

Deltek®

Digital Trends Unwrapped: Tech Powering Architecture & Engineering Project Success

UK & Ireland
Architecture & Engineering Firms



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INTRO

This report explores the complexities of project-based businesses in 2023 and beyond, the main challenges firms are facing and how digital transformation can help overcome them.

It highlights Architecture and Engineering organisations' views of the current business landscape, how they are implementing resource management to navigate project complexity and how effective planning can drive rapid growth for UK-based organisations.

Using the results from a survey of architecture, engineering, and consulting business leaders, conducted against a backdrop of economic and staffing challenges, digital transformation and Environmental, Social, and Governance issues, such as the acceleration of climate change, the findings underscore the need for architecture and engineering (A&E) firms to adapt to a rapidly changing macroeconomic environment.

The report unearths the uncertainties A&E organisations face regarding profitability and macroeconomic pressures, as well as the challenges they face when it comes to prioritising effective technology investments, measuring success and enacting change strategies through the company. The majority of A&E firms divulged plans to adapt and apply strategic foresight, and the ambition to accelerate digital transformation is evident.

However, the report also uncovered a number of barriers facing A&E firms, including poor project management measurement and a lack of education on emerging technologies.



Over four in ten (42%) A&E organisations say that investing in new technologies is a key priority.



ABOUT THE STUDY

Methodology

The survey was completed between February and March 2023 by senior decision makers such as CEOs, C-suite, and heads of departments such as Finance, Operations, Delivery or Projects.

Deltek surveyed 329 A&E organisations with 25 or more employees about opportunities and challenges, technology trends, monitoring of key performance indicators, corporate strategies and governance and business development.

This report focuses on the responses of the 111 A&E firms identifying themselves as based within the UK or Ireland.

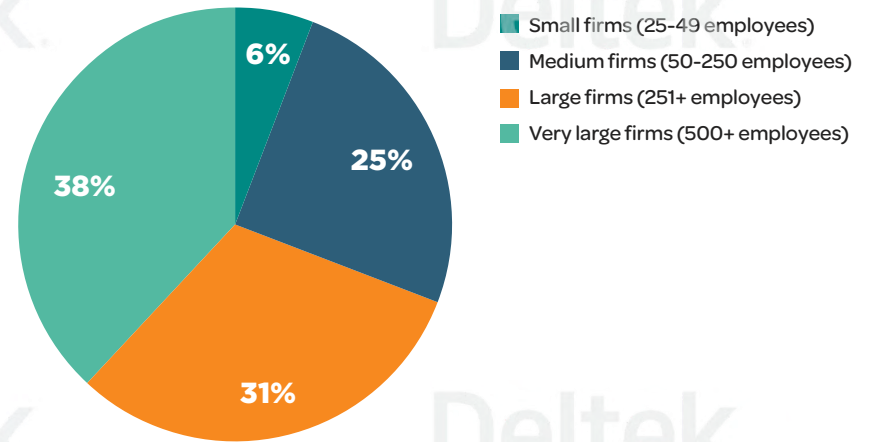
Company Size

'Small' (25-49 employees), 'medium' (50-250 employees) and 'large' (251+ employees) firms took part. Small firms made up 6% of the sample, medium firms 25% and large firms 69%. Included in large firms are 38% termed 'very large' which have more than 500 employees.

Company Type

The term 'architecture and engineering' (A&E) refers to all architecture, engineering and allied firms.

Breakdown of respondents



SECTION ONE

The Changing Face of A&E Projects

Increased complexity of projects, development of the right skills and knowledge and keeping pace with changing client expectations are among the current challenges facing organisations.

Outside risks – including recession, inflation and cybersecurity – pose additional uncertainties.

Despite this, businesses remain optimistic for the future. Many expect to significantly increase profits this year, while others are looking to improve their environmental, social and governance credentials.

KEY FINDINGS

- 1 Over six in ten firms say that they are either concerned or extremely concerned about the impacts of recession (65%) or inflation (61%).
- 2 23% of architecture firms expect significant growth (exceeding 10%), compared to 14% of engineering firms. 74% of architecture organisations expect to increase profits by 5% or more, compared to 52% of engineering firms.
- 3 77% of A&E firms report ESG and Corporate Social Responsibility are more important now than they were in 2022.



INCREASING PROFITABILITY IS A KEY GOAL



A&E firms face numerous concerns, from both within and outside their business. Combating financial concerns, such as recession, inflation and interest rates is a key priority, as is retaining key talent.

Ongoing economic turbulence is presenting challenges for A&E organisations: Over six in ten firms say that they are either concerned or extremely concerned about the impacts of recession (65%) or inflation (61%).

Engineering firms are more concerned about the impacts of recession and inflation than architecture firms, with almost twice as many engineering firms describing themselves as ‘extremely concerned’ about recession than architecture firms (38% vs 20%).

To address these financial concerns many A&E organisations are seeking to boost profitability: The majority of firms are planning to reduce expenses and increase control of costs as a key step to increase profitability. Meanwhile, one in five firms said that automating month end processes would also boost profitability.

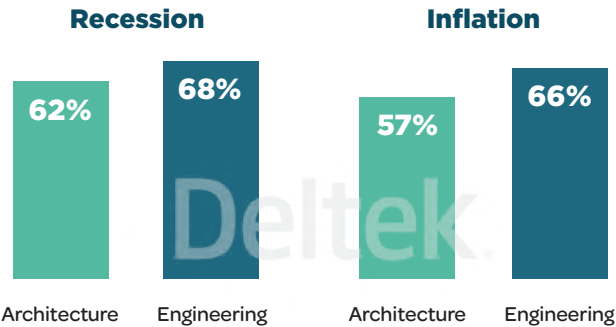
Many businesses are also planning to grow the size of their teams: Compared to 2022, 66% A&E companies will increase the size of their workforce.

Over one in ten (14%) want to significantly increase the size of their workforce, growing the team by more than 10%.

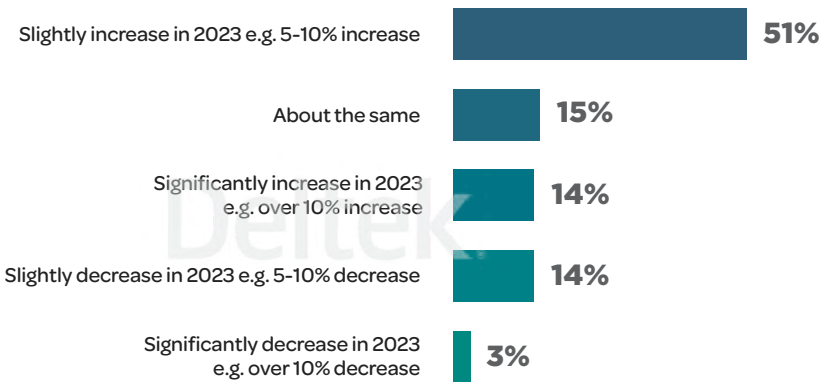
In the short term, A&E organisations face a number of immediate challenges:

- Being unable to recruit/retain effective employees (67%) and increases in supply chain or materials costs (67%) ranked highest among A&E firms, followed by ongoing cyber-security risks/breaches (66%).
- Research conducted by the Royal Institute of British Architects (RIBA) found that practitioners’ confidence in future workloads has dipped over the course of 2023 as workloads continue to decrease.
- The invasion of Ukraine has exacerbated energy cost rises, metals commodity prices and construction product prices particularly for energy-intensive products, causing concern among firms.
- With rising inflation and a tighter labour market, Deloitte reports that architecture and construction businesses face talent pressures, with the industry significantly short of skilled workers.

Firms concerned about key issues



How will the size of your workforce change this year?



A&E FIRMS REMAIN OPTIMISTIC IN THE FACE OF CHALLENGES



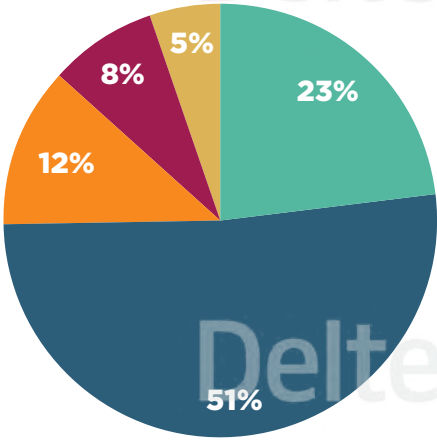
Many organisations have expressed excitement and enthusiasm for the future, but also concern and caution due to economic headwinds. Many are making progress when it comes to improving their ESG credentials.

Despite the turbulent economic environment, profit growth is expected:
23% of architecture firms expect growth exceeding 10%, as do 14% of engineering firms. However, engineering firms are more pessimistic overall, with 20% expecting a decrease in profits versus 13% of architecture firms.

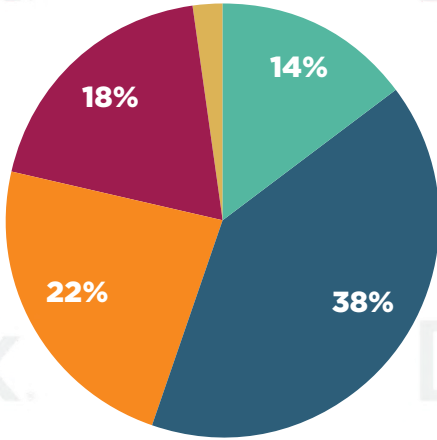
At the same time, businesses are trying to create better and more equitable workforces:
However, while 77% of A&E companies report ESG and CSR are more important now than they were in 2022, almost one in five (19%) do not have any tools or activities in place.

Meeting the Government’s Net Zero ambitions is an increasing priority:
According to research conducted by the New Civil Engineer, many firms are making strong progress. Strong performers include SNC Lavalin UK & Europe, with a 67.7% reduction in all scope emissions* in 2021 vs 2019.

How do you expect profits to grow this year?



Architecture



Engineering

- Significantly increase in 2023
e.g. over 10% increase
- Slightly increase in 2023
e.g. 5-10% increase
- About the same
- Slightly decrease in 2023
e.g. 5-10% decrease
- Significantly decrease in 2023
e.g. over 10% decrease

*What are scope 1, 2 and 3 emissions?

Scope 1 are direct emissions that are owned or controlled by a company. Scope 2 and 3 are indirect emissions as a consequence of the activities of the company, but occur from sources not owned or controlled by it.

SECTION TWO

Embracing Digital Transformation

In light of the above challenges, A&E organisations recognise the transformative potential of technology. As such, many are seeking to increase investment.

KEY FINDINGS

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3

Over four in ten (42%) of A&E companies say that investing in new technologies is key for 2023 and beyond.

61% of architecture firms and 72% of engineering firms expect to be at either the advanced or mature phase of digital transformation in five years time.

78% of A&E organisations plan to invest more in emerging technologies in 2023.



In light of the above challenges, A&E organisations recognise the transformative potential of technology. As such, many are seeking to increase investment.

The survey assesses the extent of digital transformation in the industry currently and asks businesses to make predictions about where they will be in five years.

Firms across UK and Ireland reported they are keen to advance digital maturity with many striving to reach the 'mature' stage of digital transformation in five years time.

To achieve their growth goals, businesses plan to invest heavily in key focus areas:

Over four in 10 (42%) of A&E companies say that investing in new technologies is key for 2023 and beyond, followed by attracting more talent (41%) and better client services/ satisfaction (38%).

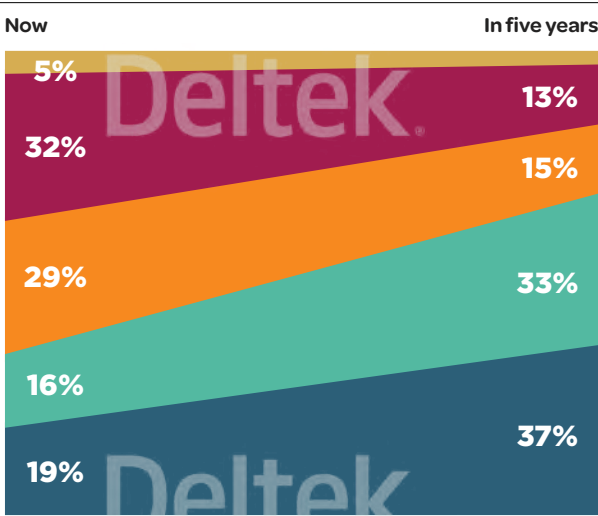
A&E organisations have plans to ramp up digital transformation efforts to meet these challenges, but there is more work to be done:

At present 42% of engineering firms describe themselves at an 'advanced' or 'mature' phase of their digital transformation journey, compared to 33% of architecture firms. In fact, architecture firms are more likely to say that they're in an exploratory phase (38%).

In five years' time, however 61% of architecture firms and 72% of engineering firms expect to be at either the advanced or mature phase of digital transformation. What's more, 95% of firms feel that they are prepared for digital transformation. Those that are not said that they have insufficient resources and budget, inadequate planning and preparation or a lack of buy-in from stakeholders.

Digital transformation maturity

- Nascent** - there's a disconnect between business and digital IT initiatives or a misalignment with company strategy.
- Exploratory** - there's a recognition of the need for digital transformation strategy but execution is at the lighthouse stage, on an ad-hoc project, which is neither predictable nor scalable.
- Applied** - there's alignment between business and IT goals and momentum to adapt, but not dedicated focus on the full disruptive potential of digital initiatives.
- Mature** - Business and IT management are integrated and delivering digitally enabled product / service experiences on a continuous basis.
- Advanced** - Digital transformation is a primary strategic focus at the executive level and a culture of innovation is prevalent along with, increasing revenue, improving customer experience and growing operating margins.

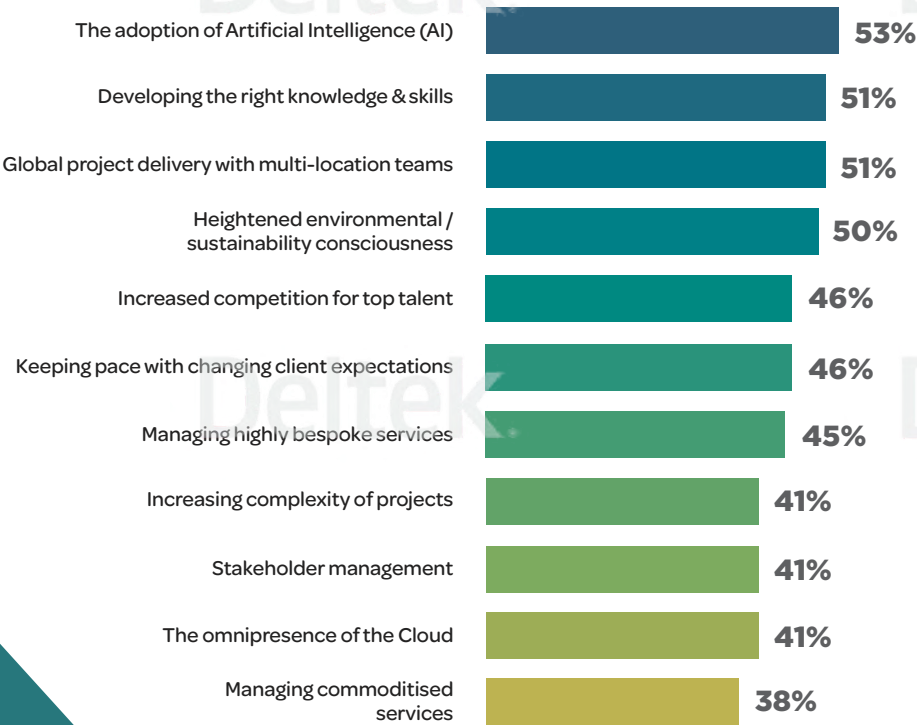


Looking ahead, the opportunity for A&E firms is huge:
According to PwC, the global construction output is estimated to grow from \$10.2 trillion in 2020 to \$15.2 trillion by 2030. The consultancy expects the UK to account for 2% of all global growth.

However, the industry is expecting a number of challenges for project management over the next five years:
These include the adoption of Artificial Intelligence (AI) (53%), developing the right knowledge and skills (51%) and global project delivery with multi-location teams (51%). Keeping pace with changing client expectations (46%) and heightened environmental / sustainability consciousness (46%) also ranked highly.

To build long-term resilience, driving digital capabilities will be crucial for A&E firms to make their supply chains more agile and buoyant. With the right investment strategies, you can make the most of limited resources while still driving your business forward in a way that aligns with your firm's strategy .

What are the biggest project management challenges facing the A&E industry?



To achieve this ambition, we found organisations are:

- Investing in emerging technologies:**
To meet digital transformation goals, 78% of A&E companies plan to invest significantly more in emerging technologies. Just one in 20 expect to invest less.
- Considering Big Data, Data Science, and Robotic Process Automation (RPA)**
as the most important areas to the success of their organisation going forward.
- Acting with urgency:** Many understand that inactivity could be dangerous, with 92% of A&E firms believing that if they fail to make significant progress in their digital transformation, they will lose market share, with just under one in 10 (8%) believing that this will happen immediately.

However, organisations must overcome a number of challenges to meet their ambitions. Many are insecure about investing in the 'right' technologies, with architecture and engineering companies stating different priorities when it comes to where to invest. Architecture firms see cloud, disaster recovery / business continuity planning as key investments, whereas engineering firms are more likely to prioritise cloud, and data analytics (AI, Machine Learning and Business Intelligence).

SECTION THREE

Implementing, Quantifying & Measuring Success

KPIs are critical in helping businesses assess what is going well and what may need to be adjusted to keep the business on track.

Despite eight in ten A&E firms saying that they have a business strategy in place to ensure stable growth over the coming year, the survey uncovered a lack of confidence in how KPIs are tracked and measured, which could threaten progress.

KEY FINDINGS

- 1 Over one in four (26%) A&E firms say they track operating profit 'badly', while 18% say the same for project profitability.
- 2 Six in ten (58%) A&E firms believe that social responsibility should be at least equally important to their company as profits are.



There are currently good intentions to drive digital transformation and profitability. Eight in ten A&E firms say that they have a business strategy in place to ensure stable growth over the coming year, but tracking progress could be problematic.

Just over one in four (26%) A&E firms say they track operating profit 'badly', while 18% say the same for project profitability.

This can cause long-term difficulties.

According to McKinsey, 70 percent of change programs fail to achieve their goals, largely due to employee resistance and lack of management support.

To secure buy-in from management, A&E firms must do more with their KPIs to start making even better-informed decisions.

At present, more than three in ten A&E firms are not tracking effective billing rates, client profitability or overhead rates, among others.

With the right KPIs in hand, organisations can better understand what's going on in their business, how to improve key processes, and what success looks like.

Best-in-class firms see KPIs closely tied to business goals and strategy, with external data sources being used to support benchmarking.

They must have the buy-in for a companywide alignment and be developed and reviewed regularly.

New priorities are rising up the agenda that also must be monitored: Corporate Social Responsibility (CSR), Employee Wellbeing; Diversity, Equity and Inclusion (DE&I), and Environmental, Social and Governance (ESG) are all becoming greater priorities for A&E organisations.

Many A&E firms are embracing diversity, equity and inclusion (DE&I) programs. They are no longer siloed into a policy or program from Human Resources.

The programs are becoming core values which are being incorporated into organisations today that are looking to expand opportunities not only for employment, but also for leadership and ownership potential.



CONCLUSION

The current economy is presenting A&E organisations with a number of new challenges.

On a global scale, recession, inflation and rising costs are significant obstacles, as are ongoing talent shortages and shifting priorities within companies, such as ESG and DE&I programmes.



Companies recognise that investment in digital transformation is an essential step to growth. They also acknowledge that finding a better way to manage project complexity is key to realise their ambitions to see profit growth.

Our report highlighted examples of the good practice and policies some businesses have in place, although many need to continue to shift priorities and ramp up investment if they are to remain competitive over the coming years.

ABOUT DELTEK

More than 30,000 organisations and millions of users in over 80 countries worldwide rely on Deltek for superior project and financial management, business intelligence, resource management and collaboration.

Deltek's industry-focused expertise enhances project success by assisting professional services firms in achieving optimal performance, productivity, revenue and client satisfaction.

Deltek works with:

- Ninety-nine percent of the top 100 architecture and engineering firms.
- And is trusted by 12,000+ architecture and engineering firms globally.

Power Your Project Success with Deltek

Deltek offers industry-specific solutions designed for project-based businesses, which enhance efficiency, productivity, and profitability for clients.

Deltek has been consistently recognised as a Project-Based ERP Software Leader by G2, a reputable buyer discovery platform.

In 2023, Deltek was also named an ERP Expert in the Nucleus ERP Technology Value Matrix.

Deltek's software solutions provide insight, clarity, and control to help drive architecture and engineering firms and deliver successful project outcomes.

