Deconstructing risk

Willis Towers Watson
Construction Risk Index 2017
Methodology

The Willis Towers Watson Construction Risk Index was compiled from data and insights derived from personal and telephone interviews with 350 senior executives across 17 regions. The questionnaire is based on a comprehensive survey of over 1,500 construction professionals in the Americas, Europe, the Middle East, Africa and Asia Pacific. The survey focused on the risk landscape in the industry and the megatrends that are shaping the future of the construction industry.

The data was collected using an online survey platform. The survey was sent to industry professionals through industry associations, professional bodies, and construction companies. The survey was also promoted through social media and industry events. The survey was designed to capture the views of senior executives across a broad cross-section of the industry.

The survey was conducted over a six-month period, from June to November 2020. The data was analyzed using statistical methods, such as regression analysis, to identify the key drivers of risk and the impact of the megatrends on the construction industry.

The survey was designed to capture the views of senior executives across a broad cross-section of the industry. The demographic profile of the respondents is as follows:

Demographic profile of respondents

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<thead>
<tr>
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<tr>
<td>Energy contractors</td>
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<tr>
<td>Specialist subcontractors</td>
<td>10%</td>
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<td>House builders and SMEs</td>
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<td>12%</td>
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<td>House builders and SMEs</td>
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Foreword

Welcome to Willis Towers Watson’s Construction Risk Index 2021. The index provides a snapshot of the current business environment and the challenges that the construction industry is facing.

The Construction Risk Index highlights the most significant megatrends that are shaping the future of the construction industry. The report is based on a survey of 350 senior executives across 17 regions, and it provides insights into the risks and opportunities facing the industry.

The report is intended for industry leaders, policymakers, and stakeholders who want to understand the current business environment and the challenges facing the construction industry. The report is also useful for investors, lenders, and other stakeholders who want to evaluate the risks and opportunities in the construction industry.

The Construction Risk Index provides a comprehensive view of the industry as seen by over 1,500 construction professionals. The report is designed to help industry leaders understand the risks and opportunities facing the industry, and to develop strategies to mitigate the risks and capitalize on the opportunities.

The report is intended to be a valuable resource for industry leaders and stakeholders who want to understand the current business environment and the challenges facing the industry. The report is also useful for investors, lenders, and other stakeholders who want to evaluate the risks and opportunities in the construction industry.
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Executive summary

A deeper insight into the risks and challenges facing senior construction executives is crucial to building resilience and creating opportunities

The role of construction has changed dramatically in recent years. Growth in the developing world, increasing numbers of megaprojects, large-scale investments in infrastructure and globalization of the industry are adding complexities to projects. Fragmented and sometimes inadequate workforces, uncertain regulatory frameworks and political climates, and the inescapable rise of technology have resulted in a host of interconnected risk landscapes that impact each other in difficult and unpredictable ways.

To gain deeper insight into this dynamic risk environment, Willis Towers Watson asked 350 senior executives in the construction industry to rank the greatest threats to their businesses – both today and ten years from now. We asked them about their attitudes toward specific risks from five megatrends. Subsequently, we conducted in-depth interviews to gain greater insight into the challenges they face.

Our goal was to understand how the various stakeholders in the industry view their risks, and to use these findings to build better solutions to help our clients prosper in uncertain and changing environments.

The primary risks

The most prominent fears for construction executives are the geopolitical instability and regulatory changes that are manifesting across the globe in a sometimes volatile manner. The high risk, “negative changes to government financing, policies and priorities”, illustrates the industry’s intimate relationship with public spending and the impact of regulations. Geographically, executives are acutely aware of these concerns in their regions. This risk ranks among the top three in every region except North America, which identifies “capital availability, funding and liquidity” as the greatest threat.

The construction industry can only be as effective as its workforce, so it’s not surprising that the workforce management and talent optimization megatrend ranks a close second. The industry clearly faces structural challenges related to the workers it employs. Complex contracting decisions and a physically dispersed labor pool add to inherent difficulties in managing people risks.

Our index also uncovers concerns about increasing competition, access to funding and macroeconomic uncertainty. Many executives told us how these factors are forcing them to diversify their business models and operations. Consistent with these worries, the megatrend in third place is business model and strategy challenges. Construction finds itself having to deal with changes that sit outside the current boundaries of the industry, and this is having a profound effect on the way things get built.

One such concern is the impact of technologies. Many construction firms have already made great strides in digitally enhancing their operations, most commonly through 3D printing, drones or Building Information Modeling (BIM). In addition, the promise of increased quality and productivity from emerging uses of modular methods and augmented reality (AR) are just now gaining momentum, and they pose consequential risks that cannot yet be accurately measured.

Four of the top ten risks for the industry fall under the risks resulting from the digitalization and new technologies megatrend, indicating that there are challenges as well as opportunities to innovation.

An interconnected world

The rapid growth in populations, continued globalization and increasing scale of megaprojects will be key factors shaping the future of the industry. These changing market dynamics give reason to be optimistic. Many governments appear keen to encourage construction as a driver for economic growth, and funding sources are seeking investment opportunities in construction. But making promises about infrastructure spending and then delivering on those pledges are two very different things. Even the most effective governments can struggle to get projects conceptualized and capitalized.

Emerging markets present the most likely source of growth. Rising competition for projects in more stable countries has forced companies to explore new opportunities in regions with added risks and complexities. And while infrastructure development is crucial in many developing countries, unstable governments and threats to national security can also be prevalent.

As construction companies enter new territories, they may find it more difficult to maintain their working cultures and find the expertise they need. Workforce management remains high on their list of concerns. The industry faces a persistent labor shortage, so key to success will be in both increasing diversity in the current workforce and attracting the next generation of talent.

New technologies will also offer opportunities for progress, with sensors, data and analytics, and AR enhancing operations across the value chain. But as the industry embeds these tools, cyber-security will become a greater issue, forcing construction companies to protect themselves more efficiently.

Clearly, a cohesive, continually updated risk management strategy is a top priority. If construction companies are to protect themselves from emerging risks and build competitive advantage, they must maintain an awareness of the risks and opportunities that lie ahead.

If you look at the industry that we are in, we truly do paint and bend the skyline. If you think of a tangible deliverable over what is a relatively short period of time, it is phenomenal what gets done

—Lee Quinn, CEO, Balfour Beatty

Fig. 1  |  Megatrend rank order

<table>
<thead>
<tr>
<th>Rank</th>
<th>Geopolitical instability and regulatory change</th>
<th>Workforce management and talent optimization</th>
<th>Business model and strategy challenges</th>
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Ten-year outlook

Our respondents’ assessment of the biggest challenges to their businesses over the next decade focus on a few common themes: government priorities, diversification, talent management and innovation. But the most worrying problem is uncertainty - not being able to predict a political crisis or cyber-attack - making risk management more crucial than ever.

We hope the Construction Risk Index 2017 will help our clients, prospects and strategic partners better understand the complex and connected world we work in, and the risks and opportunities that lie ahead.

If you look at the industry that we are in, we truly do paint and bend the skyline. If you think of a tangible deliverable over what is a relatively short period of time, it is phenomenal what gets done

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Fig. 2  |  Top ten risks across the construction sector

1. Negative changes to government financing, policies and priorities
2. Threat from new and emerging competitors
3. Capital availability, funding and liquidity
4. Macroeconomic environment (uncertainty and instability)
5. Overreliance on failure of critical IT systems
6. Liabilities arising out of the widespread use of BIM
7. Third party security vulnerability/ Digital supply chain resilience
8. Complexity of the labor market dependence on subcontractors and contract labor
9. Increased security threat from cyber-attacks and data privacy breaches
10. Necessity for increasingly diversified business models
The primary risks

The industry's top threats as seen through the eyes of senior executives

Megatrend
- Geopolitical instability and regulatory change
- Business model and strategy challenges
- Workforce management and talent optimization
- Risks resulting from digitalization and new technologies
- Complex operating models in a global business landscape

Increasingly narrow operating margins
- Negative changes to government financing, policies and priorities

- Infrastructure contractors
- Commercial building / FM contractors

Asia Pacific
- Civils / Heavy civils contractors
- Specialist subcontracts

Latin America (inc Caribbean)
- Energy contractors
- House builders and SME contractors

Europe (inc Ireland)
- Specialist subcontractors

North America (inc Canada and Alaska)
- Energy contractors
- Commercial building / FM contractors

CEEMEA
- Infrastructure contractors
- Specialist subcontractors

Capital availability, funding and liquidity
- National security threats
Geopolitical instability and regulatory change

With political and regulatory upheaval the new normal, construction firms must be adept at creating opportunities in unstable environments.
Our political risk models assist companies in quantifying their political risk exposures and the potential impact of these on their global investment and trading strategies. This enables the business to evaluate risk mitigation opportunities, including insurance.

— Paul Davidson, Financial Solutions
Chairman & CEO, Willis Towers Watson

or even cancellation. Tim Bowen, director of strategy and business development at Costain, also points out the constraints of working on government contracts.

“Making sure that expenditure has been committed, so that major schemes happen as planned and on time, is one area of concern,” he says. As reflected in geographic rankings, this is a global issue.

“In developed markets, the biggest risk is always the level of activity,” says Ángel García Altozano, corporate general manager at ACS Group. “The public investment policy is what fluctuates the most. When the economy and budget for the government are at a deficit, you have to be careful about the investments you make.”

It’s almost impossible for the construction industry to control or mitigate this risk, and if a government pulls out of a project or places it on hold, there can be little relief for the parties involved.

In some circumstances, however, political change can create new opportunities in the industry, and many executives recognize the efforts of governments to put more money in to public spending.

“We are going to see many countries go to elections, so of course there is a huge European challenge to government financing,” Wulff points out. “For the time being though, political factors have had a mainly positive impact as there is continued fuel put to the construction market by governments.”

“One of the most effective ways to stimulate an economy is through investment in infrastructure,” Bowen explains. “However, we need to remain mindful of the longer-term ability of the public sector to invest at the levels needed to support the modern infrastructure required by the economy.” He highlights the fine line between risk and opportunity: regardless of potential challenges, government financing can be a key source of growth for the industry.

“One of the major risks that people have highlighted is the risk of negative changes to government financing policies and priorities,” says García Altozano. “But that can go the other way as well. It can be a positive change.” Public projects can generate substantial profits and create additional benefits such as brand awareness. However, with volatility growing even in stable countries, companies will increasingly have to monitor the global political climate and undertake thorough country risk profiling before entering into agreements.

While changes to government commitments affect companies everywhere, geopolitical instability is more acute in some countries than others. Executives in Latin America and CEEMEA ranked geopolitical instability and regulatory change as more of a threat than their peers in other territories, with each scoring six of the top ten risks in this megatrend—a clear indicator of how serious these problems can be.

“Geopolitical risks in the Middle East and Africa, where we operate, are very well known to everyone,” says Mehtap Akkaya, insurance director at SFTA. “The whole area is influenced by political risks, which in turn has an influence on the construction market.”

Political hotspots can result in huge economic and human costs and create dangerous working conditions. As a result, construction companies are often hesitant to operate in these locations, even after a conflict has settled. Because construction projects have long lifespans, the industry must be able to predict the long-term outlook for a region. Even a small threat of volatility is treated seriously.

“Developed markets, where you have a stable legal framework and a currency in which people are willing to invest long term—these are the markets where you want to operate,” says García Altozano. “When political situations change, existing plans tend to be reviewed, which normally translates into a lower activity level in infrastructure development.”

Respondents are especially concerned about how the political climate in the CEEMEA region will affect their operations. They scored “national security threats—security concerns, civil or military unrest, war, terrorism, corruption, crime” as their top-rated risk overall.

“In the markets that we are targeting, the main concern would be political risk,” explains Cėlal Toroglu, general director and board member at Renaissance Heavy Industries. Diversifying into new countries can be one way to spread the risk of political instability. “In order to eliminate the political risk, we are diversifying in these markets and targeting new regions to avoid putting all our eggs in one basket.”

The terror threat
Terrorist organizations are active across the globe, and no region has been immune to attacks. Construction executives are unanimous in their concerns about terrorist activities.

“I think terrorism has an effect on all industries, including construction,” says SFTA’s Akkaya. “I think companies are becoming more conservative about doing business in certain regions. Terrorism does bring many risks, mainly relating to security. There have been companies that have experienced supply chain problems due to the difficulties with procurement and sending materials to the site because of terrorism threats.”

A few respondents alluded to the terror risk being greater for certain projects. Infrastructure, for example, can be the target of large-scale attacks. Cheryl Yetka, treasurer of The Port Authority of New York and New Jersey, which focuses on the construction of transport facilities, says: “One of the key issues we see, given the nature of our assets, is terrorism. It’s a risk that we are addressing on a daily basis. It is a difficult risk to manage because it is constantly changing.”

Threats are not confined to operations at the job site. Terrorism can cause problems across the entire value chain, and it has both tangible and intangible consequences.

“The political risk mainly affects the cost of financing in the country which makes the projects unfeasible and shrinks the market in the long run,” says Toroglu. And with the increasingly random nature of attacks, it is now more important than ever to estimate the cost of potential political risk contingencies on business operations.

Ten-year outlook
Geopolitical risks and regulatory changes will continue to challenge the construction industry over the next ten years. Respondents say that risks in this space are top of mind, with changing regulations in particular being perceived as a significant inhibitor to progress over the coming years.

However, while these risks bring challenges, they can also present an opportunity for new markets. Construction companies with strategic planning processes that account for the shifting regulatory environment globally will be better positioned to venture into new geographies and gain economies of scale.
Complex operating models in a global business landscape

While construction firms relish the opportunities afforded by global markets, managing labor across multiple territories remains fraught with difficulty.

T he construction industry is a very economic-driven business of growth. An urban population expansion, huge investments in infrastructures are necessary. Now megaprojects are being secured virtually every week. Construction companies must ensure that their capabilities develop in line with the rate of globalization, and the complexity of these operations requires more flexible and global solutions. The business landscape is constantly changing, with contracts becoming more volatile, and the risks of a potential reduction in overall skills and knowledge. But the risks and a potential reduction in efficiency remain a concern.

The biggest risk in this megatrend is that “the contracts that our customers are awarding are becoming ever larger, more complex and demanding and that is exactly what we seek,” says Costain’s Bowen. “We deploy our highly professional teams and a controlled environment to deliver the business benefits out of this complexity – this is our unique selling point.”

“The biggest risk is loss of control,” explains Jim Hyland from the Australian contractor, “a significant risk is reduced visibility of how costs are being controlled. A company might have a large budget and not know who’s working on it or even if the work is subcontracted or self performed.”

We seek complexity because that’s our unique selling point.

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“Because of globalization, complex operating models in a global business landscape are becoming more difficult to maintain. A company may have a complex project in one country that we work. This helps us to transfer our know-how, increase productivity and quality levels and help the economy.” says Renaissance’s Gay. “That is a risk, because we have teams of people travelling up and down the project and sometimes through the process, as we very much taking labour responsibility for the delivery of the outcome.”

“An operational gain complexity and the industry becomes more fragmented, unless there is a co-ordinated ability to streamline the management of their subcontractor base grows.”

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Because we are the principal contractor, what happens on site is very much the relationship to the customers, which is very much helps to reduce the part of the process, which we very much taking labour responsibility for the delivery of the outcome.”

“An operational gain complexity and the industry becomes more fragmented, unless there is a co-ordinated ability to streamline the management of their subcontractor base grows.”

We seek complexity because that’s our unique selling point.
The top 50 risks of impact and severity

Severity of impact

Ease of risk management

10 = High severity
5 = Moderate severity
0 = Low severity

1 = Easy to manage
5 = Difficult to manage
Technology continues to alter the business landscape and change operations across the value chain. While the majority of survey participants see innovation as a necessity to survive, the construction industry has remained slow to integrate digital practices. “This is an industry where technology moves at a much slower pace than others,” says ACS Group’s García Altozano. Flat growth has led to a lack of collaboration and minimal knowledge-sharing, which are entrenching silos in an already fragmented industry. Yet construction is showing signs of digital progress, and rising investment in research and development is bringing significant changes to construction methods.

The top ten risk scores in this megatrend are clustered tightly together, indicating that respondents don’t yet understand the complexities of technology risk, and likely have not yet singled out the particular threats to their business or ranked them by importance. This doesn’t mean that digital risks aren’t a high priority. “Cyber-security is something that is constantly on the agenda. We continue to be vigilant and keep up to date with the latest technologies,” says Major Australian contractor.

Risks resulting from digitalization and new technologies

A relative latecomer to the digital party, the industry now needs wise heads to ensure it harnesses new technology safely and securely.

Cyber-security is something that is constantly on the agenda. We continue to be vigilant and keep up to date with the latest technologies.

~ Major Australian contractor
Digitalization and operational excellence are top of the agenda in terms of developing and safeguarding the business.

— Peter Wallin, CFO, Skanska

Enhanced productivity

In an increasingly competitive market, construction companies innovate and differentiate themselves. Those that emphasize innovation are in a stronger position, and are more likely to attract top talent and increase operational efficiencies.

“New technologies are transforming the way we do business,” says Brett Phillips, CFO of US-based Structure Tone. “They are changing the workflows across all work streams and affecting all departments.” He adds that investment in research and development can be a great way to enhance productivity.

Technology is assuming an ever-greater role in construction, improving safety, design and efficiency. According to the World Economic Forum, 3D printing promises productivity gains of up to 80 per cent in some applications, and can drastically reduce time and costs by manufacturing buildings directly on site.

“Digitalization and operational excellence are top of the agenda in terms of developing and safeguarding the business,” says Skanuka’s Wallin. “Of course it is a threat to some extent, but we mostly see it as an opportunity. It’s an opportunity to improve the businesses, but also to make use of the masses of data we have from all the construction projects we have across the world.” This type of forward thinking represents a new attitude in the industry, where companies increasingly blur the lines between risk and opportunity.

New technologies

Construction players are now embracing digital innovation, and technology is shaping the future of the industry in a number of previously unforeseen ways. The concept of smart building is growing, and companies are getting ahead of the game by investing in advanced technology such as 3D printing to generate parts for modular construction, and using drones to check construction sites and to monitor safety and progress. Virtual design capabilities are constantly developing, with applications such as BIM changing the industry landscape.

BIM is a key enabler for many technologies used in the design, planning and modeling stages, providing a real-time digital representation throughout the project cycle. Applications vary significantly, however, and BIM is used far more in developed regions than in others. Says one of our interviewees: “We’ve got a focus on digital disruption and innovation. For example, BIM technology has come on in leaps and bounds in recent years, and we’ve got a strong BIM component to our business.”

Construction technology is now a core part of the business model, with benefits extending beyond the physical building itself.

Cyber risks are a top priority

While the progress of automation and technologies continues at pace, recent (and seemingly endless) cyber breaches are widespread. As the rapid development of the industry continues, and the market by competitors race on, cyber-security is often neglected.

“It is clear that the level of understanding about cyber-related risk is not as high as it needs to be,” says Willis Towers Watson’s Chapman. “The industry is vulnerable, not just in relation to the loss of data but also at the design and technology stage, thanks to an increase in the use of technology – and the results could be catastrophic.”

Taking the ninth spot for the industry overall, “increased security threat from cyber-attacks and data privacy breaches” is clearly top of mind for executives. Indeed, most respondents cite cyber as a management priority. “We talk about cyber in the C-suites. It’s something that five years ago we didn’t think would happen to us,” says Phillips. “But somebody sees us as a $4 billion company and they think that’s an opportunity. It’s a real risk to our business. We are looking for different ways to protect ourselves every day.” Phillips highlights the changing nature of these risks and how they will evolve with building performance, so we are on the cutting edge of all the new building technologies. We see the opportunity in the applications of technology in our industry.”

As many of those technologies are still in the early stages of development, companies may see better results if they are implemented as part of a wider operational strategy. “With digital change, what it will be and how it will impact the industry is still being played out,” says one leading engineering, contracting and service provider. “We are still trying to get our head around what it might look like and to work out where the change is likely to be so we can get ahead of the game.” Although the development of new digital capabilities drives the business forward, security around these initiatives is often addressed at a later stage, meaning any discussion of technology should include the possibility of cyber risks.

Ten-year outlook

“A trend over the next five to ten years will be how technology transcends from being back of the house to being in the field,” says Phillips. “How is it going to change how we execute construction and the quality of the drawings that we receive from architects and designers? What happens if the technology fails, if the BIM file is corrupted? It is interesting see how it will play out when we have 3D printing and all other kinds of technology.”

By 2020, technology will be mission-critical for the construction industry, and demand will grow for digital innovations that can enhance the quality of design, production and output. These developments are already in demand from an industry that has historically lagged in digital progression. As dependence on technology grows, new threats will evolve, and many respondents feel that technological advancements will bring new risks over the next ten years. Integrating technology to the business will therefore require enhanced cyber-security and a new approach to risk management.
Workforce issues within the construction industry can have an effect on all megatrends in the Risk Index. Competition for employees with strong digital skills, coupled with the need for a global employee network, and the burden of disparate labor laws have made workforce issues ever more complex. The industry is also saddled with certain preconceptions: an aging workforce, unsophisticated career development frameworks and a traditional image. Its attitude to workforce management and talent optimization has also not kept pace with changing dynamics across global markets. To compete effectively, the industry must act quickly to alter perceptions and attract a new breed of talent.

“The construction industry is probably one of the lower investors in skills,” says Balfour Beatty’s CEO Leo Quinn. Not surprisingly, construction executives rate this megatrend the second most worrying in our Risk Index, with many executives commenting on the urgency with which it must be addressed. But the cyclical nature of construction work leaves the sector vulnerable to labor issues. Subcontracting, difficulties in forecasting resource demand, and large-scale projects involving thousands of workers are the norm, making people risk inherently difficult to manage in this industry. The biggest risk identified in this megatrend is “limited workforce diversity” (includes ethnic, gender and generational diversity due to lack of apprenticeships), which reflects the industry’s traditional workforce and lack of diversity. “Difficulty in attracting and retaining key talent” and “shortage of qualified, experienced staff” place second and third respectively, pointing to concerns about the future availability of skilled workers. Modernizing talent strategies will clearly become vital if companies want to attract a new generation of experienced labor.

Changing talent strategies

The construction industry is not viewed as an attractive employer. While perceptions vary by country, construction is seen as suffering from limited innovation and a lack of engagement compared to other industries. Contributing factors include perceptions of ineffective employee development initiatives, a lack of diversity in the workforce and low job security. For an industry where just 9 per cent of the workforce is female and employee turnover is close to 30 per cent, it is no surprise that limited workforce diversity is the top risk of this megatrend. “Diversity in the industry is probably one of the lowest, partly because people don’t know what the opportunities are,” Quinn adds. “The way to survive the shortfall will be to invest in training and reward programs, meaning companies must become more creative in how they think about attracting and retaining talent.”

“We have to ensure people don’t walk away from the industry,” says Stuart Olson’s Lou May. “We need to actively promote what we have to offer. I don’t think we do a very good job. It’s more than a business risk; it’s an industry risk.” That being said, some industry-wide initiatives are making significant progress in addressing talent availability. As an association, one of our primary missions is to ensure that everyone feels welcome to pursue high-paying careers in construction,” explains Stephen E. Sandherr, CEO of The Associated General Contractors of America. “That is why we are committed to taking a lead role in expanding the diversity of the construction industry. To that end, we have established a dedicated task force that is crafting a comprehensive plan for the association and its members to attract, support and nurture greater diversity within the ranks of our member firms and the industry at large.” Creating a diverse workforce is an important first step for construction companies to win the war on talent. “We started something called The 5% Club,” says Quinn, “which is a public declaration that 5 per cent of our employees will be made up of apprentices and graduates. It’s an employer-led organization around how to effectively bring young people in to the workplace and train them. We are investing in the younger generation. Interestingly, there are 200 member companies, and it is growing fast. It’s a question of giving out lifetime skills.”

This opinion is shared by many construction executives. Costain’s Bowen agrees that, “we absolutely need to up-skill the people we hire, and we also need to attract as many people out of university as we can. We need to make sure the industry is projected into schools and universities in an attractive and exciting way.” Changing the perspective of construction work will clearly be a top priority in the years to come, and will rely on the active engagement of employers in the industry.

“You need a clear line of sight on how to develop people so that you can keep them. We give workers more opportunities so they can mature faster,” says Skanska’s Wallin. Companies must rethink their talent strategy, and incentivize their people through comprehensive benefit packages and by creating clear career paths. In doing so, employers should find they are more able to shrug off lasting stereotypes and promote a working culture that attracts the much-needed labor.

**Generational diversity**

Demographic shifts have a significant effect on the availability of talent. As the makeup of the population changes, so too do preferences towards certain careers. Accordingly, changes are felt most keenly in developed countries with significant

<table>
<thead>
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<th>Rank</th>
<th>Impact</th>
<th>Ease of management</th>
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<tbody>
<tr>
<td>1.</td>
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<td>Difficulty in attracting and retaining key talent</td>
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<td>2.</td>
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<td>4.5</td>
<td>High</td>
<td>Shortage of qualified, experienced staff</td>
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<td>3.</td>
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<td>Escalating duty of care costs and responsibilities to ensure workforce security</td>
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<td>4.</td>
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<td>Increasing difficulty understanding, following and complying with local employment laws</td>
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<td>5.</td>
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<td>Lack of mobility workforce due to project location</td>
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<td>Failure to integrate migrant or transient workforce</td>
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<td>7.</td>
<td>6.5</td>
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<td>High</td>
<td>Increasing pension fund liability</td>
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<td>8.</td>
<td>6.5</td>
<td>4.5</td>
<td>High</td>
<td>Constant challenge to provide competitive and profitable compensation and reward</td>
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<td>9.</td>
<td>6.5</td>
<td>4.5</td>
<td>High</td>
<td>Lack of potential business leaders</td>
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"You need a clear line of sight on how to develop people so that you can keep them. We give workers more opportunities so they can mature faster."

—Peter Wallin, CFO, Skanska
The financial crisis may have been the tipping point for labor shortages. Developed nations were hard hit, construction slowed significantly, and many who lost jobs turned to alternative sources of employment. “In the US, so many people in their 30s and 40s left the construction industry completely, and when it recovered as the economy picked up, they had gone to different things,” explains Structure Tone’s Phillips. “The challenge in the next year will be filling that gap. Millennials don’t want to be in a field swinging a hammer; they want to be in an office designing things.”

Recent geopolitical events aren’t helping the labor shortage either. In the UK, the skills gap has taken on new significance since the EU referendum because the industry relies heavily on EU workers. As Balfour Beatty’s Quinn stresses: “We have to bring people in [to the UK] because we don’t have the skills.” Quinn alludes to the increasing inclination of younger generations to go into dynamic careers, where they can be challenged and valued. A UK government construction report found that construction has low job appeal for millennials compared to other industries and is suffering from an image problem. Company culture and working practices must align to demographic shifts if the industry wants to entice future workers. But demographic shifts do not produce uniform consequences. Youth in emerging markets are more likely to seek employment in the construction industry, which is often seen as respectable and a stable source of employment. These countries have much lower generational diversity, says STPA’s Alkaya. “We don’t suffer from a lack of talented people in Turkey. We don’t have that age gap like in Europe and the US. In Turkey, there are a lot of young people, and construction is a reputable industry. So young and talented people are willing to work in construction.”

The digital skills demand
The construction industry has been slow to adopt technology, but digital tools, even in construction, are becoming the new normal. However, finding and keeping the right IT talent is a challenge, especially in an industry that faces fluctuating demand for its services. "The mix of skills that we need in order to deliver the business will change as we more intensively deploy technology-led solutions," says Costain’s Bowen. "This is something that we have to be very mindful of going forward." The construction industry will have to call on a whole new talent pool, not just in the future but immediately, and must find innovative ways to navigate these changing talent dynamics.

Wills Towers Watson's 2016 Global Talent Management and Rewards Study, which included 990 construction participants, found that technology has enabled 69 per cent of construction companies to use more non-employee talent.

"The more technology you have, the more millennials you can attract. I think we are going down that road," says Structure Tone’s Phillips. "Operations are not only more efficient, but technology is making this an exciting place to work, and we are retaining employees. We are capturing the imagination of the young people and they want to be part of what we are building, which is encouraging."

Ten-year outlook
Workforce issues will likely remain an important issue for the industry over the next ten years. Respondents cite continuing shortages of key talent, high labor costs and reform laws as the top future risks within this megatrend.

Making the industry more attractive to the younger generation is going to be a major challenge. That, coupled with new digital skills requirements, will likely force companies to rethink their approach to talent. Pursuing the right strategy has never been more important. But technological progress can provide construction with the opportunity it needs to offer a wider array of roles that are more appealing to future workers.

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Not only are technology solutions enabling more efficient operations, but they are also making construction an exciting place to work. For example, a UK government construction report found that technology is making this an exciting place to work, and we are retaining employees. We are capturing the imagination of the young people and they want to be part of what we are building, which is encouraging.

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Across the construction industry, geopolitical and regulatory risk predominates

Rank order determined by combined risk score (severity of impact × ease of risk management)
Business model and strategy challenges

Construction is an industry in flux: ambitious firms pursue growth in new markets, but must also contend with new competitors and risks.

The way business is conducted has significantly evolved, and global corporations have altered the macroeconomic environment. To survive, companies must find a favorable position in the shifting landscape. Consequently, construction players must be flexible and focus on effective collaborations and new market opportunities.

A distinguishing feature of this megatrend is that the risks are hugely interconnected. “The threat from new and emerging competitors’ ranks second overall in ‘merger and acquisition activity,’ funding and ‘liquidity’ ranks third, and ‘macroeconomic environment uncertainty’ comes fourth. What’s more, their causes and effects are intertwined. These results also show widespread concern respondents in all geographies feel threatened by these challenges. North America stands out, however, with five risks in the top ten from within this megatrend, and ‘capital availability, funding and liquidity’ in first place overall.”

Construction companies are increasingly expanding into new markets to grow and remain competitive, so it’s not surprising that ‘necessity for increasingly diversified business models’ makes it to the top ten risks for the industry overall, and is closely tied with ‘the threat from new and emerging competitors’. “Challenges to enter new high-growth areas,” however, receives a much lower composite risk score. This suggests that industry players are increasingly recognizing the benefits of portfolio diversification. While they are wise to the complexities of taking on new business, there is clearly much to gain from exploring new avenues. In other words, it is often worth the risk.

Access to capital
“Capital availability, funding and liquidity” is ranked highly both by the construction industry overall and in individual regions, demonstrating that access to funding will always be precarious. However, a few respondents report that, for them, the current situation is stable. “There is a lot of investment and funds coming in. This is good and bad, because on one hand you have more equity left, but on the other we have more competitors,” says Ferrovial’s San Millán. In fact, the common opinion is that, while cyclical, the financial environment is currently sustainable for many construction players.

“The availability of capital is linked to the economic slowdown and we see that it’s a lot to do with oil prices,” says STFR’s Akkaya. “The government in this region (the oil-producing Middle East) has difficulties in creating capital availability for new projects, which is why many are on hold.”

Diversifying the business model
“The construction market is facing intensifying competition from new and emerging players. Strategy is key,” says one respondent. An element of competition is welcome in a market like construction, providing an impetus to grow and diversify. The flip side is that a saturated industry creates many challenges.

As LeMay adds: “Competition is both a risk and an opportunity.”

Traditionally, major competitors were like-minded companies, often based in the same country and line of business. However, everyone has recognized the element of competition is welcome in a market like construction, providing an impetus to grow and diversify. The flip side is that a saturated industry creates many challenges.

“Geographical diversification of your activities tends to soften the cycle effect. You might have a low time in one given area while others are picking up,” says ACS Group’s García Altozano. “Man respondents use this strategy to maintain a powerful balance sheet. Diversification across sectors and geographies is the key to try and smooth out the overall results of the business,” says another interviewee.

There are of course hazards involved in exploring new lines of business and working with new people. While the underlying tone of conversation on this subject is positive, Yelka of the Port Authority of New York and New Jersey alludes to the fact wide and varied operations will leave a company vulnerable to a bigger risk profile.

“We are very diverse. Our assets are so disparate and unique in their operations that the way we see risk is that it constantly emerging and changing. It’s dynamic,” she says.

Choosing the right markets to enter and people to partner with is extremely important.
Companies often focus on diversifying into areas in which they are already comfortable, or partnering with organizations they already have a relationship with. “We are creating consortiums and partnerships, but that’s another issue because you need to be very secure on choosing and creating partnerships,” says Akkaya. “You need to understand each other very well as you have an engagement for a certain period of time.” A softer approach, and one that’s increasingly common, is to cooperate with local companies, either through joint ventures or mergers and acquisitions. There are many strategic opportunities to be had as emerging markets develop their industry capabilities and invest in infrastructure.

Ten-year outlook

Risks relating to this megatrend are identified by more than half of the executives surveyed as the top three concerns over the next ten years. This indicates that facing up to business model and strategy challenges will become an increasing priority. In particular, financial risks related to macroeconomic conditions, continued capital availability and a lack of investment sources are frequently recognized by industry players. Increased threats from new entrants in emerging markets and lack of opportunities will also continue to prompt companies to seek new avenues of growth.

Fig. 7 | Top risks for business model and strategy challenges

1. Threat from new and emerging competitors
2. Capital availability, funding and liquidity
3. Macroeconomic environment uncertainty and inconsistency
4. Necessity for increasingly diversified business models
5. Customer default risk
6. Evolving and increasing supply chain (risks)
7. Increasing cost of risk mitigation and contractual obligation
8. Challenges to enter new high-growth areas
9. Increased M&A activity and industry consolidation
10. Changing demand impacting cost model

Across the globe, construction leaders are united in their concern for geopolitical and regulatory risk. Companies often focus on diversifying into areas in which they are already comfortable, or partnering with organizations they already have a relationship with. “We are creating consortiums and partnerships, but that’s another issue because you need to be very secure on choosing and creating partnerships,” says Akkaya. “You need to understand each other very well as you have an engagement for a certain period of time.” A softer approach, and one that’s increasingly common, is to cooperate with local companies, either through joint ventures or mergers and acquisitions. There are many strategic opportunities to be had as emerging markets develop their industry capabilities and invest in infrastructure.

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Rank order determined by combined risk score (severity of impact x ease of risk management)
Embracing complexity

Just as construction transforms our world, so the industry is transforming itself – embracing the new realities of operating in complex and dynamic global markets.

Construction today benefits from enormous opportunities. In both the near and longer term, the industry and its players have a central role in delivering the improvements necessary to build a more sustainable and resilient global economy. This is about creating competitive advantage – finding new ways to differentiate themselves. The Willis Towers Watson 2025 Construction Risk Index reveals several themes that will become paramount over the coming years:

Globalization

International companies keep expanding into new territories as infrastructure continues to develop. Mega projects are now seen as a means to combat global complexity. They require scale, financial stability, a global view of the construction process – from conceptualization to financing, design, construction, operations and maintenance. The global nature of construction, coupled with significant diversification activity, suggests that political instability will be of concern, but will likely be manageable given the global need for infrastructure.

People

This need for talent is likely to have the longest-term impact on the industry. Construction companies face a major challenge: the sector more attractive to the next generation of workers, particularly technologically savvy millennials who want to join companies that value diversity, reward creativity and aspire to be seen as leaders in local communities.

Innovation

Innovation can often be seen as an industry that does not adopt new methods quickly. In the future this will demand more efficiency than ever before, and construction companies will have to demonstrate their commitment to exploring new ideas and surging a culture that supports innovation – from anticipating emerging needs to supporting risk-taking.

Technology

There now have been more technologies available to construction than existing methods such as traditional construction to digitalization of physical assets. Technology can enable new environments such as BIM and IoT and new modeling equipment to reduce waste, and the ability to identify issues and resolve them quickly using technology will enable companies to be more nimble. At the same time, the challenges of working in virtual environments and the emergence of cyber-attacks have created entirely new classes of risk management, requiring proactive measures to ensure operations remain productive and secure. Embracing these changes is not always easy and is often resistant; but doing so promises significant cost and planning savings in the future.

Closing thoughts

The construction industry is characterized by an intense sense of optimism, and the ability to control risks and deliver profitable projects and projects. The Risk Index shows that construction component/renewable technologies is in high demand and the ability to differentiate themselves. Our research shows that the industry executives have a strong sense of the challenges and risks that will impact their businesses over the next ten years. At Willis Towers Watson, we fearlessly confront them that our ability to deliver industry specific solutions around people and risk will enable us to be the best partner for our clients, and help them grow profitably in the face of increasingly complex risk environment.

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This index shows that political instability and economic climates are the biggest challenges to the success of construction companies and projects. Yet the vast majority of survey respondents demonstrate an underlying optimism that technology and talent will transform the industry and deliver the efficiencies that have been sought for decades. The intersection of technological advancements, innovative building design methods and transformed financing methods quickly. But the future will clearly require a new approach to risk management. Risk assessment can too easily become an exercise in setting up defensive measures to protect an enterprise. An exercise in setting up defensive measures to protect an enterprise. However, we need to support innovation – from anticipating emerging needs to supporting risk-taking.
About Willis Towers Watson

Willis Towers Watson (NASDAQ: WLTW) is a leading global advisory, broking and solutions company that helps clients around the world turn risk into a path for growth. With roots dating to 1828, Willis Towers Watson has 39,000 employees in more than 120 countries. We design and deliver solutions that manage risk, optimize benefits, cultivate talent, and expand the power of capital to protect and strengthen institutions and individuals. Our unique perspective allows us to see the critical intersections between talent, assets and ideas – the dynamic formula that drives business performance. Together, we unlock potential. Learn more at willistowerswatson.com.

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