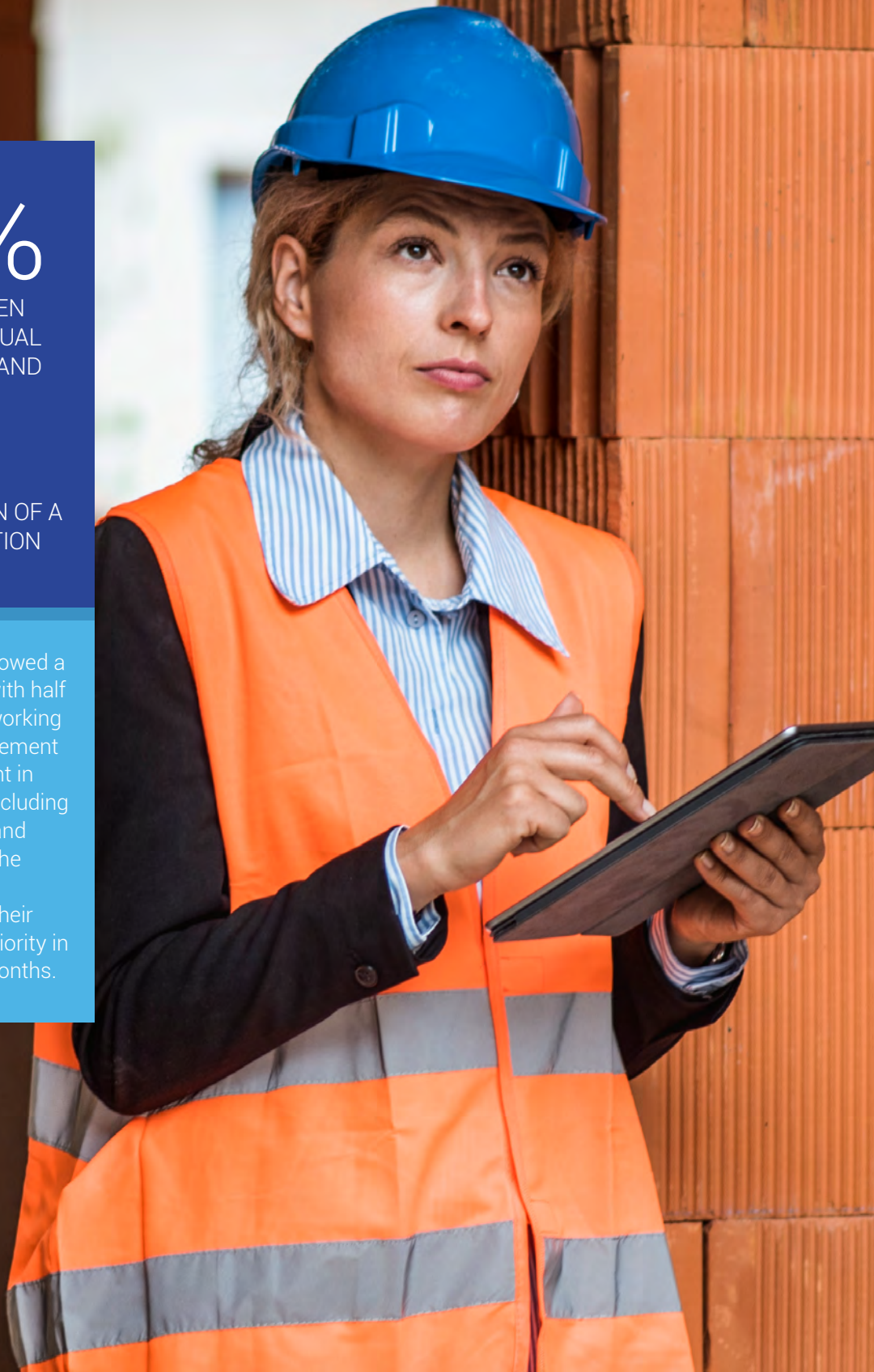
"Construction is the antithesis of this, where most companies spend most of their IT budget on back office finance and administration systems. Project delivery and supply chain interactions are managed via a collection of standalone point solutions that manage document flow, scheduling, costs, health and safety and so on. There is little or no automation and commercial decisions are often made blind."

However, awareness does look to be increasing, with benefits of front line intelligence noted by survey respondents. 70% of those polled said that better or faster flows of information and data was considered a major key benefit of utilising any new innovation. Similarly over half said that new technologies improved decision making and just under half noted that new technology enabled improved project management.

68%

SAVED BETWEEN 6-15% ON MANUAL COMMERCIAL AND OPERATIONAL REPORTING PROCESSES THROUGH THE INTRODUCTION OF A DIGITAL SOLUTION

Adoption has followed a similar pattern, with half of respondents working in project management seeing investment in new systems - including better analytics and intelligence into the commercial performance of their projects - as a priority in the coming 12 months.



Biometric Identity, labour management and beyond

Visibility of labour improving H&S and reducing costs

An ageing workforce, skills shortages and the lure of other professions have all had an impact on the construction sector's labour market. Access to a workforce and skilled labour has been highlighted as a core challenge by construction professionals looking to plan and manage projects on a continual basis.

The research shows that resource and labour planning were cited as major challenges for 70% of those responding to the survey, with 54% stating that workforce management remained a "core challenge" for their business.

However a number of innovations have allowed construction firms to manage their staff better; both directly employed labour and subcontracted labour.' 68% of respondent said they had managed to improve their absence management through the introduction of a workforce management system, with almost two thirds (64%) improving their labour forecasting. Introducing new technology to manage a workforce also allowed some firms to increase the flexibility of their offer to staff, with just over half (52%) stating they had gained the ability to allow their employees to swap their shifts.

Allowing real-time and accurate data to be accessed by the right employees at speed is also an option for construction looking to integrate advanced labour management technology. David Lowery, Executive Director of Eiffage, GC UK and Eiffage Kier said that such measures can have immediate impact. He says: "In the past, the requirements for different technological solutions would have been gathered independently of each other and procured separately.

"We are taking a step back to take a holistic look at our requirements and how they relate to each other and how we can remove the need for people to share data manually. For example, competency information will be

48%

SAW REDUCED LABOUR COSTS OF BETWEEN 11-20% THROUGH THE INTRODUCTION OF BIOMETRIC TECHNOLOGY

captured in our onboarding platform and feed into our access systems, which will allow only competent people with the right level of training to access site. This level of automation frees up our people to focus on higher value activities."

The use of biometric technology has been found to lead to cost savings of up to 20% by many firms. Other benefits that firms reported were an increase in health and safety, with 77% of respondents stating it had improved accident rates and also awareness of health and safety practices across their workforce.

However there are, a large swathe of construction firms who are relying upon outdated processes to manage labour. Only half of those polled said they had an integrated technology solution in place to manage labour, however 48% did state they expected their businesses to invest in such technology in the next twelve months.

A Productivity Revolution in the Field

Innovations in mobile-workforce management

Accounting for £113bn of economic output per annum and employing 2.4million people, the construction sector contributes 6% of the UK economy. However, with over 1 million businesses operating in the sector, the vast majority of which are SMEs, the construction sector has a unique challenge when it comes to monitoring and measuring performance by its workers.

The sub-contracting model for most construction projects also lends itself to multiple specialist independent teams which can be harder to track and assess productivity. Self employment also accounts for 37% of all construction jobs, three times higher than the average across the economy.

Mohammad Mayouf, lecturer in Construction Management at Birmingham City University, says that the next generation of construction workers will need to be capable of adapting to any new environment posed by modernisation of the sector.

He says: "The future generations of construction graduates need to equip themselves beyond the knowledge of their own fields, and understand what solutions can be implemented to boost the productivity level in a construction project. With the potential shortage of labour force, there are many opportunities to test the roles of robots, cobots or even drones in overcoming that shortage, but also improving the productivity."

Causeway's research found appetite for digital solutions to be embraced at all levels by construction workers, as well as a growing awareness of how technology can improve the efficiency of mobile workers within construction.

Businesses which have pressed ahead with the adoption of new technologies to better manage their mobile workforce have been able to increase productivity by up to 15%. Adoption of new technologies

"Change is seen by some people as a threat"

Phillip Hoare, Atkins 2019

is also set to increase, with 4 in 10 respondents stating that they expected their businesses to invest in more technology to increase the capacity and productivity of mobile workforces in the coming year.

Almost two-thirds of respondents stated that the productivity of their workforce was one of their biggest challenges. Yet half of firms felt they could gain a competitive advantage from technology which would help mobile field workers deliver a better experience for customers.

For large construction firms, who can be managing thousands of workers on major projects, key issues include having data available via mobile devices to enable the work to be done correctly, within the permitted quality controls, on time and within budget for the job.

In construction a mobile workforce is often made up of varying consultants and subcontractors which also need to be monitored and managed efficiently, which can prove to be a tough task. Eiffage Kier

65%

GAINED GREATER
VISIBILITY ON
HEALTH AND
SAFETY
COMPLIANCE

81%+

FELT THAT THEY
COULD ENABLE
FASTER INFORMATION
FLOWS AND BETTER
COMMUNICATION

62%

SAID THAT CAPTURING FORMS
AND MAKING DOCUMENTS
AVAILABLE DIGITALLY WOULD
RESULT IN EFFICIENCY SAVINGS

developed a 'Sustainability Heat Map Tool' which helped map all of the contractor's work packages, highlighting risks and opportunities as well as grading them as 'cold', 'warm' or 'hot'. The mapping allowed areas of particular risk to be recognised. The innovation also allowed packages to be tailor made for SMEs to deliver.

Eiffage GC UK and Eiffage Kier's Executive Director David Lowery says the heat map has helped areas of a project which could be specified for SMEs. He said:

"The team can split packages into workable chunks to give SMEs the chance to deliver the work without falling into difficulties. Action Sustainability has said that our heat map is really thorough and comprehensive. This heat map will be a critical tool in improving the performance of the supply chain."

**"There is real desire
in the boardroom to
embrace technology."**

Philip Hoare, Atkins 2019

Over three-quarters (76%) of businesses cited visibility of their mobile teams as being a "major challenge" and just over half (57%) believed that there needed to be more board-level support to invest in new technology.

According to Atkins President, Philip Hoare, a key message that the senior management in any construction firm needed to convey to their staff was that implementing technological innovation can be a net gain for a company, rather than a potential threat to job positions.

He said: "Change is seen by some people as a threat because my business makes money by selling hours.

That's the fundamental underpinning of our business. If we reduce the number of hours needed through the use of new software and technology, then actually, that means that people think they will lose their jobs.

"That is a threat, certainly in middle management, whose role is to keep people busy and find more work for people. My view is that actually, technology and the use of tools in design actually enables us to have a much better conversation with our clients.

"I'm working with my team to embrace technology, and for the benefit that it gives them, as engineers, to be able to go and spend that quality time with clients, with contractors with other stakeholders to get the best out of them, and get the best solution. That might mean spending less time in front of an AutoCAD machine and more time actually sat down as part of an integrated design team discussing the solution."

The shifts in adopting new technology to manage a mobile workforce was also deemed, by Causeway's survey respondents, to hold more inherent value than productivity gains alone.

Causeway Chief Executive, Phil Brown said: "At company level, there is some real desire in the boardroom to embrace technology. Whether it be the board of a large Tier one contractor or the owner or manager of a subcontractor, they are aware that digitisation will be necessary to survive and those who adopt early will be the winners.

"We do find that the middle management layer is the least informed about digital and the least motivated to change. The poor adoption of technology will soon impact on the industry's ability to attract young talent".

Conclusion

With the multitude of everyday challenges construction firms face, shifting the sector from a low-productivity labour-intensive model to one which embraces innovation and higher productivity is a gargantuan task.

Causeways' research has found that major challenges remain in how to integrate supply chains, manage the diverse workforce and unlock the potential for more collaborative and efficient bidding for contracts.

However the findings also showed that professionals across the sector and at all levels have begun to wake up to the advantages a digital future will hold for their own businesses and in particular what investment in digital solutions can provide.

The majority of construction professionals are now either anticipating or expecting their businesses to invest in such options within the next twelve months. The key issue the sector needs to address is how to build on this impetus and help businesses, from the smallest SME to top Tier Ones, adopt better practices and technology and educate their workforce.

Causeway's research has shown where construction professionals feel they need guidance moving forwards. For construction to thrive in the coming decade this report has shown that the sector can, and will, turn good intentions into concrete action if there is sufficient backing at board level for change, and a through plan to ensure it happens.

About the research

The research was conducted between May and June 2019 and spoke to 200 people across different sectors of the construction industry via telephone interviews. Sectors include design, infrastructure engineering, pre-construction, procurement, estimating, bid generating, operations, supply chain management, finance management, commercial management, project management, and contracts management. The research was conducted by Coleman Parkes.

To learn more about construction digital transformation opportunity head to:
www.causeway.com/front-line