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cutting through complexity

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The great global infrastructure opportunity

Global Construction Survey 2012

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A brave new direction for engineering and construction?

The last three years have been full of uncertainty for many in the engineering and construction industry. However, one constant is the insatiable demand for infrastructure in all forms, which is causing a fundamental shift in focus for nearly all players in the sector. The 'old' imperatives of commercial, residential and industrial building projects have taken second place in many geographies to energy, natural resources, transportation, communication and technology, and other vital civil and social infrastructure projects.

Much of this change is driven by the pressing challenge of urban growth; with the proportion of the world's population living in cities set to rise to more than 70 percent by 2050[1], there is immense pressure to provide an effective and reliable support network to the teeming millions.

And while the continuing economic instability is impacting many parts of the industry, infrastructure is so vital to growth that even the most cash-strapped governments will inevitably give it a higher priority – or face a drastic change in lifestyles for their people. Worldwide the expected cost for infrastructure over the next forty years is approximately US$70 trillion.[2]

Engineering and construction companies are changing to meet the growing demands of infrastructure, with the traditional general engineering providers and contractors giving way to larger, more diversified businesses with specialized skills. Winning new contracts is increasingly about having the right expertise, so the battle for skilled resources is likely to intensify even further, with a possible rise in acquisitions to buy that expertise. New infrastructure projects are expected to be on a huge scale, particularly in emerging markets such as India, China and Brazil, so size and global reach will also matter.

With scale comes complexity as the global industry players navigate a tough political, commercial, regulatory and governance environment which will test their risk management ability to the maximum extent. Margins on mega-projects can be severely impacted by unforeseen schedule delays, sometimes customer driven and sometimes self-inflicted. Although the sector has invested considerably in risk management in recent years, a number of high profile project failures in the past twelve months raises question marks over the effectiveness of some of this investment.

The shape of the industry is changing as the main players seek to optimize costs, focus on tax efficiencies, streamline supply chains, improve information technology systems (IT), capitalize on emerging markets, and grow through mergers and acquisitions. But will these efforts be enough to succeed? As the world rises to meet the great infrastructure challenge of the next decade, what role will engineering and construction companies play?

With these questions in mind, the latest KPMG Global Construction Survey comes at an opportune moment, gauging the views of many of the senior executives of leading engineering and construction companies from around the world. I would like to thank all those who gave their valuable time to contribute to this vital and ongoing assessment of the future of the sector.

Geno Armstrong
International Sector Leader, Engineering & Construction, KPMG in the US

1. United Nations, Department of Economic and Social Affairs, Population Division (2011). World Population Prospects: The 2010 Revision
2. Booz Allen Hamilton, Global Infrastructure Partners, World Energy Outlook, Organisation for Economic Co-operation and Development (OECD), Boeing, Drewry Shipping Consultants, U.S. Department of Transportation

Contents

Executive summary

Demand for power and energy is changing the direction of construction

- Power and energy offer the best opportunities for revenue growth
- Public-Private Partnerships (PPP's) most likely to be focused on energy and transportation projects

Existing infrastructure is seen as inadequate to support growing urbanization, population growth and changing demographics

- 53 percent feel government policies will fail to have a positive influence on infrastructure investment
- 80 percent believe government is showing a lack of leadership over infrastructure development

Procurement and supply chain play a critical role in future success

- 59 percent of respondents say this area offers the greatest opportunity to improve efficiency
- Overly-complex systems and processes are hindering progress
- 37 percent of firms from the Americas have not reviewed their procurement and supply chain processes for at least five years

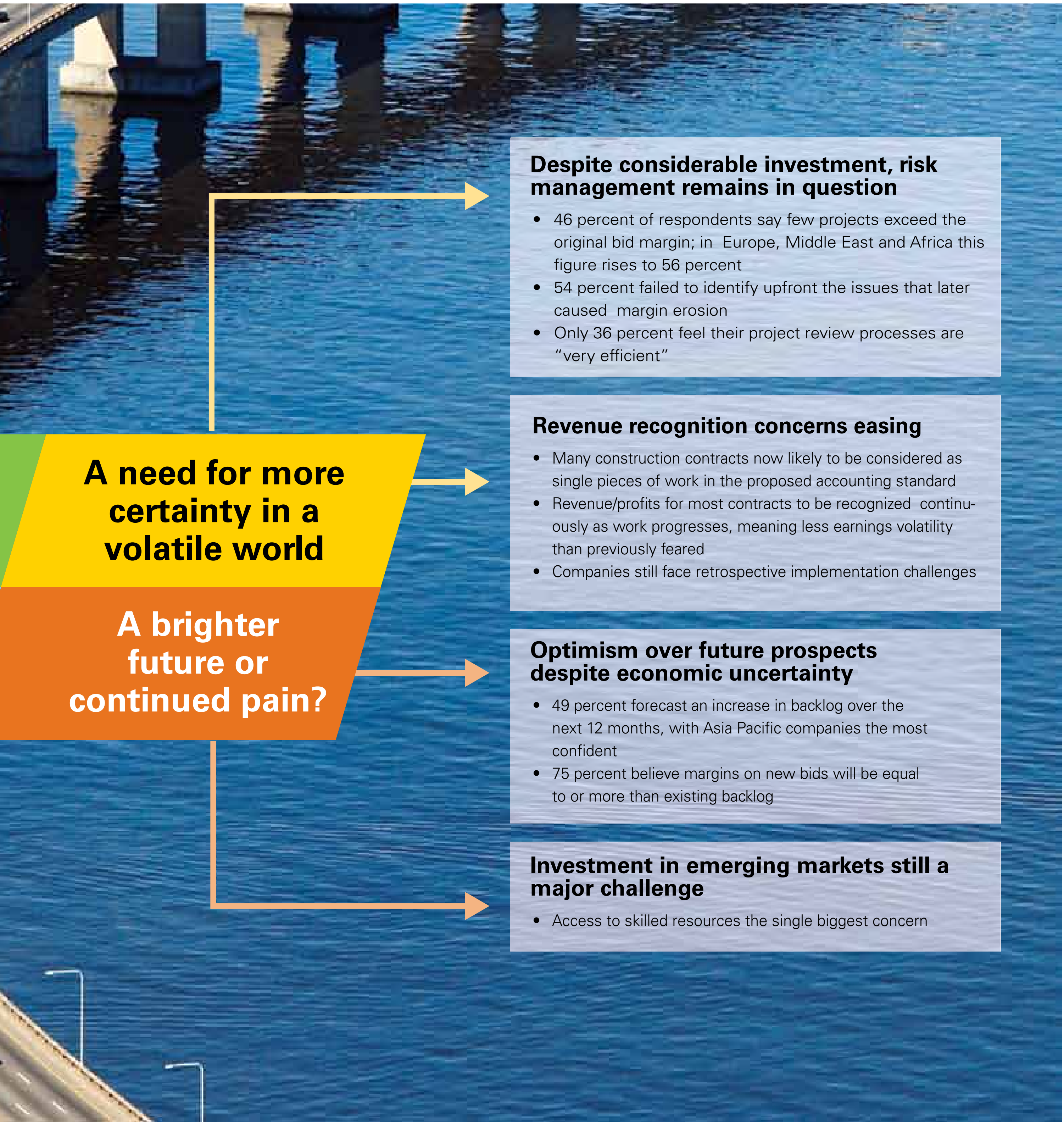
Cost reduction remains on the agenda

- Organizational culture is the biggest barrier to greater cost efficiency
- 21 percent of respondents have not made significant cost reductions – rising to 29 percent in Europe, Middle East and Africa

IT needs to step up a level

- 50 percent say that IT transformation is too costly and takes too long
- Surprisingly, 71 percent say they have formally reviewed their IT systems within the previous 12 months

In 2011, KPMG interviewed executives from 161 engineering and construction companies around the world. The respondents' annual revenue varied in size from US$250 million to more than US$5 billion, and served a range of markets including energy, power, industrial, healthcare/pharmaceutical, manufacturing, mining, education and government.



A need for more certainty in a volatile world

A brighter future or continued pain?

Despite considerable investment, risk management remains in question

- 46 percent of respondents say few projects exceed the original bid margin; in Europe, Middle East and Africa this figure rises to 56 percent
- 54 percent failed to identify upfront the issues that later caused margin erosion
- Only 36 percent feel their project review processes are "very efficient"

Revenue recognition concerns easing

- Many construction contracts now likely to be considered as single pieces of work in the proposed accounting standard
- Revenue/profits for most contracts to be recognized continuously as work progresses, meaning less earnings volatility than previously feared
- Companies still face retrospective implementation challenges

Optimism over future prospects despite economic uncertainty

- 49 percent forecast an increase in backlog over the next 12 months, with Asia Pacific companies the most confident
- 75 percent believe margins on new bids will be equal to or more than existing backlog

Investment in emerging markets still a major challenge

- Access to skilled resources the single biggest concern

Opportunities and threats

The energy and infrastructure opportunity

Energy is the sector with the greatest short-term potential for engineering and construction companies, according to the 2012 Global Construction Survey. However, respondents are questioning governments' commitment to much needed infrastructure investment.

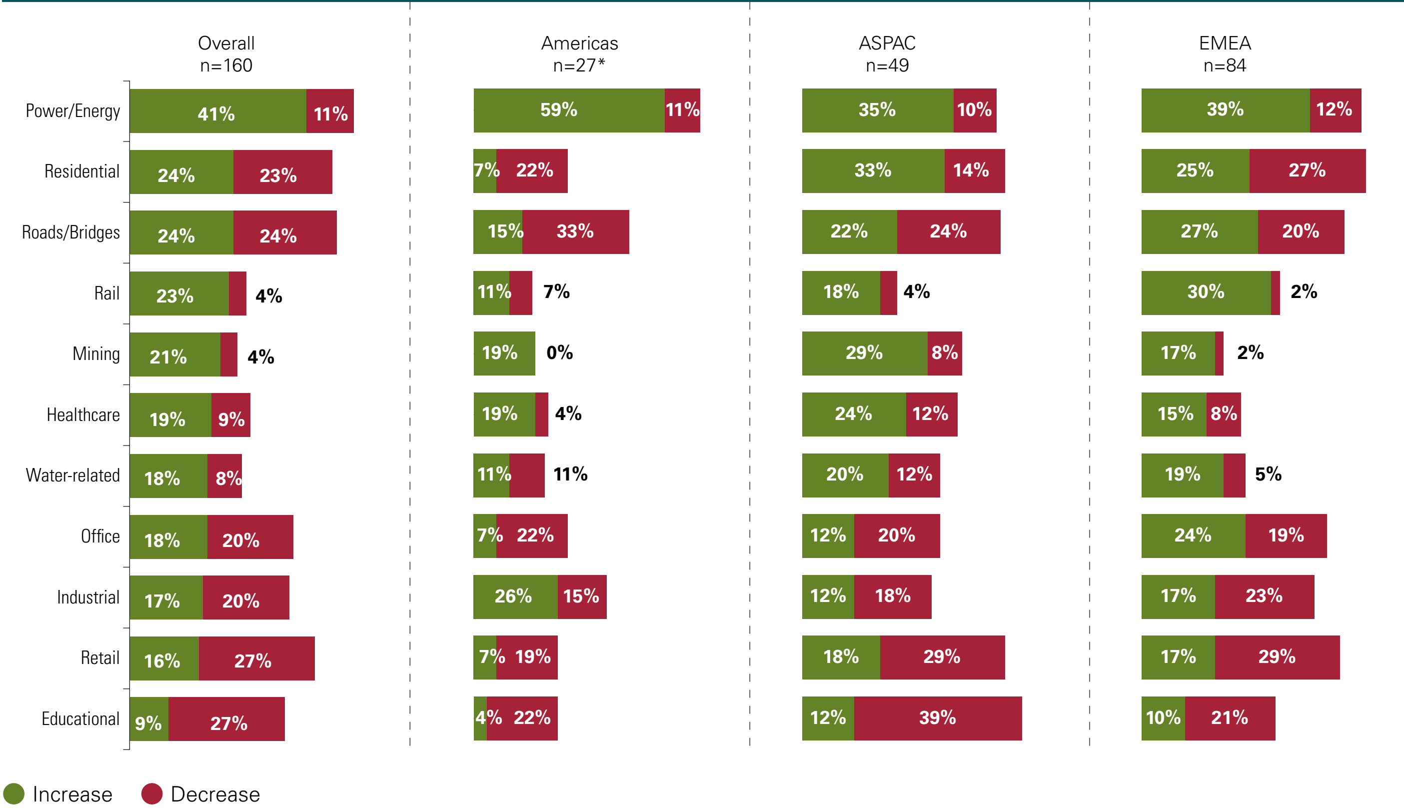
When asked which sectors would most impact their future revenue in the next twelve months, energy was the number one response, suggesting a strong demand for specialized engineering and construction services from customers in this segment. Four of the top five industries selected by respondents fit into the category of infrastructure with traditional areas such as commercial, industrial, retail and education considered far less attractive.

In the Americas the picture is even more pronounced, with 59 percent citing energy as the most promising sector. Larger US contractors are expressing genuine optimism over prospects for oil, gas and alternative energy projects, and expect significant amounts of activity in this area over the next five years. Respondents from Asia Pacific and Europe, Middle East and Africa consider rail and mining to be areas of promise (see chart on page 6).

In China, where the latest Five-Year Plan has a strong domestic focus, there is an emphasis on resource-related infrastructure such as coal mining, high-speed rail, roads and waterways. Meanwhile, in Hong Kong, a number of important infrastructure projects will be carried out over the next 5–6 years including underground train lines, bridges, and express links to mainland China.

Energy is the sector where respondents are most confident of increasing revenue, followed by roads/bridges, rail and mining.

Sectors most impacting revenue in the next twelve months



*Low base – findings are directional in nature
Respondents chose top two sectors for both increase and decrease.
Source: KPMG International, 2011

View Point

The power market surges ahead

According to the International Energy Agency latest estimates, released in November 2011, the global energy sector requires US$38 trillion of investment in existing and new capacity by 2035 to meet the demands of population growth. US$17 trillion of this will need to flow into power generation, distribution and transmission, 60 percent of which will serve emerging markets.[3]

Given the proper regulatory framework and government support, the funds should be there to support this development; but the big question mark is the availability of skilled labor. The long development cycles – 12 years for a nuclear plant and six years for gas or coal-fired plants – puts incredible pressure on a manpower base that is already stretched.

The demand for firms and individuals with sector-specific engineering and construction skills will rise as projects proliferate around the world. This should push up the margins for specialized players and prove a major source of income for the industry as a whole.

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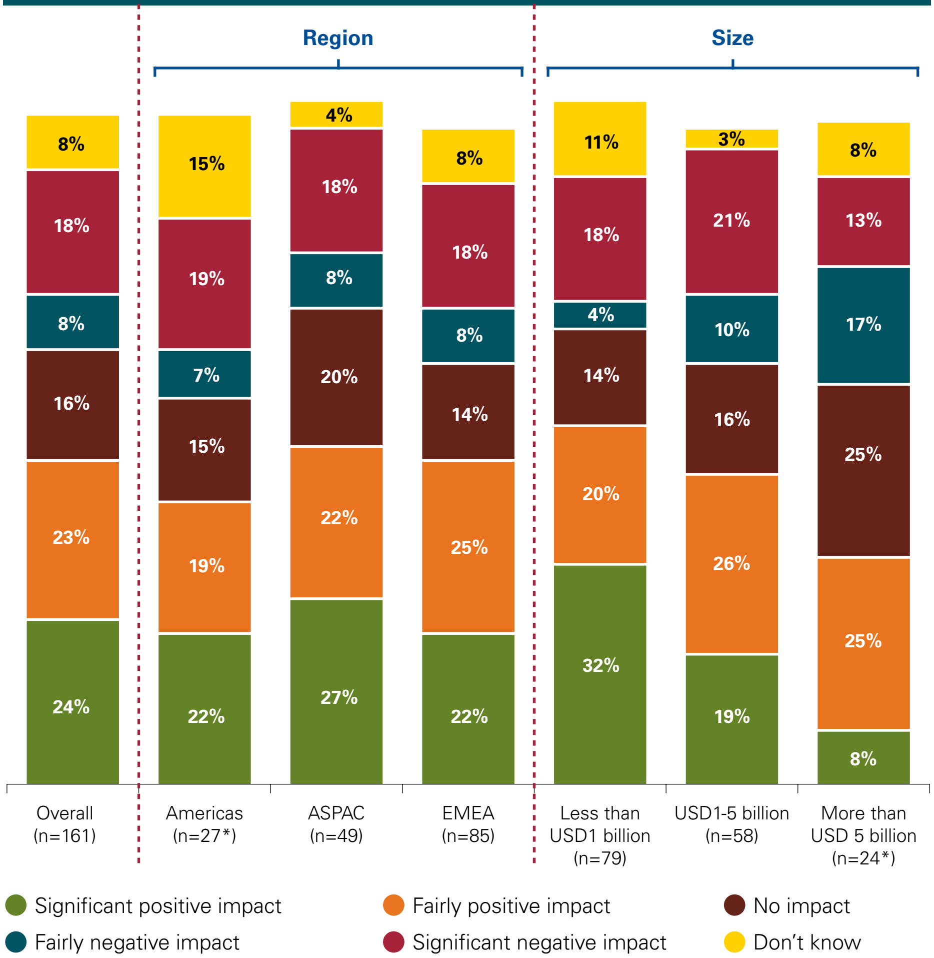
3. International Energy Agency (IEA), October 2011.

Lack of commitment to infrastructure

With austerity policies in many countries constraining the scope for public sector spending, it is vital to create an environment that encourages private sector investment. It is therefore of some concern that only 47 percent of respondents consider their government's policies are having a positive impact, a response that is fairly consistent across all regions. Interestingly, executives from the bigger organizations involved in the survey are the least optimistic that public sector policies are helping – perhaps an indication that governments are focusing on smaller-to-medium sized enterprises and assuming larger businesses need less help.

Less than half of respondents believe government policies will have a positive impact on infrastructure investment.

Impact of government policies on infrastructure investment

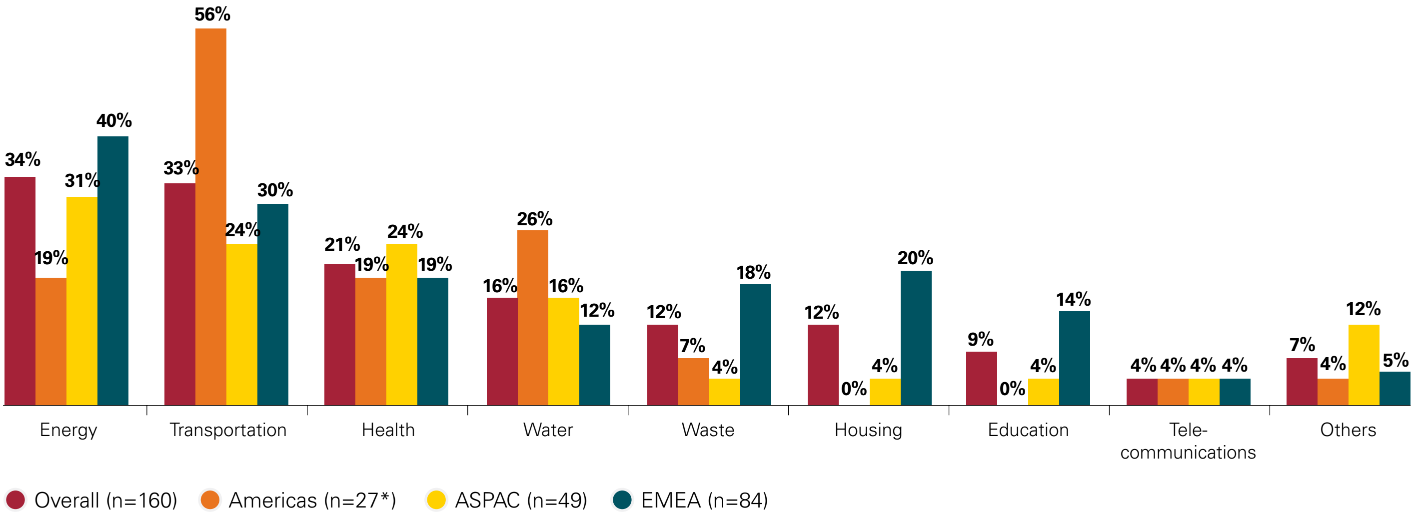


*Low base – findings are directional in nature
Percentages might not add up to 100 due to rounding off
Source: KPMG International, 2011

PPP's commitment to energy

Energy tops the list of attractive projects to be delivered under public-private partnership (PPP's), closely followed by transportation. Respondents from the Americas are particularly interested in the transport market, where the US is keen to improve its rail, road, air and shipping network to cope with 21st century demands.

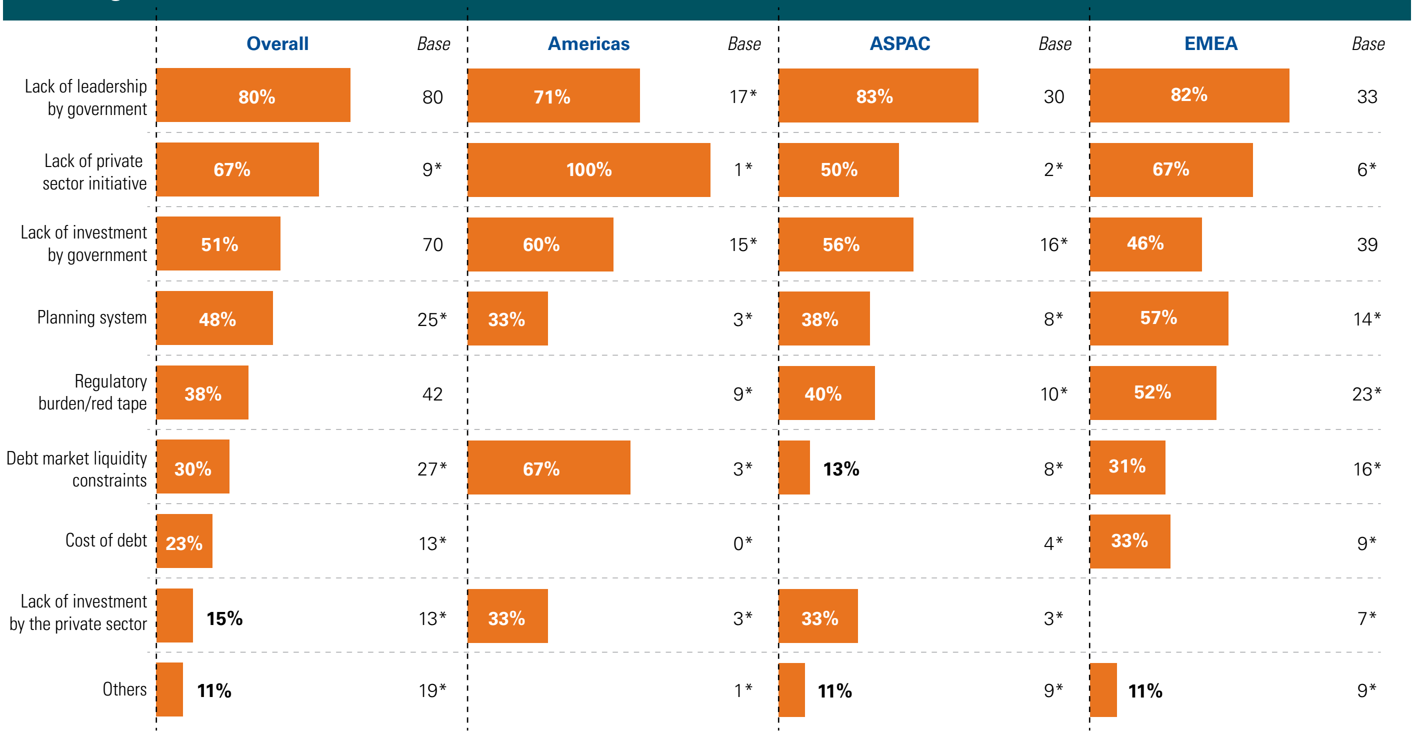
Sectors offering the most attractive potential for public-private partnerships (PPP's)



Figures do not add up to 100% because multiple responses were allowed
*Low base – findings are directional in nature
Respondents had ability to select more than one sector.
Source: KPMG International, 2011

Respondents are also very concerned about governments' ability to drive infrastructure spending, with an overwhelming 80 percent citing lack of leadership as a major barrier. It is not just the politicians who appear to be holding back development, as two-thirds feel the private sector is not showing enough initiative either, though public tendering rules often make it hard for a private sector business to capitalize on a good idea without it being opened to competition (see chart on opposite page). Despite the potential rewards from infrastructure projects in certain regions, a number of US businesses remain reluctant to take the risks associated with equity positions in such initiatives.

Most significant barriers to infrastructure investment



Most important risk

*Low base – findings are directional in nature
Respondents ranked the top two barriers to investment
Source: KPMG International, 2011

View Point

Waking up to the infrastructure opportunity

As governments around the world seek to create 21st century infrastructure, they need to take a strong lead to create an environment that encourages private sector investment. This means addressing regulatory and legislative barriers and showing the kind of long-term will that transcends immediate political popularity.

New investment models have to meet the interests of both the public and private sectors, with a better understanding of risk allocation, greater transparency and more accurate measures of cost and performance. Government should ensure it builds mutual trust and cultural understanding of its commercial partners, and shows strong leadership to push projects through multiple departments and competing interest groups. The public sector also has to improve its technical skills in procurement, planning and project management.

Funding will be a further challenge, so governments should be willing to pursue existing and new sources whether it is higher tax, increased energy bills, or pay-per-use resources such as road tolls. And given the global push for infrastructure, there will be intense competition for resources and skills, so every state must work to attract the best private sector talent.

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Economic conditions front of mind

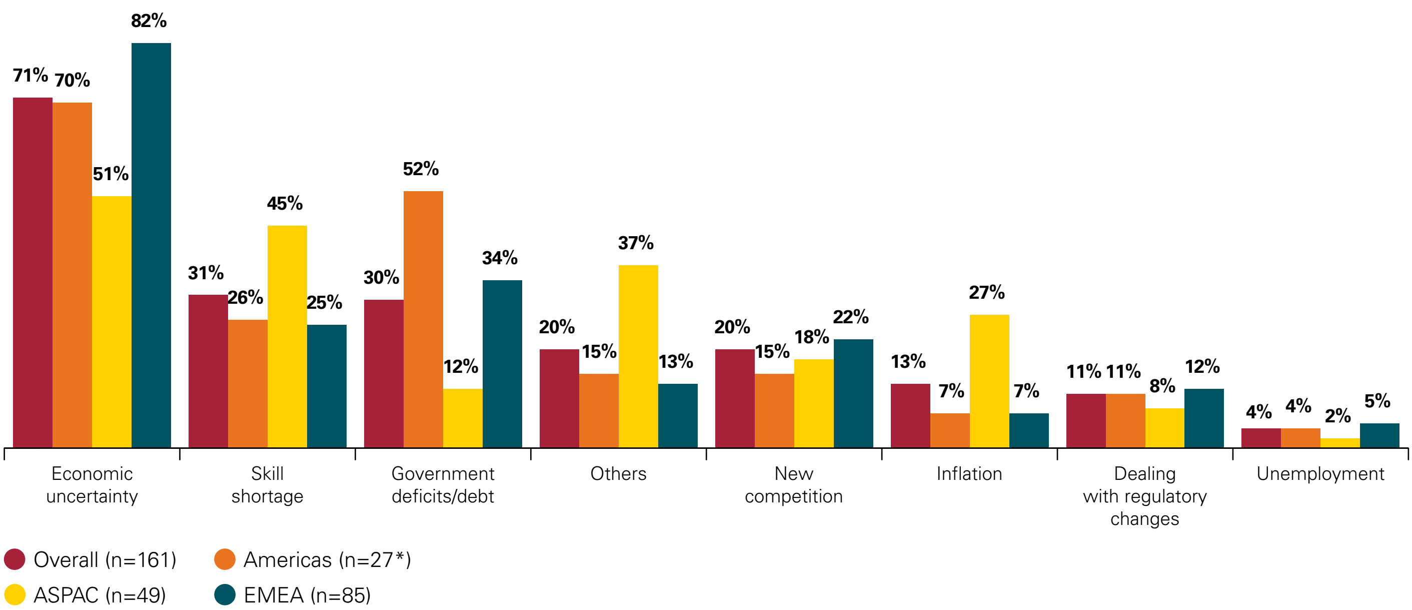
Continued worries over the state of the global economy are reflected in the survey findings. Not surprisingly, when commenting about current business conditions in their home regions, a large majority (71 percent) say that economic uncertainty is the biggest concern. Given the ongoing crisis over the Euro, it is no real surprise that firms from EMEA are the most nervous, with one European executive quoted as saying: "Even the traditional optimists are finding it less cheerful."

Respondents from Asia Pacific are relatively less pessimistic about economic prospects and instead point to skills shortages and inflation as a continuing worry, with Hong Kong and China suffering from a lack of basic construction resources and some commodity prices rising at a double-digit rate. In the Americas, the growing US government deficit is proving a matter of some concern to construction executives, who fear this may constrain any economic recovery.

71%

say economic uncertainty is the biggest business concern in their home region.

Greatest concerns over business conditions in your principal region



'Yes' percentages represented
*Low base – findings are directional in nature
Respondents chose top two greatest concerns
Source: KPMG International, 2011

Performance and future expectations

Optimism in the midst of uncertainty

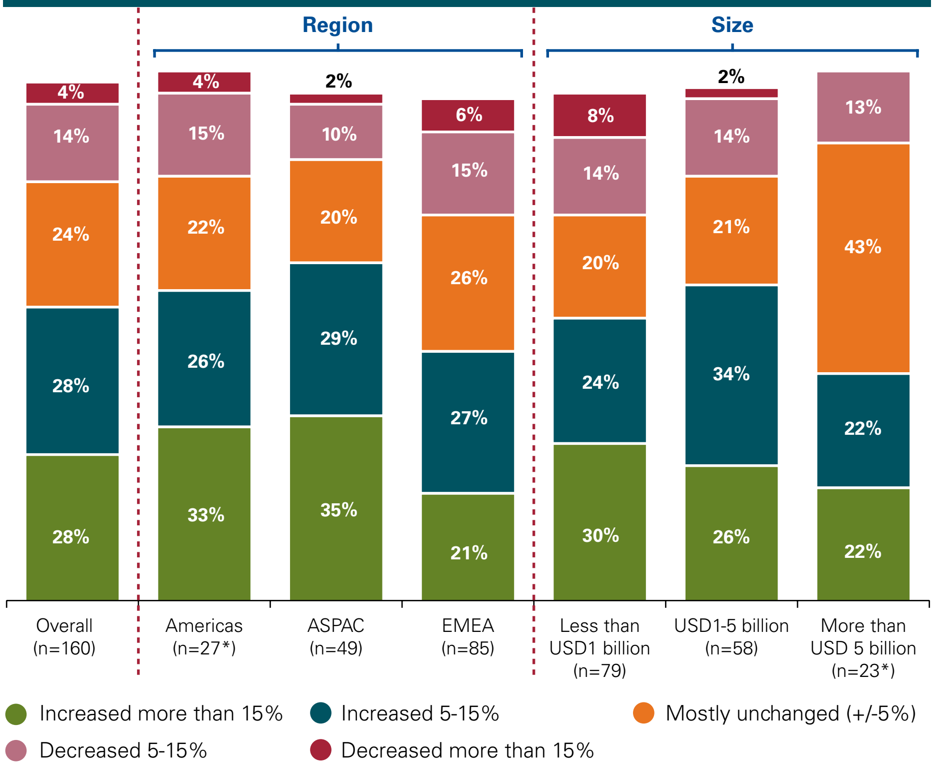
In spite of the troubles afflicting sovereign debt and even more worrisome, the crisis impacting the Euro zone, engineering and construction industry executives remain positive about the future. Half expect backlogs to increase in the next year and the majority feel margins will either rise or stay at current levels.

2011 appears to have been a solid year for the sector, with 56 percent reporting an increase in backlog and only 18 percent experiencing a decline. The best performing region was Asia Pacific, where almost two-thirds (64 percent) say their backlog has gone up, due to intense activity in Hong Kong and China. The economic woes in Europe are mirrored by the survey responses for this region, with only 21 percent reporting a significant increase. In the UK, for example, some of the biggest players are finding their order books declining and are preparing for a prolonged recession.

Performance among the bigger companies was noticeably poorer than their smaller counterparts. A number of large organizations may have worked through their backlog, and are now affected by a lack of major public and private projects – many of which remain on hold.

64%
of respondents from Asia Pacific say their backlog has gone up in 2011.

Change in backlog from 2010 to 2011

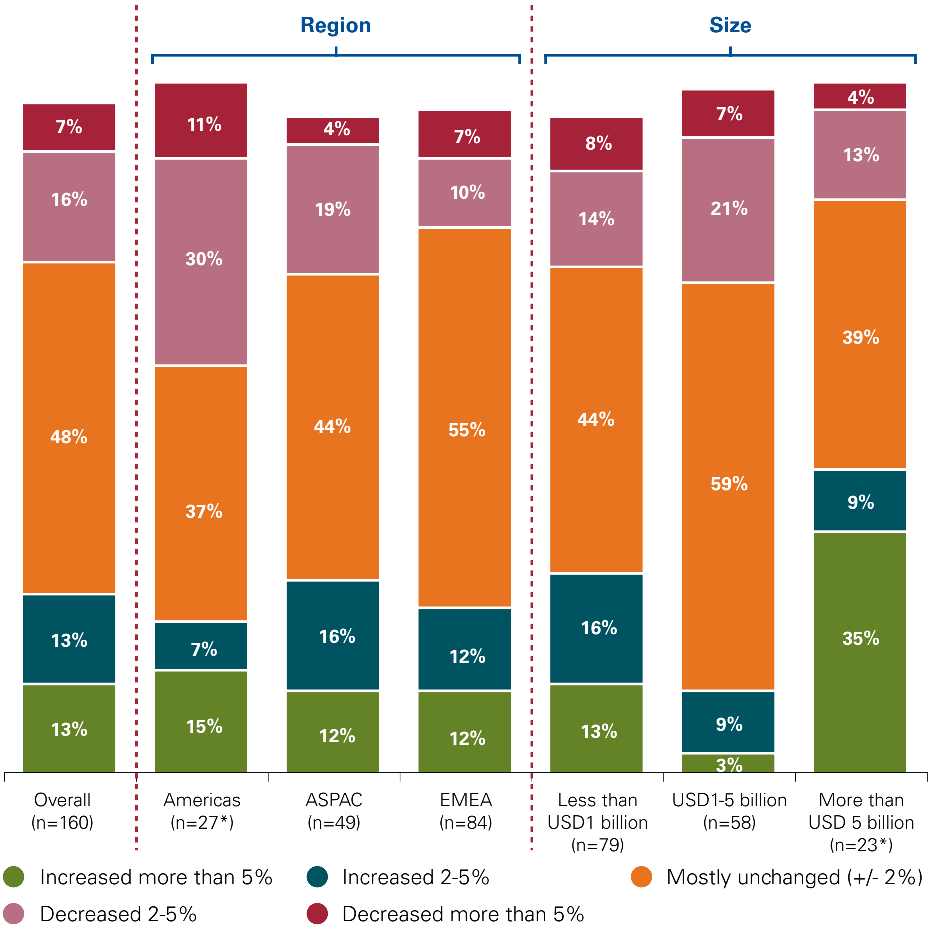


Percentages might not add up to 100 due to rounding off
Source: KPMG International, 2011

Compared to KPMG's previous Global Construction Survey, backlog margins appear to have improved significantly, with more than twice as many companies enjoying an increase in 2011. The proportion experiencing declining margins has also dropped a few points. The worst performing region is the Americas, where 41 percent of respondents report a drop in margins. This may be due in part to a shift in the balance of power in favor of customers, who are negotiating lower margins on future projects, and because of new foreign entrants who are causing an increase in competition.

Despite reporting the lowest backlog growth, the larger companies involved in the survey have still managed to maintain their margins, with 44 percent reporting an increase. These organizations have managed to take a lot of cost out of their businesses in recent years and many are now running lean, efficient operations.

Change in backlog margin from 2010 to 2011



Percentages might not add up to 100 due to rounding off
Source: KPMG International, 2011

Positive future expectations

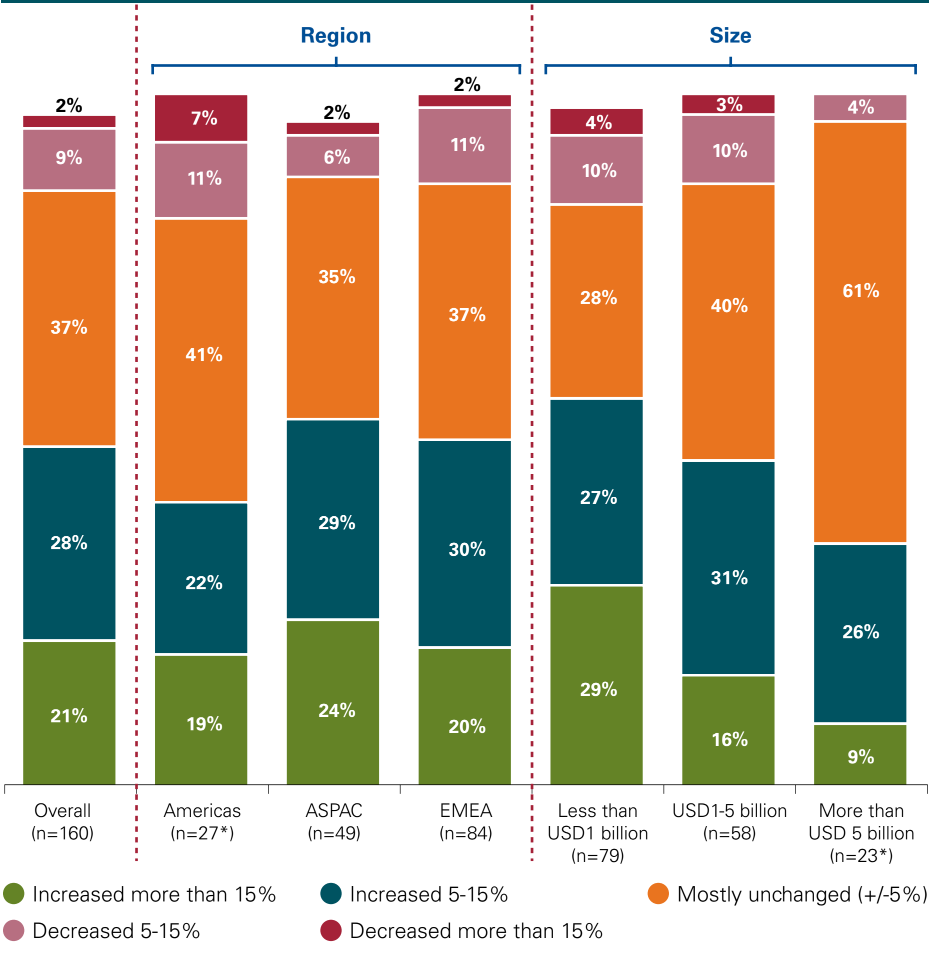
11%

Only 11 percent of firms anticipate a decline in backlog in 2012.

Looking ahead to the next 12 months, the engineering and construction industry appears to be fairly optimistic about backlog – even in the troubled Europe, Middle East and Africa region, which is a surprising response given the uncertainty over the state of the Euro. Only a small proportion of respondents forecast a decline in backlog and half expect an increase. Asia Pacific respondents are the most confident of continued improvement, again fuelled by the ongoing construction boom in China and Hong Kong, focused primarily on infrastructure.

Interestingly, the smaller-to-medium sized companies involved in the survey expect to see a substantial rise in backlog, probably because any wins they have enjoyed will have a bigger impact proportionately on their smaller portfolio. With many major infrastructure projects on hold, modest repair and maintenance contracts are the order of the day, which are more likely to be picked up by the smaller, locally-focused contractors. Backlog forecasts for bigger firms are steadier with a majority (61 percent) anticipating no change, which reflects their greater diversity.

Backlog forecast for the next 12 months



Percentages might not add up to 100 due to rounding off
Source: KPMG International, 2011

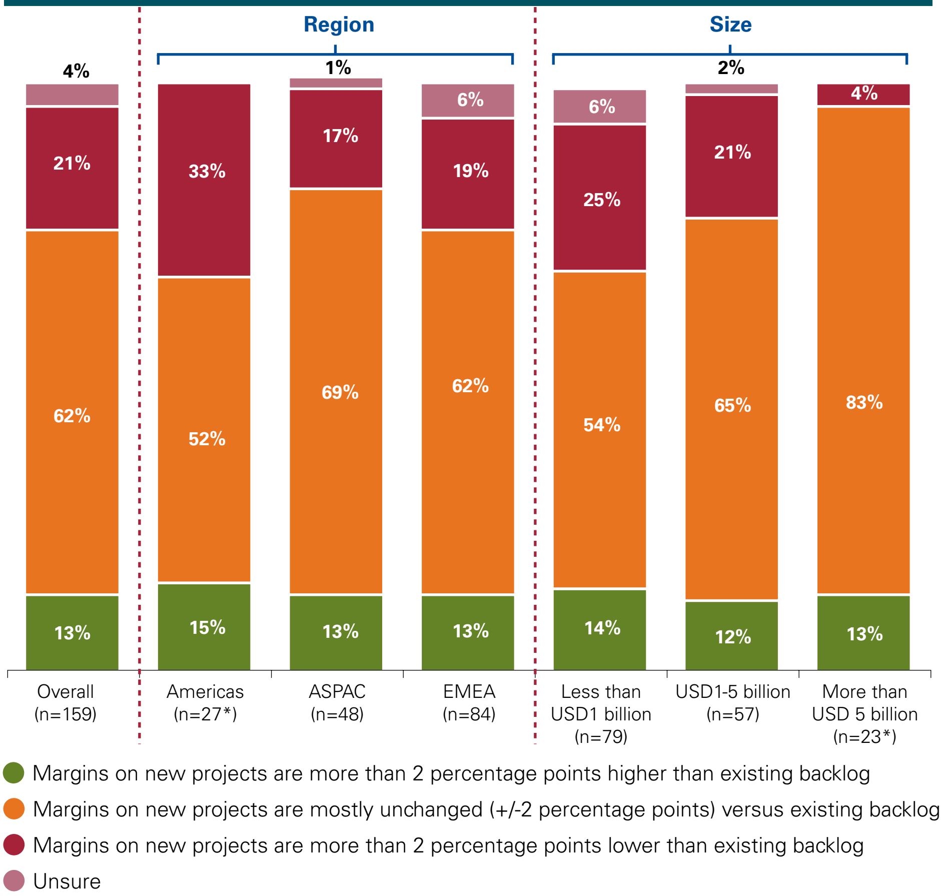
The majority of respondents believe that future margins will be largely unchanged – even in Asia Pacific where, as mentioned, markets such as Hong Kong are undergoing very high inflation that could push up the price of materials. However in the Americas, a third say that margins are going down, which in an industry that is already low-margin could lead to further stress on the business.

The larger firms are extremely confident that they can maintain current levels of profitability. These companies have longer term backlogs, giving greater certainty over future revenues, costs and margins. They also tend to have older and deeper client relationships so they know more about customers' capital spending plans, enabling better targeting and conversion of opportunities.

In contrast, smaller firms are less diverse and can quickly suffer if a particular sector is underperforming, so it is of some concern that 25 percent of smaller-to-medium-sized businesses are expected to endure even lower margins, which again could create further distress for some companies. Many such firms are anticipating a continuingly competitive market and may be willing to take on work at low margins just to maintain cashflow and retain workers.

75%
believe that margins on current bids will be either the same or higher than for existing projects.

Margin forecast on current bids versus margin in current backlog



Percentages might not add up to 100 due to rounding off
Source: KPMG International, 2011

View Point

Paving a smooth road to acquisition

With a number of businesses either stressed or distressed, and others shedding non-core elements to raise cash, merger and acquisition (M&A) opportunities abound for those engineering and construction companies looking to add new capabilities or improve on existing ones.

However the road to acquisition is strewn with obstacles, so buyers have to ensure they have a strong M&A team and robust processes to help uncover risks in the target's business, including quality of earnings, quality of assets, customer and supplier matters, cultural fit, retention of key personal and specialist skills, achievement of synergies, financial reporting, tax and accounting structuring, projections, and integration risk assessment. Historical operating results may be distorted by the recent economic downturn which requires even further in-depth analysis of prior operating results, current backlog and projected future earnings.

The acquirer should be able to rapidly mobilize a global M&A team with knowledge of the target's business (through its own strong industry experience), as well as an understanding of the broader risks and challenges associated with transactions. The team should also have the skills and the willingness to challenge financial projections, assets strength and customer and supplier relationships, and understand potential tax exposures that could affect the deal, as well as further risks inherent in integrating the new entity. Also, local country expertise is critical in assessing the risk of illegal and questionable acts or payments, currency restrictions and other relevant risks related to operating in foreign jurisdictions.

In carrying out the right due diligence, potential purchasers should identify the significant risks existing within the target, to uncover any deal-breaking issues that could affect the sale price or even scuttle the deal, such as purchasing behavior of targets, major customers, supplier activity, distribution channels and competition. It is also important to carry a detailed analysis of the key financial information necessary to evaluate synergies and value creation, including the drivers of sustainable profits and future cash flows. Access to key data is vital, and calls for a sizable team to gather and analyze information.

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Efficiency

Building better practices

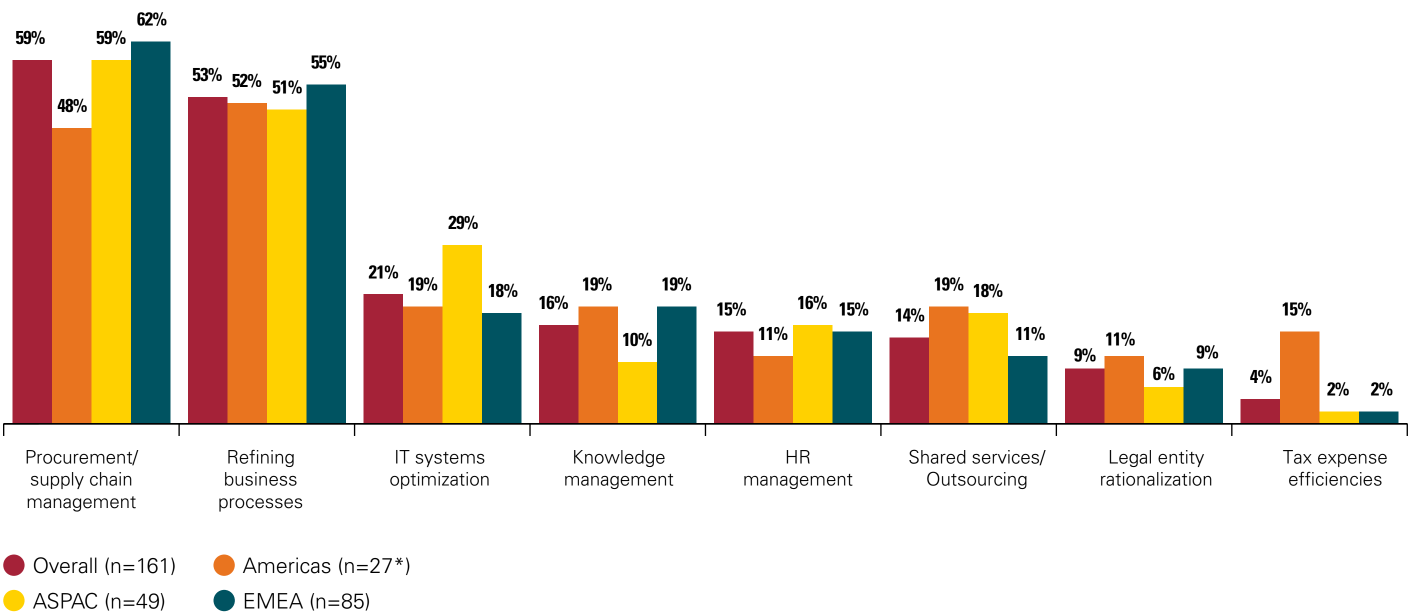
As they seek greater efficiency, engineering and construction firms are trying to overcome a range of complexities in procurement and supply chain processes. And, while acknowledging the need to replace often outmoded IT systems, they're also concerned with the cost and effort required.

The executives taking part in the survey feel that two areas of the business have the biggest potential for improving efficiency: procurement/supply chain management and business processes. Procurement/supply chain is a hugely critical component of the overall services delivered, and those with the most efficient and competitive supply chains are likely to win more work, especially in emerging markets such as Brazil, Russia, India and China.

In addition to these factors, a number of respondents from larger organizations are focused on optimizing their IT systems and rationalizing legal entities, both of which can help to reduce the complexity inherent in businesses of scale and diversity.

59%
of respondents feel they can gain greater efficiency out of their procurement and supply chain activities.

Top functional areas with opportunities to improve efficiency



'Yes' percentages represented
*Low base – findings are directional in nature
Respondents chose top two functional areas.
Source: KPMG International, 2011

Creating a low-cost culture

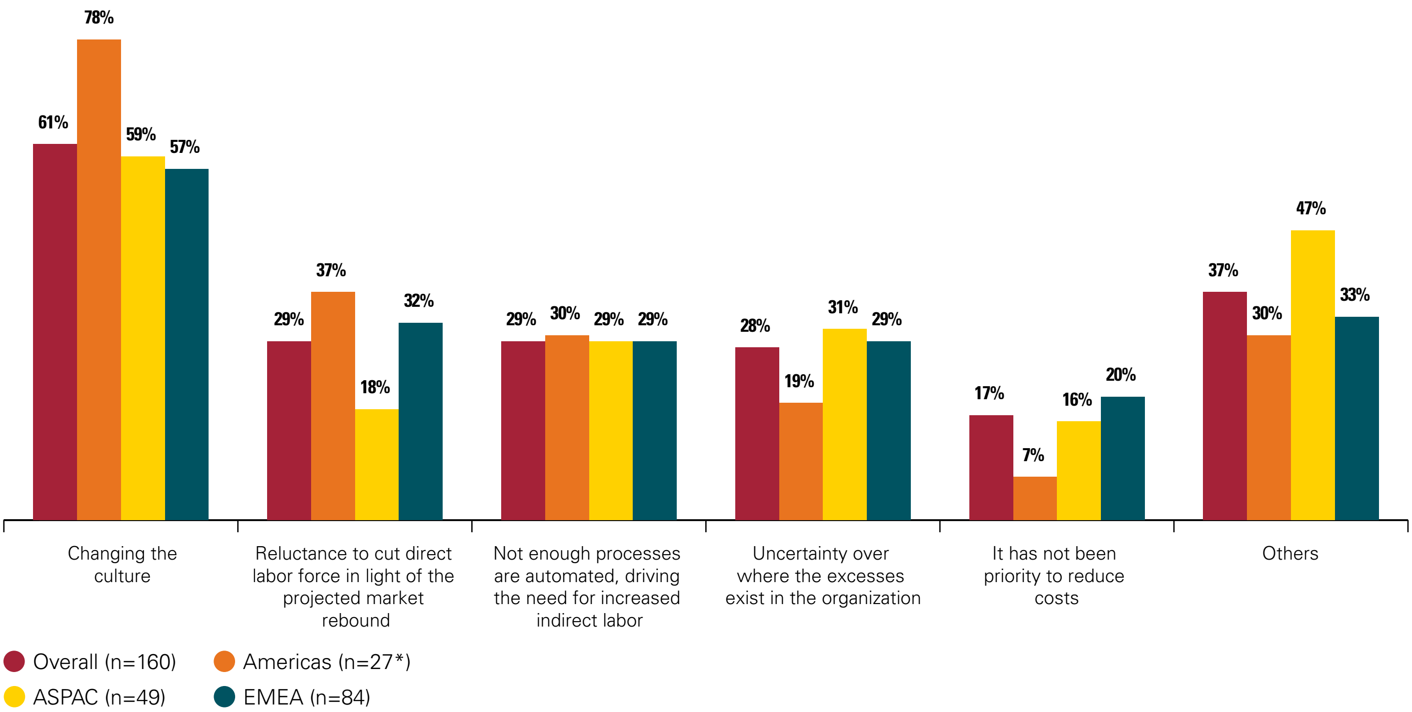
In the continued difficult economic conditions, cost reduction remains high on the agenda for most companies. According to the respondents, the single biggest challenge to cutting costs is organizational culture, particularly in the Americas, where 78 percent cite this factor, suggesting old habits are proving difficult to break. Larger companies are concerned that they cannot easily identify where excesses exist within their organization, which once again highlights the need for better business processes to manage the complexities of multinational businesses.

Surprisingly, 17 percent say that cost reduction has simply not been a priority. These executives may represent companies that have already trimmed costs extensively during the recession and now have very lean operations, with little or no scope for further reductions.

78%

of engineering and construction companies from the Americas say organizational culture is a barrier to cutting cost.

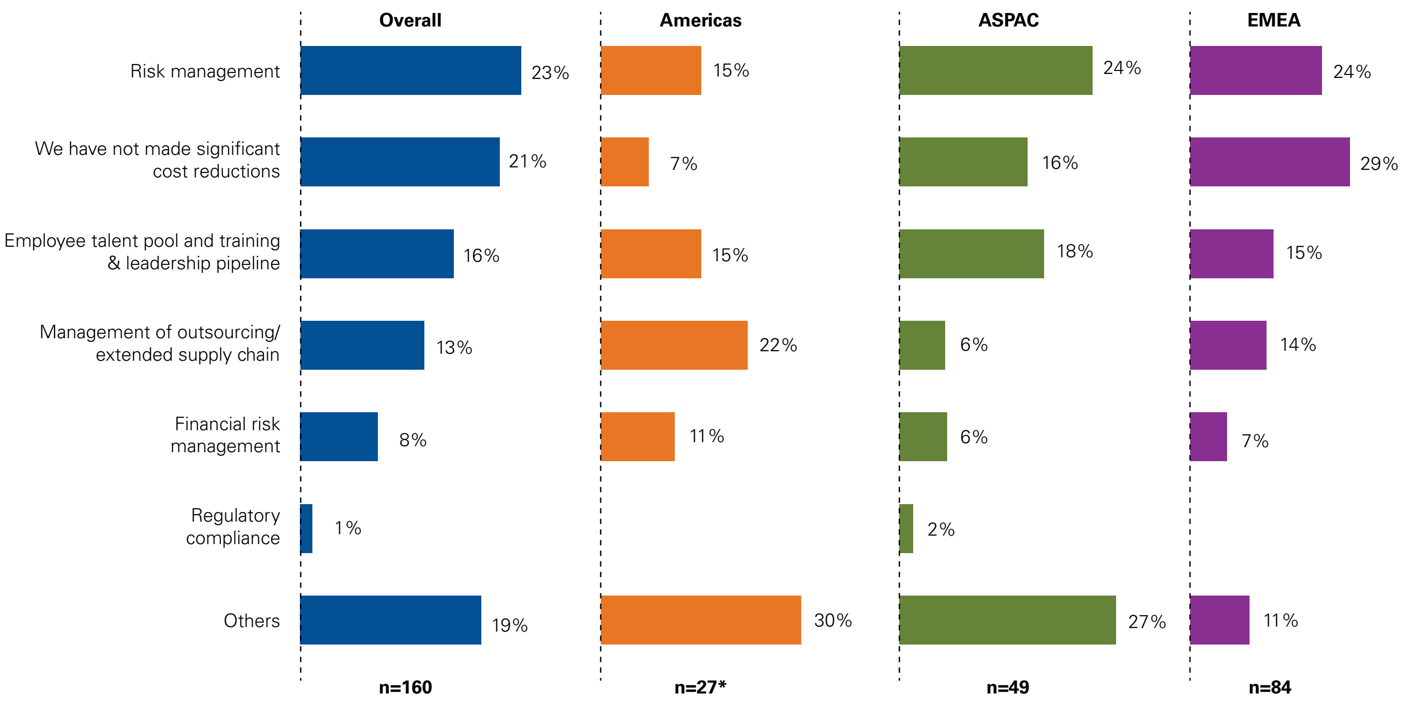
Challenges in reducing costs



'Yes' percentages represented
*Low base – findings are directional in nature
Respondents chose top two greatest challenges.
Source: KPMG International, 2011

Cost cuts seem to be spread fairly evenly across a number of different departments, although risk management has been impacted the most. Again, it's remarkable that a fifth of all respondents say they have made no significant cost reductions – a figure that increases to 29 percent in Europe, Middle East and Africa. A number of firms in this region contract-in resources on a project basis and have little direct labor. With fewer fixed costs, there is less need to cut back. Many had also been optimistic of an economic recovery and felt they could ride out the storm. In addition, the larger European businesses are protected by their diversity so they continue to prosper in certain sectors (such as utility-related projects in the UK) despite the decline in construction and civil engineering work.

Areas of your business where cost reductions will have the greatest impact



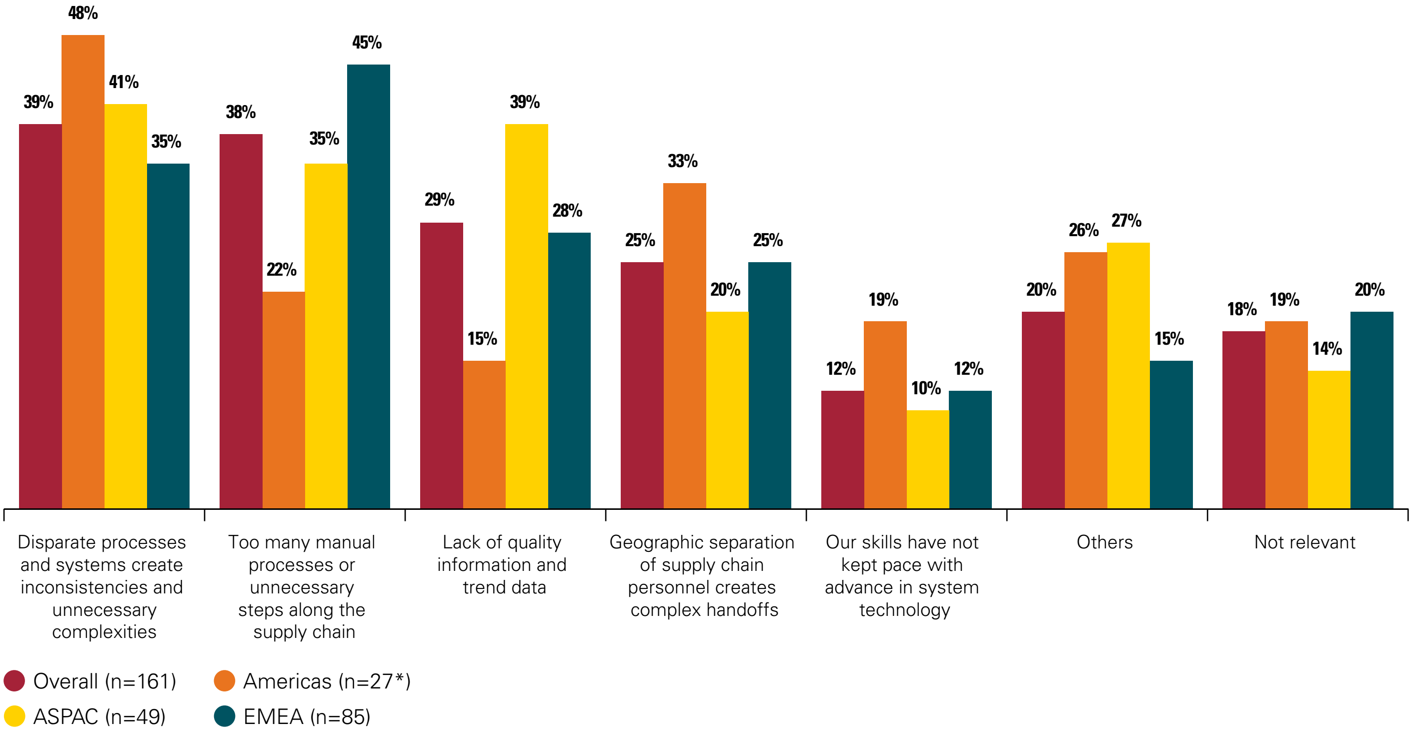
'Yes' percentages represented
*Low base – findings are directional in nature
Source: KPMG International, 2011

Simplifying supply chain management

Attempts to establish consistent best practices in procurement and supply chain are faltering due to over-complex systems and processes, according to KPMG's 2012 Global Construction Survey. Engineering and construction businesses in Asia Pacific say they are suffering from a lack of robust data, while the larger multinational players from all regions are finding that their sheer size and spread makes it hard for personnel to follow a common standard.

Of course, none of this is helped by the fact that, in the Americas at least, nearly four in 10 (37 percent) claim not to have reviewed their overall procurement and supply chain processes for at least five years – and some have never carried out such a review.

Greatest challenges in enhancing procurement/supply chain management



'Yes' percentages represented
*Low base – findings are directional in nature
Respondents chose top two greatest challenges.
Source: KPMG International, 2011

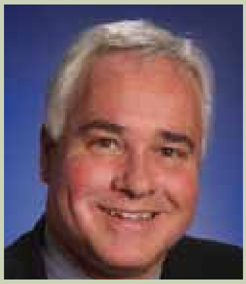
View Point

In the supply chain, knowledge is power

The recession has exposed weaknesses in many engineering and construction companies' procurement and supply chains. In the good times, when margins were relatively high, organizations were more concerned about getting hold of materials quickly than keeping costs down. However, in today's competitive market conditions, a few percentage points on purchase prices can make the difference between a profit and a loss. Inventory costs have also surged, as stock levels have risen due to cancelled projects and uncertainty over future availability.

In a number of regions, suppliers have either gone out of business or downsized, forcing companies to look overseas for alternative sources, adding greater complexity to the supply chain. Engineering and construction businesses are typically fragmented (partly a result of having grown through mergers and acquisitions), with a high level of local autonomy and series of disparate enterprise resource planning (ERP) systems around the different business units, preventing leaders from gaining a complete view of purchasing activity across the business.

As the respondents in this year's survey acknowledge, investment in IT doesn't come cheap; a fully-integrated system can cost tens of millions of dollars and take from two to five years to complete. Nevertheless, those brave enough to fund major IT enhancements are now reaping the rewards of greater centralization and transparency. They can reduce purchasing costs by taking advantage of economies of scale. They can also take a high-level view across their supply chain to spot any weak links, and hedge against price rises or falls by buying advance stock, or possibly vertically integrate to safeguard supplies of vital materials. Finally, they can improve forecasting by working closely with suppliers at different points in the supply chain on forecasting, to ensure adequate capacity and optimum inventory levels.



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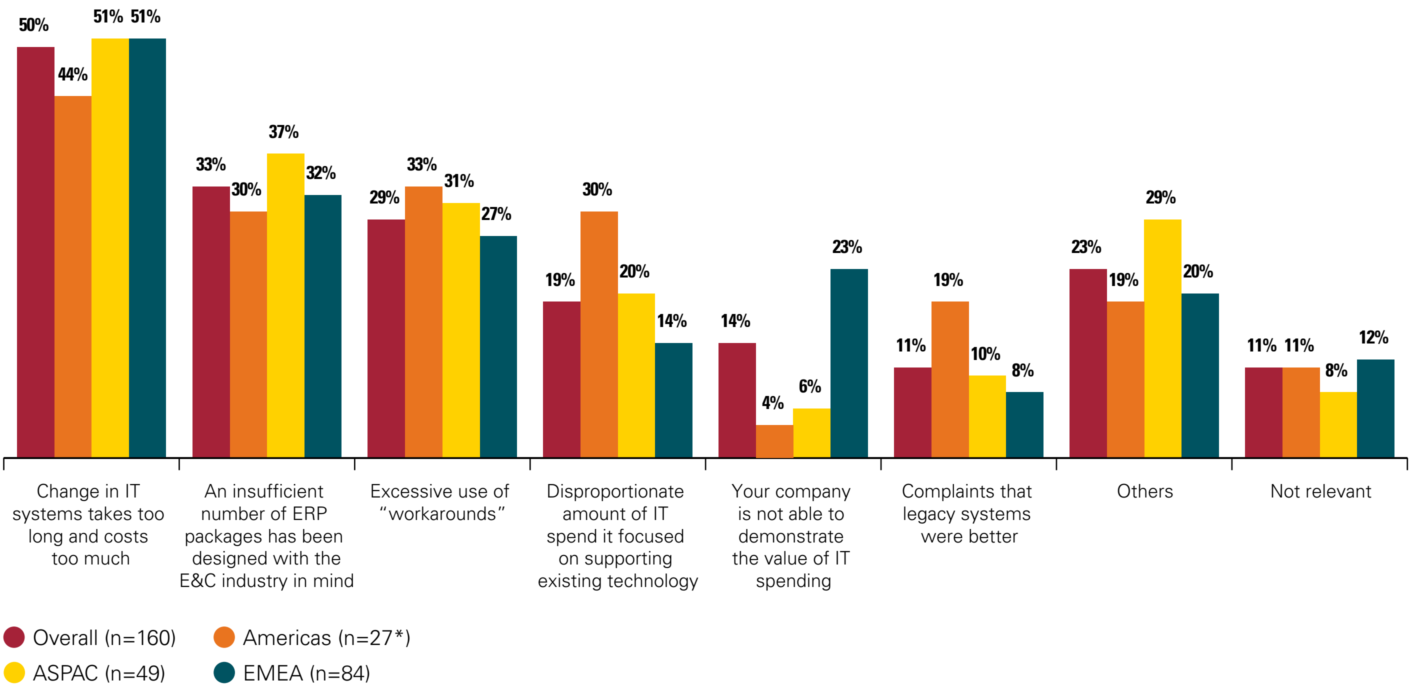
In trying to optimize IT, the greatest concern is the time and cost of business transformation programs.

Getting value out of IT spend

Having invested heavily in IT in the late 1990s in preparation for the Year 2000 bug, the industry has fallen behind somewhat in the quality of its systems, with an excess of manual procedures that push up costs and slow down reporting. However, there is a question mark over companies commitment to upgrading or replacing systems, as respondents' greatest IT optimization challenge is the time and cost of transformation. A third (33 percent) think there are not enough construction-specific ERP packages, which makes implementation even more difficult. A number of executives from companies in Europe, Middle East and Africa feel that their organizations cannot demonstrate the value of IT spend.

Greatest Challenges in IT Optimization



'Yes' percentages represented
Respondents chose top two greatest challenges.
Source: KPMG International, 2011

Managing tax effectively

In an increasingly global, interconnected marketplace, tax is gaining in importance as companies seek to be compliant and optimize their structures and reporting. This includes issues such as: income/expense recognition for long-term contracts; simplified cost-to-cost percentage completion method; accounting for fixed assets and inventories; and R&D credits.

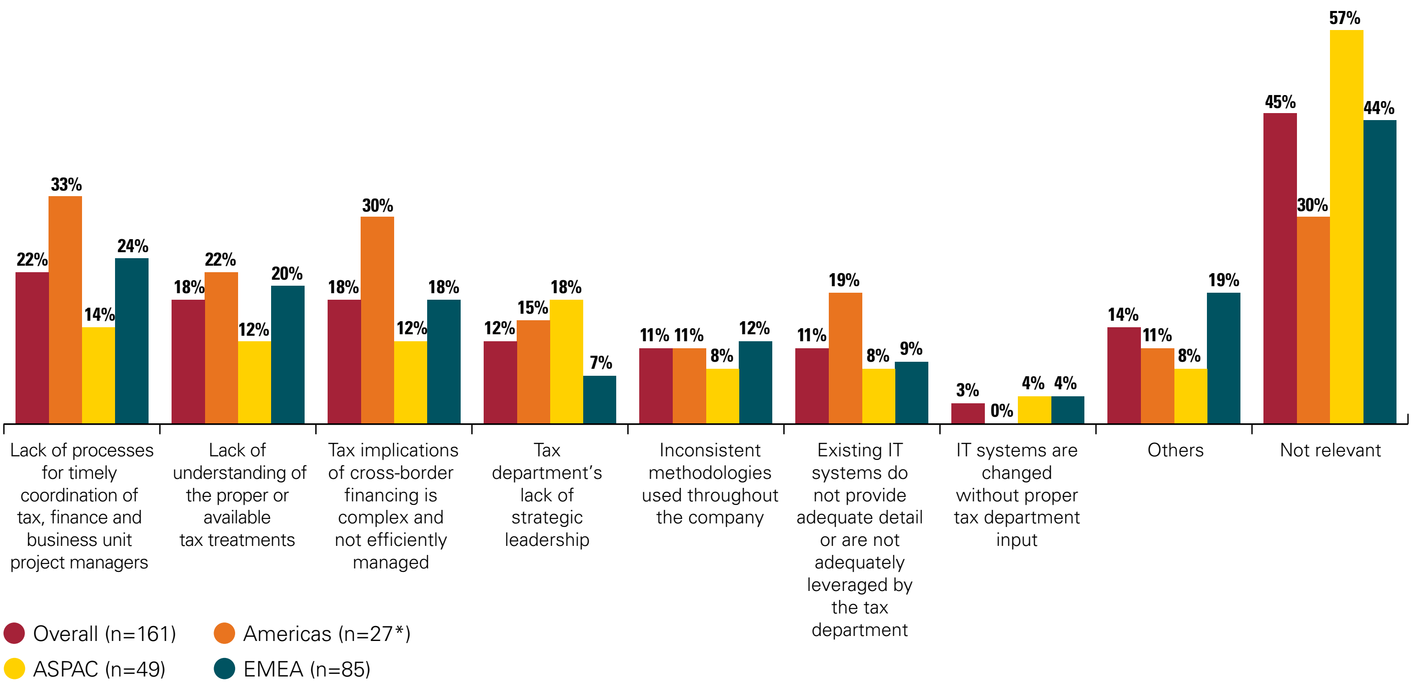
Encouragingly, 62 percent of those taking part in the survey say they have reviewed their tax accounting methods in the past 12 months, suggesting that most businesses are seeking to improve their procedures. Given the global nature of their businesses, it is surprising that the larger organizations are the least likely to have conducted a critical appraisal; indeed, one-sixth (17 percent) of all large companies claim to have never held such a review.

In optimizing tax, no single factor appears to be of most importance, although America's respondents point to a lack of processes for coordinating tax managers with project managers, along with tax complexities associated with cross-border financing.

Possibly the most extraordinary revelation is that almost half (45 percent) of all executives in the survey feel that tax optimization is not relevant to their organization. Such a mindset may be more prevalent among companies that are less global and therefore have fewer opportunities for tax planning. It is also possible that some executives do not appreciate the full potential of tax optimization, viewing tax as more of a 'housekeeping' function.

62%
have reviewed their tax accounting methods in the past twelve months.

Greatest challenges in tax optimization



'Yes' percentages represented
*Low base – findings are directional in nature
Respondents chose top two greatest challenges.
Source: KPMG International, 2011

View Point

Tax is an integral part of your business

As the industry becomes more global, engineering and construction firms are exposed to an ever wider range of tax regimes, any one of which can have a big impact upon earnings. Perhaps the biggest challenge is determining which countries will tax a project. If a project based in a low-tax country loses money there is very little tax benefit. Conversely for work based in high-tax nations, successful, high-margin work will be taxed heavily.

Bidding teams should therefore look to include appropriate specialists at the earliest stages of the tender process, to assess potential tax risks and structure the contract in a way that optimizes the overall tax burden. A project tax plan is just the start; systematic monitoring is needed to ensure compliance, with a control approval committee for larger multinational projects where volatility is higher.

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Risk management

Coping with risk in a changing world

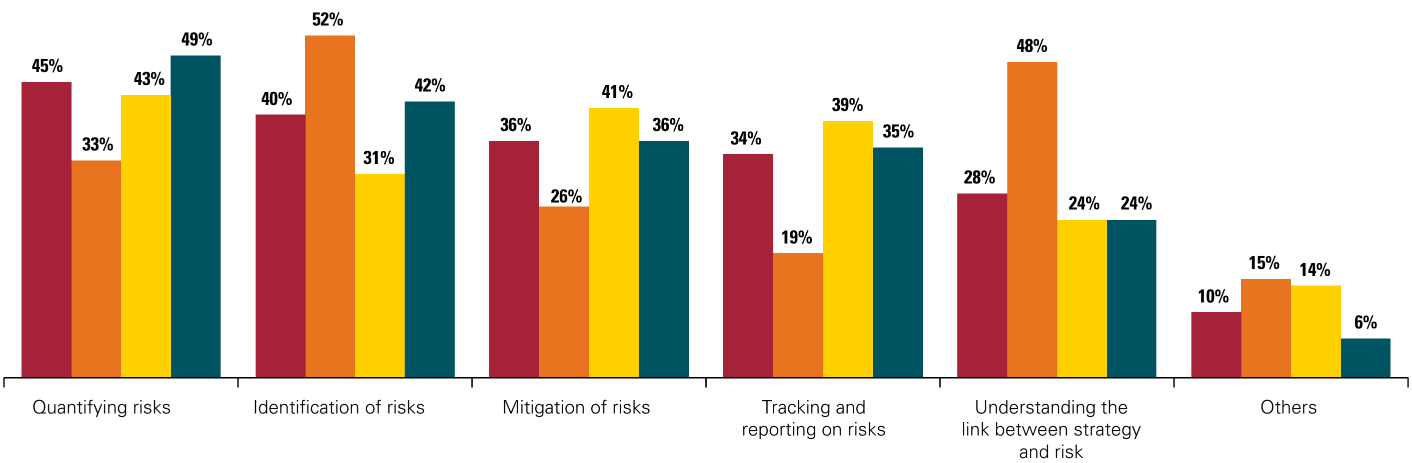
With significant incidents of margin erosion, respondents are understandably eager to continue to improve their risk management, while just 36 percent believe their project review processes to be “very efficient.”

The occasional incidence of failing projects (sometimes with catastrophic consequences) confirms that engineering and construction companies are never immune to risks across their range of activities. This year’s survey suggests that the industry’s senior executives are concerned about a range of risk management issues, with quantification of risk at the top of the list and risk identification the next most important.

Respondents from the Americas are especially keen to better understand the link between strategy and risk, while bigger construction firms see risk mitigation as their biggest challenge. Some companies may have had difficulty identifying or even ranking all risks prior to executing strategic plans, especially when entering a new market sector or geographic location or pursuing aggressive growth. Others may have heavily incented middle management to grow, meaning that leaders struggle to keep a focus on risks, some of which are out of a contractor’s control. Others may have tried to contractually mitigate every risk, only for the customer/owner to squeeze the profit margin during the negotiation stage.

Construction executives are concerned about several risk management issues, with quantification of risk first and risk identification second.

Greatest challenges of enterprise risk management



Overall (n=161) Americas (n=27*)
ASPAC (n=49) EMEA (n=85)

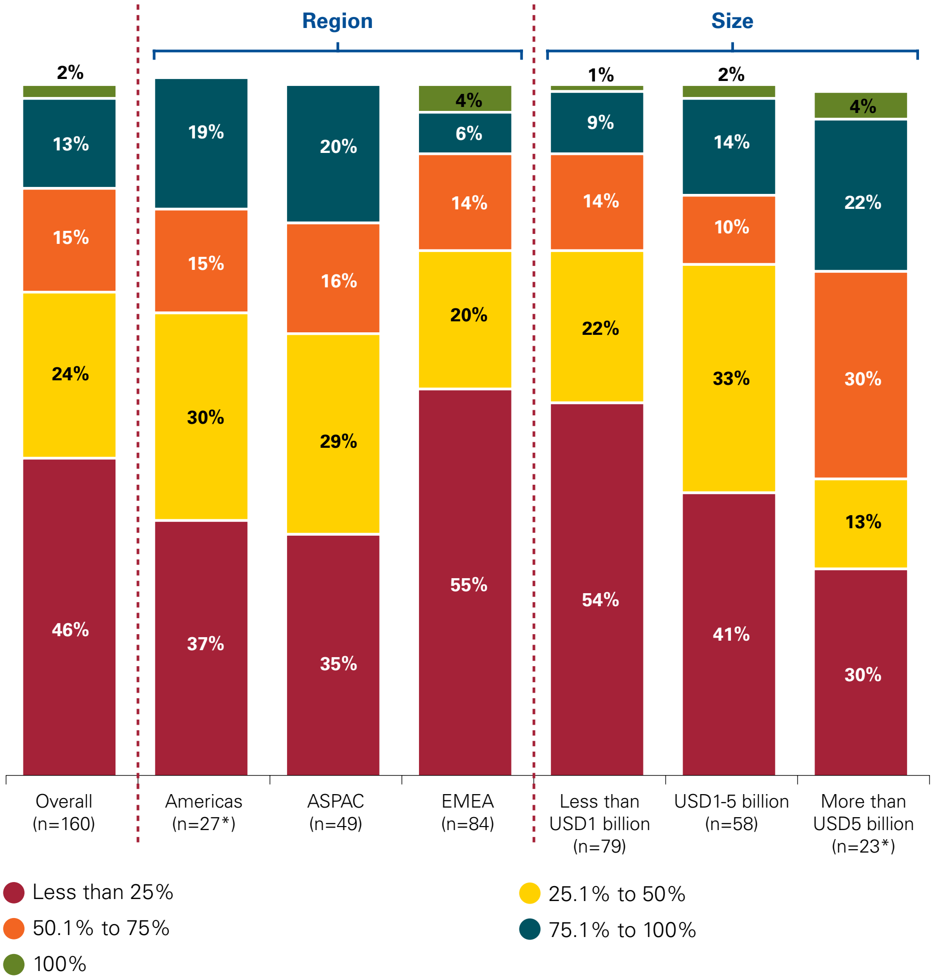
‘Yes’ percentages represented
*Low base – findings are directional in nature
Respondents chose two greatest challenges.
Source: KPMG International, 2011

Identifying and addressing risks to margins

Almost half of the respondents say that fewer than 25 percent of their projects exceed the original bid margin, indicating considerable room for improvement in dealing with project risks such as rising costs, supply chain interruptions, financing and resource shortages.

The situation appears more acute in Europe, Middle East and Africa, as well as among the smaller companies in the survey. It is likely that big engineering and construction firms have better-developed processes for assessing and addressing project risk.

Proportion of projects delivered above original bid margin



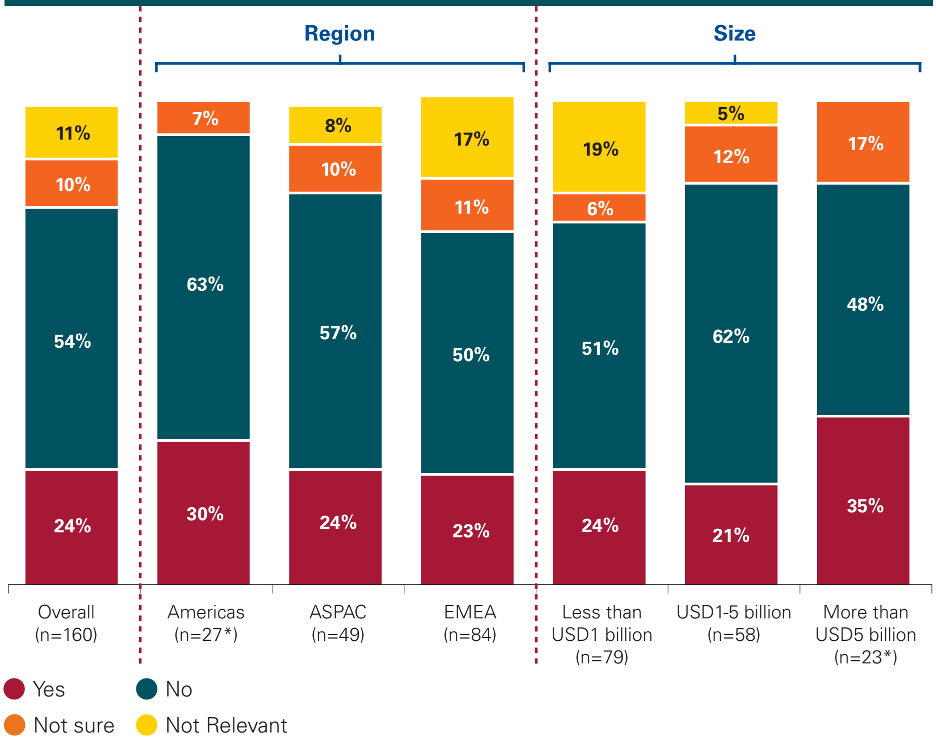
*Low base – findings are directional in nature
Percentages might not add up to 100 due to rounding
Source: KPMG International, 2011

54% say that for projects that significantly under-performed, they failed to identify the ultimate cause of margin erosion at the bidding stage.

When asked about projects that significantly under-performed, a majority (54 percent) admit they failed at bidding stage to identify the risk that ultimately materialized and caused margin erosion.

This is a surprisingly high response, suggesting a clear need to employ more rigorous upfront assessment of potential project risks.

Margin erosion identified at bidding stage

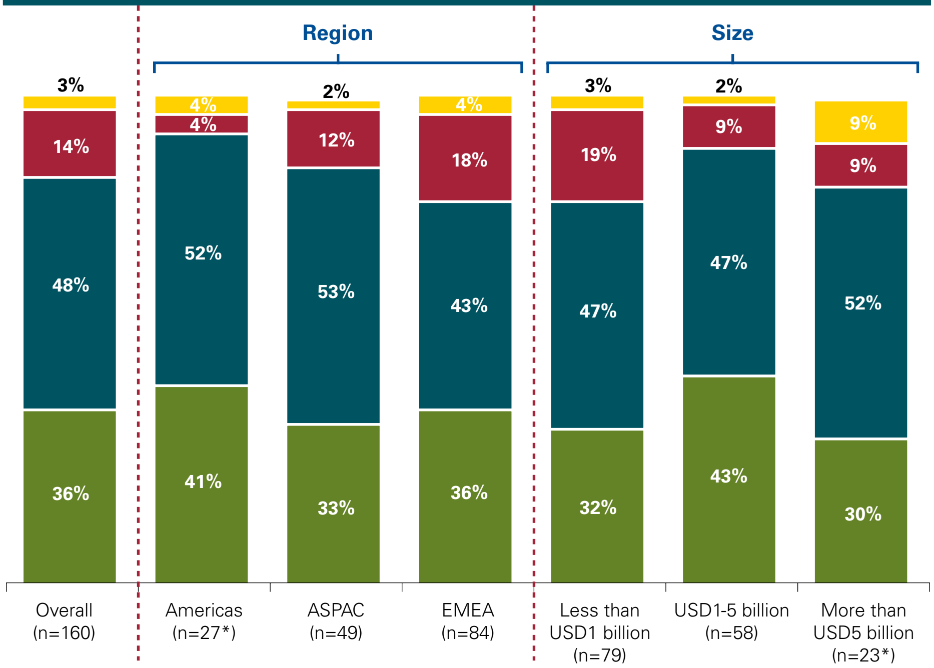


*Low base – findings are directional in nature
Percentages might not add up to 100 due to rounding
Source: KPMG International, 2011

Projects under scrutiny

Only 36 percent of the respondents consider their project review processes to be "very efficient", and the figure for larger firms is just 30 percent, which is of some concern given the size and complexity of the projects they undertake – and could help explain the margin erosion mentioned earlier. This finding suggests that just a minority of engineering and construction companies carry out a system-generated assessment of financial information, which in turn facilitates a qualitative project review. Robust, consistent and ongoing project analysis is paramount to improving project management practice as well as overall project performance.

Efficiency of project review process



- Very efficient – i.e., largely a review of system-generated financial information to facilitate qualitative review
- Somewhat efficient
- Not efficient – i.e., information needs to be secured from multiple systems before performing a qualitative review
- Not relevant

*Low base – findings are directional in nature
Percentages might not add up to 100 due to rounding
Source: KPMG International, 2011

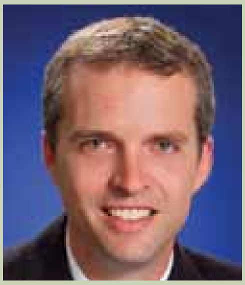
View Point

Continuously improving risk management

In KPMG's first Global Construction Survey in 2005, risk management was rated as the single biggest challenge facing engineering and construction companies in their quest to deliver projects on schedule and on budget. Since that time, the industry has made substantial progress including, the inception and growth of the Engineering Construction Risk Institute (ECRI), as well as improved ratings for risk management quality in subsequent KPMG surveys, suggesting that many organizations now have adequate systems and processes in place to manage risk.

Yet 2011 has still seen a few well-publicized project failures, which indicates a breakdown in some firms' structured risk management. Many of this year's respondents say they are unable to exceed their intended margin on projects, suggesting further room for improving the way they manage risk.

Businesses do not need more policies, procedures and controls; they need to integrate existing measures into a system that gives real-time access to project performance. This will enable them to identify actual and potential problems (such as contract execution, change orders or scheduling), and improve controls to reduce the chances of a re-occurrence. Such continuous feedback loops can be applied organization-wide to raise standards and benefit projects wherever they occur.



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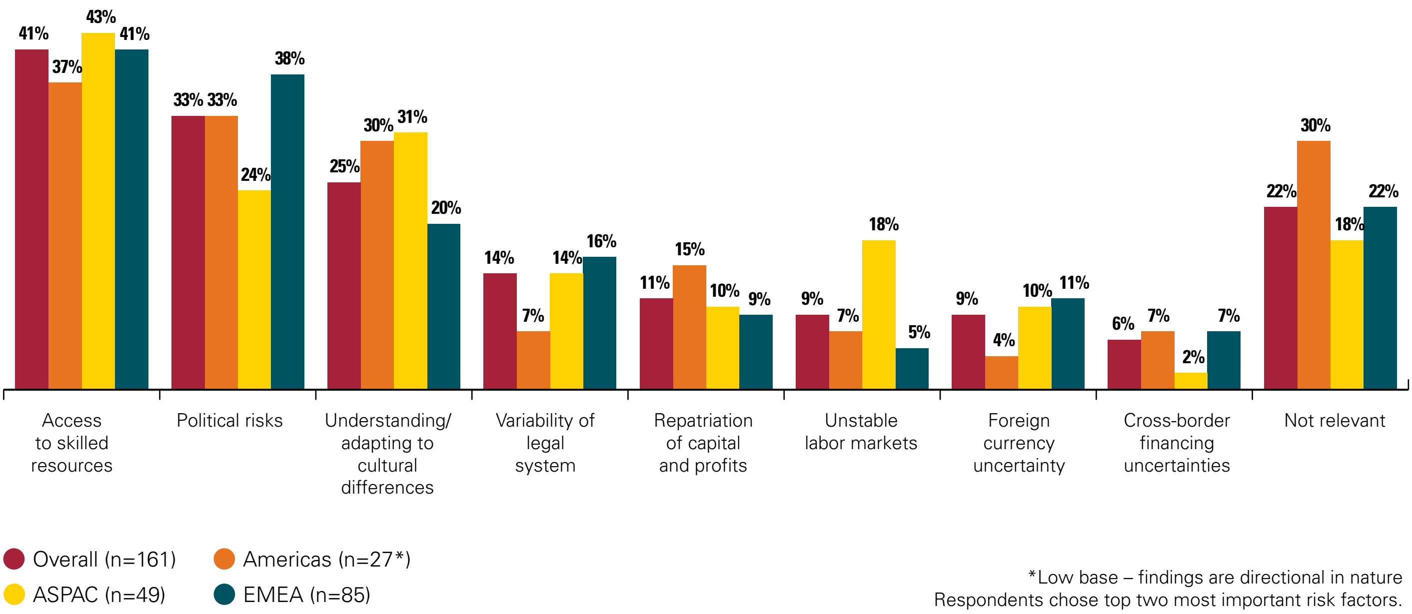
Challenges in emerging markets

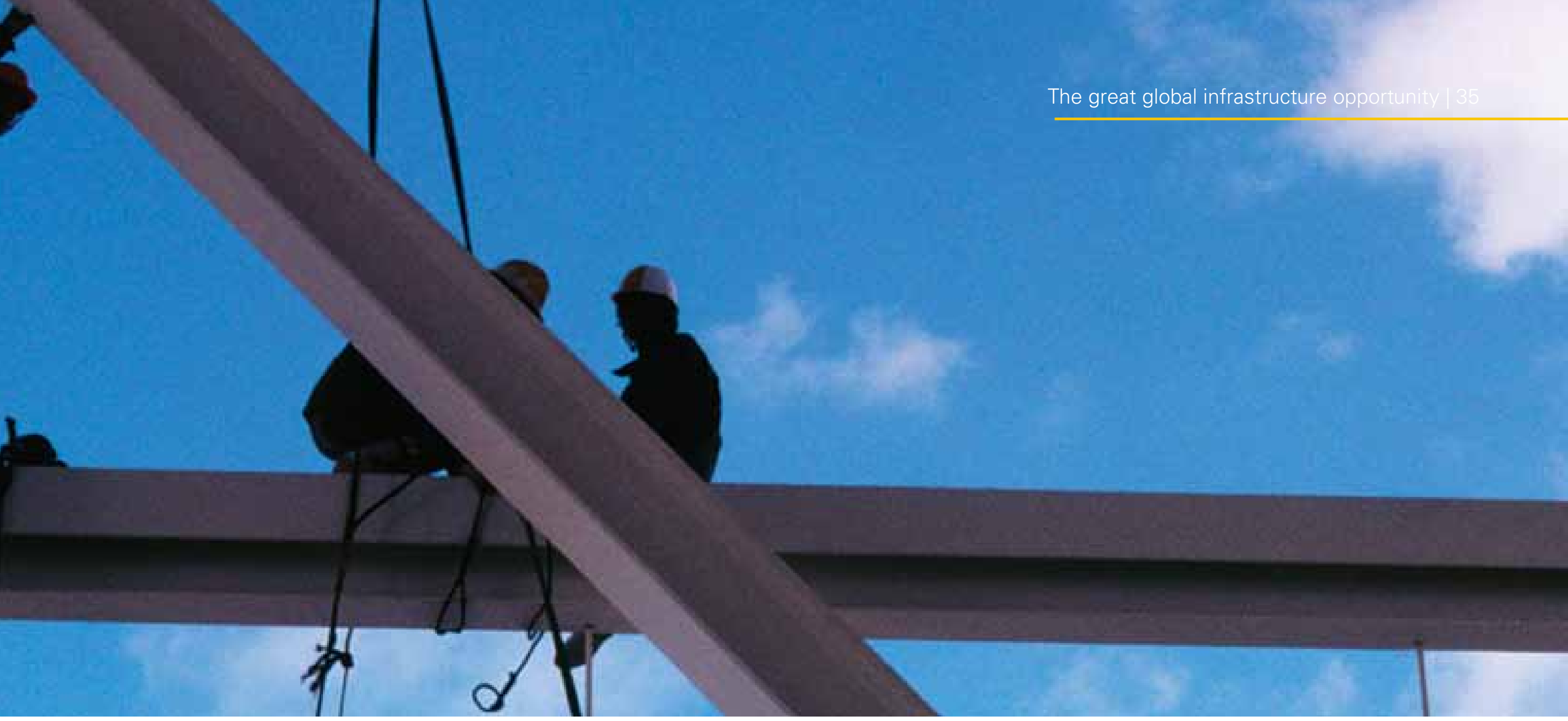
While emerging markets represent a big opportunity for engineering and construction companies, these markets frequently come with a high degree of uncertainty. The respondents consider access to appropriate skilled resources as their single biggest concern, followed by political risks and cultural differences.

Interestingly, only 14 percent cite "variability of the legal system" as a major risk factor; a number of firms have had difficulties with local legal issues in emerging markets, so they should ensure they fully understand how such factors could impact their business.

Risk factors while doing business with emerging markets



*Low base – findings are directional in nature
Respondents chose top two most important risk factors.
Source: KPMG International, 2011



View Point

Fears ease over revenue recognition

The latest Exposure Draft (ED) on Revenue from Contracts with Customers (issued in November 2011) goes some way to addressing the sector's concerns over accounting for long-term contracts. Many contractors now believe that the criteria in the revised ED will allow them to identify the vast majority of contracts as a performance obligation that can be accounted for as one integrated piece of work. And the criteria for determining whether control of goods or services are transferred continuously have been broadened, which should enable revenue and profits for most contracts to be recognized progressively, leading to less volatility in earnings. The revised proposals will also allow recognition over time based on input methods (e.g., cost) as well as output methods (e.g., surveys of work done).

On the flip side, the criteria for recognizing claims and variations are different from those in current accounting standards, while the ED is still asking for extensive additional disclosure requirements. KPMG worked with associations around the world to help lobby for changes to accounting boards, who have listened to industry input.

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Looking forward

The engineering and construction company of the future

KPMG's Global Construction Survey 2012 shows engineering and construction executives to be largely optimistic about their short-term prospects globally. Over the coming decades, demand for services should remain strong as nations struggle to meet growing power and infrastructure requirements. Irrespective of the source of funding (public or private), the bottom line is: the world needs more infrastructure, and engineering and construction companies are poised to not only capitalize on this opportunity, but to take a leadership role in shaping infrastructure for generations to come.

In preparing for an anticipated wave of new projects, the industry should seek to position itself appropriately, which means building efficiencies through optimizing costs, re-thinking tax structures, streamlining supply chains, enhancing IT systems, capitalizing on emerging markets and, where necessary, growing through mergers and acquisitions.

Embracing such ideas could change the shape of the sector and of individual companies, so we asked the survey participants how they envision the engineering and construction business of the future, and received some highly insightful responses (see opposite page).

Scale: going global

As one respondent comments: *"Geographic expansion will increase, mainly in emerging countries as domestic and regional markets are perceived as mature."* Scale is necessary to compete globally and to tackle large energy and other major infrastructure projects, which in turn creates the diversity to cope with regional volatility. Further consolidation is expected, with an opening up of the M&A market. According to another survey participant, construction companies will become: *"diversified and global, with more vertical integration. There will be no middle class to speak of. Small local companies will survive, but nearly all mid-sized companies will be slowly acquired by the global leaders."*

Stakeholder management: towards closer relationships

A survey participant urges the industry to work more closely with the public sector on infrastructure and PPP's, emphasizing that: *"A company needs to be more government-oriented."* Referring to the same issue, another executive feels that PPP's require companies to be: *"... more flexible and innovative, exploring alternative areas of procurement and building a different skill base when involved in contract procurement. Engineering and construction companies will also have to put equity into projects."* When discussing relationships on a broader basis, one respondent saw room for improvement: *"Firms need to work better with the contractors and become more of a business partner."*

Range and depth of services: *"design, build, finance and operate"*

In the words of one industry executive, *"Companies will offer a wider range of services including front-end consultancy/engineering, construction and maintenance or facilities management"* as part of a "total procurement" solution. Another comments that: *"Large construction companies will have the capability to look after assets over the full life cycle. They will have a broader range of service and specialism."* This is likely to lead to a rise in direct labor, with an associated need for training and management development to build a highly mobile, global workforce, making the sector more attractive to graduates and new entrants to the workforce.

Sustainability: an evolving issue

The importance of a sustainable approach to the entire construction cycle is succinctly summed up by this respondent: *"Sustainability starts and ends with the construction industry. The materials used, the waste produced and the final built environment – and therefore the sector – must become leaders in sustainability."* However, regulatory change will also be a big driver of behavior, according to an industry executive, who argues for engineering and construction companies to play an: *"active role, since clients – mainly in Northern Europe – increasingly demand audited data on sustainability issues/ratios; therefore companies should actively shape the discussion."* A number of those involved in the survey point to the increasing range of opportunities arising from sustainability, including the development of infrastructure for renewable energies and green buildings. However, one industry leader noted the need to be pragmatic and feels that: *"The business looks to work in a sustainable way, but it is customers that will drive the agenda – and currently they look at price not sustainability."*

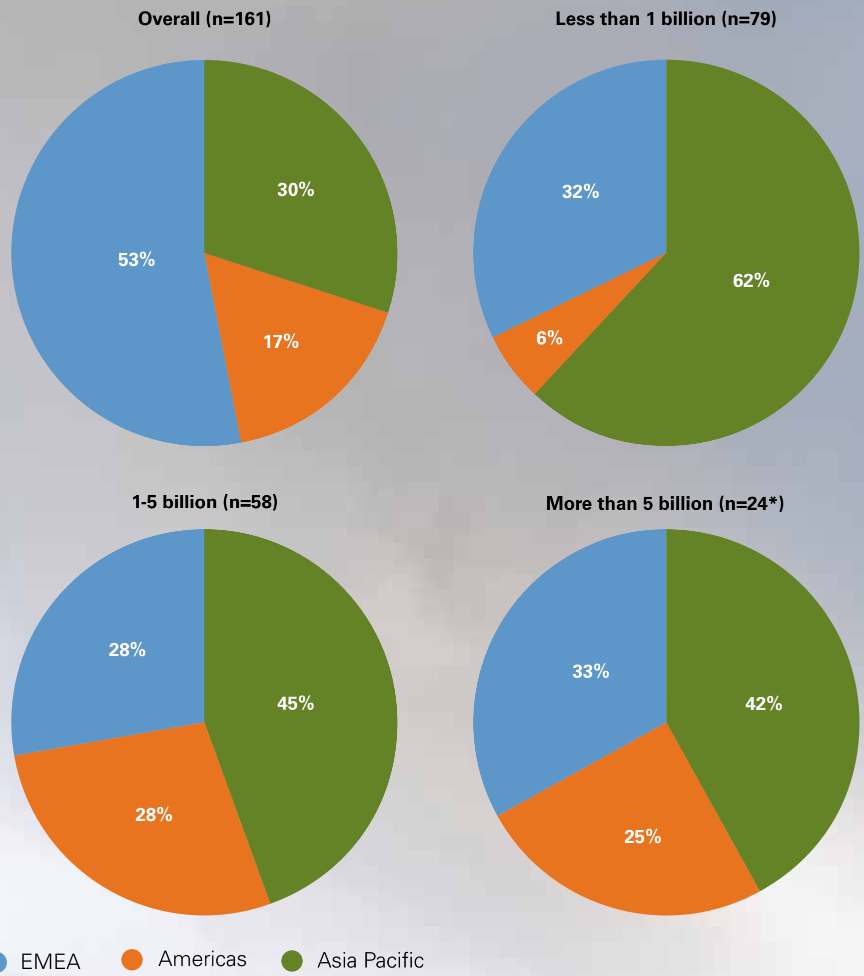
About the survey

All survey responses were gathered through face-to-face interviews in 2011 with 161 senior leaders – many of them Chief Executive Officers – from leading engineering and construction companies in 27 countries around the world.

The interviews were carried out by senior representatives from KPMG member firms specializing in the engineering and construction industry, with the questions reflecting current and ongoing concerns expressed by clients of KPMG member firms.

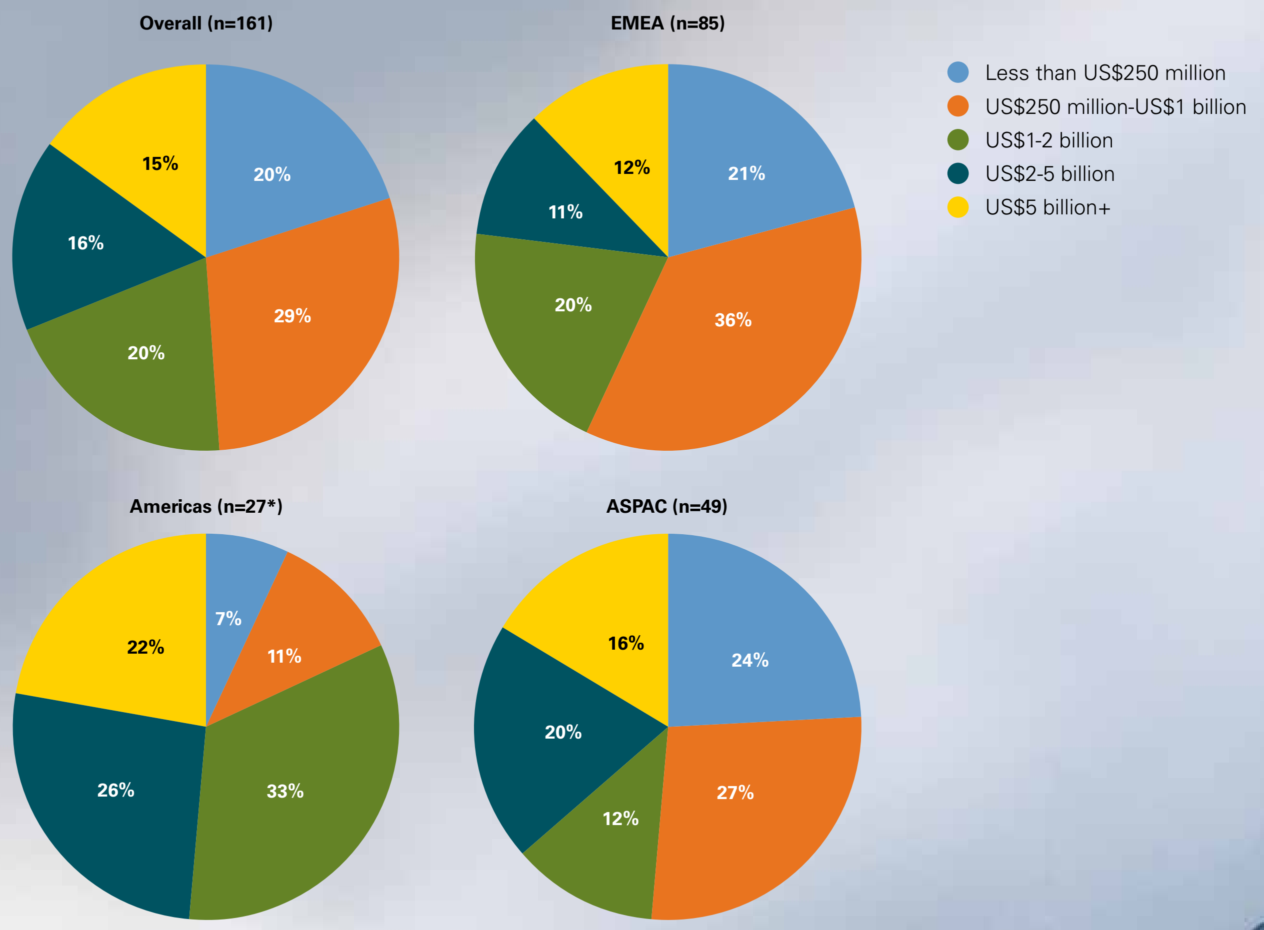
Respondent companies' turnover ranged from less than USD250 million to more than USD5 billion, with a mix of operations from global through regional to purely domestic.

Regional breakdown of participants



*Low base – findings are directional in nature
Percentages might not add up to 100 due to rounding
Source: KPMG International, 2011

Turnover of participants (USD)



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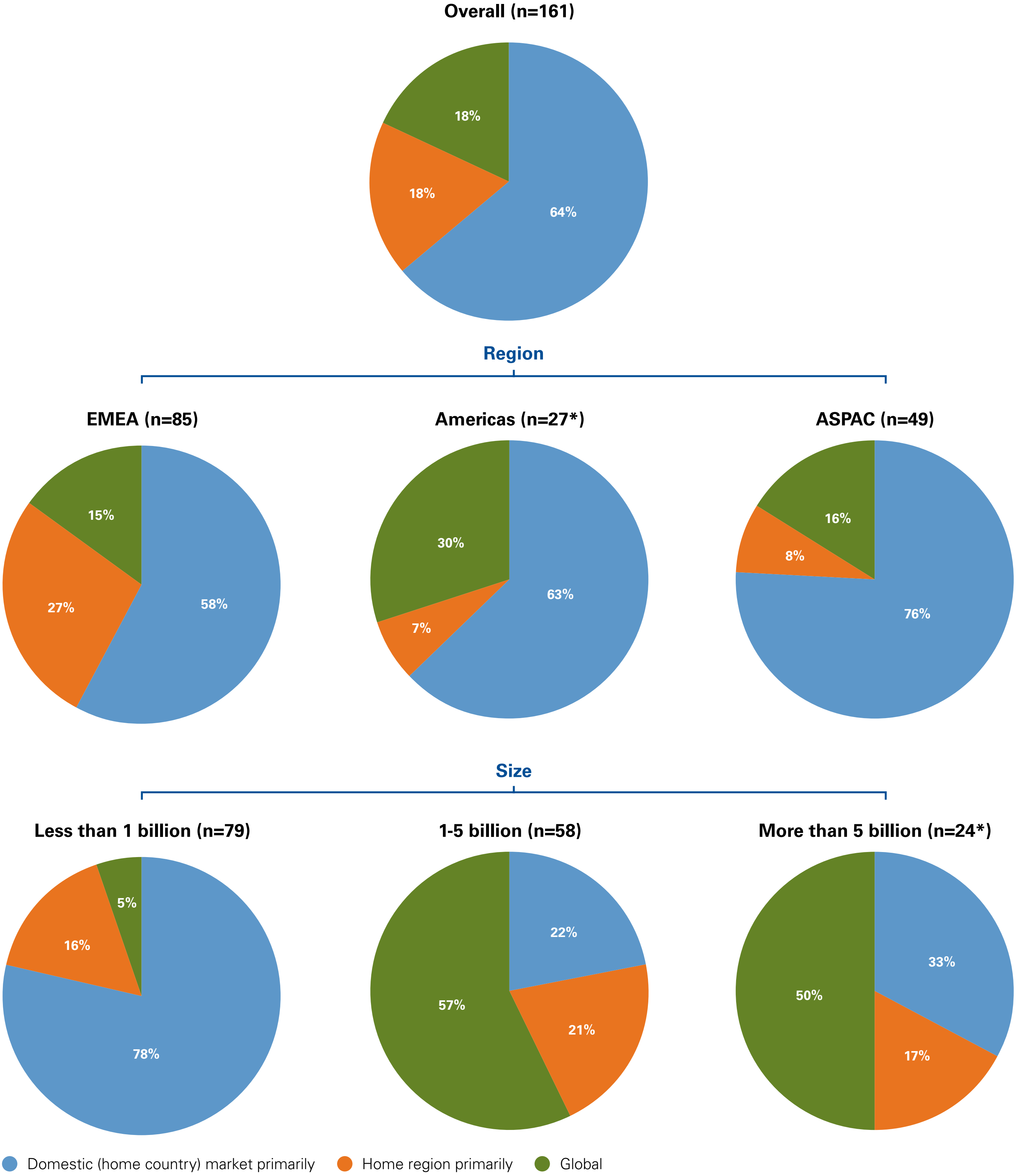
Source: KPMG International, 2011

Scope of operations of participants



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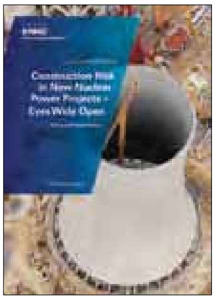
Source: KPMG International, 2011

Bookshelf

A selection of relevant KPMG reports and insights. To access these publications, please visit: **www.kpmg.com/building** or email us at: **gofmbuilding@kpmg.com**

Insight – Issue 1: Infrastructure 2050

In the inaugural issue of *Insight* magazine, we looked at the future of infrastructure and explored why the world must come together to solve the global infrastructure challenge. From project financing in Indonesia to urban transport projects in the UK, *Insight* provides a broad scope of local, regional and global perspectives.

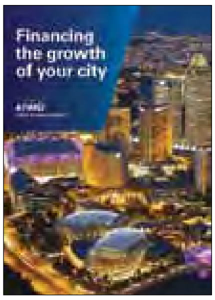


Construction Risk in New Nuclear Power Projects – Eyes Wide Open

This report draws on the KPMG experience, advising on new nuclear builds around the world. The report focuses on construction risks and shares examples of models in new nuclear power projects. It also discusses other critical considerations for investors.

Power Sector Development in Europe – Lenders' Perspectives 2011

A report highlighting the key findings from a survey of top European banks on the prospects for power infrastructure financing in Europe.



Financing the growth of your city

A look at alternative financing mechanisms and structures for urban infrastructure financing. These financing options, including Public Private Partnerships (PPP), could help cities gear up to not only meet the challenge of rapid growth but also become global cities with world class infrastructure.

Insight: Urbanization – Second Edition

The second edition of Insight explores the infrastructure challenges currently being faced by cities, and includes feature interviews with key city leaders and private sector executives from around the world to shed light on how they are responding to the infrastructure challenge.

Infrastructure 100

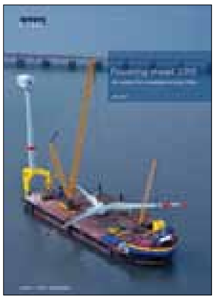
From KPMG and Infrastructure Journal – a look at 100 of the most exciting infrastructure projects underway globally. A distinguished group of judges selected these game changers from hundreds of submissions.

Project Delivery Strategy: Getting it Right

What are the various project delivery options available to owners? What are the factors that might influence the selection of one method over another? This paper explores the options.

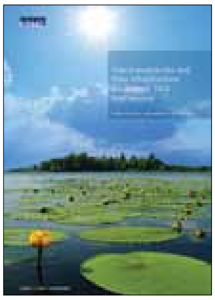
Reaction Magazine: Fourth Edition

A look at M&A trends from both an emerging market and established market company perspective and examines how M&A activity may change the shape of the global chemical industry over the coming years. We consider current trends in the global construction industry and see how tax efficiency in the supply chain can provide a competitive advantage.



Powering Ahead 2010: An Outlook for Renewable Energy M&A

A report providing an insight into the global M&A activity in renewable energy. The findings are based on a survey of over 250 senior executives active in the renewable energy industry worldwide.



Island economies and their infrastructure: An outlook 2010 and beyond

A first of its kind report on Island Economies, providing a comparative analysis of the state of the infrastructure challenges currently being faced by island economies.

Success and Failure in Urban Transport Infrastructure

This joint report with University of London College explores the findings of 19 case studies from cities around the world, including New York, London, Hong Kong, Singapore, Dublin, Bogota, Manila, Manchester, and Bangkok.

The Roll-out of Next Generation Networks: Investing for 21st Century Connectivity

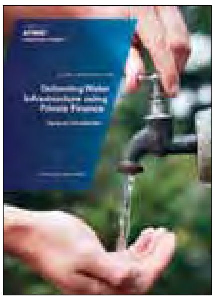
A spotlight report on approaches being taken by governments around the world relative to the roll-out of high speed broadband networks.

Rail at High Speed: Doing large deals in a challenging environment

Many countries are preparing and/or implementing high-speed rail projects. This paper shares lessons learned from work performed by KPMG member firms advising Portugal's first high speed rail project.

Think BRIC! Key considerations of investors targeting the power sectors of the worlds largest emerging economies

A series of publications highlighting major trends and challenges shaping the evolution of the BRICs countries' power sectors over the course of the next decade.



Delivering Water Infrastructure Using Private Finance

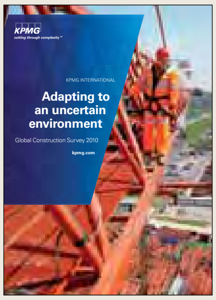
We examine the risks and rewards of using private finance to fund water infrastructure, including how municipal governments and potential investors can benefit.

New on the Horizon: Revenue Recognition for Building & Construction

This publication addresses the revised revenue proposals, specific to entities in the Building and Construction sector.

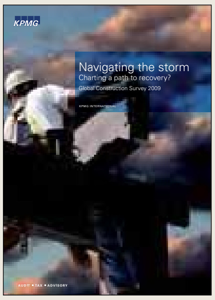
The Global Construction Survey series

This is the sixth year of the KPMG Global Construction Survey. Here are the latest three reports released prior to 2012. They provide a great illustration of how the industry has evolved over the years.



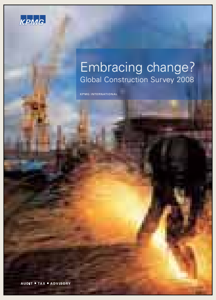
2010 Global Construction Survey – Adapting to an Uncertain Environment

This survey highlights the cautiously optimistic outlook of many E&C companies about their immediate prospects and discusses key industry issues and the measures adopted to seize the new opportunities identified.



2009 Global Construction Survey – Navigating the Storm – Charting a path to recovery?

More than 100 senior executives from the engineering & construction industry responded to this survey, which focused on how organizations were weathering the impact of the global financial crisis.



2008 Global Construction Survey – Embracing Change?

This survey presents the views of CEOs and other senior executives on areas impacting the industry, including resource shortages, risk management, escalating costs, and sustainability.

KPMG's Global Building & Construction practice

By keeping a constant pulse on the industry, KPMG's Building & Construction professionals deliver in-depth knowledge and valuable advice to help companies adapt accordingly in challenging economic times and beyond. We understand the complexity of the engineering and construction industry and have a keen grasp of the business issues and challenges that exist in different market climates. In addition, you can count on our objective perspective. Our professionals across the global network can help your organization improve business processes, control costs, identify and mitigate risks, increase visibility and transparency, maintain regulatory compliance, and identify growth opportunities through international expansion, merger or acquisition, or joint venture.

For further information, please visit us online at **www.kpmg.com/building,** email: **gofmbuilding@kpmg.com** or contact the appropriate geographic lead:

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