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Foreword

The built environment sector stands at an exciting point of transformation. Climate change is driving innovation in how we design and build, digital technologies are opening up new possibilities for collaboration, and there's growing recognition that our industry's future depends on moving beyond traditional adversarial approaches to project delivery.

This research provides valuable insight into where we stand on three critical fronts: digital adoption, sustainability, and collaboration. What emerges is a picture of an industry that not only recognises the scale of change required but is actively embracing it - even as we work through the practical challenges of implementation.

The findings reveal both encouraging progress and important opportunities ahead. There's genuine enthusiasm for collaborative approaches and strong commitment to environmental responsibility. People understand that digital technologies can transform how we work and deliver better outcomes for clients and communities alike.

Yet the research also highlights that transformation isn't just about having the right intentions or the latest technology. It requires the right foundations - contractual frameworks that encourage partnership rather than conflict, training programmes that build genuine capability, and leadership that treats sustainability and collaboration as fundamental to good business practice.

This is where our pioneering work in collaborative contracting becomes so significant. For over thirty years, we've been developing and refining approaches that embed collaboration through contractual obligations, requiring parties to act in a spirit of mutual trust and co-operation. The research demonstrates how these principles can deliver improved costs, higher efficiency, better environmental performance, and greater innovation.

As the publishers of NEC Contracts, we've seen first hand how the right contractual frameworks can transform project outcomes. But we've also learned that achieving widespread adoption requires more than just better contracts - it needs sustained education, training, and cultural change across the entire supply chain.

The transformation our industry needs is already happening. From sustainability-focused contract clauses to AI-powered project management, from collaborative design processes to digital twins, innovation is accelerating across every aspect of what we do. Our opportunity now is to ensure these advances reach every corner of the sector.

This report doesn't just document current progress, it points towards a future where collaborative, sustainable, and digitally-enabled project delivery becomes the standard rather than the exception. That's an exciting prospect for everyone who cares about building a better built environment.

Andrea Naylor
Managing Director,
Thomas Telford Ltd

Adoption of Digital Technologies

The construction industry's digital transformation has been years in the making. For over a decade, it has been a key driving force, with a steady drumbeat of initiatives pushing the sector towards greater technology adoption. The *Construction Playbook* championed the embedding of digital technologies throughout the construction process, from BIM to digital twins. The *Transforming Infrastructure Performance: Roadmap to 2030* strategy made clear that digital solutions would be essential for delivering and operating our built environment effectively, and industry bodies have been equally vocal advocates.

The Centre for Digital Built Britain, the UK BIM Alliance (now nima), and i3P (Infrastructure Industry Innovation Platform) have all worked tirelessly to promote innovation and help organisations navigate new technologies. The Institution of Civil Engineers (ICE) added weight to this narrative with its 2023 *Engineering Rebellion* report, which identified 'accelerating digital transformation' as one of the defining trends shaping civil engineering careers.

The ambition was certainly there. Back in 2013, the *Government's Construction* 2025 strategy painted a bold vision: *"A UK industry that leads the world in research and innovation, transformed by digital design, advanced materials and new technologies, fully embracing the transition to a digital economy and the rise of smart construction."*

As we've seen though, strategy and reality on the ground can often be quite different. This research set out to understand where the built environment sector stands in 2025 and how, or if, we've delivered on those ambitious promises. How far has the industry genuinely progressed with digitalisation? And crucially, what does the future hold beyond the policy papers and conference presentations?

> *"The industry's selective approach to digital adoption actually shows maturity - organisations are choosing tools that genuinely improve project outcomes rather than adopting technology for its own sake. At NEC, we've seen the most successful digital implementations are those that strengthen collaborative working rather than complicate it."*
>
> **Rekha Thawrani, Global Director, NEC Contracts**

Progress towards digitalisation

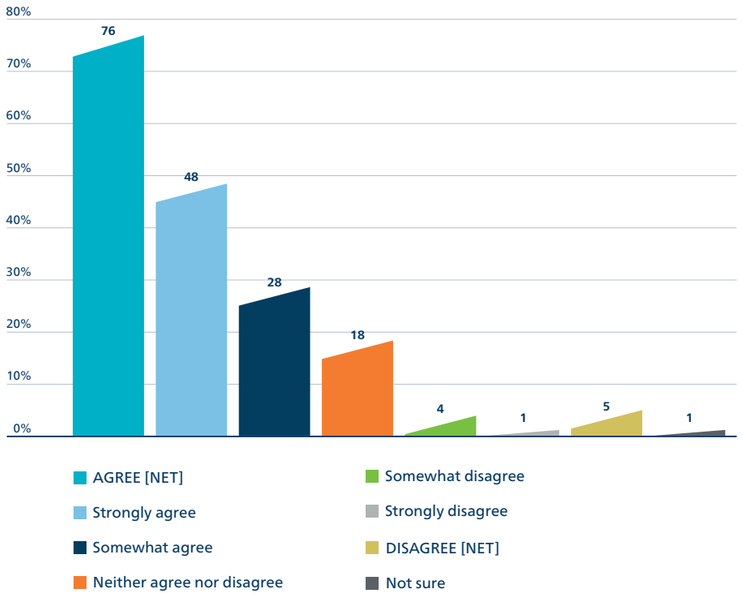
The research found overall positivity and optimism towards the industry's use of digital solutions and technology. Interviewees expressed how the shift towards intelligent infrastructure, facilitated by new digital tools, is enabling deeper analysis, improved visibility, and faster reporting, and that this is helping to shift mindsets from the reactive to the proactive.

More than three-quarters (76%) of respondents to the survey agreed that 'the industry is keeping pace with digital innovation in other sectors. The same percentage (76%) agreed that 'the industry is making good progress in digital transformation'.

70%
agreed 'the built environment sector is becoming a leader in digital innovation'

70%
of respondents also agreed that 'new digital tools are typically adopted in the industry only when necessary'

The industry is making good progress in digital transformation



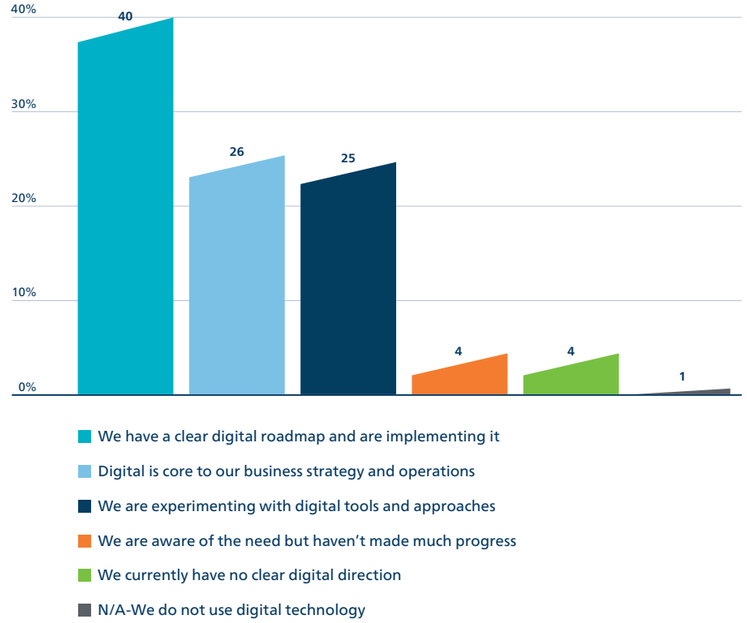
The research highlighted that organisations' approach to technology adoption is nuanced and pragmatic. The industry is not resistant to change, as it is often portrayed, but thoughtful and deliberate about adoption. It appears that new tools and innovations are only being adopted where they add value to the business, its employees and its project partners.

Diffusion of technology

There is evidence that new innovations are being adopted in some areas of the industry more rapidly than others. The research found that there was a split among respondents on whether or not 'the industry is slow to adopt new digital tools' with 43% agreeing and 39% disagreeing. Similarly, almost half (47%) agree that 'compared to other industries, the built environment sector is falling behind in technology use'.

The research also asked respondents about the current approach and progress towards digitalisation within their organisation. Overall, 40% of all respondents said they have a clear digital roadmap, which they are implementing. A further 26% said digital is currently core to their business strategy and operations. Interestingly, almost a fifth (18%) of respondents from smaller businesses (under 50 employees) said they have no clear digital direction compared to none of the larger organisations with a headcount over 1,000 people. Additionally, just 45% of respondents from these smaller businesses agreed 'the industry is making good progress in digital transformation' compared to 87% of those in businesses with over 1,000 employees.

How would you describe your organisation's overall approach to digital technology?



This provides further evidence that it is the added value to the project and business that drives technology adoption. With larger companies often taking on bigger and more complex projects, they may invest in digital solutions that can deliver improved efficiency or better project control to help overcome the challenges they face.

Drivers for digitalisation

One of the themes that emerged was that in this industry, technology does not automatically bring improvements. Digital tools and solutions must often be combined with knowledge and expertise. The real value is found in creating digital workflows that enhance the collaborative principles that underpin successful project delivery. Often the use of technology is about providing professionals with more and richer information that allows them to make better decisions.

The benefits of technology are seen differently across sectors. Efficiency improvements are a clear benefit of technology for civil engineers with 84% of this group saying it was a key driver. A comparatively smaller percentage (47%) of those in infrastructure

> *"We're more data-driven than ever. It's almost like we're predicting the future, but it still comes back to engineering judgment."*
>
> **Civil Engineer (Transport)**

selected this. However, 'getting better data and insights' (65%) was a much more commonly identified reason among this group.

Barriers to widespread adoption

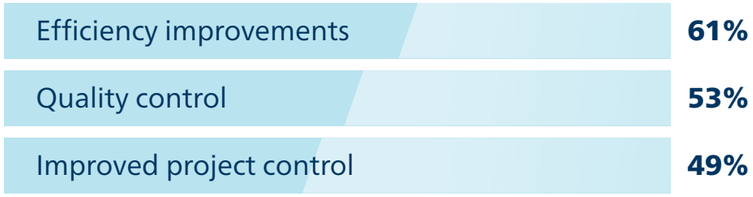
Despite the advantages of digital technologies, many organisations face barriers to wider implementation. The biggest barrier identified in the research was 'cost of implementation' (44%) followed by 'lack of inhouse expertise' (30%).

These issues are felt most keenly by public sector clients with 67% saying cost was a barrier and 62% saying lack of in-house expertise – both well above the average for all respondents. This was supported by the interviewees from public sector bodies who noted slower adoption curves in their sector and cited reasons such as the need to keep infrastructure running, procurement rules, and compatibility with legacy IT systems.

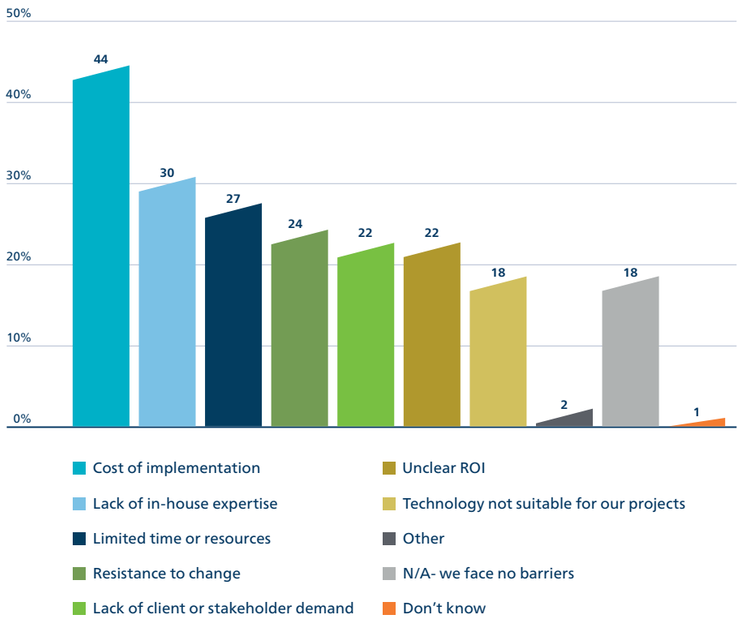
> *"Being able to pull up a BIM model, click on a component, and get the full inspection and maintenance record, that's powerful."*
>
> **Civil Engineer, Private Sector**

Interestingly 'lack of client or stakeholder demand' was also cited by a large percentage (62%) of those in public sector organisations, perhaps suggesting that these respondents feel there is not the same pressure or expectation to harness digital solutions that there is in other sectors.

Reasons for adopting digital technologies



What barriers to adopting new technologies does your organisation face?



The adoption of different technologies.

There are a number of different technologies and innovations that are driving change in the industry. Building Information Modelling (BIM) has been a key focus of digitalisation in the industry for more than a decade. While the research shows that many organisations are embracing BIM and the benefits it brings, there is still more to be done to make its use universal.

67%
of survey respondents said BIM was either 'fully integrated' or 'approaching full adoption' on projects they work on

Perhaps unsurprisingly given that BIM has been a requirement on all centrally procured government projects since 2016, BIM adoption was found to be higher among the public sector. A total of 95% of participants in this sector stated that BIM is either fully integrated or approaching full adoption.

Facilities management (FM) also showed high levels of BIM adoption with 88% saying it was fully integrated or approaching full adoption. 70% of this group also said the same about digital twinning – the creation of a detailed digital replica of a building or asset. This suggests that the FM sector has widely recognised the advantages these technologies have for ongoing asset management.

Advanced Airborne Vehicles, also known as AAVs or most commonly drones, have been embraced by the industry in recent years. 85% of survey participants said their organisation use aerial drones and/or robotics for mapping or monitoring. Among the key reasons why this technology has been adopted so widely is that it makes inspections and data gathering, especially in hard to access areas, simpler and reduces the risk to workers. The use of drones is an excellent example of how technology and human expertise can be combined. Drones have the capability to allow assessment of structures in different ways from visual inspection to thermal imaging to tactile monitoring. This data can then be analysed by professionals with the expertise and experience to draw conclusions and make informed decisions.

> *"We've used drones in tunnels, under bridges, and even for heat detection on cable joints. One drone, multiple uses. It's safer, quicker, and cheaper."*
>
> **Civil Engineer, Private Sector**

> *"My role's flipped from 70/30 site-to-desk to 90/10. I spend most of my time reviewing drone footage and data, not walking tunnels."*
>
> **Asset Engineer, Utilities**

The adoption of technology has also altered how people work. Because data collection is automated or streamlined by technology, the roles of many professionals are shifting. They are spending less time carrying out inspections, making observations and collecting data, allowing more time for analysis and interpretation.

The impact of AI

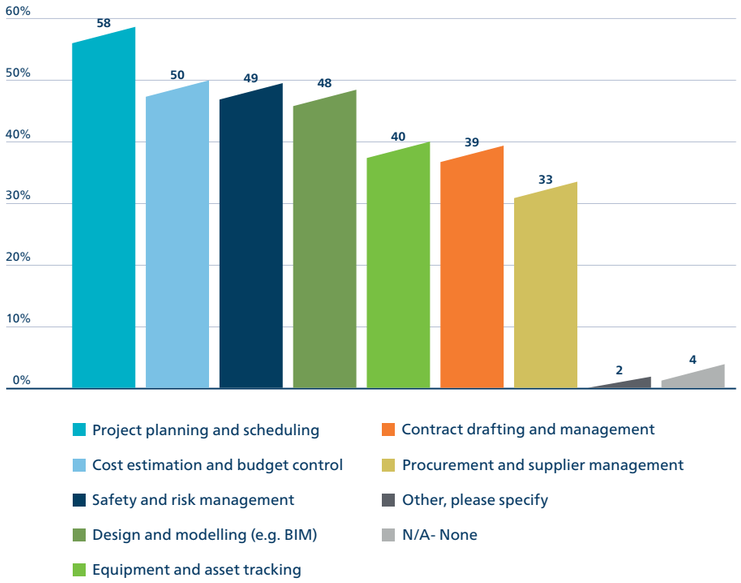
Artificial intelligence (AI) is an area that has quickly grown in prominence in recent years, with a mix of optimism about the potential it has for improving productivity and concern about the pitfalls if not used correctly.

58%
expect AI to have a significant impact on project planning

50%
expect AI to have a significant impact on cost estimating

The research revealed that the industry is already adopting AI tools and testing how they can improve the delivery of projects. As is expected with a technology that is so relatively new and evolving, the degree of adoption reported by participants varied. Overall, 29% said AI-driven tools of some kind were fully integrated, 23% said they were approaching full adoption of such tools, 23% said they were currently at limited adoption, and 14% said their organisation was planning or beginning adoption.

Which areas of the built environment sector do you believe AI has the potential to significantly improve?



> *"The industry's recognition that digital skills are essential for attracting new talent is spot on. But it's not just about technology - it's about creating working environments where people can do their best work. Younger professionals expect to work collaboratively, to have their voices heard, and to make a real difference. Contracts that foster partnership rather than conflict naturally create these conditions."*
>
> **Matthew Garratt, Commercial Director at Dalkia Engineering and NEC Contract Board Member**

Much of the discourse about AI in the wider world has been about its potential negative impacts, such as replacing people in many industries. In contrast, the research highlights the industry's optimism about AI's potential. This demonstrates a mature understanding of technology's role in construction. It shows that industry professionals are already looking at how AI can be applied in a way that supports and improves project delivery.

The impact of technology on contracts

Contract management and drafting is an element of the project lifecycle where technology is already having an effect and looks set to increase its impact in the coming years. For example, 43% of participants said they use technology to support contract drafting and management. This figure was even higher among main contractors (54%), facilities management businesses (58%) and civil engineers (47%). In addition, 90% of participants in public sector organisations said digital contract management was 'fully integrated' or 'approaching full adoption'.

However, this was significantly lower among those working in infrastructure at only 24%. This suggests that there is significant potential for those in this sector to find improvements in this area by embracing technology.

As the industry moves forward, contract management is an area where technology, and AI in particular, can be used to enhance and support, rather than replace human knowledge. Smart contracts and AI-powered contract lifecycle management can automate routine processes, enabling project managers to focus on ensuring successful project delivery.

Already 19% of respondents said contract lifecycle management was 'fully integrated' and 36% said it was 'approaching full adoption' on projects. This was again highest among public sector organisations where almost half (48%) said it was 'fully integrated' and another 38% said it was 'approaching full adoption'. Over half (53%) of survey respondents predicted a 'major' or 'significant' impact of smart contracts over the next five years.

> *"Automation won't replace good project management, it will liberate it. When routine contract administration is automated, project managers can focus on what they do best: building relationships, managing risks proactively, and creating a collaborative environment that delivers exceptional results."*
>
> **Rekha Thawrani, Global Director, NEC Contracts**

When looking ahead at the likely impact of AI over the next five years, 58% of survey participants said they believe that AI used in the planning phase will have either a 'major impact' or 'significant impact' and 59% believe the same for AI used in design. The findings also revealed that respondents in the public sector are among those expecting the biggest impact of AI. Almost half (48%) believe AI used in the design stage will have a major impact, with another 24% saying the impact will be significant.

Technology's role in the future direction of the industry

The evolution and further adoption of new technologies will undoubtedly change the industry and have an impact on both those already working in the industry and the next generation of professionals. This was the focus of the ICE *Engineering Rebellion* report, the conclusions of which are supported by this latest research.

The digitalisation of the industry has long been suggested as a factor in encouraging more people, especially young people, to consider a career in construction. In fact, it was specifically highlighted in the *Government's Construction* 2025 strategy, published in 2013. Evolving technologies open up new and exciting roles and career paths, in turn attracting a wider range of people to the industry. The importance of this is a view widely shared: 74% of survey respondents agreed that the industry will need to bring in people from more diverse backgrounds and career paths and 79% agreed that using digital technologies is crucial to attract new people into the industry. This may be a particular recruitment issue for smaller businesses where technology adoption is less progressed. Talented young people may well choose to work for businesses where they will have the opportunity to work with the latest technologies and innovations.

However, the increased level of technology, rapid change and digitalisation in a vast number of roles across the industry will also require a change in how people work and how they approach learning and training. This was a challenge raised in the *Engineering Rebellion* report and reflected in the findings of this research. 80% agreed that workers will need to be flexible and able to keep up with fast-changing digital tools, and the same percentage agreed that workers will need to master the skills and behaviour that will allow new technologies to be deployed. In addition, 79% agreed that upskilling will be continuous and necessary throughout workers' careers.

79%
agreed that using digital technologies is crucial to attract new people into the industry

> *"What stands out is the need for culture change: moving from seeing digital as a bolt-on expense to recognising it as essential for delivering public value. Upskilling our workforce will be vital if we want to unlock the full potential of AI, digital twins, and data-driven decisions. With customers and regulators demanding more sustainable, future-ready services, the water industry has a real chance to lead, embedding innovation not just in technology, but in how we work together, contract, and deliver."*
>
> **Dr Angela MacOscar, Head of Innovation, Northumbrian Water Ltd**

Early career professionals and technology

Early career professionals (ECP) are those who have most recently joined the workforce after education. The research highlights that the ECPs have a very different experience and perspective on technology in the industry compared to those with more experience. Just 56% of the 18 to 24 age group agree the industry is making good progress in digital transformation and that digital technologies are well integrated into most projects. This is compared to 76% of all respondents. This may indicate that this group, raised in a technology saturated world, believes there is still much more that digital technologies can do.

However, they also reported much lower levels of technology adoption compared to their older colleagues, perhaps suggesting that they are not exposed to these technologies frequently in their roles, something that may have a potential impact on their professional development and even motivation to remain in the industry.

The ECPs surveyed were also not as positive about the potential of AI, especially compared with their slightly older (25 to 34 year old) colleagues. Just 44% of 18 to 24s felt AI would significantly improve project planning and scheduling compared to 70% of those in the next age group. Again, this suggests that these ECPs may benefit from greater involvement with these processes and the applicable technologies so they can understand how these technologies will shape their future work.

> *"We've got a different species of engineer coming in, raised on the internet, used to digital tools. But might never walk a line at 3 a.m."*
>
> **(Asset Owner, Infrastructure)**

Sustainability

Climate change is clearly one of the defining challenges of our time, and the construction industry has a significant role to play in addressing it. The UK Government demonstrated its commitment to net zero, by becoming the first G7 country to set legally binding targets for 2025 in 2019. These targets have become increasingly ambitious, with the latest announcement at COP29 calling for an 81% emissions reduction by 2035.

The built environment sector carries considerable responsibility here. The UK Green Building Council estimates that it accounts for around 25% of all UK carbon emissions and when looking at the entire infrastructure sector globally, this rises to around 79% of energy and process-related CO_2 emissions, according to the UN Environment Programme. This has naturally led to increased focus on environmental performance across our industry, driving changes in regulations and standards including updates to Building Regulations and the introduction of the Future Homes and Building Standard.

The regulatory landscape has responded accordingly. Beyond Building Regulations, we've seen the emergence of initiatives like PAS 2080 for carbon management in infrastructure, the development of embodied carbon assessments, and growing requirements for lifecycle carbon reporting. Local authorities are increasingly setting their own net zero targets, often more ambitious than national ones, while procurement frameworks now routinely include carbon reduction requirements.

The question is: how much progress are we actually making? Whilst there's no shortage of sustainability commitments and policy initiatives, this research aimed to understand what's happening in practice. How embedded is environmental thinking in day-to-day decision making? Are the tools and contract mechanisms needed to deliver change being widely adopted? And what practical steps are organisations taking to reduce the environmental impact of their projects?

Most importantly, where are the gaps between ambition and implementation, and what does the industry need to do to close them?

> *"There's a clear opportunity to use digital contract management and smart contracts not just for efficiency but to hard-wire sustainability targets and resilience planning into every project. It's striking how cost and reluctance to change remain barriers, yet the prize is huge, better collaboration, shared risk, faster delivery, and genuinely integrated solutions that meet climate goals and customer needs."*
>
> **Dr Angela MacOscar, Head of Innovation, Northumbrian Water Ltd**

Progress towards sustainability

The reality is that in recent years, sustainability has gone from something that was aspirational to a central element of the planning, design and delivery of every type of project. The focus is not just on the operational performance of buildings and infrastructure but the embodied emissions as well.

> *"Everything for us is geared around what can we be doing to push towards net zero. When I think about the whole life costs and the whole life carbon cost to certain products, assets, materials, then you realise it's going to be more sustainable for the future."*
>
> **Civil Engineer, Transport**

The research showed strong positivity in the industry about our progress towards sustainable practices. Three quarters (76%) of respondents agreed the industry is taking sustainability seriously, and this was even higher among some groups, including civil engineers (80%), main contractors (81%) and the public sector (81%). The responses also indicate that this recognition of sustainability's importance is shaping how we behave and how projects are approached.

79%
agreed commitments to sustainable practices are driving change in workplace practices.

Additionally, there was positivity around what our industry is achieving as part of the wider push for net zero and minimising our environmental impact. 69% agreed that compared to other industries, the built environment sector is ahead in adopting sustainable practices. Again civil engineers (80%), main contractors (82%), those in facilities management (88%), the public sector (81%), were all particularly positive about this.

However, challenges were also highlighted. Adopting new ways of working and new materials, including trialling cutting edge innovations isn't always straightforward and these advances must be made without compromising the quality or performance of the building or asset.

> *"We're trialling low-carbon concrete, but you still need 10 years of testing to use it. That's the challenge."*
>
> **Asset Engineer, Utilities**

The role of contracts in achieving sustainability

A growing number of organisations now recognise that with the right approach, contracts can be a powerful tool to help ensure sustainability targets are met. However, this isn't yet understood by everyone, and there's evidence that the industry is still in the early stages of transitioning to this mindset.

Only 34% of respondents see sustainability targets as 'fundamentally' or 'substantially' transforming contracts. Civil engineering is leading the way here - 50% of this group believe these targets are having a significant effect on contracts.

Younger professionals are also more likely to recognise the impact of sustainability targets on contracts, with 40% of the 25 to 34 age group seeing fundamental or substantial change. This compares with just 20% of those aged 55 to 64. However, a relatively large percentage (33%) of the youngest professionals - 18 to 24 year olds - believe targets aren't affecting contracts, far higher than any other age group. This perhaps suggests they have less extensive knowledge of the factors driving sustainability on the projects they're involved in.

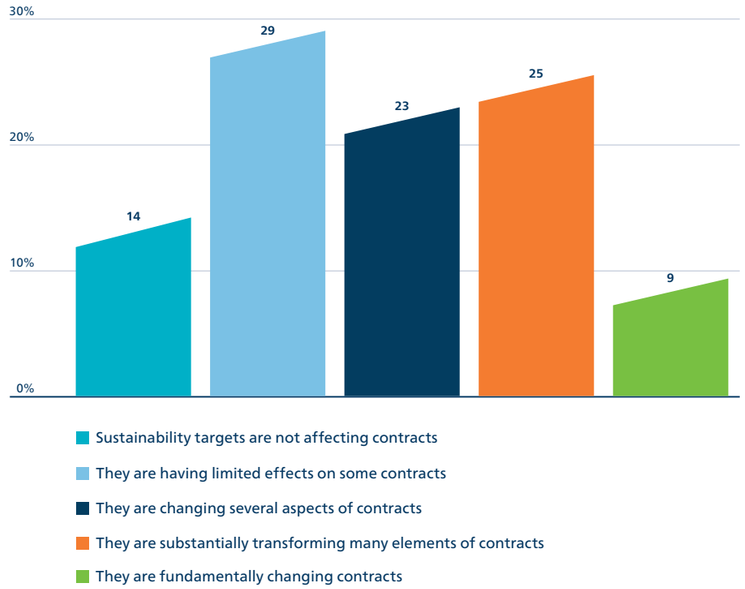
The research also highlighted that in some contracts the sustainability objectives are not properly integrated, leaving a level of uncertainty.

One of the ways that sustainability can be effectively integrated into contracts in a way that works for all parties is with specially developed optional clauses, such as NEC Option X29. However, awareness

Younger professionals
(25-34 year olds)
are more likely to recognise the impact of sustainability targets on contracts.

levels of this type of clause were found to be relatively low among participants, suggesting they are not widely utilised yet. Just 15% said they were very aware of these, with a further 16% saying they 'mostly understand these clauses'.

To what extent do you think sustainability targets are having an impact on contracts in the built environment sector?



> *"Everybody talks about sustainability, we certainly talk about it, and it's kind of getting written into contracts … but there's no real proper guidance to us on what they expect from it."*
>
> **Project Manager, Utilities**

Despite the generally lower levels of awareness, they appear to have been more widely adopted in certain sectors. More than half (52%) of those in the public sector said they are 'very aware' and among civil engineers it was 30%, with another 30% saying they have a good understanding of them. This highlights that there is both

a challenge and an opportunity for the industry. There is clearly a greater need for education and advocacy around this type of contract provision but if this can be achieved, the industry could see an acceleration of its move towards more sustainable, and ultimately, net zero carbon buildings and infrastructure.

This knowledge gap presents a clear opportunity for targeted training and professional development. The higher awareness levels among public sector professionals and civil engineers suggest that structured education programmes can make a real difference. Both ICE Training and NEC Training offer comprehensive courses covering not only the technical application of sustainability clauses like Option X29, but also the broader principles of integrating environmental considerations into contract management. With the right training support, the industry can bridge this awareness gap and unlock the potential for more widespread adoption of sustainability-focused contracting approaches.

Fostering collaboration among project partners is also an essential part of driving environmental performance forward. Collaborative approaches naturally align with more sustainable outcomes.

How aware are you of sustainability focused optional contract clauses, such as NEC X29?

I've never heard of these	6%
I've heard of them but don't know much about them	29%
I have a basic understanding of these clauses	30%
I mostly understand these clauses	16%
I am very aware of these clauses	15%

> *"The slower take up of the [X29] clause has highlighted the lack of a detailed approach to the sustainability factor within organisations, who most definitely have a desire to address this. The Environment Agency has benefitted from the skilled in-house teams to progress the formulation of a clear plan, which can be enacted through the contract clauses, and is becoming a reality."*
>
> **Veronica Flint Williams, Contracts and Risk Manager at Environment Agency**

As all parties share the risks and rewards of innovation, targets such as efficient resource use and waste reduction become collective priorities rather than individual concerns. Greater success can be achieved by collaborating throughout a project's lifecycle to achieve these goals.

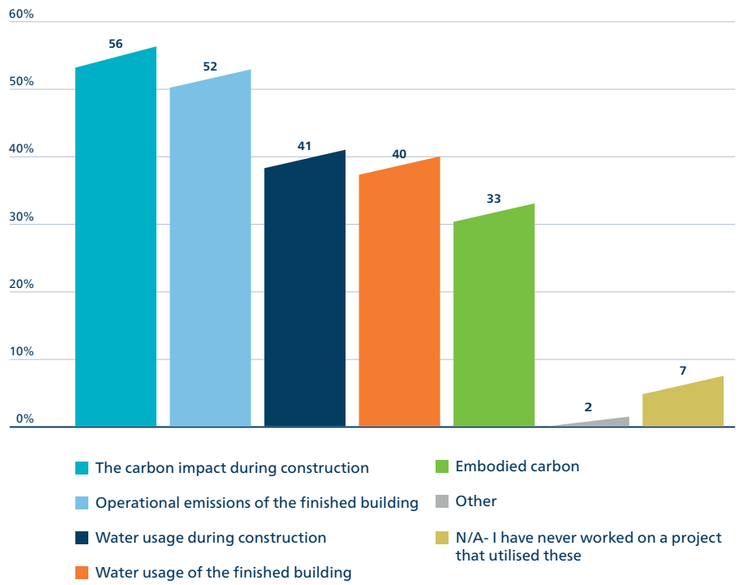
These contractual clauses and mechanisms have the flexibility to be used to achieve a wide range of environmental objectives, but the areas identified most widely by those who had worked with them were the carbon impact during construction (56%) and the operational emissions of the finished building (52%). Water usage during construction and water efficiency of the finished building appear to be less commonly targeted.

This fits with the current priorities of the industry where minimising the carbon impact is often the primary concern. Embodied carbon, which has become an important consideration only more recently, shows up most strongly in certain sectors.

For example, both civil engineers and those working in infrastructure have more experience with contracts that target embodied carbon, with 53% and 56% respectively compared to the average of 33% across all respondents.

> *"We have a collective responsibility to promote the use of X29 and future sustainability clauses. As leaders in this area, we should demonstrate its use and actively support the upskilling of contract users across all levels of the industry. As Clause X29 becomes more widely adopted, it is reasonable to anticipate a growing level of confidence in its application."*
>
> **Elena Lindsey, Senior Civil Engineer at JBA Consulting and ICE President's Future Leader - 2023/24**

If you have worked on a project that used contractual mechanisms to improve sustainability, which areas did this focus on?



The future of sustainability in contracts

One of the key themes that has emerged is that there are still many opportunities to expand the use of contract clauses that support the delivery of environmental objectives. This is also something that appears to be welcomed by those in the industry, regardless of their current level of knowledge and experience with them. Almost three-quarters (72%) said they think more projects should utilise sustainability focused optional contract clauses.

This figure is even higher among civil engineers (89%) and those in facilities management (82%). This positivity about the benefits of these clauses is also generally higher among younger professionals compared to their older colleagues. 78% of 25 to 34 wanted to see their use increased compared to 55% of those 55 to 64 and 25% of those over 65.

> *"The sustainability transformation is inevitable, but it needs to be embedded in how we work, not bolted on as an afterthought. Option X29 was developed because we recognised that when sustainability becomes a shared objective written into the contract, it stops being a burden and becomes an opportunity for innovation and efficiency."*
>
> **Rekha Thawrani, Global Director, NEC Contracts**

Sustainable contracts in the public sector

With government policies, procurement rules and legally binding commitments driving environmental improvements in the UK public sector, it is no surprise that this group has significant experience with sustainability focused contract mechanisms. Over half said they were very aware of clauses such as Option X29. In terms of the focus of these clauses, 67% in the public sector have targeted the carbon impact and water usage during construction, 62% had objectives for minimising water usage of the finished building and 57% said the operational emissions of the finished building. This also fits with the finding that 81% of those in this sector believe we're ahead of other industries in adopting sustainable practices.

67%
believe more projects should include sustainability focused optional contract clauses

Collaboration across the industry

The construction industry has long struggled with a particular challenge: the tendency for projects to pit different parties against each other rather than bringing them together. Traditional contract approaches often create an adversarial environment where blame becomes more important than solutions, leading to disputes, delays, and cost overruns that benefit no one. More importantly, this combative culture has held the industry back from addressing some of its biggest challenges - from improving environmental performance to tackling skills shortages and boosting productivity.

This adversarial legacy runs deep. For decades, standard forms of contract were structured around the assumption that parties would inevitably disagree, with elaborate mechanisms for apportioning blame when things went wrong.

There's been growing recognition that a different approach could make a real difference. Collaborative contracting, built around principles like trust, transparency, and fair risk sharing, offers the potential to break this cycle. The idea isn't new - reports like the 1994 *Constructing the Team* (the Latham Report) and the 1998 *Rethinking Construction* (the Egan Report) were already making the case for moving away from adversarial relationships more than 30 years ago.

Since then, we've seen the development of collaborative contract forms that embed cooperation as a contractual obligation, integrated project delivery models that align incentives across the supply chain, and major clients beginning to mandate collaborative approaches.

But knowing what needs to change and actually changing it are two different things. This research set out to understand how much progress the industry has genuinely made in moving beyond 'us and them' thinking. Are collaborative contracts becoming the norm, or are they still the exception? And what's driving, or preventing, this shift towards more co-operative ways of working?

> *"We often place trust in traditional contracts but, though seemingly effective, these may have delivered success in misleading ways. However, contract management has now become more accessible, especially for early career professionals involved in project management. It's time to acknowledge the evolving nature of project management and nurture its increasing inclusivity."*
>
> **Elena Lindsey, Senior Civil Engineer at JBA Consulting and ICE President's Future Leader - 2023/24**

The current approach to collaboration

One of the biggest drivers of true collaboration in construction projects is the use of collaborative forms of contract, such as NEC, which was launched in 1993 and is now in its fourth iteration, known as NEC4. The NEC approach of embedding collaboration through contractual obligations, requiring parties to act 'in a spirit of mutual trust and co-operation', demonstrates how legal frameworks can drive behavioural change and deliver better project outcomes.

The research shows that whilst the benefits of collaborative contracts are well established, their adoption remains patchy across the industry, demonstrating that strategic commitment is needed to overcome traditional barriers. However, there are notable exceptions to this pattern. In the public sector, an impressive 33% use collaborative contracts on all projects, whilst 60% of civil engineers report using them on most or all of their work.

59%
have worked on a project using collaborative contracts, but only 8% use them on all their projects

What experience do you have with collaborative forms of contract, such as NEC4?

I have never heard of collaborative contracts	14%
I know about collaborative contracts but have never used them	29%
I have worked on some projects that use collaborative contracts	23%
Most of our projects use collaborative contracts	25%
All our projects use collaborative contracts	19%

Perhaps most significantly, 96% of architecture and design professionals respond positively to increased collaborative contracting, with 60% feeling very positive. This suggests that the technical professions leading project design are ready and willing to embrace collaborative approaches. The challenge now is ensuring that commercial and delivery practices catch up with this design-led enthusiasm for partnership working.

There's also evidence that collaborative contracts aren't universally understood across the industry. Among the youngest early career professionals - those aged 18 to 24 - a third (33%) have never heard of collaborative contracts. This presents a clear opportunity to educate people early in their careers about the benefits of collaborative working. It's particularly important for this group to understand these tools, as they'll be most affected by the changing landscape of the industry.

Welcoming more collaboration

The findings demonstrate genuine enthusiasm for more widespread use of collaborative contracts. This enthusiasm is particularly strong in certain sectors: 89% of civil engineers feel positive about increased adoption, as do 87% of those working for main contractors and 90% of facilities management professionals.

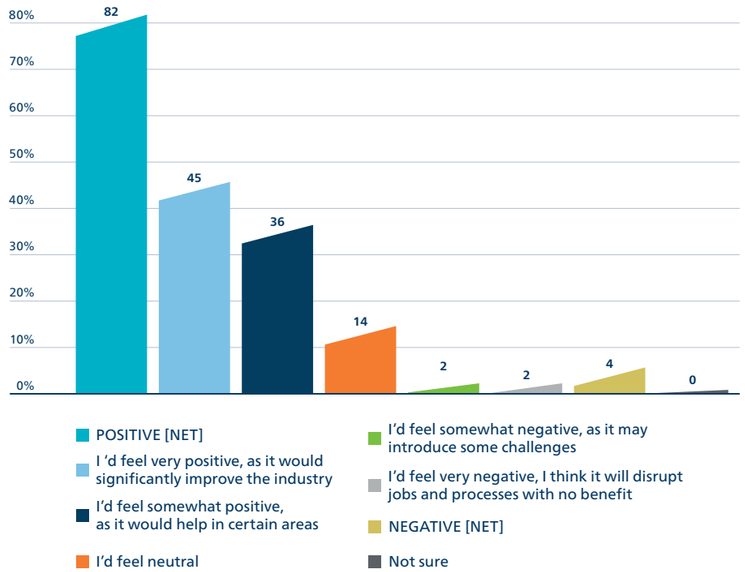
The question is: why aren't collaborative contracts more widely adopted if so much of the industry feels positively about them? This disconnect between attitudes and implementation suggests the industry recognises the value of collaboration but faces practical barriers. Training emerges as the primary obstacle, identified by 43% of respondents. This underscores that knowledge and education are central to cultural change - and even the most progressive adopters recognise the ongoing investment required. The need for training is felt even more keenly in certain sectors - 63% of specialist and subcontractors identify it as a barrier, as do three-quarters (75%) of public sector respondents. The challenge here isn't purely technical, it's deeply embedded in the culture of the industry.

The industry's tendency to stick with familiar approaches to avoid risk and uncertainty is undoubtedly another key factor. In fact, 37% cite 'reluctance to change' as a barrier, whilst 29% see traditional contracts

82%
felt positive about a more widespread adoption of collaborative contracts, with 45% saying it would significantly improve the industry.

43%
identified the need for training as a primary obstacle to wider adoption

How would you feel about more widespread adoption of collaborative contracts, in terms of their impact on the industry?

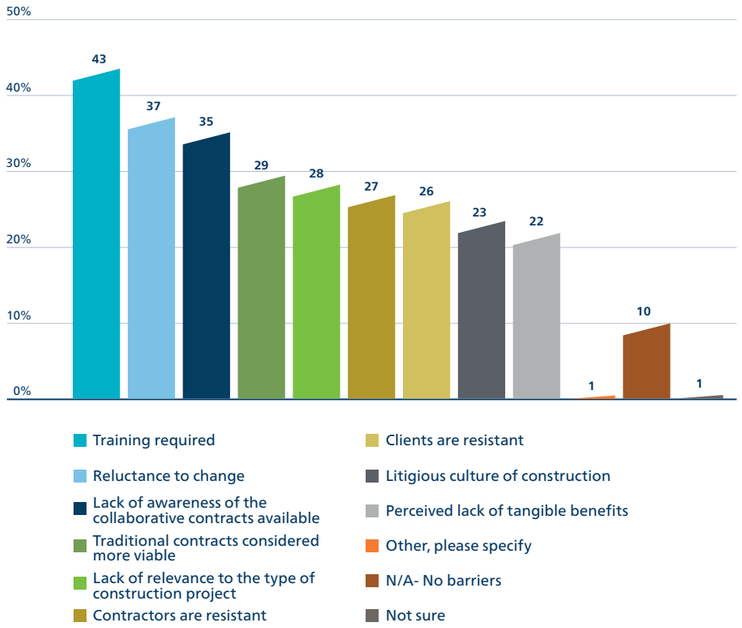


as more viable options - perceptions that still need addressing. However, the research suggests that a significant proportion of the industry recognises cultural change is needed. This view

> *"The gap between wanting collaboration and actually implementing it tells us everything we need to know about the challenge facing our industry. People understand that collaborative approaches work - they've seen the evidence - but changing how you work requires more than just changing your contract. It requires training, cultural shifts, and the confidence to do things differently. That's why education and support are so crucial to this transformation."*
>
> **Crystal Fan, Head of Learning Solutions at NEC.**

is particularly strong among younger professionals: 44% of those under 25 expect culture change to have a major impact, as do 29% of 25 to 34 year olds.

What do you see as barriers to further use of collaborative contracts in your organisation?



The benefits of collaborative contracts

The research clearly shows why there's such enthusiasm for collaborative contracts across the industry. The numbers can't be ignored: 78% say they improve costs, 80% see better environmental outcomes, 81% report higher efficiency, and 82% experience greater innovation. These aren't marginal improvements - they represent the kind of meaningful benefits that influence procurement decisions at every level of the supply chain and the combination of these benefits alone presents a strong financial and operational argument for the wider adoption of collaborative contracts.

57%
believe change in the established culture would have a major or significant impact over the next five years

What's particularly encouraging is how well collaborative contracts are delivering on the original objectives that drove NEC's development in the early 1990s. Nearly eight in ten respondents (78%) say they lead to fewer disputes or simpler resolution processes, whilst 70% point to better risk sharing and 82% highlight improved knowledge transfer between project teams. These were precisely the problems the industry was grappling with thirty years ago.

Future potential in infrastructure

The infrastructure sector provides an excellent example of the gap between desire for collaboration and current implementation. Only 18% use collaborative contracts on all or most projects, and just 41% have worked on any project using them. However, an overwhelming majority (94%) would welcome greater use of collaborative contracts. As with other sectors, the biggest barrier is training - 71% identify this as a key factor. This clearly shows that with the right support, training and education, collaborative contract use could expand significantly in infrastructure. Whilst some businesses in this sector have fully embraced collaboration and actively advocate for contracts that support it, more widespread adoption would help drive performance in a sector so important to the UK's ambitions.

What collaborative contracts deliver

78% say they improve costs

80% see better environmental outcomes

81% report higher efficiency

82% experience greater innovation

> *"Endorsement of collaborative contracts reflects a clear shift toward integrated project delivery models. This presents a strategic opportunity for the civil engineering industry to realign its contracting practices to better support early-stage coordination, risk sharing, and value-driven outcomes."*
>
> **Elena Lindsey, Senior Civil Engineer at JBA Consulting and ICE President's Future Leader - 2023/24**

The public sector results are especially telling. Here, 95% report that collaborative contracts deliver improved costs, higher efficiency, and better knowledge transfer - significantly higher than the impressive industry averages. Public sector respondents are also notably positive about reduced disputes (85%) and shared risk (80%). This suggests that when organisations approach collaborative contracting strategically, rather than just trying it out, the benefits become even more pronounced.

Technical professions also follow suit here. Significantly, 96% of architecture and design professionals respond positively to increased collaborative contracting, with 60% feeling very positive. This suggests that these sectors leading project design are ready and willing to embrace collaborative.

“From an NEC Contracts perspective, it is fantastic to see the very strong support for the use of collaborative contracts on the basis that they improve project outcomes. For example, the conclusion of this survey is that collaborative contracts improve outcomes on cost, quality, use of innovation and environmental impact as well as reducing disputes. This has always been the view of the NEC Contract Board and is a primary core strength of the NEC suite of contracts.”

Matthew Garratt, Commercial Director at Dalkia Engineering and NEC Contract Board Member

Conclusion

“The report reveals an industry that understands the direction of travel and requires support on the way. What excites us most is that the findings show an industry ready for transformation. We see digital transformation, sustainability and collaboration not as separate challenges but interconnected elements that need to be brought together effectively to achieve a fundamental shift towards more intelligent, efficient and equitable project delivery. The most successful projects of the future will be those that integrate these elements seamlessly, and that’s exactly what the right contractual framework can enable.”

Andrea Naylor
Managing Director, Thomas Telford Ltd

About the research

Both quantitative and qualitative research was undertaken with over 250 industry professionals across the built environment, including civil engineers, main contractors, infrastructure and public sector clients, facilities management and sub-contractors. Undertaken between May and June 2025 by OnePoll and the NEC Data and Insights team, the research set out to explore where the sector stands across three key drivers of change for the industry – digital adoption, sustainability and collaboration. Full research results are available on request.

About NEC Contracts

NEC Contracts, published by Thomas Telford Ltd (the commercial arm of the Institution of Civil Engineers), is an end-to-end portfolio of plain-language contracts for works, services and supply that has been adopted and recommended by governments and industry worldwide. Its collaborative, risk-managed model replaces adversarial procurement, facilitates the implementation of sound project management and procurement principles, and defines legal relationships.

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