Marsh

Marsh Specialty

Contractor risk review 2022

Top 10 risks analysed

April 2023

“Inflation was one of the biggest challenges during 2021 and 2022”

Contents

Introduction

Welcome to Marsh Specialty's *Contractor Risk Review 2022* (CRR), analysing the risks most commonly identified by the UK's largest contractors.

The situation has shifted significantly since publication of the *Contractor Risk Review 2021,* when the immediate impacts of the COVID-19 pandemic and acute Brexit uncertainty were dominant themes.

In 2021 and 2022, new challenges emerged: record rates of inflation, stretched supply chains, shortages of skilled workers, and other pressures resulting from the Russia-Ukraine conflict. In addition, contractors faced mounting risk from environmental, social, and governance (ESG) considerations and cyber exposure, alongside usual risks associated with project delivery, health and safety, credit, and regulation.

In this report, we examine these risks and assess how they have impacted the construction industry throughout 2021 and into 2022. For 2021, we look at how commonly the risks were cited in contractor annual reports and compare the figure with that of the previous year to provide a view on how risk perception is changing. We also discuss the strategies contractors employed to mitigate those risks.

Inflation

Inflation was one of the biggest challenges during 2021 and 2022. As lockdowns around the world were lifted, there was increased demand for products — particularly consumer goods and materials. The Russia-Ukraine conflict led to higher energy and commodity prices, pushing up inflation in the UK and beyond.

By April 2022, the construction material price index had risen by 25.2%, year on year, according to the UK's Department for Business, Energy, and Industrial Strategy. In September 2022, with inflation at a 40-year high, construction businesses reported that their customers were putting new work on hold, forcing them to stop buying materials and hiring staff.

Contractor insolvency

The chance of contractor insolvency increased in 2021 and 2022, as a result of rising inflation. Already thin margins, exacerbated by the lowest-price focus on tenders, began to look even slighter during the period. Construction was one of three industries to experience the highest number of insolvencies in the 12 months ending Q2 2022, according to The Insolvency Service. Construction company insolvencies accounted for one in five of all insolvencies in England and Wales (19%) during the period, which amounted to 3,665 failures, the vast majority of which were liquidations and closedowns. The number of insolvencies doubled in the timeframe, compared with the previous 12 months, when the sector was experiencing a slowdown in its order book. In October of 2022, some 17,000 construction-related businesses were reported to be at "significant risk" of insolvency.

Worker shortages

Access to EU workers tightened when freedom of movement ended in January 2021. According to the Construction Skills Network, more than 225,000 workers will be required by 2027. In addition, construction has an ageing workforce, with a large proportion of workers aged between 50 and 65. More employees reaching retirement age can create several issues for construction businesses, including the risk of losing skilled workers as they retire. While labour shortages have a lower profile than inflation and materials shortages, some firms have said it is a more pressing problem.

Environment, social, and governance (ESG)

The construction sector is responsible for 40% of global energy consumption and 33% of greenhouse gas emissions, according to the World Economic Forum. In 2021, the UK Government set the world's most ambitious climate change target to reduce emissions by 78% by 2035, compared to 1990 levels. It also allotted a minimum of 10% weightage to ESG objectives in each UK Government procurement tender. Understandably, contractors are increasingly finding themselves under pressure from the government, investors, employees, and the wider community alike, to set and achieve ESG goals.

In a Marsh survey of 30 UK insurers, more than a third of respondents confirmed they are already considering ESG factors in their models. With the push towards higher standards, proactive contractors will find it easier to bring themselves into compliance with future government regulation. A more universal or standardised set of ESG measures and reporting is widely expected to be implemented across the construction industry in the future. However, companies would still need to be flexible if new local, regional, and global policies were put in place.

Modern methods of construction (MMC)

In 2022, the UK Government issued an updated version of its Construction Playbook. First issued in 2020, the playbook is a guide to sourcing and contracting public works projects and programmes. It aims to support the government's ambition to transform infrastructure networks over the next decade, promoting collaboration, innovation, and sustainability.

The update requires government departments and arm's length bodies to set targets for the use of MMC. However, projects incorporating these features are more challenging to cover, especially in a constricted market. This is exacerbated by the UK acting more slowly than other nations to adopt MMC, meaning UK construction insurers have a more limited experience of the methods and limited claims data. This has resulted in a cautious, conservative approach to underwriting projects utilising modern methods. Yet, the increasing prevalence of such techniques in the construction industry means there is an expectation for insurers to offer greater collaboration and better understanding, and generate comfort with insuring such risks in the absence of years of data.

Fortunately, moves are being made to make MMC more insurable. Last year, Marsh collaborated with Cambridge University's Centre for Sustainable Development, to develop an alternative risk assessment framework to support insurers' ability to identify and evaluate the risk attributes specific to MMC.

The framework is based on the following principles:

Repeatable

A standardised process is agreed across the industry, based on shared best practices coming out of the individualised, judgment-based decisions currently taking place.

Auditable

Documenting the repeatable process creates an audit trail and enables organisations to validate their risk decisions.

Transparent

Promoting clear communication between insurers and contractors to understand expectations under a common risk assessment approach.

Evolutionary

As data emerges, or an assessment fails, the auditable trail allows decisions to be critiqued, shortfalls recognised, and the process to develop and evolve.

Companies are also combining the use of MMC with traditional building methods. Qonstruct, a company operating in the MMC space, has adopted a hybrid model, utilising both modular and standardised methods of construction. By employing off-site construction for the shell and core of a building, including columns, floors, beams, and, crucially, facades, the building is weatherproof much earlier, allowing mechanical and electrical (M&E) and fit-out work to start more quickly than in a standard build. Comfort is provided to insurers by the traditional approach to the fit-out works, reduction in exposure times, and the limited value of off-site manufactured goods.

Health and safety

Around 40,000 people in the UK construction industry develop a musculoskeletal disorder (MSD) each year. In 2022, the Health and Safety Executive (HSE) launched a campaign to combat serious aches, pains, and strains, announcing 1,000 inspections to be carried out in October and November, assessing how workers moved heavy or bulky materials.

According to the HSE, construction has the largest burden of occupational cancer among the industrial sectors, accounting for over 40% of occupational cancer deaths and registrations, with past exposure annually causing more than 5,000 occupational cancer cases and about 3,700 deaths. The most significant causes are asbestos (70%) followed by silica (17%), working as a painter, and diesel engine exhaust (6-7% each).

Hazardous substances such as dust, chemicals, and potentially harmful mixtures (for instance, in paints) are common in construction work, potentially resulting in breathing problems and lung diseases. Dermatitis from skin exposure to hazardous substances is also prevalent within the industry.

Mental health is a significant concern within the sector. Every working day, two construction workers take their own lives, while one in four reported having suicidal thoughts. The stresses of a job that involves inclement working conditions, payment by piecework, and long distance travel that keeps workers away from family and friends, can take its toll.

Workplace bullying is another factor and incidents often go unreported. Although awareness is increasing, more than 50% of UK construction employees work for companies with no mental health strategies in place. Compliance with the Health and Safety Act means firms must take steps to reduce the chance of psychological harm affecting employees by safeguarding workers' mental health. Legal action could result from not doing enough, plus firms might find themselves in breach of their liability insurance terms and conditions, if they are not offering support to struggling workers. Contractors are taking measures to improve worker wellbeing. These include reducing the use of "gig-economy" contracts throughout the supply chain and providing more certainty in terms of work hours. Companies are also partnering with mental health charities and services to encourage workers to open up about their mental health and to provide support for those who are struggling.

Cyber crime

Construction was identified in 2022 as the number one industry in the UK targeted by ransomware and malware. Activities such as intellectual property theft, espionage, and extortion cost UK businesses an estimated £21 billion a year. The threat is now so acute that in March 2022, GCHQ's National Cyber Security Centre issued a digital guide for the UK construction industry. It is the first industry-specific guide to be issued by the intelligence and security body.

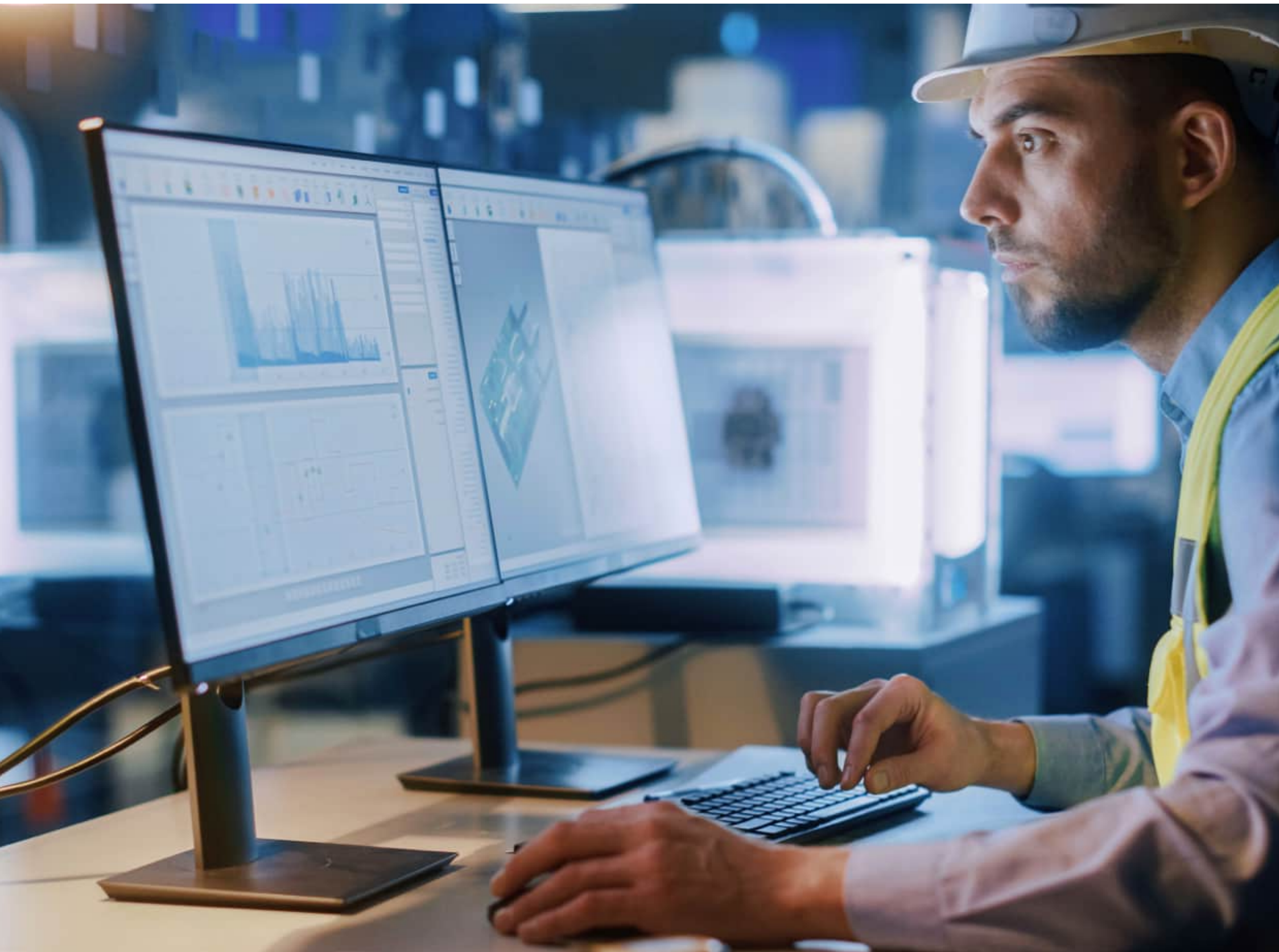
Common cyber threats faced by the industry include spear phishing (email or electronic communications scams targeted at a specific individual, organisation, or business), ransomware, and supply chain attacks. The increase in popularity of smart buildings has triggered a rise in siegeware, which targets the buildings' control systems.

METHODOLOGY

This report explores how the UK's top main contractors quantify and manage their business risks. We focus on the UK's largest contractors, by revenue, which are involved in civil engineering and/or construction works, and have publicly available information.

For this document, our experts analysed companies' 2021 annual reports to measure the frequency with which they cited different risks. We compared that figure with citations of the same hazards in 2020 to provide an outlook on how the overall view on risk is changing. We scrutinised the weight given to each hazard by company risk specialists, then pinpointed the measures companies took to reduce their exposure.

The following risks are ordered according to how commonly they were cited by contractors in 2021.



CONTRACTORS' TOP RISKS BY FREQUENCY

This chart is based on analysis of the frequency that risks appear in the risk management sections of company reports and accounts. It is in no way intended to be an analysis of the severity or importance of individual risks to any company in the data research group.

	RISKS	% CHANGE	% 2020/21
1	Political, economic, and market exposure	-7%	100%
2	Project delivery and contract disputes	-2%	95%
3	Financial practice	-10%	90%
4	Counterparty and supply chain engagement	-10%	63%
5	Health and safety risk	+33%	60%
6	Climate change, environment, and sustainability	+5%	48%
7	Bidding and contract selection	-10%	43%
8	Attracting and retaining employees	+39%	41%
9	Legal and regulatory risk	-15%	38%
10	Data governance and cyber security	+31%	22%

-40% -20% 0% +20% +40%

Top 10 risks

Political, economic, and market exposure

Political and economic changes, including the ongoing effects of Brexit, COVID-19, and the Russia-Ukraine conflict, as well as rising inflation and energy costs, could impact opportunities in the UK and abroad. These changes might also result in remaining opportunities becoming less profitable.

Risk definition

Fallout from Brexit, in terms of price and the availability of labour, products, and services still pose risks for contractors.

Although construction sites stayed open during the early months of the COVID-19 pandemic, the recovery led to materials shortages and price rises, which continued throughout 2021 and 2022.

The Russia-Ukraine conflict is also a principal risk in this category. The conflict has exacerbated materials shortages and led to further price rises, especially of bricks, timber, and steel, and also fuel price inflation.

The Building Safety Bill published in July 2021, and given royal assent in April 2022, could lead to regulatory developments such as changes to building and fire regulations and government intervention on specific issues related to planning or building safety. These changes may lead customers to re-evaluate existing or future expenditure on construction projects and services. Contractors also cite a decrease in productivity due to increased regulation as a potential risk.

Risk mitigation

Many of the contractors surveyed are operating with balanced portfolios of projects to provide resilience and stability, ensuring they are less exposed to downturns in a single geography or sector. Strategic focus is on sectors in which a competitive advantage can be maintained and that have the most potential for profitable growth.

Brexit mitigations are in operation. Detailed procurement plans are in place and there is a focus on Brexit-related issues such as disruption to supply chains and the UK labour market. COVID-19 taskforces are still in operation, and the Russia-Ukraine conflict is being closely monitored with a focus on escalating energy prices and the potential further impact of the crisis on supply chain costs, and sources of funding for private sector clients.

There is an increased focus on securing contractual protection against price inflation, securing prices from suppliers before bidding, and ensuring sufficient contingency.

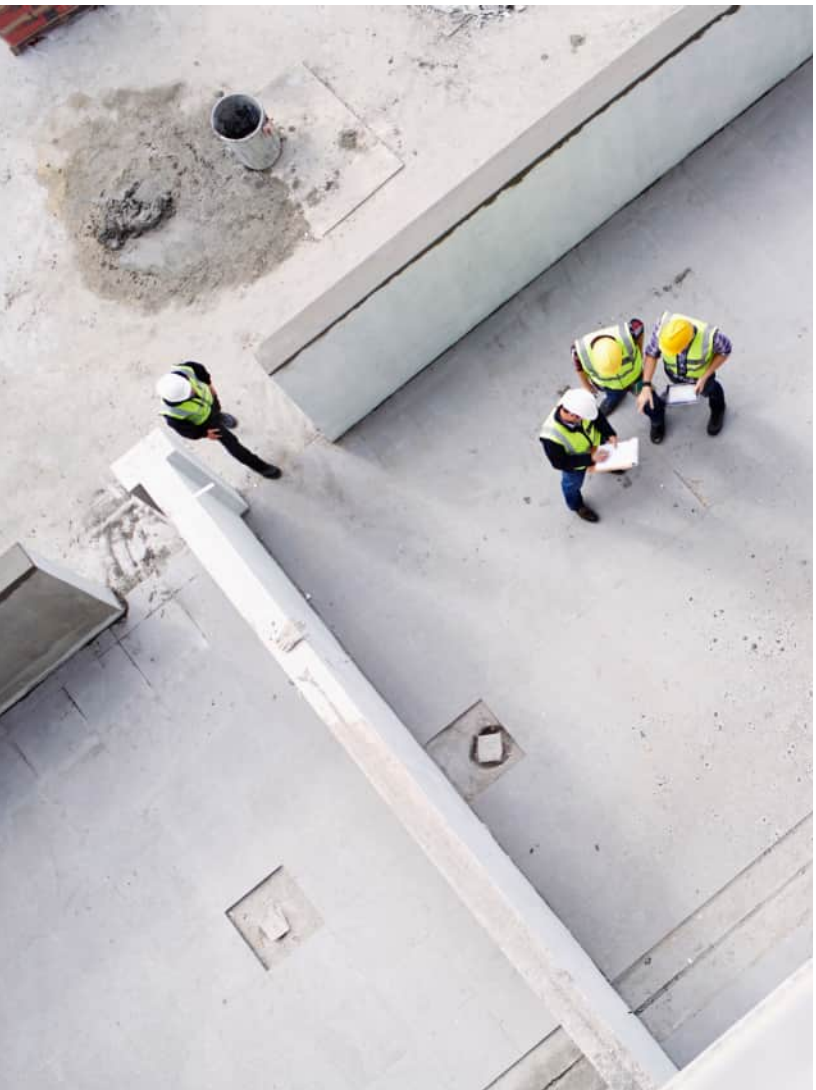
Early procurement is utilised, including bulk ordering across numerous projects and the storage of materials on-site.

Working groups have been set up to assess the changes in regulation as a result of the Building Safety Bill, in particular with regard to fire safety. Companies are preparing guidance and process to ensure compliance with the regulations when they come into force.

“Brexit fallout still poses risks for contractors”

Project delivery and contract disputes

If contractors are unable to adhere to timelines, budgets, and quality agreed upon in contracts, they could be exposed to financial loss, lawsuits, regulatory investigations, and reputational loss. Failure to have favourable contracting terms with third parties could adversely impact financial results. Over commitments may also result in subcontractor or vendor failure.



Defining the risk

Project delivery risk includes failure to manage or deliver a project in accordance with the contract terms, to an appropriate standard, and within previously established timescales.

Cost overruns, expenses related to correcting sub-standard work, contract disputes, rejected claims, design problems, and liquidated damages, can arise as a result of failure to deliver in any of these areas. Risks can relate to poor project execution — including systematic underestimation of the time schedule, costs, and scope of a project — and selection of the wrong type of projects or teams without the right expertise.

Project delivery and contract disputes can result in financial loss, regulatory and contractual breaches, and result loss of reputation with clients and investors.

From 2020 to 2021, the average value of disputes declined by 3% across the globe but remained at historically high levels compared to 2019 and earlier.

In 2021, 90% of survey respondents said they had encountered disputes or claims related to COVID-19, up from 75% of respondents in 2020. The most common type of COVID-19 claim or dispute was delay and disruption. COVID-19 outbreaks are no longer regarded as a significant risk to programmes, but there remains the risk of isolated examples of disruption.

Risk mitigation

Early engagement of integrated work-winning and project delivery teams is helping contractors to ensure customer expectations are understood and realistic. There is also pre-qualification and competency/capacity verification of supply chain partners.

Many of the contractors surveyed generally retain a controlled approach to contract bidding and selection within clearly defined delegated authority levels and sector areas. This ensures that work undertaken matches the capability and resources available, that contractual terms are acceptable, and clear responsibility for scrutiny and approval is given to the appropriate level of management.

Contractors are also putting training and development plans in place to ensure they are fit to start on projects.

There is close monitoring of subcontractor and supplier performance throughout the project lifecycle.

Contractors carry out detailed reviews within each business unit — as well as centrally — to monitor forecast revenues, costs to complete the project, and cash flows. Appropriate risk registers are maintained. Enhanced management and supervision are used on projects that are deemed to be higher risk.

Some contractors use tools developed to enhance project productivity metrics.

There has also been an introduction of technical and business support forums that drive process improvements across health and safety, digitalisation, carbon reduction, procurement, design management, mechanical and electrical, and commercial activities.

Additionally, a number of the contractors reviewed are driving the integration of modern technologies and construction methods, and embracing a range of new technologies, including building information modelling (BIM) Level 2 and above, helping them to build more quickly and reliably.

Financial practice

Contractors lacking financial robustness may be unable to demonstrate the financial resources needed to compete for long-term contracts. They risk not being able to prepare financial statements on a “going concern” basis, whereby the company is viewed as able to continue in business for the foreseeable future, which can impact the ability to win work. They also face risks associated with interest rate fluctuations, foreign currency exchange rates, and commodity price changes.

Defining the risk

Financial risks could be in-house, caused by poor risk management, or result from external factors including third party behaviour, market changes, and a pandemic.

Internal risks include the inability to estimate or control costs or recover costs. A revenue risk exists when a company relies on too few clients. Poor management of working capital could lead to insufficient liquidity, along with funding problems, and credit ratings might also drop.

Externally, clients, subcontractors, and suppliers could fail to discharge their financial obligations. Failure of counter parties could also affect cash flow.

Variable rate loans may form a cash flow interest rate risk, while currency market fluctuations could affect profit and asset values.

Commodity and materials price risks exist where contracts require the provision of materials years before the date of supply.

Risk mitigation

Many of the contractors surveyed aim to operate with a low level of financial risk and to have robust net cash positions. Limits on capital at risk and capital employed in development streams ensure that financial positions remain strong.

Healthy balance sheets are maintained — with quarterly profit and cash forecasts produced for the current and following fiscal years — and include the monitoring of covenant compliance and cash headroom and liquidity. Approved forecasts are reported at board level.

Centralised treasury functions are in place, with responsibility for managing key financial risks, cash resources, and the availability of liquidity and credit capacity. Significant undrawn term committed bank facilities are maintained with banking groups of high credit quality to underpin liquidity requirements. Bank and surety bonding facilities deliver trade finance requirements on an ongoing basis.

Standardised reporting, forecasting, and budgeting financial processes are used, allowing monitoring of the impact of business decisions on financial performance. Assets from investments portfolios are available for sale to generate cash.

Collaborative engagement takes place with customers, suppliers, HM Revenue and Customs, pension scheme trustees, banks, lenders and sureties, and there are procedures in place to monitor customers’ creditworthiness.

Contractors commonly seek a balanced portfolio of work within public and private sectors, across geographies and industry sectors. The nature of some projects can result in high trading levels with single customers in a specific financial year, however, when reviewed on a longer-term basis, a more balanced level of work is seen across customer portfolios.

> **“Financial risks could be in-house, caused by poor risk management, or result from external factors”**

Counterparty and supply chain engagement

Contractors face many consequences if they fail to manage relationships with clients, suppliers, and other counterparties. These can include disputes, expensive legal proceedings, fines, and even debarment. Meanwhile, third-party failures (or insolvency) could result in delays and quality reductions, leading to additional costs and reputational damage.

Defining the risk

Counterparty and supply chain engagement risk has many aspects. Chain partners might fail to meet operational expectations and requirements in relation to capacity, competency, quality, financial stability, safety, and ESG requirements. This could impact a company's ability to deliver projects on time, budget, and to the right quality.

Subcontractors and suppliers could also contravene legislation through a lack of understanding of the risks and competence in their own procurement practices. This may put companies at risk of non-compliance with legislation and local codes of practice.

The inability to deliver due to skills shortages in the supply chain could lead to a lack of capacity, knowledge, or skills to deliver projects on time and to standards. As workers become scarce due to retirement, recruitment issues, and the exodus of EU workers, post-Brexit, there is the threat of increased labour costs and an increased risk of illegal labour on sites. The presence of undocumented workers on sites could result in fines and loss of reputation.

Risk mitigation

Many of the contractors examined develop long-term relationships with key counterparties, working closely with them to understand their operations and dependencies. This includes relationship mapping, reporting on lessons learned from previous projects together, and delivering briefings on order book requirements.

Risk management frameworks allow for assessment of the appropriateness of counterparty dependencies and development of procurement strategies. Procurement directors work with businesses to deliver supply chain management strategies.

Supplier codes of conduct are contractually included in all agreements with suppliers and contractors. Many contractors conduct risk-based diligence vetting, monitoring, and auditing of contractual counterparties, including daily sanction screening of suppliers with indexes such as the Dow Jones global database.

They also monitor the financial stability of subcontractors daily by setting up automated email alerts that trigger as a result of fluctuations in report scores, late filings, and legal proceedings.

Suppliers and subcontractors are reviewed for third-party suitability compliance via PAS 91 assessment, a standardised pre-qualification questionnaire developed by the British Standards Institute.

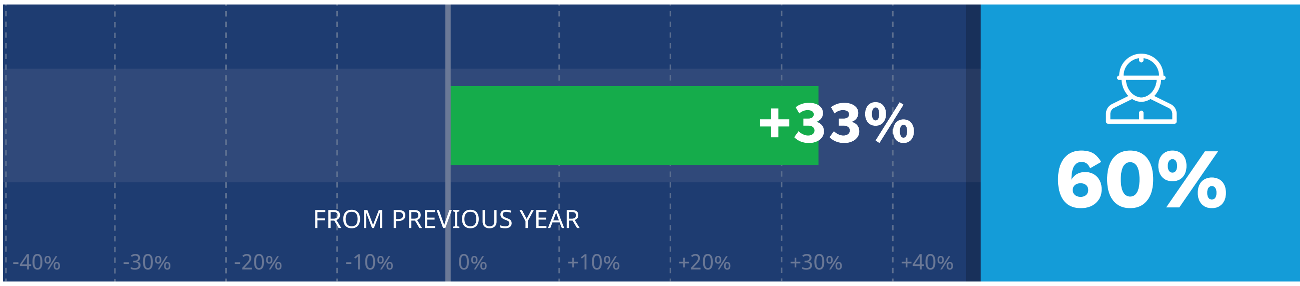
This aims to reduce the need for suppliers to complete a variety of different pre-qualification questionnaires for different, and in some cases, the same clients.

Strategic procurement and early commitment of key subcontractors is obtained. Pre-qualification accreditation is put in place for core suppliers, with oversight of supplier metrics and overall "health".

In addition, appropriate retentions are held. Contractors frequently require parent company guarantees, third-party bonds, and other appropriate security from subcontractors or suppliers. Contingency plans address potential subcontractor failure, including replacement supplier lists.

The contractors studied tend to be signed up to the Gangmasters and Labour Abuse Authority (GLAA) construction sector protocol. Robust checks are carried out on site personnel and potential supply chain partners to ensure there is a right to work. Training is provided to recognise the signs of modern slavery.

Health and safety risk



Health and safety risk relates to the physical dangers inherent in onsite construction work and the likelihood of contracting industrial diseases. Other contributing factors include the increasing cost of health and safety executive investigations and the threat of prison for directors, if a company is found to have been negligent.

Defining the risk

Contractors operate in complex and hazardous environments that need continuous monitoring. Workers in these surroundings are at risk of serious injury resulting from slips, trips, and falls, as well as issues related to lifting and manually handling materials and equipment. Failure to manage inherent health and safety hazards — including pandemic risk — has the potential to cause significant harm to employees, subcontractors, and the public. Exposure to hazards can result in illness, injuries, life-changing injuries, long-term health conditions, and loss of life.

Contractors can suffer reputational damage, loss of business, financial penalties, and law suits — along with the higher insurance premiums and costs associated with legal action — as a result of non-compliance with health and safety regulations.

“Programmes have been put in place to support the wellbeing of employees”

Risk mitigation

The contractors evaluated have put in place strategies and training programmes to manage health and safety risks. In-house actions focus on embedding codes of behaviour, health and wellbeing strategies, and engineering and operational safety.

Action plans are reviewed regularly and monitored by management and external accreditation bodies.

Board members and health and safety executive leadership teams meet frequently to capture lessons learned and develop consistent approaches to health and safety best practice. Lessons learned are taken up at a project, business unit, and group level.

The contractors reviewed also conduct working at height risk assessments, height protection plan reviews, manager briefings, and “toolbox talks” — short presentations to the workforce on a single aspect of health and safety.

They have made it mandatory for business units to be certified to ISO 45001 Occupational Health and Safety standards. Accident incident rates (AIR) are monitored closely in business units. Board members also review group AIR data in order to be able to consider trends and discuss specific issues or concerns.

The contractors surveyed continue to focus on mental health and wellbeing of workforces. Programmes have been put in place to support the mental health of employees and those with whom companies work. Wellbeing indices are measured in regular employee surveys. And some contractors are monitored and controlled through operational risk management and planned response programmes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Climate change, environment, and sustainability

Failure of contractors to manage the environmental impact of their activities could result in pollution and biodiversity loss and ultimately strong penalties, loss of operating licences, and reputational damage. Project schedules might be delayed due to the time and cost incurred in investigation and remediation of environmental damage. In addition, the carbon footprint of the built environment means that the carbon embedded in buildings as well as the operational carbon footprint, are under increasing scrutiny.

Defining the risk

Construction is one of the UK's most resource-intensive industries. According to the Designing Buildings forum, the built environment accounts for:

45%

of total UK carbon emissions (**27%** from domestic buildings and **18%** from non-domestic).

32%

of landfill waste (which comes from the construction and demolition of buildings).

13%

of products delivered to construction sites, which are sent directly to landfill without being used.

In recent years, the costs associated with environmental incidents in construction have increased due to tougher legislation, such as the Environment Act 2021, which includes the "polluter-pays" principle.

The new Office for Environmental Protection created in November 2021 and other environmental regulators subject to its oversight will come under increasing pressure to make use of their wide-ranging enforcement powers for those who breach their obligations. For example, non-compliance with waste legislation could result in fines of up to £50,000, and even jail time.

As the world is decarbonising, there will be increasing pressure to move away from conventional carbon-intensive building materials to lower-carbon materials that may have different risk profiles. Fines and loss of reputation could also result if companies are found not to be following climate or environmental regulations. The introduction of carbon taxes could also increase costs.

Also, extreme weather could lead to a loss of productivity and increased costs due to programme extensions.

Meanwhile, major environmental incidents in operations or in the supply chain, pollution, and other negative environmental impacts could cause harm to people and ecosystems, and result in fines, penalties, and lawsuits.

Contractors are increasingly having to consider environmental, social, and governance (ESG) factors, with more universal or standardised reporting widely expected to be implemented across the construction industry in the future.

Risk mitigation

The contractors reviewed are developing and maintaining environmental management systems in line with and exceeding the best practice recommendations of ISO 14001 and applicable environmental legislation and regulations.

Operational measures include incident reporting and investigation procedures, with trend analysis informing updates and changes to management systems. Many contractors submit to audit by third-party certification bodies and clients where requested.

Sustainability frameworks, which include net-zero and avoidable waste targets, are in operation.

Climate change is incorporated into business continuity planning, and project environmental ensure contingencies are in place, in case of extreme weather.

There is the development of core climate-change competencies for all disciplines, and employee training in proper environmental practices is conducted.

Sustainability leadership forums are organised, and climate risk and opportunities registers are maintained, to align with Taskforce on Climate-related Financial Disclosures reporting, and managing the financial risk of climate change.

Modern methods of construction and product innovations are being utilised to deliver low-carbon solutions for climate resilience, and there is a

focus on research and design to help find the best materials and approaches, and partnerships for sustainability innovation are sought.

Many contractors are working with supply chains to deliver objectives against waste, packaging, carbon, and innovation. Some favour products that demonstrate compliance with recognised responsible sourcing schemes, and there is collaboration with competitors to drive out unsustainable products and raise standards.

Bidding and contract selection

Contractors regularly deliver high-profile, complex projects that carry specialised deliverables, together with intricate, multifaceted, and sometimes onerous commercial terms. A profitable and sustainable order book is under threat when a company fails to identify, price, and execute the correct volume of bids and investment opportunities. Failure to identify and secure new work could affect a firm’s ability to diversify, leading to missed profit targets.

Defining the risk

Inflation is making it more challenging to agree contract values and there is the increased risk that opportunities may diminish if they become unaffordable for the client. Increased costs also make some schemes economically unviable, leading to delays or cancellation of projects. The long-term transition to low-carbon buildings and infrastructure is creating market opportunity, with net-zero new builds and energy-efficient refurbishments and retrofits. Contractors’ growth and profitability are dependent on their ability to secure new work in a competitive marketplace. Quality is becoming increasingly important to clients, and so they are looking for solutions that support their carbon reduction and social value objectives.

An ineffective work-winning process impacts a contractor's ability to win profitable work, and to work with their preferred joint venture (JV) partners. The inability to implement robust controls around the selection of JV partners, define a clear governance structure to monitor delivery, or to establish a collaborative culture may result in failure to deliver expected returns and minimise the risk of unexpected liabilities.

Establishing the right contractual terms and delivering customer obligations inside these terms alongside the supply chain, while protecting the interests of all parties and delivering stakeholder value can pose a risk, if not managed correctly.

Contractors suffer significant losses, including loss of repeat business, and loss of reputation with partners and stakeholders, as a result of failing to follow contract administrations.

Risk mitigation

Contractors aim to secure forward order books that provide certainty of current year, plus following year revenue, while reflecting margin, cash, and risk attributes.

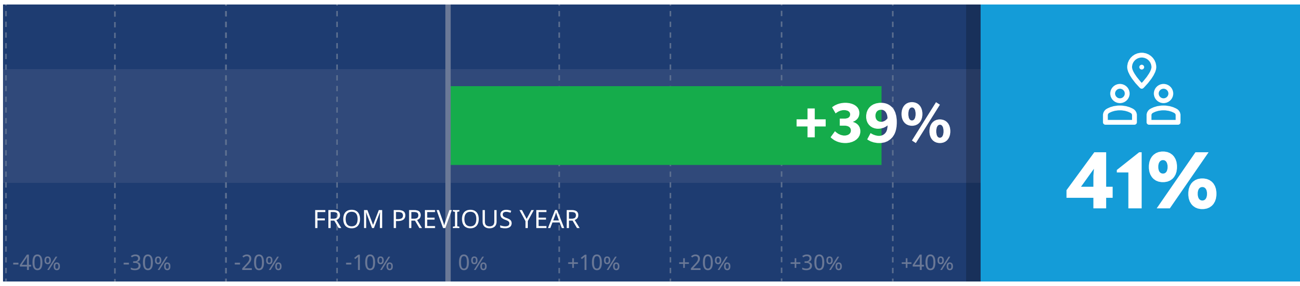
Tender and investment committees review and challenge proposals in line with commercial expectations, and delegated authority levels are in place for approving tenders and infrastructure investments. Projects are only bid for where client relationships and commercial terms support a collaborative approach to managing risk.

Tender peer reviews take place and there is in-built escalation to identify unacceptable levels of unagreed change. Client relationship management systems are used to identify, manage, and review key stakeholders. Customer aims and project objectives are agreed early through inception workshops, and adoption of the UK Government's Construction Playbook promotes collaboration, reducing risk, and increasing focus on the quality of a bid rather than just its cost. Two-stage tenders also support an early collaborative approach with customers.

Systems are in place to provide governance over the selection of JV partners, and highlight partner-related risks, including those related to capacity, capability, liquidity, and previous experience with the companies concerned. Good practice, including the use of joint reporting systems, is shared between partners to embed expectations and culture throughout JV delivery teams, and the performance of JV partners is monitored throughout project lifecycles.

Monthly business reviews pick up early indicators with potential for disputes arising on contracts, including across the subcontractor base. Customer feedback interviews are also undertaken, and performance indicators are monitored.

Attracting and retaining employees



Construction companies continue to report high numbers of construction vacancies. There is a smaller pool of candidates to draw from, both post-Brexit and as more experienced staff retire and are not replaced in sufficient numbers. An increasingly competitive market following low staff turnover during the height of the COVID-19 pandemic has resulted in a higher turnover ever since. Technological innovations also require firms to attract a workforce with a different set of skills.

Defining the risk

The ability to meet strategic objectives and deliver projects is dependent on a contractor's ability to attract, develop, and retain talent to grow the skills and capabilities of its employees and maintain a high-performing, ethical, and inclusive culture. Competition for skilled and talented employees is significant.

The growth of businesses through increased revenue could exceed talent availability to service projects. This could put quality of service and product at risk, impacting customer experience. Poor engagement with staff can also lead to lower productivity and work quality, as well as damaged reputations, and high staff turnover.

The mismatch between skilled worker supply and demand is driving salaries up and increasing the risk of employees leaving for higher reward packages. Competitors may poach key employees who are difficult to replace. Staff shortages could also lead to a lack of capacity in the supply chain.

A lack of externally available, suitably effective training courses to meet the skills and development needs of employees and the supply chain could result in a knowledge gap, and impact the quality of service and product.

> **"Technological innovations require firms to attract a workforce with a different set of skills"**

Risk mitigation

To optimise human resources, the contractors reviewed are aligning their recruitment strategies to medium-term business plans. Prior to bidding for work, they review staff and resourcing needs to ensure adequate capability and capacity to deliver.

Recruitment and retention rates are measured and regularly reviewed, with succession plans identified for core disciplines to enable continuity and identification of future leaders. Working groups identify ways to resolve challenges in resource requirements.

Competency frameworks are used to identify and support the development of knowledge, skills, and expertise. In house academies are being established to support professional and personal development. In order to "grow their own", companies have graduate, apprenticeship, trainee, conversion programmes, and industrial placement/internship schemes in place, and accredited training and development is offered to staff at all stages of their careers. School workshops and work experience programmes are utilised to promote the construction sector as a career choice.

Annual people and talent reviews take place, with regular reviews of remuneration and incentives. Wage and benefits policies are monitored via remuneration committees including annual benchmarking reviews, and both market and equal pay reviews. Employee share schemes are in operation.

Affinity networks and roadmaps are being established to create diverse and inclusive working environments, and contractors are implementing wellbeing strategies to support staff. Employee engagement surveys are undertaken, and appropriate actions are developed and communicated. Upgraded IT systems enable staff to work in a more agile and efficient way, and there are opportunities to work flexibly.

Legal and regulatory risk

The failure of contractors to comply with relevant laws and regulations could result in legal proceedings, investigations, disputes, losses, fines and penalties, and damage to reputation. Any of these events could impact the valuation of a business, affect its ability to influence the market, and reduce shareholder confidence.

Defining the risk

Contractors are required to ensure compliance with evolving legal, regulatory, and reporting requirements. Some contractors' growth strategies require entry in new countries and markets, where there may be different and/or additional legal, regulatory, and compliance frameworks. Many contractors have said that further risks arise from a failure to provide sufficient and effective staff training, and implement effective compliance monitoring processes.

Many contractors have expressed concern that the Building Safety Act, which made its way through parliament during 2021, has the potential for significant consequences in relation to extended liabilities. The bill aims to improve the current building safety regime, define roles and responsibilities of the construction value chain in terms of safety, and address fire safety concerns. Any non-compliance with statutory obligations will lead to issuance of compliance and stop notices, followed by prosecution.

A challenge arose with 2021's new VAT domestic reverse charge on construction and building services. The anti-fraud measure changed the way VAT is collected, so that the customer, and not the supplier, is responsible for payment. One of the biggest challenges for the construction business is working out whether or not it applies and ensuring that systems are in place for applying it.

The VAT Act provides a penalty for companies who carry out transactions connected with VAT fraud.

New IR35 tax rules for off-payroll workers also came into effect in 2021. IR35 aims to tackle non-compliance with the off-payroll working rules, making medium and large organisations responsible for determining the tax status of contractors and ensuring that the right employment taxes are paid.

The shift in responsibility created extra administration for businesses, which needed to establish robust internal determination. The penalty is a percentage of the tax and national insurance contributions that HM Revenue and Customs would have lost if they had not carried out their enquiry. Depending on the nature of the case, the penalty could be up to 100% of the contribution.

A national construction product regulator was also established in 2021 by the UK Government to address failings highlighted by the Hackitt Review. The National Regulator for Construction Products (NRCP) is part of the Office for Product Safety and Standards (OPSS). It is made up of a panel of experts experienced in regulatory, technical, and construction issues and will have the power to enter, inspect and search premises, require the withdrawal of products from the market, and impose sanctions (including fines).

Risk mitigation

Contractors are monitoring and responding to tax, legal, and regulatory developments in the UK. Regular reviews of key policies are carried out at board level to ensure they remain relevant for businesses and in line with legal and regulatory requirements. Policies are regularly reviewed, and training and awareness programmes are scheduled to support implementation.

The impact of new legislation and regulations is planned for, and changes in the law and the requirements arising from them are cascaded to affected businesses. Ethics and compliance committees provide ongoing monitoring and oversight of policy and compliance activity in relation to key areas of legislation.

For staff, mandatory regulatory e-learning is implemented, there are anonymous, independent whistleblowing helplines, regular legal updates and briefings, regular compliance declarations, and conflict of interest registers and authorisations.

Collaborative engagement with external stakeholders is sought, and external advisors and consultants are engaged to advise on policy and the compliance responsibilities. There is regular engagement with government and government agencies with respect to continued compliance. Companies respond to government consultations and engage with key decision makers on issues affecting the sustainability of the built environment. They engage with advocacy groups, including the UK Green Building Council.

Data governance and cyber security

As construction sector digitalisation increases, a number of UK contractors have suffered cyberattacks. Some areas of construction have been slow to quantify digital risks. Contractors are advised to take action to avoid risk of data theft, catastrophic General Data Protection Regulation (GDPR) breaches, legal action, and fines of up to £17.5 million or 4% of annual global turnover in the preceding financial year, whichever is greater.

Defining the risk

Cybercrime costs business £21 billion a year, according to UK Government figures. The construction sector has traditionally been slow to digitise, but contractors are increasingly embracing technology when collaborating and engaging with customers, staff, and supply chain partners. Among the technologies becoming popular with contractors are cloud-based applications, 3D and 5D building information modelling (BIM), industrial control systems (ICS), drones, robotics, internet of things (IoT) systems, and mobile devices.

Increased usage creates weak links in the cyber security chain, with key company and employee data or other confidential information at risk due to breaches of security systems.

Contractors' ability to enable safe, secure, and resilient business operations, including finding, winning, and delivering work, is dependent on the delivery of core IT strategies. They must be able to safely and securely acquire, host, use, and dispose of their own, client, and third party data. Increased usage comes with increased responsibilities for cyber security. Construction has been named the fifth most at-risk industry for a cyber attack and needs to do its utmost to prevent being hit in the future.

Ransomware is a significant threat. It works by encrypting the data within the breached system, preventing companies from accessing data and critical systems without the encryption key, which is held by the attacker. The attackers then demand money to provide the key.

Ransoms are not the only damages. Companies can also suffer from the lack of ability to deliver a project on time, breaches of intellectual property, and breaches of bid data. If autonomous equipment is overtaken, workers can be injured, plus compromised equipment can also cause or allow damage to additional equipment or facilities.

As well as GDPR fines, contractors suffering a cyberattack are at risk of a loss of competitive advantage, reputational damage, and loss of high security contracts. Insurers could also limit or refuse coverage for firms with poor cyber security.

Risk mitigation

Cyber security has been identified as a Tier 1 threat — alongside terrorism, war, and natural disasters — ever since the publication of the Government's National Security Strategy in 2010. In order to mitigate the effects of cybercrime, many contractors are working in line with GCHQ guidance, including their 10 Steps to Cyber Security, which advises business leaders on protecting their companies, as well as offering security advice relating to new and emerging technologies. Relationships are also established with external security authorities, and education providers.

Many of the contractors surveyed are continually developing and upgrading their IT infrastructure, software, and cyber threat and assessment capabilities. Digital officers are employed to ensure compliance.

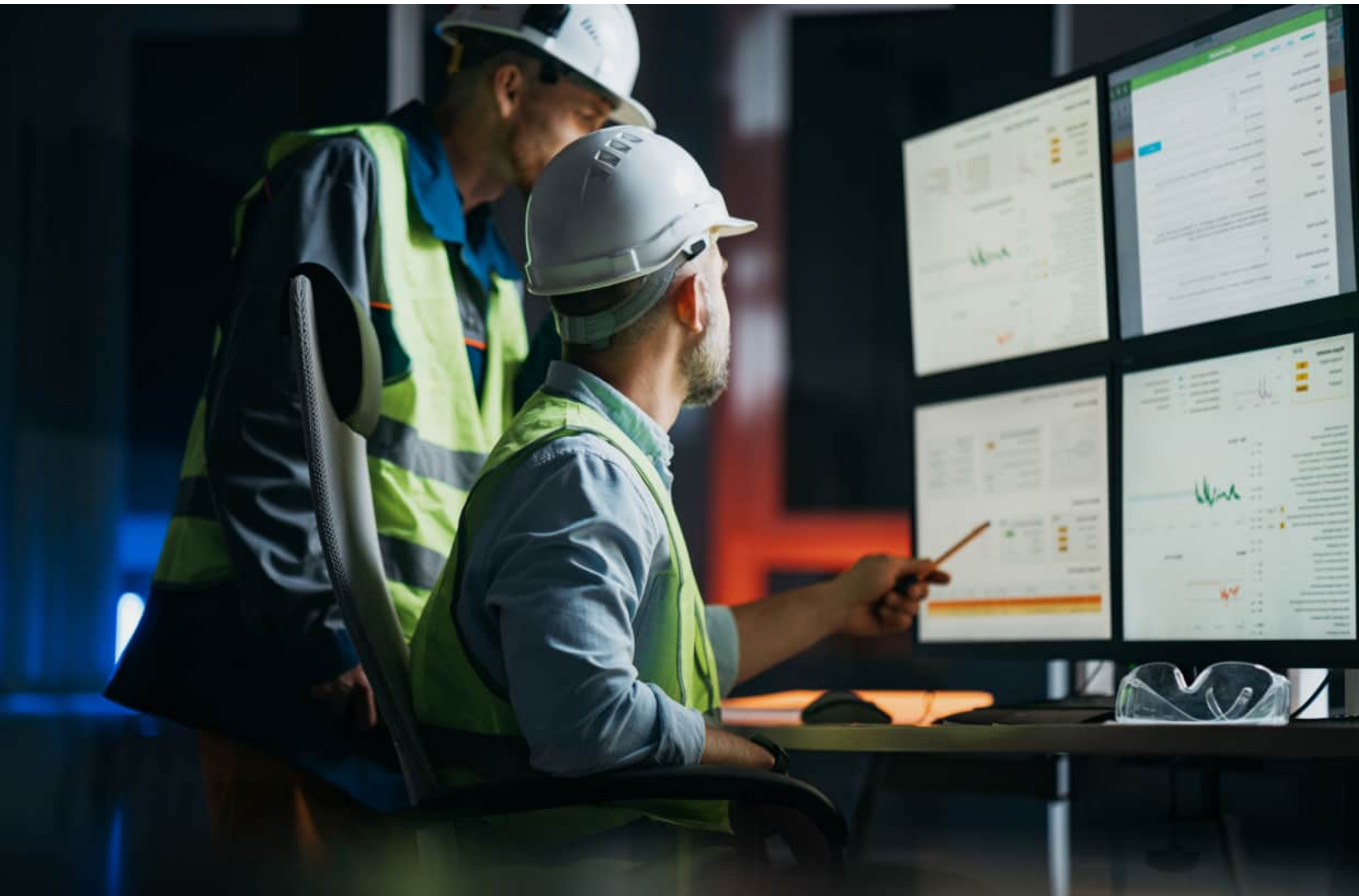
A top priority of contractors is to maintain their ISO 27001 certification — the information security standard — along with ISO 22301 certification, the international standard for implementing and maintaining effective business continuity plans, systems, and processes. They also remain accredited by the UK Government-backed Cyber Essentials scheme, which helps companies identify and mitigate cyber threats.

Partners and suppliers are required to follow minimum standards for cyber security and data retention. Controls are put in place, including vendor risk management assessment. Engagement with key technology partners and suppliers ensures potentially vulnerable systems are identified and updated.

Round-the-clock procedures are in place to monitor the performance of systems and security, and to identify and mitigate external threats. Access to core systems is subject to multi-factor authentication.

Data protection procedures are developed and enhanced in line with the relevant regulations. Data governance frameworks are regularly reviewed, and supported by policies and certifications. Staff training on GDPR legislation is undertaken and data-loss prevention tools are in place. Controls and procedures are subject to regular independent internal and external audit.

Information security cyber business continuity plans are in place. Companies monitor, follow up, and investigate incidents, using feedback mechanisms to embed lessons learned.



Conclusion

The construction industry confronted several challenges during our survey period. Brexit- related restrictions on the freedom of movement of goods and people were key concerns for the industry, despite the one-year transition period.

Supply chain delays intensified, against a backdrop of wage and material price inflation due to shortages of building products and EU workers, many of whom returned home during the Brexit transition period.

Contractors also faced increased expectations regarding their ESG credentials from within the construction sector and outside. The construction industry is increasingly challenged by regulatory, reporting, and customer demands, and lenders and investors are looking to ESG performance as a marker of sustainable and resilient businesses. Contractors that are unable to demonstrate their ESG strategy may put the sustainability and resilience of their business at risk.

Risk perception

Despite this, the perception of risks impacting UK contractors remained broadly the same. How will the landscape change for the next edition of the CRR? New risks from the period 2020 to 2021 are only just beginning to feed into the latest corporate risk analyses. Total construction output increased 12.7% in 2021 compared with 2020. It follows a record fall of 14.9% in 2020, largely because of the COVID-19 pandemic. However, recovery increased the demand for materials, exacerbating the inflationary worries caused by the UK's departure from the EU, and increasing the chance of contractor insolvency. The move towards digitalisation will also affect the industry, which is increasingly attracting the attention of cyber criminals.

Contact

For more information visit **marsh.com,** contact your local Marsh Specialty representative, or contact:

Guy Fitzgibbon
Managing Director, Construction, Infrastructure & Surety Practice

+44 (0)7795 400845
guy.fitzgibbon@marsh.com

Andy Desmond
Construction Industry Leader and Head of UK Business Development, Construction, Infrastructure & Surety Practice

+44 (0)7585 803228
andy.desmond@marsh.com

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