STRATA

DIGITAL TRANSFORMATION IN CONSTRUCTION & ENGINEERING: 2025 INDUSTRY INSIGHTS

July 2025

EXECUTIVE SUMMARY

The goal of this report was to gather insights on the progress of digitisation in the construction and engineering industries. This included how emerging technologies like artificial intelligence (AI) are being adopted. The survey also aimed to understand the opportunities and challenges organisations face in digital transformation as the sector deals with growing complexity, sustainability needs, and the push for better efficiency.

These report findings will support the establishment of industry-leading best practices and guide investment decisions in digital and AI strategy, helping organisations allocate resources and develop essential skills more effectively.

Over 250 construction and engineering professionals from the UK, Ireland, and mainland Europe participated in the research during May and June 2025. The cohort was highly experienced, with 70% of respondents occupying executive, senior leadership, or middle management positions.

Key Findings:

- **Accelerated adoption:** 88% of firms increased their use of digital technologies in the past year (38% significantly, 50% moderately). Nearly 68% are embedding these tools into decision-making and innovation.
- **Critical roadblocks:** The most significant barriers are siloed ways of working, time pressures, and skills gaps - factors that outweigh even budget constraints.
- **AI's growing importance:** Most respondents rate their AI knowledge as basic or modest. However, over 70% expect AI to be very or extremely important in the next three-five years. Despite this, more than half of organisations have not provided formal AI training. This gap between strategic importance and limited readiness highlights the need for upskilling and partnerships with specialists. Closing these gaps will help engineering leaders use AI to innovate, optimise decision-making, and remain competitive in an increasingly digital sector.
- **Sustainability on the rise:** Only 36% have made tangible progress in using digital tools for sustainability goals. Still, 85% believe sustainability will become increasingly important in the next one to three years

To maintain momentum, industry leaders must dismantle organisational silos, partner with specialist digital-technology experts to accelerate implementation, invest decisively in upskilling, and integrate sustainability metrics alongside digital deployment. This approach will turn today's insights into tomorrow's competitive advantage.

INSIGHTS FROM THE REPORT ARE ORGANISED INTO FIVE KEY PILLARS:

Pillar 1: Current state of digitisation

Q: Has your company seen an increase in the adoption of digital technologies in the last 12 months?

In the past year, 89% of engineering and construction professionals noted a rise in digital technology use. Among them, 38% reported a significant increase, while 51% saw a moderate boost. Only 11% experienced no change, and just 0.4% reported a decline. This shows strong momentum for digital transformation in the industry.

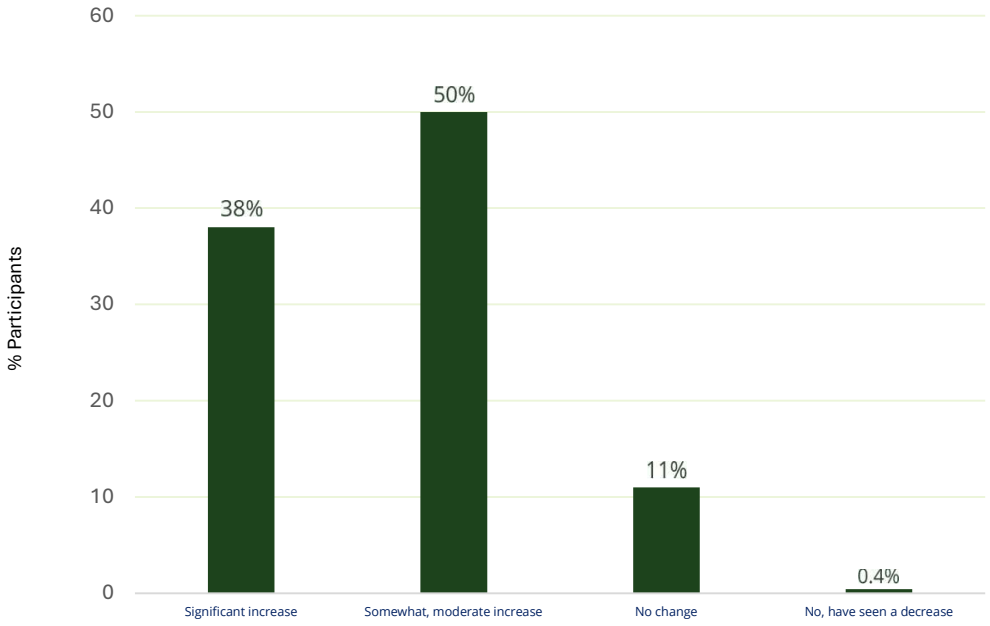

Figure 1: Responses to the Question "Has Your Company Seen an Increase in the Adoption of Digital Technologies in the Last 12 Months?

Compared to their Irish counterparts, a larger proportion of international respondents (44%) reported a significant increase, compared to 35% in Ireland. However, when moderate increases are also considered, overall growth was slightly higher among Irish respondents (90% versus 88%).

Q: What is your company's current position in adopting digital technology tools to enhance decision-making and innovation in construction projects?

The survey reveals that 67% of companies are actively adopting digital technologies to improve decision-making and drive innovation. A further 20% plan to do so within the next one to two years, highlighting growing momentum across the industry. However, 16% are not actively considering digital adoption, and another 6% are unsure, meaning around one in five professionals still do not have digital productivity on their radar.

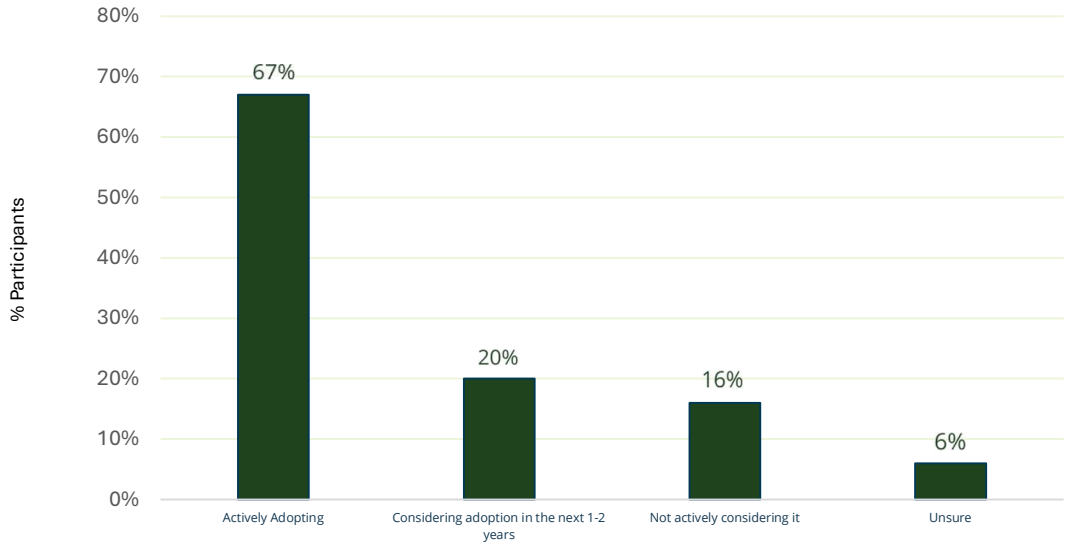

Figure 2: Responses to the Question: What is your company's current position in adopting digital technology tools to enhance decision-making and innovation in construction projects?

Pillar 2: Areas of opportunity

Q: Which area of work in the construction sector do you believe digital technologies will have the greatest impact on over the next one-three years. Select any that are applicable to your business:

Over the next one to three years, many expect digital technologies to significantly impact design innovation and modelling (62%). Project planning and scheduling follow closely (61%). Nearly half anticipate major benefits in cost estimation and budgeting (45%), as well as in project communications and collaboration (45%). A similar share (44%) foresee improvements in construction site management. Around one-quarter believe the most significant gains will be in risk management, safety, and carbon emissions/sustainability (25%).

AREA	% OF RESPONDENTS
Design innovation and modelling	62%
Project planning and scheduling	61%
Cost estimation and budgeting	45%
Project communications and collaboration	45%
Construction site management	44%
Risk management & Safety	26%
Carbon emissions / sustainability	25%

Table 1: Responses to the Question: Which area of work in the construction sector do you believe digital technologies will have the greatest impact on over the next one-three years.

Pillar 3: Barriers and enablers to adoption

Q: What do you perceive to be the barriers to digital adoption? Please rank in order of priority.

Respondents identified traditional siloed workflows as the biggest barrier to digital adoption, confirming that organisational structure can significantly hinder progress. Time constraints ranked second, reflecting the challenges of carving out time for training and implementation, especially amid industry-wide skilled labour shortages. Skillset gaps came third, highlighting the need for targeted training or strategic hiring to prepare for emerging digital and technology-focused roles. While budget constraints remain a factor, they are seen as less pressing than structural or time-related challenges. Awareness of digital services was considered the least significant barrier.

RANK ORDER	BARRIER
1	Traditional ways of siloed working
2	Time constraints
3	Available resources with skillset
4	Budget constraints
5	Awareness of digital services

Table 1: Main barriers to digital adoption

Pillar 4: Enablers of digital success

Q: How would you rate your knowledge of artificial intelligence (AI)?

7% of respondents report no familiarity with AI. Half (50%) have only a basic grasp of it. Another third (32%) say they have a modest awareness. A smaller portion (9%) rate their knowledge as good, and just 2% describe themselves as having advanced expertise.

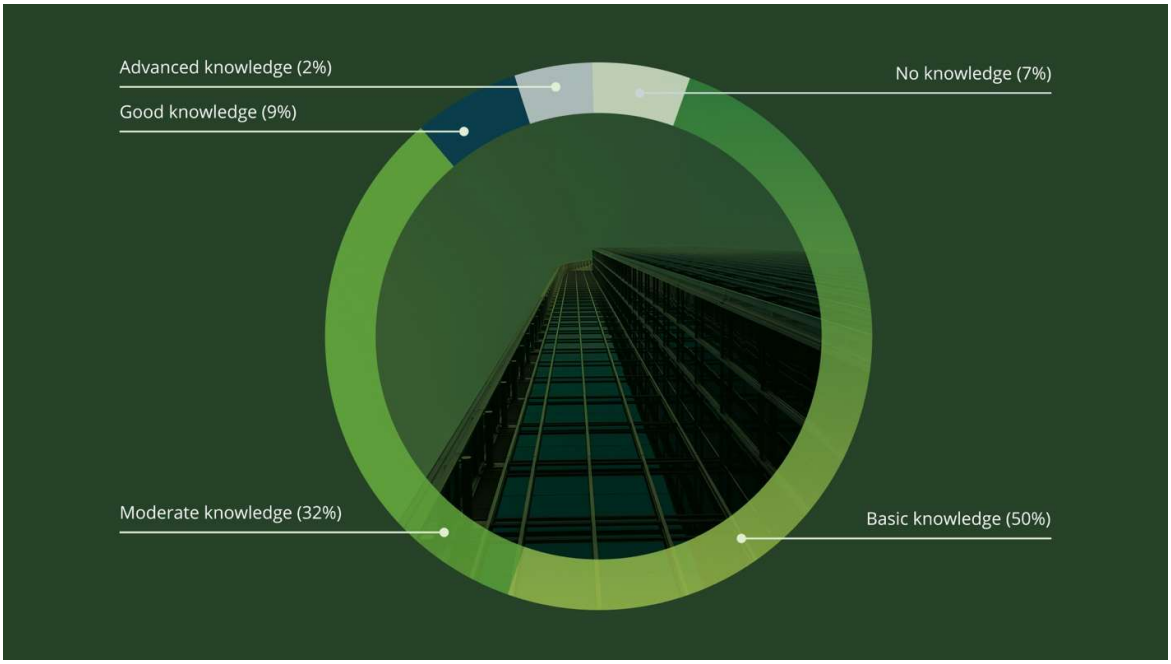

Figure 3: Responses to the Question: How would you rate your knowledge of artificial intelligence (AI)?

Irish professionals reported a basic understanding of AI more often than their international peers (52% vs. 44%). However, the international group had a higher percentage of moderate-to-advanced knowledge (48% vs. 43%).

Q: How important do you think Artificial Intelligence (AI) will be in shaping the future of your industry?

A clear majority of respondents: 70%, expect AI to be very (46%) or extremely (24%) important to their jobs in the next three-five years. A further 19% anticipate a moderate impact, while 10% see it only as somewhat important, with only 0.4% considering AI to be not important at all.

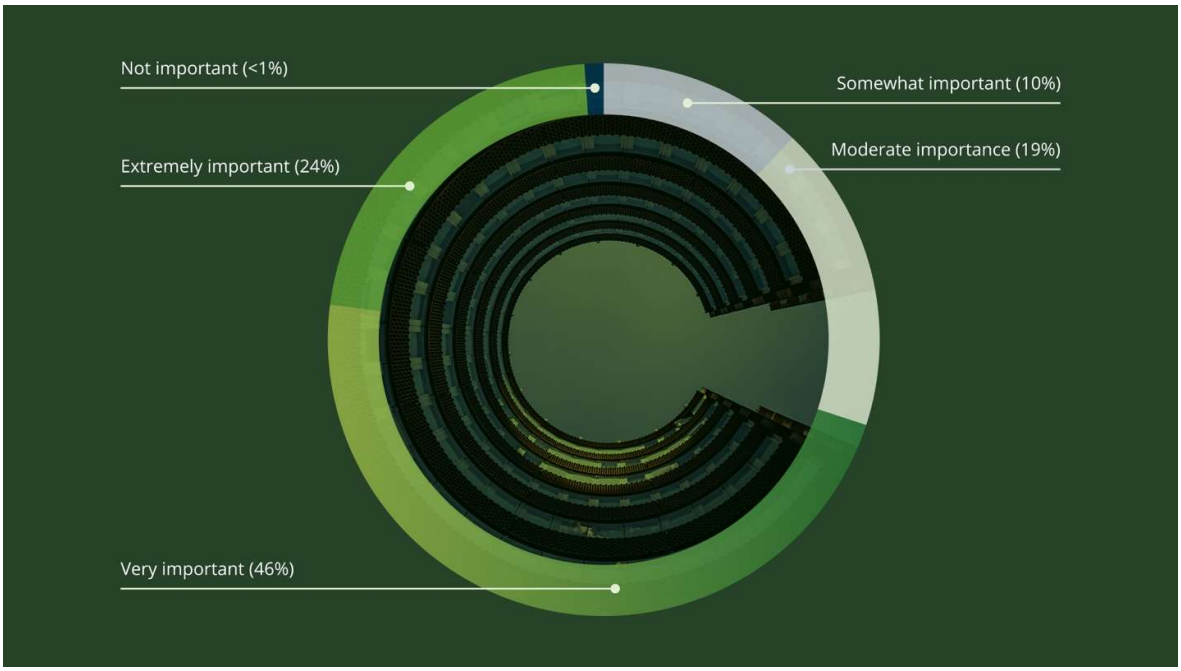

Figure 4: Responses to the Question: How important do you think artificial intelligence (AI) will be in shaping the future of your industry?

78% of International respondents rated AI as 'very' or 'extremely' important, whereas this figure was lower among Irish-based respondents, at 67%. Irish professionals were more likely to rate it as 'not' or 'somewhat' important (13% vs. 5%).

As part of the survey, we also examined AI awareness across different levels within the organisation to better understand how knowledge and confidence vary by seniority. Overall, awareness and understanding of AI remain limited, with the majority of professionals falling into the “No knowledge or Basic” category. This proportion increases with seniority, reported by 38% of early-career professionals, 56% of middle management, and 62% of executives. Conversely, good or advanced AI knowledge was more commonly reported among early-career professionals.

Q: Has your company provided any training to help employees understand or use artificial intelligence (AI) tools?

More than 52% of respondents say their company has not provided any AI training. Among those who received training, 21% report it was optional or limited. 14% say training was for specific teams or roles. Only 7% received comprehensive training for all employees. The remaining 6% are unsure if any AI training was offered.

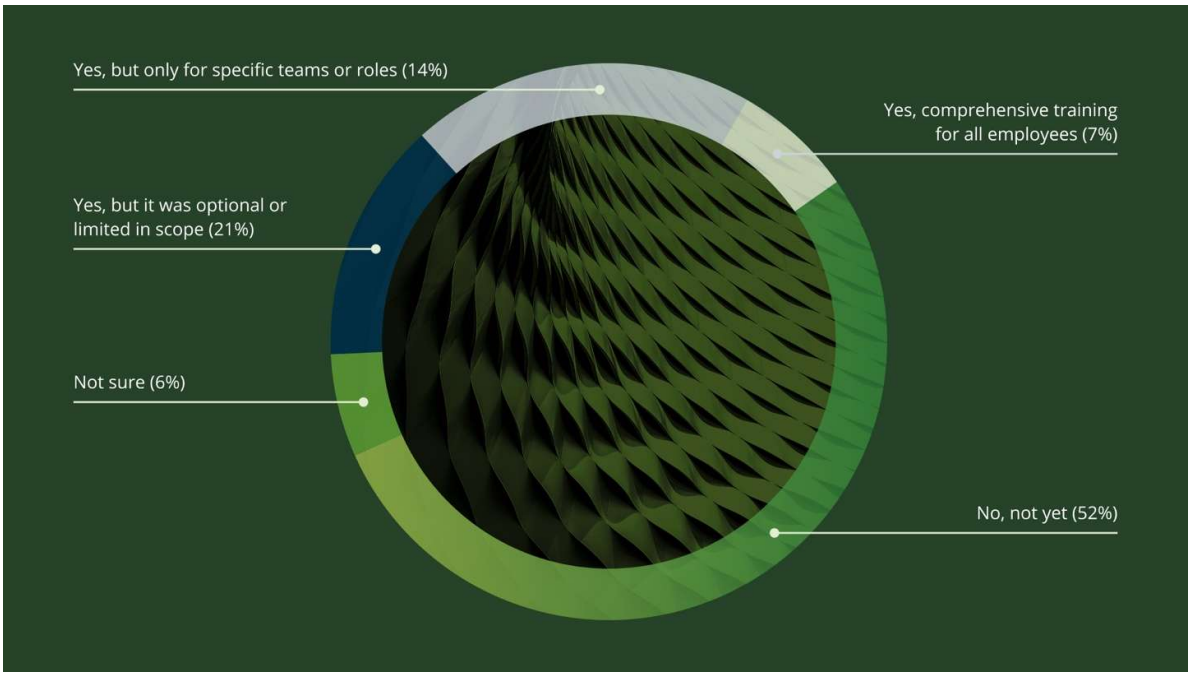

Figure 5: Responses to the Question: Has your company provided any training to help employees understand or use artificial intelligence (AI) tools?

Irish professionals are more likely to report receiving no AI training or being unsure, with 65% indicating this, compared to 47% of their international counterparts. International organisations are also more likely to provide optional or limited AI training, at 43% versus 15% in Ireland. Comprehensive AI training for all employees remains uncommon across both groups, though it is slightly more prevalent internationally (9% compared to 6%).

Pillar 5: Sustainability

Q: Considering sustainability specifically, do you believe that the use of digitalisation tools (e.g., carbon emissions calculations, whole-life carbon assessments) has progressed in the last 12 months?

As pressure mounts from regulators, investors, and customers for greener practices, sustainability has become a key issue across nearly every industry. When asked about their company's progress in using digital tools to advance sustainability goals over the past year, 36% believe there has been some progress, while a small minority (5%) report significant advances. More than a third of respondents (37%) say they're unsure or lack sufficient information to judge. About one-fifth (20%) feel there has been little to no progress, and 1% noted a regression.

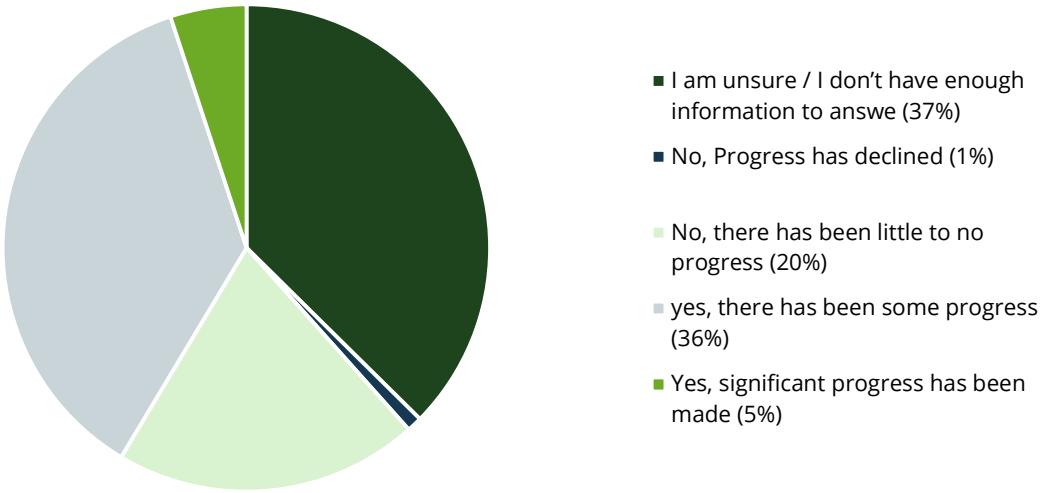

Figure 6: Responses to the Question: Considering sustainability specifically, do you believe that the use of digitalisation tools (e.g., carbon emissions calculations, whole-life carbon assessments) has progressed in the last 12 months?

Q: How do you anticipate the role of sustainability in the construction industry will evolve over the next one-three years?

More than four-fifths of respondents (85%) expect sustainability to grow in importance over the next one to three years. Among them, 37% see it becoming slightly more important, while 48% think it will be significantly more important. A small 7% believe it will stay about the same. Fewer respondents predict a decline: 6% expect it to be slightly less important, and 2% think it will be significantly less important.

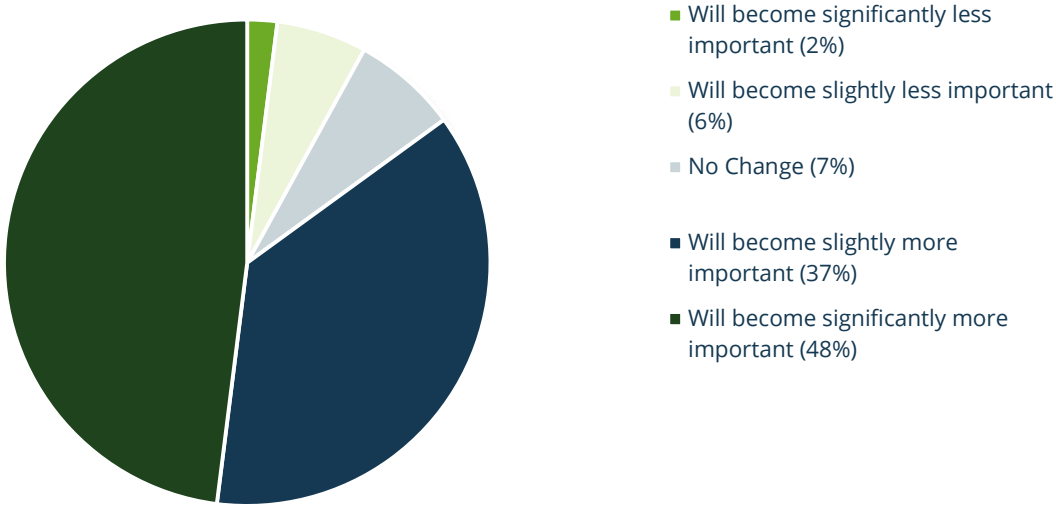

Figure 7: How do you anticipate the role of sustainability in the construction industry will evolve over the next one-three years?

RESPONDENT PROFILE

Respondents represented a diverse cross-section of professionals from both global and local engineering and construction firms, including major contractors, specialist subcontractors, and consultancies. Company sizes ranged from small enterprises (fewer than 50 employees) and medium-sized businesses (50 to 250 employees), to large organisations (250 to 1,000 employees) and multinational corporations with workforces exceeding 5,000. In total, the survey captured insights from professionals across more than 170 different companies.

The survey gathered responses from over 250 engineering and construction professionals, covering a mix of roles and experience levels. These included executive and senior leaders (30%), middle managers (40%), and technical staff such as engineers and specialists (24%). Entry-level staff made up 10% of respondents. Most participants (69%) were based in Ireland, with others from the UK, Nordics, mainland Europe, and beyond. This gave a broad view of industry perspectives on digitisation and artificial intelligence.

Thank you to all the respondents who shared their experiences and perspectives. Your input has been helpful in highlighting where the industry stands today, and where it is headed. These insights will play a key role in shaping strategies, tools, and training initiatives. The findings will help challenge traditional ways of working, accelerate the development of digital skills, and support the adoption of emerging technologies, building a stronger, more future-ready sector.

ABOUT STRATA

Strata is a leading provider of construction time management and related digital construction services, combining deep engineering expertise with the latest technologies to drive greater efficiency in the built environment. The company offers a full suite of project management solutions across pre-construction planning, schedule management, visualisation, project controls, analytics, and delay analysis. Strata is headquartered in Ireland and has offices in the UK, Brazil and Sweden.

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