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# I INFRASTRUCTURE Intelligence

*Produced for the industry by the Association for Consultancy and Engineering*





## INFRASTRUCTURE Intelligence

Produced for the industry by the Association  
for Consultancy and Engineering  
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### MESSAGE FROM THE EDITOR

It's hard to overstate the impact of the UK referendum decision to leave the EU. The pace of events, political and economic, since the result was declared has been truly astonishing. Media outlets are running online minute-by-minute updates and still they can't keep up. The political class is in meltdown, the two leaders of the Remain and Leave sides have exited the stage and the only certain thing about anything at the moment is uncertainty.

That uncertainty is not good news for the infrastructure sector. Uncertainty never is. The country is facing a real leadership vacuum following the 23 June decision and if there ever was a time for the industry to step up to the plate and make the case for infrastructure investment, then that time is unquestionably now.

There is a positive case to be made to explain how construction boosts growth and is key to the rebalancing of the economy. The Brexit vote highlighted more than ever the disconnect between London and the rest of the UK and the urgent need to invest in transport, energy and social infrastructure to increase economic activity and create jobs.

At a time of uncertainty, it is vital that industry leaders promote infrastructure investment as a way to stabilise and grow the economy and give confidence to the financial markets and those businesses contemplating investment decisions. Our Brexit coverage (pages 3-7) looks at the immediate implications for infrastructure and what happens next.

Continuing the leadership theme, given the plethora of industry and organisations covering the sector, we ask just who is in charge of infrastructure (pages 14-15) and try and make sense of the numerous bodies jostling for position.

Amidst all the post-Brexit hullabaloo, we still find time to celebrate the brightest and best in the industry by highlighting the winners of ACE's recent Consultancy and Engineering Awards in a special supplement (pages 21-33), which showcases the galaxy of talent, expertise and leadership the industry has at its disposal.

That industry leadership and expertise will be sorely needed over the coming weeks and months, as the country continues to navigate extremely challenging political and economic waters in the wake of the decision to leave the EU.



**Andy Walker,**  
editor, Infrastructure Intelligence

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# Five key questions for infrastructure

1

**Will the government pipeline of projects stay as strong?**

This is the infrastructure sector's biggest unknown. The current pipeline of £51bn of projects was not certain before the EU referendum. A third of the total amount was at 'red' or amber-red, so unachievable or in doubt, the House of Commons' Public Accounts Committee reported in March this year.

That uncertainty has increased significantly now.

Transport Secretary Patrick McLoughlin did his best to reassure the industry last month, saying "infrastructure remains government's top priority". However, less than 48 hours later he told parliament that there will be no announcement on airport expansion until October at the earliest to allow the Conservative party time to choose a new leader.

Front bench ministers are clearly going to want to steady the ship over coming weeks and months, particularly so given the volatility of markets and risk of a return to recession.

Convincing investors may be the hard bit. About 60% of the pipeline relies on private sector investment, which may now be a lot slower coming forward, or disappear altogether. The current political uncertainty will not steady the jitters in the markets or increase business confidence.



Lady Barbara Judge (left), chair of the Institute of Directors and chair of the Association for Consultancy and Engineering's advisory board, said: "The result of

the referendum has created speculation about the future of several major projects. The UK faces some big challenges on transport and energy infrastructure and Brexit may mean we have to be more imaginative on the solutions. The government has been pursuing a model of building large nuclear plants to keep the lights on. I am a big fan of nuclear, but



**About 60% of the government pipeline for projects relies on private sector investment, which may now be a lot slower coming forward, or disappear altogether.**

perhaps we should also consider pursuing small modular reactors as part of the mix. Investors will be waiting for confirmation that projects will still be going ahead, so it's very important that the new prime minister in September quickly spells out their infrastructure plans."

Marc Davies, a director at WYG in Leeds and chair of the ACE Northern Region, said: "Infrastructure investment has benefits for the economy as a whole and it's important to keep projects going. Unfortunately I think there will be a period of pause and delay because of uncertainty, but it would be short sighted for those key infrastructure projects to be shelved."

ACE chairman and managing director of IMC Worldwide, Gavin English (below), agreed: "The UK needs housing and



infrastructure for sustainable economic growth, to boost economic activity outside of London and to help address the social divide between the haves and the have

nots," he said. "Whilst some government infrastructure projects may be delayed or even shelved in the short term, the pipeline of housing and infrastructure projects will remain and most of the projects outlined in the National Infrastructure Plan will in time be implemented."

Mark Naysmith (below), WSP | Parsons Brinckerhoff, UK chief operating officer,



was worried about the effect of political uncertainty. "With a potential leadership vacuum at the top of government I'd expect to see slower decision making on some of the big

infrastructure projects. Many of these projects, from Heathrow to Hinckley, depend on political willpower," he said.

"The construction industry can help to fill the leadership vacuum in the short to medium term by uniting to make the positive case in explaining how construction boosts growth, regardless of your politics," said Naysmith.



# 2

### Will foreign investment be hindered or encouraged?

Gavin English thought that because of current uncertainty over the shape of future trade arrangements between the UK and the EU, “it is likely that foreign investment into the UK will fall in the short to medium term”. Barbara Judge believes that while “there may well be a pause while we see out the initial uncertainty, there is no reason in the long-term why the UK would not continue to be an attractive destination for foreign investment. Britain will still be one of the world’s largest economies, with a robust and fair legal system and strong institutions,” she explained.

Marc Davies was encouraged by the “increasing global relationships developing with places like China and the wider positioning of the north of England as a place where international organisations want to base themselves or invest”.

Mark Naysmith said he was optimistic that the UK will remain an attractive market for foreign investment once the markets start to settle. “We still have a growing and comparatively wealthy population, and the UK is seen as a safe haven for foreign investment, where the demand for long-term housing and infrastructure will be as acute as before,” he said. “The quicker we can resolve what happens next, from new political leadership to a clear path to Brexit, the quicker we can have clarity and confidence in our business plans,” he said.

# 3

### What does leaving the EU mean for the regions?

Analysis of the referendum vote became a regional issue in the immediate aftermath, with many noting the different outcomes across the UK regions. The Brexit result could have a marked effect on the regions. Will they have the same desire and encouragement for devolution and the same funding support as they’ve received from European grants?

“Clearly there’s a different level of disillusionment in the regions compared with the City and around government,” said Tony Gee and Partners executive managing director, Graham Nicholson. “It’s fascinating that the north east of England has a strong wish to leave when the area needs so much economic investment,” said Nicholson.

“It cannot be known for some time whether regions will get the same support from the UK government as they did from Europe. It’s going to be two to three years before we can assess that, but the sensible advice would seem to be don’t panic, see how it all pans out,” Nicholson said.

According to Gavin English, “Brexit may well have a positive impact on the regions as the vote again highlighted the disjoint between London and the rest of the UK and the need to invest in transport, energy and social infrastructure to increase economic activity and create jobs.”

“The regions which have the received the most EU funds will clearly be more nervous about the outcome, but regional

devolution was a worthwhile objective before the referendum was called, and it continues to be so,” said Barbara Judge.

Marc Davies is concerned about uncertainty. “Immediately we’ll probably see clients putting their foot on the ball and thinking about what investment decisions they might be making. More broadly, there’s a skills gap that exists that could grow more markedly if we see new restrictions on immigration and that could have a greater impact in the region, especially in places like the north,” said Davies.

# 4

### Does it mean different things for different sectors of infrastructure?

Some sectors may seem more secure in the wake of Brexit – water, for example, has relatively secure private sector funding. Road programmes are usually first to get the chop when the economy freefalls. The Department for Transport’s £15bn *Roads Investment Strategy*, which includes £10.2bn of capital investment, may seem secure, but the majority is loaded in the last two years of a six-year timeframe. It won’t take much to move the programme to the right. Likewise, rail currently has a spending settlement up to the end of CP5 in 2019. CP6 is still to be negotiated. Any sector that needs a lot of ministerial input and public and private funding, such as energy and aviation, could now be on very shaky ground.

One area where Brexit is sure to have an effect is the environmental sector. Matthew Farrow, director of the Environmental Industries Commission, the leading trade

# “Brexit makes me feel insecure about the future”

Steve Wooler, chief executive of BWB Consulting, says it isn’t just the business impact of the EU referendum that the consulting engineering industry should be concerned about.



Right now, it isn’t the potential impact on business that dominates my thinking. What really bothers me, is the human impact that I can see in front of me. A major strength of our business is that it has a fabulous blend of seasoned experience and youthful enthusiasm. Our team is curious, outward-looking, technically savvy, passionate about what they do, and they’ll always find

innovative ways of meeting client needs.

The day after the referendum decision however, innate optimism about the future was dampened by a mix of bafflement, uncertainty, even fear.

Free movement of labour across Europe has enabled BWB to recruit talent from a very large and culturally diverse market. The skills gap is a major threat to the continuing growth and success of the UK’s construction sector, but it’s a gap that the UK alone cannot possibly plug.

Part of the solution for us has been to recruit talented and ambitious people from

body for environmental firms, said: “The UK environmental industry is apprehensive following the vote to exit the EU. For all its faults, over the last 30 years the EU has turned Britain away from our past of landfills, toxic air and filthy beaches. The long term certainty provided by EU environmental laws gave green businesses a framework against which to plan and invest, and EU membership enabled the UK to help shape Europe’s stance in global climate negotiations.

“As we now enter the uncertainty of negotiations probably leading to withdrawal from the EU, it is vital that all those who care about our environment work together to ensure that an independent UK builds on, rather than dismantles, the high environmental standards that EU membership has delivered,” Farrow said.

Mark Naysmith said: “I think most infrastructure sectors are all in the same boat, as political uncertainty and a lack of economic confidence affects everyone. For example, in aviation we have been growing our capabilities, so it is important that Brexit does not distract politicians from the important decisions that need to be made sooner rather than later in this sector. Ditto nuclear and the infrastructure work needed to support new power stations”.

“As with so many things after the Brexit vote, we will have to wait and see how different sectors are affected by Brexit,” said Barbara Judge. “Some areas, such as road-building and repairs – an often neglected area – do not really have much to do with EU membership. As we are expecting to have a new prime minister in the autumn, we will be renewing our plea for vital infrastructure

decisions – on big-ticket items like a new airport runway in the south east, but also smaller road and rail improvements across the country,” said Judge.

Gavin English thought that demand was likely to fall in some sectors like housing and energy but ultimately “the UK needs infrastructure and housing so if we can secure the necessary government commitments and external investment then demand will grow again”.

## 5 What does Brexit mean for skills and the free movement of migrant workers and expertise?

**This is a clear area of concern for the industry.** “We can only hope that people here from overseas will be able to stay, because this industry already faces huge skills shortages, and we hope that Europeans will still be able to come and work here,” said Graham Nicholson. “Hopefully people will still be able to work here under permits,” he said.

“It very much depends on what is agreed with the EU in regards to our membership of the single market,” said Mark Naysmith. “We have EU citizens working for our UK business and work closely with our colleagues in Scandinavia so we hope the inevitable changes are minimal,” he said.

“This vote hasn’t impacted our ambition to create a more diverse industry and to increase the numbers of bright young people choosing STEM and engineering-related careers when they leave school and university,” he said.

“Nothing changes immediately,” said

Barbara Judge. Free movement of labour will continue until we actually leave the EU. In the long run, politicians will have to decide on whether they will continue to accept EU workers in return for getting access to the single market. If the UK pursues the so-called Norwegian model, the difference may be limited. But the truth is that we do not know exactly the shape of the final deal, which will be negotiated over months and even years. The IoD will continue to argue forcefully for the benefits of skilled workers from across the world, and push our political leaders for a better quality of debate on the issue than we saw during the referendum campaign,” she said.

Gavin English said that government action would be needed. “The UK construction industry is heavily reliant on migrant workers from Europe with over 10% of our construction workers from outside of the UK – Poland, Romania and Lithuania. To meet the infrastructure and housing needs of the UK the government must ensure that the flow of migrant construction workers from Europe is not turned off,” said English.

Despite all the uncertainty and the potential problems, Barbara Judge said it was a time for calm. “This is not the time for recriminations,” she said. “It is time for reconciliation and resilience. British history is one of trade and engagement with the world and I am confident that British business will use its resourcefulness to confront the challenges that it now faces and will prevail,” said Judge. Like so much else with Brexit, time will tell.

*Reporting by Jon Masters and Andy Walker*



**“Access to the European labour market is also helping tackle the long-standing gender imbalance in our industry because the majority of our Europeans are women.”**

across Europe – people who have either studied here because of the quality of our universities, or come to build a career in the vibrant, optimistic business climate that has (so far) defined the UK.

A growing proportion, currently six per cent, of BWB’s people are continental Europeans – valued and loyal professionals who contribute significantly to our business success. Access to the European labour market is also helping tackle the long-standing gender imbalance in our industry because the majority of our Europeans are women.

They have been like a breath of fresh air in our business. They bring an alternative but complementary perspective to our business culture and add real value to the services we offer to our clients. These are people who should be admired and encouraged for having the gumption to “get on their bike” – to come here and build a professional life – exactly the kind



of entrepreneurial spirit and commitment the UK economy needs!

Some of the comments that my European colleagues have made in the wake of the referendum vote tell a poignant story:

*"I really like the way everything works in this country and I feel really welcome in my company as there is no distinction between anyone. We are all a whole team and it doesn't matter where you are coming from. But for the first time in nearly four years that I have been in England I felt that I wasn't as welcome as I thought, and this has made me think that one of every two people don't want people like me in the country."*

**Female graduate structural engineer from Spain**

*"I decided to work in the UK as I considered it one of the best among the developed countries for quality of life and career opportunities. I don't agree with the Brexit decision as I consider it as a huge risk for UK. I feel insecure and unsure for the future and for the consequences of Brexit."*

**Female geotechnical engineer from Greece**

*"When it comes to engineering and consultancy, there is no doubt that the UK is a leader, providing the best opportunities for people to develop themselves – working in the UK and being aware of how the rest of Europe does, I believe it is like living in the future! The UK and European Union will always be cooperating no matter what. It is just sad that people had false information and they voted using that."*

**Male graduate structural engineer from Greece**

*"Why do I like to work in UK? People and culture are different. More opportunities. I have a chance to progress at work in the UK, which I don't know if it would be as easy in Poland. What will be the consequences of leaving the EU? I have a Polish passport and I don't know what my rights are going to be in a few years."*

**Female corporate administrator from Poland**

For weeks now there has been too much angry politics, but nowhere near enough considered thinking. UK infrastructure badly needs upgrading. We know there's a worsening skills shortage. We know that engineers from across Europe are playing a key part in helping us to solve that problem. We know that they are brilliant people to work with.

There are all kinds of lessons to learn from the EU referendum. One of them is that closed doors will only blight our future. Our industry and our nation cannot afford a situation where talented people feel they are unwelcome.

Whatever happens to the UK's relationship with the European Union, BWB will always find a way of warmly welcoming talented ambitious professionals, irrespective of their country of birth.

# After Britain votes to leave the EU, what happens now?



The country might have voted to Brexit but there is a long way to go before separation is achieved, says *Julian Francis*.

On Thursday 24 June, the UK woke up to the realisation that we had voted to leave the European Union and end a 43-year relationship that has provided the basis for the UK's foreign and economic policy in the post-war period.

The first thing to realise is that although we have voted to leave the EU, we remain, until the process is completed, a full member with access to the single market and European institutions. Nothing will change quickly but will progress at the steady, stately pace of EU negotiations.

Before the process can begin, the prime minister will have to write to the president of the European Council to activate Article 50 of the Treaty on European Union to withdrawal from the EU. This will then be followed by a series of meetings and decisions in Brussels that will see the European Council providing a mandate to the European Commission to negotiate with the UK government over the terms of withdrawal.

After David Cameron's announcement to step down, these negotiations will now take place with a new prime minister. The negotiation process will take a minimum of two years to achieve but that period can be extended by agreement, and most likely will be, given the complexity of removing the second largest economy from the single market.

That said, it is hard to see how the results of the referendum will not cause concern and in some cases panic in an EU that has already been rocked to its core over a financial and migrant crisis. The euphoria of the Brexiteers may well find itself withering as the political and economic stability that we in Western Europe have taken so for granted since 1945 begins to unravel.

All this will make it harder for businesses to take investment decisions with confidence. This in turn will lead to a slowing down of the overall economy until such a time as the market adjusts to the new reality.

In reality two main forces will be at play on the continent, each competing with the other, which will be vital for creating an air of stability. One is the instinct that it is indeed best for the European economy and

European companies to have a smooth transition to an easy relationship. The other, that breaking up cannot appear pain-free when there are so many pressures on the EU.

The EU will undoubtedly wait to see what the UK government's reaction will be. Thus the degree of instability that we face will be dependent on what the UK government's negotiating position will be with the EU. Will the government seek to have the closest relationship with the EU just short of full membership? Or, will it seek to remove the UK entirely from the European market and all points in between? This will be the first signal sent that has the potential to calm the markets.

All of this depends, however, on political stability here in the UK. The ensuing Conservative party leadership contest means that it will be October at the earliest before any serious negotiations with the EU can begin. This is all going to take time that we may not be able to afford.

The vote will also have repercussions in the rest of the UK as the SNP has stated it will look to call another referendum on Scottish membership of the UK in the wake of a rejection of the EU by British voters. The position of Northern Ireland will also be complicated by the fact that many of the internal political agreements and external relations with the south are predicated on UK's membership of the EU. How the province will continue to function outside of the EU will be a matter for debate.

As we are seeing, the immediate consequences of the referendum result are increasing uncertainty.

Political uncertainty is leading to economic and business uncertainty and that is not good for the infrastructure sector. ACE will be working hard over the coming months to ensure that the UK government understands the vital part that economic and political stability plays in the infrastructure investment cycle and pressing the politicians to do everything in their power to ensure that we get it.

*Julian Francis is director of policy and external affairs at the Association for Consultancy and Engineering.*



Since the 1970s the UK has been the 'peculiar cousin' in the European family, with four opt-outs in EU treaties, a noted record of opposition despite opting in 2004 to allow Eastern European migration, and a rebate on membership fees. Its withdrawal may mean more member state synchronicity in policy, particularly in monetary regulations, familial working rights, EU law or judicial structures, and other policy focuses that tend to see UK opposition.

The European Union will head into the negotiations with the preservation of the European project in mind, putting the free movement of goods, capital, services and people as a priority. This stance is seen in Switzerland, where despite a referendum and months of discussion on an EU migration cap, after the UK vote it was declared that there would be no compromise on freedom of movement.

To preserve the European project, the EU must negotiate with rising populism and political protest in mind, seizing this as an opportunity for reform. Throughout the negotiations for UK withdrawal, the EU must make European politics accessible, in order to show that EU membership brings an added value to the lives of citizens. Without achieving this, populism and political protest will continue to rise, fracturing the European project.

The 27 member states each have their own objectives, of which, most common is the objective to mitigate populism, creating disincentive for those wishing to leverage the UK's withdrawal to significantly disrupt or alter domestic politics.

With Slovakia in the presidency for the next six months during which article 50 may be invoked, Slovakia's prime minister

## Keeping the EU together in a post-Brexit Europe



Britain's Brexit vote and its fallout may have halted most other domestic considerations in the UK, but it hasn't put an end to pan-European political considerations or the domestic interests of the remaining 27 member states, writes *Natasha Levanti*.

Fico's disquiet at the six founding member states meeting post-referendum will impact the withdrawal process set; prioritising increased transparency and the involvement of all member states in the withdrawal negotiations.

Member state agendas were made clear alongside the European Council meeting on 28 June, with Brexit being one of many items on the European political agenda. Stabilisation of the Eurozone was a priority, due to banking turmoil in Spain, Greece, and Italy. Yet the need to mitigate rising populism or political protest was a clear theme throughout all agendas, due to Brexit.

Rising populism in the domestic politics of Denmark, the Netherlands, Hungary, and Austria has prompted assertions that no talks on freedom of movement will occur prior to article 50 being invoked. Even Germany, a strong supporter of European integration, has seen a more sceptical electorate in the last 18 months, as the Greek crisis of 2015 sparked EU reform discussions.

Domestic elections are set for 2017 in France, Germany and the Netherlands. The more exemptions from EU freedoms that the UK gets in its withdrawal, the stronger populist or protest parties will become in these elections. Similarly, in Italy's upcoming referendum on the upper house, if protest or populist sentiment increases and the vote is lost, the current government will likely resign, sparking further European unrest.

While the UK will enter the negotiation process keen for the best combination of access and exceptions, the remaining member states will negotiate UK withdrawal in a way which dampens national populism and is done in parallel with EU reforms to steady the political and economic conditions for all involved, not just the UK.

*Natasha Levanti is the founder and editor at European Public Affairs, a professional forum providing analysis and commentary on European politics, policy and strategic developments.*





**Sonia Smith**, principal engineer, traffic and transportation, at Amey

### Promote diversity to increase diversity

It's a worrying statistic that women make up just 9 per cent of engineers in the UK; in fact the Engineering UK 2016 report states that despite numerous campaigning initiatives over the past 30 years, there have been no significant advances in the diversity of the sector.

What has changed is the demand for skills within the industry. When I first started out, I pestered local engineering companies to employ me as a trainee engineer while I was doing my degree in civil engineering. Today, businesses are crying out for these skills.

The Royal Academy of Engineering's research shows that we'll need one million engineers by 2020 to keep the country at the forefront of engineering advances. Add this to the IET survey results that 84 per cent of young people have no idea how many different types of engineering jobs there are – and 70 per cent of their parents don't know either – and it's clear that as an industry, we're not doing enough to promote the diversity of engineering to meet the demand. Without doing more to spread the news, how are we going to attract the brightest men and women into a career in engineering?

Promoting the diversity of engineering is something I'm incredibly passionate

about. As one of the first signatories to WISE Ten Steps and developers of a returnship programme in partnership with ICE's Civil Comeback initiative, diversity in engineering is also high on Amey's agenda.

I'm part of Amey's mentoring initiative to help support more women into senior roles and our business also encourages people to become STEM ambassadors and help young people understand the true diversity of engineering. For example, last month I visited local schools to tell them about my work, managing a team on some of the country's most ground-breaking projects – like our award-winning cycle lights project in Liverpool.

With multiple awareness days throughout the year – like National Women in Engineering Day in June – there's always an opportunity for more businesses and individuals to get out there and start talking about engineering as a diverse, highly rewarding career option.

**“Without doing more to spread the news, how are we going to attract the brightest men and women into a career in engineering?”**



**Bridget Rosewell**, Senior Adviser, Volterra Partners and NIC member

### Data can't tell us everything

We all want evidence-based policy and decisions. However, deciding what constitutes evidence and what standard of proof is required is another matter. And of course this is especially challenging when we need to explore what will happen, rather than what has happened. Will this policy work? Will this investment pay back? It's not clear that evidence is of any use in making these decisions at all.

Notoriously, the Jubilee Line Extension failed to pass the value for money tests at the time, which were overruled by the prime minister at the time. However, its use in practice, even after overruns of cost, show that it would now pass the test. In other words, forecasts of passenger use and demand were too low. At the same time, studies have shown that projects of all kinds suffer cost over-runs which undermine benefit cost ratios.

Unconscious bias, poor statistical analysis and pushing for strong results can all result in reaching conclusions which do not later stand up. None involve deliberate falsification but rather that to err is human.

The National Infrastructure Commission has been asked to provide an assessment of infrastructure needs across all classes of infrastructure looking out 30 years. Thinking about such needs means

thinking about a future in which very little is held constant – everything can change. Even on a nearer time frame, thinking about the development of the corridor from Oxford to Milton Keynes and to Cambridge, technologies, housing, employment patterns and institutions can all show potentially dramatic shifts. In such circumstances, how should we think about the nature of evidence if everything in the future can be different from the patterns of the past?

A good approach in my view is to assess objectives and plausibility, with a strong dose of transparency.

#### Objectives

The vision for a project or programme sets out what it is intended to achieve. Evaluation can only sensibly occur in relation to objectives. HS2 was first presented as having the objective of saving time – in the first instance to Birmingham. It was then castigated as being a very expensive way of saving 20 minutes on such a trip. This accusation still surfaces and if indeed this had been the objective the detractors would be right. However, a more accurate objective, later clarified, is to improve connectivity to northern cities and the capacity of the rail network more generally. Thus any





**Dawn Bonfield**, chief executive of the Women's Engineering Society

## What now for diversity after Britain divorces Europe?

Thursday 23 June 2016 is a day we will never forget for more than the obvious reason.

National Women in Engineering Day – in its third year on 23 June – continued to inspire an enormous amount of activity with men and women up and down the country encouraging young people, and girls in particular, to consider engineering as a forward-thinking, solution-creating career with which we can play our part in making the world a better place.

Men and women considered the evidence about how diversity makes us stronger as a team, increasing profit, productivity, balance and reducing risk. With the principle of inclusion being the path to increased diversity, we debated how to be a more inclusive culture that encourages team players that look and think differently and bring their own viewpoints to the table and what would be needed to be taken to affect this change.

At exactly the same time that these positive, open and forward looking conversations were taking place, it seems like the population of the UK were voting for the exact opposite. Diversity and inclusion were being shunned in favour of the opinion that we can do better with people who look and think like we do, who come from the same small island, and who

have the same views and background as us.

How ironic that these two vastly opposing viewpoints were being debated simultaneously, but how sobering and devastating that the narrow minded, non-inclusive and non-collaborative viewpoint won out.

So what does this mean now for diversity and inclusion in the engineering sector and how are we going to ensure that the principles that we have been working towards – of reducing stereotyping, offering equal opportunity to all, and encouraging diversity – continue to be pursued successfully?

Our challenge is now as great as ever and we have to be strong as a sector in fighting to retain the diversity that we have enjoyed by working with our European colleagues – male and female – and ensure that these employees are protected and continue to be made to feel not only welcome but vital to our businesses.

The diversity of thought that we enjoy through employing engineers from different parts of the world – creating solutions for everybody in the world – must continue to grow and we must find ways to demonstrate that – as an engineering community at least – we are committed to inclusion.

evaluation should be set against these objectives and how they might be achieved.

If the objective of an investment is to sell more widgets, this might be easier to describe than if the objective is to improve access to markets for northern cities. Objectives, however, remain objectives. Moreover, setting them out clearly also allows the context and assumptions to be set out clearly too.

### Plausibility

What does it take to reach the objective? Are such changes plausible in either the current state of the world or the possible futures I am assuming? How different is this future and how do its changes compare with past changes?

If I want to double my sales of widgets, it would be helpful to know if this has been done before, or what market share this might imply for my new factory. These questions would be standard in a self-respecting market study and investment appraisal. Somehow they don't always get asked in a policy study.

If the aim of an investment is to create jobs, what scale of job creation is implied and is this scale unprecedented? In producing long term forecasts for the London economy for the GLA, we looked

back the longest possible period to give the most context possible for future growth. Such an analysis showed that the fall in London's employment over the period from the 1970s had been concentrated in manufacturing but these losses had now ended and in the meantime growth in services had continued at a fairly constant rate. The question became one of asking what it would take to change a trend which had been in place for nearly 30 years. In the absence of such a shift, London's employment could be expected to grow and this long-term view has indeed been justified over the past 15 years in spite of cyclical variation.

Of course it remains debatable whether a long-term trend will continue. Once it is understood what a particular view of the future depends on, it becomes possible to have such a debate in an informed way.

Looking at plausibility definitely requires the analysis of scenarios to consider the range of contexts in which an investment succeeds and those in which it could fail.

### Transparency

The models beloved of technocrats can be very powerful. But the adage of

'garbage in, garbage out' remains. Strong assumptions and weak data are not a good basis for decision making. Being able to set out clearly the assumptions so that they can be understood by non-specialists is crucial to a good and informed debate about conclusions.

A narrative about the objectives of a policy or investment, how these are expected to be achieved and the plausibility of these mechanisms is essential for a transparent understanding.

In making an assessment, we are taking bets on the future. Futures are uncertain, so setting out a range of possible futures is one step. Then analysing which ones are supported by the investment in question, which ones would be undermined, and which would invalidate the project can then be described.

### Conclusion

Facts matter. Reliable data about the past matter. These are what we have to inform us about possible futures. However, they don't tell us what that future will actually be since this rests on our decisions now. The consideration of possible futures, their degree of likelihood and on what assumptions they depend, rests on fact and data. But it is not controlled by them. That also requires judgement.

# Crossrail 2 – getting on with it

Jon Masters speaks to Transport for London's managing director for Crossrail about what's next for the £30bn project now it's been given the green light.



Two minutes with:  
**Michèle Dix**

**F**irst the background. Crossrail 2 is a surface and subterranean railway proposed between south west and north east London for adding the transport capacity needed to accommodate population growth in the capital and the wider south east. Current plans have the new line in tunnel between Wimbledon, Tottenham Hale and New Southgate. Four branches will stretch above ground into the Surrey suburbs to the south west; the line will reach Broxbourne in Hertfordshire to the north.

In March this year, Lord Adonis published his report on London infrastructure capacity in London, focusing on Crossrail 2, for the National Infrastructure Commission: "We should get on with it right away, and have the line open by 2033," Adonis said.

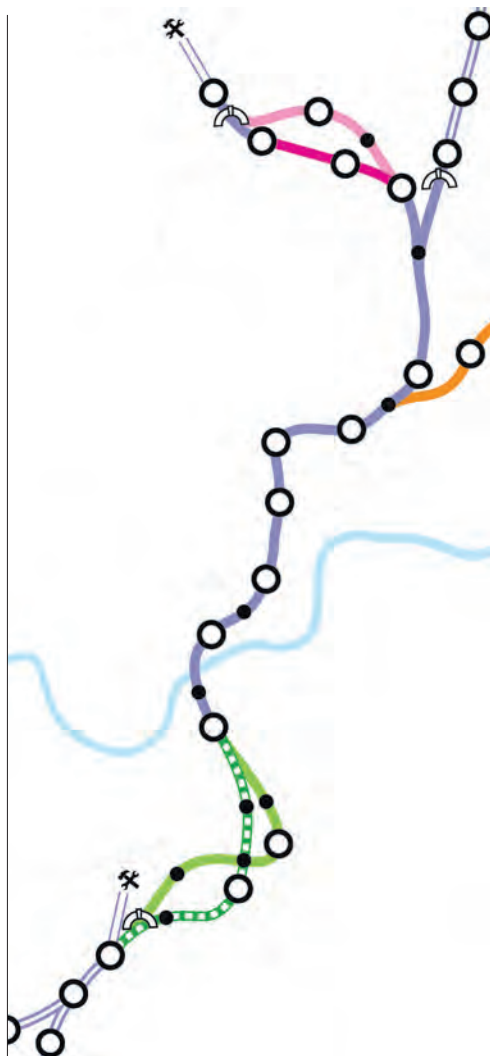
That was followed by a pledge from chancellor George Osborne in his March Budget, for £80m of government funds to match the same amount from Transport for London. This gave TfL's Crossrail 2 managing director Michèle Dix the green light to get on with further consultation and route development.

## Where are you at with it?

Now that we've got government support to take the scheme forward, we're considering the responses to our latest public consultation that closed in January this year. This was our fourth consultation to date, setting out where the route will go, stations we will build or expand and other places we will need to construct things like access shafts. We received over 21,000 responses, raising a whole range of issues, which we're now working through with a view to taking the revisions back out to consultation later this year.

We're also now looking at how we can make the project more affordable, as Lord Adonis said we should do in his report for the National Infrastructure Commission, looking at how we can reduce the overall costs. We're reviewing how we can reduce the scope of the scheme, perhaps with fewer new stations and re-examining how it's built and whether it can be phased over a longer build programme to make it more affordable.

Crossrail 2 is being promoted as a growth scheme, so we're looking more at



## The four consortia working on route development for Crossrail 2 are:

**Arcadis Hyder (in partnership with Weston Williamson, VINCI Construction, Interfleet and First Class Partnerships and Dr Sauer & Partners)** – engineering/technical aspects;  
**CH2M Hill / Atkins (CAST)** – strategic modelling, route development, planning, appraisal and evaluation;  
**MTEW (Mott MacDonald Ltd, Temple Group Ltd, ERM and WSP Ltd)** – environment and sustainability;  
**AECOM, Weston Williamson and Turkington**

what's needed to realise the potential for housing; up to 200,000 new homes could be built along the route. So we're considering how to ensure delivery of that; what mechanisms and powers are needed and what delivery models would make it all work, linked to housing.

This has to work with a funding package that gets more than half of the cost from London sources. The principle of Crossrail 2 thus far has been that those that benefit from the scheme should help to pay for it, by continuing the business rate supplement and the Mayor's community infrastructure levy per square metre of development as established for Crossrail.

We've now got two years to see how far we can go with the London contribution and get it agreed with government.

## What's the timeline?

The aim is to submit a hybrid bill for Crossrail 2 in 2019 at the earliest with royal assent likely by 2021. Construction should then start at the earliest by 2021/22 with completion around by 2033. This will be before Phase 2 of HS2 finishes, bringing a lot more people into London via Euston.

## Who's working on it?

To begin with we only had six people working on the project within TfL, including myself, rising to 40 with this continuing to grow to a team of around 80 staff and consultants. As the project has grown many are directly employed full time on the Crossrail 2 project, with other teams and divisions within TfL contributing expertise where necessary.

For the past year we have had four teams of consultants working on the outline design, financial and environmental aspects and modelling.

## When will the next opportunities come up?

From when we arrive at our preferred scheme later this year we will need more information for the hybrid bill and so we will procure more detailed design and support work for the bill.

We have £160m available, which we must spend wisely. We have already engaged with the supply chain with a market supplier survey and held a number of workshops last autumn. We expect to be procuring detailed design contracts towards the end of this year.

# Thinking globally, delivering locally

Global resourcing and ways to do it most effectively were the topics for discussion at a recent roundtable organised by *Infrastructure Intelligence* and supported by BST Global. *Denise Chevin* reports.

**R**unning an engineering consultant is increasingly becoming a global concern. Even those that are not yet multinational conglomerates can find themselves following clients overseas or outsourcing work to engineers and technicians on other continents to help cope with the troughs and peaks in workload back home.

Whatever their size and however they operate, businesses can face huge logistical and commercial challenges: how can teams across different locations be used to maximise efficiencies? What is the balance to be struck between central control and local autonomy? How can technology help? And for those looking to outsource UK work to overseas agencies to help smooth out the up and downs of projects cycles – what might be the best way of going about that?

These were some of the questions around the table when a group of consultants and contractors met a few weeks ago to debate the issue of global resourcing at the St Pancras Hotel in London with BST Global.

## Globalism versus localism

One of the biggest challenges facing our participants was the rise of localism in the UK, which is putting pressure on firms to have a presence in the area even if this is unprofitable and unnecessary. For contracting firms where the work has to be physically delivered on the ground, consultants acknowledged that there was a logic to this. But in engineering it often made more sense from both a technical expertise and economic point of view for designs to be generated more efficiently from a centre of excellence. With modern technology the designs and drawings do not need to be produced on the project's doorstep.

But procurement from local authorities is increasingly driven by the Social Value Act, which enshrines in law the need to procure in ways that will benefit the local community even if it's not the cheapest



## Who was present

- Miles Barnard – managing director of Mouchel Consulting
- Martin Bellamy – executive director of BAM Nuttall
- Rick Burgess – technical partner PRP
- Michael Casey – group board director of Hydrock
- Paul McCormick – managing director of AECOM's transportation business
- Denise Chevin – *Infrastructure Intelligence*
- Michael Clarke – chief financial officer of ADAS group
- Mark Cowland – UK risk and operations director, Arcadis
- Anil Ilyer – chief operating officer ACE
- Eduardo Niebles – director at BST Global International Group and host
- Nelson Ogunshakin – chief executive ACE, chairing the meeting
- Bruce Tomlinson – chief executive at HR Wallingford
- Mark Watson – head of ICT strategy BMT Group
- Duncan Wilkinson – director of Arup
- Diane Williamson, business development manager ACE
- Steve Wooler – chief executive of BWB

way of doing the work. One participant said that up to 10 per cent of the points awarded on a recent bid was for their social agenda.

“What we're finding is that public sector clients want to know the work is being done locally, in other words that you're putting back into the local community,” said one participant. “And we've had a problem with that. In Wales they wanted to see the work done there, but our design work is done nowhere near Wales.”

Paul McCormick of AECOM concurs: “Localism is really important for all our key clients. Our UK business is about 8,000 people across 60 offices in the UK at the moment. That's not efficient. As a company that has expanded fast with multiple legacy offices in the same cities we are working hard to optimise our estates portfolio and matching that to clients and workflow. But what we're seeing is that clients still want that local input.

Smaller firms taking part in the discussion said that localism was closing the door to public sector work for them because they tended not to have offices in different regions. Organisations were pushing for local employment even though it might not offer the best value for the taxpayer.

“It's a real challenge. Obviously local authorities want to create roles for local people, and some of the contracts that we have say that we have to do that, and we



will do that. But I think there's a genuine naivety around procurement, and within the massively competitive environment that we work in. Some of us probably did economics at school, and it just doesn't work," remarked one consultant.

Using local resources isn't just a UK-wide issue – but was often a demand of overseas clients too. "We have spent a long time trying to create an organisation that is global, but delivers locally," says Duncan Wilkinson of Arup. "We work out of five regions across the world, and each of those has local people, working locally. But having an overarching organisation gives a global reach."

He said that this was made easier by technology and the intranet: "We have a forum, so if somebody has a problem in Hong Kong, they can post about it on the forum and by the next day they'll be inundated with replies from around the world. It's great, we've actually learned to become a sharing organisation. The digital connectivity is amazing, in terms of trying to get that global reach, but with a local delivery."

Martin Bellamy from BAM Nuttall brought a different perspective as a contractor: "When I was running the international business from Holland we would tender jobs from Holland, win the job, send a bunch of ex-pats to that country, do the job, then go somewhere else.

"That became a totally unsustainable business. There are regional contractors and consultants that are as good as us at pouring concrete, so we had to become regional; we had to establish regional businesses in different areas.

"And that's the only way you can become competitive, because then you have local staff, and you also get to know the people. But establishing a regional business has to be sustainable, so there has to be a five-year business plan to make it worthwhile."



**"We've actually learned to become a sharing organisation. The digital connectivity is amazing, in terms of trying to get that global reach, but with a local delivery."**

**Duncan Wilkinson, Arup**

### **In-house centres of excellence overseas versus outsourcing**

When it came to using overseas resources to supplement UK work, there were two schools of thought. Some of our participants set up their own centres of excellence whilst others tended to outsource to third parties. There are pros and cons to both – with regional centres providing a way of controlling quality and consistency.

Mark Cowlard of Arcadis explained its approach: "Arcadis operates within seven global regions, and each of those regions has teams within a global excellence centre. We employ colleagues that work there and they operate and deliver the same as colleagues in the UK.

"They're not third party, they're not subcontractors, they're not someone to

blame if something goes wrong, they simply work at the end of a 'long corridor'. If they don't deliver to the required standard it's usually because the person in the UK hasn't briefed them properly.

"We have local global excellence centres for a number of reasons. One reason is to give us access to markets that we traditionally can't access because the cost is too high, so it allows us to lower the cost, maintaining the profit margin delivered to our shareholder, and therefore growing our revenue in new markets."

"It also gives us the ability to flex our resources and respond quickly to the needs of our customers, and maintain the quality and brand of the product in what is generally a resource constrained marketplace."

The view round the table was how the need to ramp up resourcing quickly was certainly going to become even more of a necessity. "Infrastructure spend in the UK today is probably around £12bn year. If Heathrow runway three goes ahead, that will increase infrastructure spending by about 50 per cent in some years of delivery over three or four years. How many of us around this table have got the ability to ramp up our resources by 50 per cent? And that's excluding the impact of HS2, Crossrail, the Tideway Tunnel and all those other big projects," observed one participant.

In terms of outsourcing to third parties, to help with peaks in workload, companies had had mixed results. "The reason that we started outsourcing was to expand our workforce very quickly, within a day or two, and then contract back down again if the project wasn't going ahead. I can understand why firms set up their own overseas centres because we've suffered with the quality at times from the outsourcing companies. It's actually put quite a dampener on certain sectors of our business because of that quality," remarked one. Now they always send a team out to do the briefing, impart





knowledge, and keep them informed on building regulations and standards. “So even though they’re a separate company, we treat them as part of our staff, because we see the benefits of it, and we find that the better informed they are, the better the quality we get back.”

#### Control versus autonomy

Where companies were operating with overseas centres, the discussion turned to the issue of how much control should be exerted through the operation or whether it was better to allow greater autonomy. The consensus seemed to be that making it work is about having the right people – that is, those capable of making decisions and reacting appropriately. “It’s difficult to find those people, but they also have to be empowered to make those decisions, trying to retain control is slow and not responsive enough,” said Steve Wooler of BWB.

Eduardo Niebles from host BST Global remarked: “We are a medium-sized niche technology company that caters to the AE industry with five offices around the world. We learned very quickly that you

have to have a very flat line, executive organisation, and you have to find the right people and empower them. Every one of our employees outside of America spends up to three months with us at our HQ in Tampa learning the culture, getting trained on what they’re expected to deliver.

“It’s a big investment, but it works for us as our business has grown significantly the last 11 years.”

Miles Barnard from Mouchel says: “I think with regards to the UK and abroad, firstly you’ve got to appreciate that it’s very different running a business in, say, Saudi Arabia than in Australia, there’s fundamentally different business cultures. So to make it successful, for us, we have to have very clear control, governance, delegations of authority. Business systems might help, but it’s about the control and governance. Most importantly in terms of running these offices is we take a person who understands what Mouchel is about, and they will be the business leader in that territory.”

Duncan Wilkinson of Arup gave his take: “What we used to do was employ people from around the world to come and

work with us in the UK, and then they’d go back to South Africa and Australia and set up a practice, but it would have a UK partner, who oversaw it.

“And over the last 25 years, we have slowly bought the franchises back as part of the local business. We’ve got to the stage now where those people who are out there are local people, who’ve grown up with the business locally, and rather than us putting in central control, they are local people running the business locally who feel part of this global organisation.”

With mergers and acquisitions rife in the sector it was not surprising that conversation turned to the issue of allowing new additions to maintain their own culture or establishing or more homogeneous culture quickly. One of our participants said that from past experience where companies were allowed to retain their own way of doing things within a group, it was hard getting them to work together, partly because of lack of consistency in the way they did things.

Others said that it is essential to get everyone on the same systems, even if it was painful. Once that had been achieved it was easier to work on cultural alignment.

## Where should we be moving in the future?

**Miles Barnard, Mouchel:** I think it’s about collaboration, particularly on the big infrastructure we’ve got now, between designers and contractors. If you can collaborate to deliver a solution, then I think you end up with a far better value solution.

**Martin Bellamy, BAM:** The market is very positive, but it’s ultracompetitive, so much so that we’re beating each other up a little bit. As an industry, I think there’s room for some kind of improvement there.

**Paul McCormick, AECOM:** “The biggest challenge for us as an industry is moving away from the very old traditional business models, to something closer to a Google type of delivery.”

**Bruce Tomlinson, HR Wallingford:** “Let’s embrace technology. Perspective is important, relationships are important, and human insight is important.”

**Duncan Wilkinson, Arup:** I would say, competence is not a function of age. And I would

say that if you’re incompetent at 25, you tend to be incompetent at 50. So undervalue your young people at your peril. If you want to learn about technology, you go to a 16-year old.

**Eduardo Niebles, BST Global:** Technology is really an enabler. The industry is going to change dramatically in the next five or 10 years. And I don’t think it’s going to come from a Google, it’s going to be an engineering firm that figures out how to integrate networks and data, the logging of data, etc.



### About the sponsor

**BST Global provides integrated business management software solutions for the world’s leading architects, engineers, and environmental consultants. More than 100,000 professionals across six continents and 65 countries rely on BST solutions each day to manage their projects, resources, finances, and client relationships. The company’s latest offering, BST10, is the world’s first multi-lingual business management system to be built exclusively for the architecture and engineering industry and made available both in the Cloud and On-Premises. For more information, visit [bstglobal.com](http://bstglobal.com).**



## Who's in charge of infrastructure?

George Osborne's preferred photo opportunity is the chancellor donning a hi-vis jacket and "getting Britain building" has been something of a rallying cry.

Those were the words Osborne used to launch the National Infrastructure Commission last October, an independent organisation that he said would offer "unbiased analysis of the UK's long-term infrastructure needs". The idea was pilfered from the Labour Party, so it's apt that the first chairman is Lord Adonis, transport secretary under Gordon Brown.

Worthy though this body might be, the NIC is yet another acronym in an industry crammed with them. The alphabet spaghetti also includes the IPA (Infrastructure and Projects Authority), itself a merger of IUK (Infrastructure UK) and the MPA (Major Projects Authority) at the start of the year, and the ICG (Infrastructure Client Group).

Below this there are regional bodies, such as Transport for London (TfL) and Transport for the North (TfN), with more to follow as the government's devolution of powers gets underway.

Infrastructure experts think it likely, for example, that the West Midlands Combined Authority, which will receive £36m a year from government to spend as it sees fit after its first directly elected mayor takes office next year, will set up an infrastructure arm.

For industry, the list is exhausting and confusing, while, with the NIC and IPA just starting, it is also unclear whether Osborne's pledge can be met under these structures.

### The driver

The NIC is arguably the most important new organisation, with the ambition to take the politics out of long-term infrastructure decisions that don't fit the

rigid political confines and expediency of a five-year fixed-term parliament.

Sir John Armitt, the former chairman at the Olympic Delivery Authority and ex-chief executive at Network Rail, led Labour's review, concluding in 2013 that warring politicians should be exorcised from infrastructure planning.

As much as Osborne has been accused of nabbing this idea, critics believe he has missed out one important detail: that the Treasury should be subservient to the commission. Instead, the Treasury still has the final say over which projects should go ahead, meaning that it could still veto infrastructure in the long-term good so as to not put a strain on public finances in the year of an election. There is an expectation too that the NIC will only report and investigate on what the Treasury asks it to. Its scope and power will become much clearer once the Bill is published which is needed to create the non-departmental public body (NDPB).

"What is the NIC meant to do? Armitt and Labour's plan was to determine what infrastructure is needed and force the government to do it", says a leading infrastructure consultant. "The Treasury doesn't like the idea of being forced into doing anything. The NIC is useless if it reports to the Treasury, because it is effectively second guessing other people's [officials' and ministers'] decisions on the likes of Crossrail Two, High Speed Three. The NIC is a total waste of time."

Strong words, but Julian Francis, director of policy at the Association for Consultancy and Engineering, points to the number of consultations that the NIC has undertaken about its structure, governance and remit as "a good thing". One of these established broad support for the NIC to be a non-departmental public body, and there is a determination in government to do this through primary legislation. But its



# Is infrastructure as easy as ABC?



Can it really be efficient to have so many different infrastructure bodies jostling for position? Or is their work genuinely complementary? asks *Mark Leftly*.



status, and therefore independence, will ultimately be subject to the Office for National Statistics and accountancy criteria, while the chancellor will appoint commissioners in consultation with Adonis rather than his say so.

Francis adds: "We're still trying to figure things out – the NIC is still in nascent form. If it works the way it's supposed to on paper then it will create a project pipeline, the government approves them and then it's the IPA."

The IPA is charged with "financing, delivery, and assurance of projects": these were previously the work of two units within Treasury. The government hopes this streamlined structure will help it meet a target of spending more than £100bn on infrastructure by 2020-21.

"Both [the NIC and IPA] say that they're independent of Treasury, but are they?" says Francis. "That's the ultimate test."

### Co-ordination

Richard Threlfall, UK head of infrastructure, building and construction at 'Big Four' accountant KPMG, is more relaxed about the number of government infrastructure bodies. He says: "The important thing is understanding the hierarchy of these organisations – subject to that, the more people driving infrastructure in this country, the better."

"The NIC should drive this as the overall lead, drawing on the work of the others, and then work with these organisations that fall behind them. They have got to be coordinated, not several different plans repeating the same things being produced."

Constructing Excellence chairman Murray Rowden also praises the IPA since it was at least a merger, while also arguing that the NIC being in Treasury at least means it has the support of Whitehall's most powerful, all-encompassing department.

He also argues that industry cannot keep being critical of all the government bodies, given the sheer number of trade associations that exist under the broad umbrellas of construction and infrastructure.

"We're all looking up at government, but we should all be putting a mirror on ourselves," argues Rowden.

And there is an argument that the industry is duplicating government's work. For example, an Institution of Civil Engineers-led group consulted on a 'national needs assessment' for UK infrastructure's needs to 2050 at workshops in Edinburgh, Manchester, Birmingham and London, with the findings to be published in October.

The ICE says this work will be "shared"

## Those infrastructure bodies explained

### National Infrastructure Commission

Launched with great fanfare last year, the NIC is, in theory at least, independent of the Treasury and will tell chancellors which infrastructure projects should be prioritised over the coming years. It has so far been credited with securing £430m of government funding for smart power, Northern rail and London transport projects.

### Infrastructure and Projects Authority

Established on 1 January this year, the IPA will make sure of the financing and delivery of projects. It reports to both the Treasury and the Cabinet Office and as well as huge infrastructure projects like High Speed 3, is responsible for delivering universal credit welfare reforms.

### National Infrastructure Delivery Plan

Not a body as such, the NIDP was produced by the IPA and collates the government's plans for large-scale housing, regeneration, schools, hospitals and prisons over the course of the current parliament in the National Infrastructure Delivery Plan – or another acronym, NIDP. This incorporates the latest version of the National Infrastructure Pipeline, which outlines £425bn of investment for more than 600 projects, the majority of which are beyond 2020.

### Infrastructure Client Group

The ICG exists to support the implementation of government's Infrastructure Cost Review – it works with client organisations and helps to address supply chain issues to drive innovation and efficiency. Its work has focussed on improving the commissioning, procurement and delivery of projects by sharing best practice through a series of tools – the latest of which an updated version of the Project Initiation Routemap is being updated mid-June.

### Transport for London

This body comes under the control of the London mayor, which is now Labour's Sadiq Khan. TfL has five funding sources, including the congestion charge and fares London Underground fares, with a total income of £11.5bn in 2015-16.

### Transport for the North

Local transport authorities, combined authorities and Local Enterprise Partnerships from across the north of England to, as it puts it, "allow the north to speak with a single voice to government".

with the NIC, which would then be able to include the report as part of its own needs assessment.

To complicate matters further, last month the NIC launched a consultation into the methodology of the National Infrastructure Assessment.

A leading engineering contractor sighs: "This is a total waste of time – there's huge amounts of replication in the industry, with one glorified meeting after another."

But Andrew Crudgington, ICE director of external affairs and strategy, says the work is complementary and will not duplicate the work of the Infrastructure Commission's own analysis. "The NNA is being developed independently by industry, business and academic bodies – led by ICE – and over 400 organisations and individuals from across industry, business, environment, economic, and academic communities have contributed evidence. This breadth of support and independent expertise can only strengthen the Commission's evidence base and help it understand the challenges the country faces."

"The NNA, due to its nature, has also been able to progress quickly and its findings will be published and provided to the NIC and other stakeholders this autumn. NIC chair Lord Adonis has welcomed the NNA as a real asset to the Commission's work. Sir John Armitt – also a member of the Commission – is leading the NNA group and acting as the interface to ensure it enhances and support the Commission's goals."

There is also some confusion around the role of the Infrastructure Client Group, which is made up of senior figures from major projects like HS2 and Crossrail, as well as the likes of Highways England and the Nuclear Decommissioning Authority.

Established by the ICE in the last parliament, this cross-industry body seeks to improve collaboration, which one derided as an "industry talking shop". However, this work has included a new code of practice to help infrastructure companies avoid disputes when working together on major projects, which was published last year.

### The future

On the plus side, the sheer volume of organisations and structural changes within government mean that infrastructure is at the forefront of ministerial thinking as, arguably, never before.

Many of these organisations have only just been established, so need to be given time to come together and form a completed picture. The real test will be whether the pieces of the puzzle properly fit together.

# Opportunity and an

Addressing the UK's urgent strategic national infrastructure needs, whether it is ensuring the security of future energy sources, providing a safe and reliable water supply or upgrading road and rail transport, has resulted in the implementation of multi-billion, long-term investment programmes. These programmes provide substantial business opportunities for Costain, almost 12 months after their acquisition of Rhead Group. *Andy Walker* investigates.

Costain acquired the professional services consultancy, Rhead Group last year, to enhance the company's programme management and advisory capability and its integrated service offer. Since then, the construction giant has been on a transformational journey, working hard to shift the perception away from the firm's historical roots as a construction contracting business to that of an engineering solutions provider providing a range of integrated services across the full asset lifecycle.

Nigel Curry was formerly CEO of Rhead Group and is now Costain's consulting and advisory services director. "We provide engineering solutions in three main markets – energy, transportation and water – and have incredibly strong customer relationships having worked with our customers for many years," he says. Curry is keen to stress the difference Costain makes to customers by providing greater value from innovation and collaboration with its supply chain.

"Costain spends significant time working with the various parts of the supply chain to bring forward solutions

and efficiency on projects. The culture within Costain recognises that collaboration with the supply chain provides a conduit for technology and innovation to provide customers with smarter and more efficient ways of meeting their needs. I think this spirit of collaboration is quite unique in our industry," says Curry.

More than ever before, clients are looking for support to provide them with greater assurance, greater predictability and certainty on their projects and programmes. "If you look at the model of delivery ten or five years ago it was very much around owners, engineers, designers, contractors and there was a clear divide, but I think now that model has shifted towards increased integration because of the need for greater efficiency and greater assurance around delivery," says Curry. "Customers are keen to engage with us much earlier to provide our buildability and constructability 'expertise' and knowledge to help influence better outcomes and increase efficiency."

Curry says that there has been a change in how the industry is delivering projects

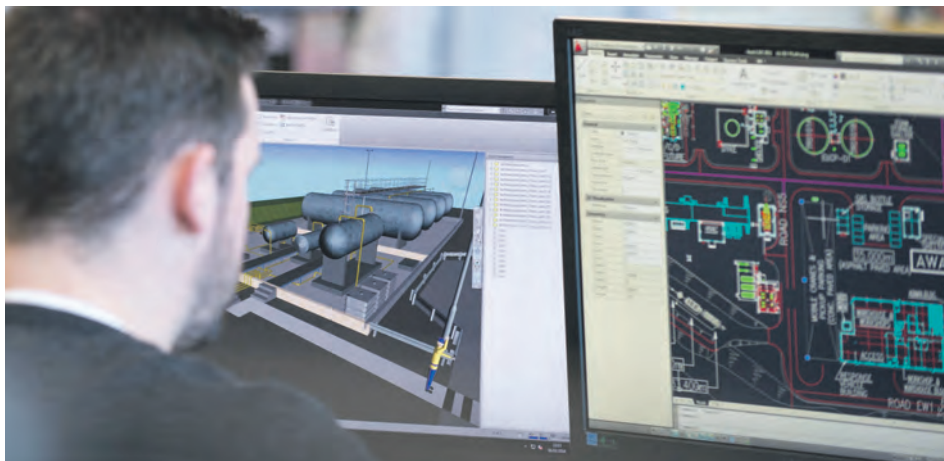


and how customers are looking to achieve that. "From a Costain perspective, we continue to deliver construction programmes whilst increasingly we are offering our customers an added consultancy and advisory capability and that's helping those customers deliver projects more efficiently and providing that assurance much earlier in the life of the project," he says.

The acquisition of Rhead Group has been used as a catalyst to develop that consultancy and advisory capability across the entire Costain Group. "The consultancy capability is not just being applied to the power sector where Rhead was integrated into, it's also being used as a catalyst across all six sectors of the company's operations," says Curry.

"Our customers are looking for Costain to be able to provide a wider capability so it's not something we need to influence that much. It's a need that customers have," Curry explains. "Traditionally, they have been gaining those services from some of the project and programme management consultancies who are less able to offer a deep understanding of how projects are constructed - that's a big differentiator for us and quite unique," Curry explains.

Costain has set up an operating model retaining a single point of contact with customers, rebranding Rhead Group as Costain, and customer relationships are held through the six sectors in which the company operates. "We have also developed three centres of excellence around programme advisory, engineering services and technology aligning





# exciting place to be



consultancy and advisory for deployment it into those six sectors. This consultancy operating model has enabled Costain to retain the single point of contact providing clarity for our customers,” says Curry.

Not all acquisitions succeed, so how has a professional services consultancy been integrated into what was a traditional contractor, with a different culture and staff? “Before we even thought about an exit to any company, let alone Costain, Rhead Group spent a lot of time defining what a good company would look like in terms of operating model and culture,” Curry says. “Costain for us was an organisation where we felt the integration would be very strong indeed and therefore it’s been a very positive experience. The cultural fit is strong, there’s an understanding of the strategic logic from the combined staff, customers and shareholders.

“Before the integration I was keen to ensure that customers and staff alike could see the benefit of the acquisition. The team have seen greater career opportunities across a larger organisation while still having the agility to provide consultancy services which the company was very successful at. The integration has gone very well indeed and we have retained all our key staff.

“Costain is a great business and very ambitious, with real passion and drive, which sometimes you don’t see in bigger companies. This ambition is hugely exciting and it’s a magnet for attracting and retaining talent,” says Curry.

Clear leadership and passion for the business are hallmarks of the Costain



**“The culture within Costain recognises that collaboration with the supply chain provides a conduit for technology and innovation to provide customers with smarter and more efficient ways of meeting their needs.”**

**Nigel Curry**

approach and Curry is excited. “We have a very clear strategy in a growing market offering a broader range of services,” he says. The directors of Rhead Group have stayed with the business and nearly a year on we all see the benefit of the move and are very much looking forward to continuing on the journey. It’s more than just been part of a larger company for us; it’s being part of helping to lead transformational change in Costain. That is really exciting,” he says.

Curry said that the alignment with the Costain values was a key consideration of

the fit. “Until you work in a new organisation you can never truly get an answer to whether a company lives its values. Now, having been within the business for some time, I know that the team absolutely live those values and is part of its DNA.”

Bringing in Rhead Group has changed Costain. “The company now has a much stronger breadth and depth of consultancy advisory capability. This has enabled Costain to offer a broader range of services helping customers improve the efficiency in the delivery of their programmes by engaging much earlier in the project lifecycle,” said Curry.

Curry is particularly keen to stress the importance of people within Costain. “Costain recognises that its people are fundamental to its current and future success,” he says. “We’ve got a very strong training and development programme from graduates, apprentices, and emerging leaders’ programme to ensure we continue to support and develop our team. The recognition of talented people being central to the success of the company now and in the future is deep rooted in the culture of the organisation,” he says.

“Overall, the integration has gone really well and I’m very pleased and proud of that.”

“In terms of the work we are doing, there’s a range of projects that we are providing support to. Some pretty complex programmes, including submarine platforms where we are providing project control capability. We’ve just recently won a major project to provide programme management for the National Grid to oversee the delivery of a large tunnel in the Humber. These are just two examples. It’s going well. The team is excited by this new chapter,” Curry says.

Curry clearly relishes his role at Costain. “I enjoy being involved in the delivery of major complex programmes. I’m working with some great talented people, helping to develop a growing business which has the agility to be able to support customers develop greater assurance on these complex programmes. Leading the challenge at Costain to further build our consultancy and advisory business is something I am very excited by,” he said.

“Costain is a great company, with a clear vision and a clear strategy and it sees talent as an absolute central part of what it invests in. It’s a very exciting place to be,” says Curry.



# The changing face of leadership

What do today's leaders in infrastructure need? Global executive search company Spencer Stuart sheds light on must-have skills.

In today's global, digitally charged world, infrastructure projects are taking on new dimensions, while the industry is shifting to meet new and varied needs.

To gain insight into the industry's current state of leadership, Spencer Stuart interviewed ten CEOs and chairmen of infrastructure companies across Asia Pacific, Europe and North America, and surveyed more than 100 senior infrastructure executives globally. The findings reveal a sector on the cusp of significant change. We observed:

- An industry challenged with changing market conditions, new funding models and increasing regulations.
- An evolving leadership profile, requiring a focus on the infrastructure consumer and a commercial, strategic, technology and media skill-set suitable to managing increased demands from diverse stakeholders.
- The need for an organisational capability aimed at attracting and retaining top talent at all levels.

## Complex times require outstanding leaders

With the challenges facing infrastructure companies, the question of who is at the helm is more important than ever. Successful CEOs need new skills to guide the company through a complex marketplace. The consumer savvy, social-media-tuned, IT-capable infrastructure leader must be mindful of financial and regulatory concerns, and must be nimble at meeting the needs of multiple partners and stakeholders.

- **Strategic thinking.** The ability to consider all available options with a long-term lens and draw on the best ideas, wherever they come from, is more critical than ever as projects become more complex. As one CEO said, "One challenge is the long planning horizon, coupled with long capital recovery cycles. How do you do it in an environment where the future demands you are planning for could change dramatically?"
- **Commercial and financial mindset.** Declining public funding – the "reign of empty coffers" – is driving infrastructure companies to develop new business models that enhance private sector role, most notably public-private partnerships (PPP).
- **Collaboration and influencing skills.** Executives must be able to unlock knowledge and capabilities across the entire organisation and to lead cultural change that places consumer-awareness

## Human capital priorities for infrastructure companies



and social impact high on the agenda.

When it comes to driving infrastructure developments, leaders need to work with people across a multitude of disciplines.

- **Stakeholder management.** Infrastructure leaders must nimbly manage the needs of an increasingly broad set of stakeholders and speak credibly to all. In light of the impact of infrastructure projects on communities, leaders must be attuned to public opinion and be able to communicate effectively through public and social media platforms. Increasingly, becoming more business-oriented means becoming consumer-oriented.

## Building an organisation for the future

A challenge for infrastructure companies responding to changes in the industry is attracting and retaining talent with the right mix of leadership and technical skills. The shortage of skills is broad, including tradesmen, engineers, project managers, commercial and financial leaders, technical experts as well as general managers. How can infrastructure companies become better at building the teams they need?

- **Injecting new perspectives.** Infrastructure companies have tended to promote from within, but increasingly executives see a need to strategically recruit from outside the company and even outside the sector. Increasing the diversity of talent is necessary in an industry facing changes on multiple fronts. Engineering skills will always be critical, but increasingly IT savvy, legal experience and finance management skills will be must-have skill-sets. Talent from outside the infrastructure industry can help revitalise the sector on those dimensions – but that also means competing in the talent market against top banks, law firms and consultancies.

## Developing and retaining top talent.

Ensuring skills are on par with other industries, and that workers are in tune with external challenges, can help raise the bar on talent in the industry. When it is time to hire or make appointments, taking the extra step of benchmarking the position, both internally and externally, helps immensely, even if the intent is to hire from within. For infrastructure companies, a pressing concern involves the pipeline of engineers, who are the core of the workforce. Especially in demand are engineers who can work in the digital sphere and those who have honed their leadership skills. Growth opportunities, clear career progression and a strong mix of benefits can go far toward attracting talented professionals and keeping them in-house. But sometimes the best reward is the work itself, tapping into the sense of purpose inherent in many infrastructure projects. "The best way to attract people is to have great projects," observed one executive. "Money and conditions are important, but the best people want to work on the best projects."

## Conclusion

The infrastructure industry is changing fast and dramatically, transforming itself in response to technology advancements, growing risk and complexity, and the need for innovative funding mechanisms. In light of these industry changes, a new leadership profile is emerging that emphasises strategic thinking, a commercial and financial mindset, collaboration and influencing skills, and stakeholder management.

Authors: Arnaud Despierre, Hugh Thorncroft, Suzanne M. Burns, Jordan L. Brugg, York von Wangenheim from Spencer Stuart

# Heal divisions and provide stability

A new prime minister must negotiate a favourable withdrawal from the EU, says *Nelson Ogunshakin*, but we all have a part to play in the coming months and years.

In the early hours of 24 June the world was rocked by the news that the people of the United Kingdom had voted to leave the European Union. As the news spread like wildfire, much panic ensued. Yet, while the UK is one step closer to being the first EU member state to withdraw, it must be remembered that we are still the United Kingdom and in this we gain strength.

Contrary to the view of many, this is not an end, merely a beginning. The beginning of a time when the United Kingdom will continue to grow as a strong global leader, with a strong government that works wholeheartedly towards the betterment of the British people.

Akin to the beginning of any new path, the ultimate goal seems far away, with a path that is rife with challenges. But together, it is surmountable. Together, with a calm and realistic approach, I am confident that the United Kingdom will continue to be internationally competitive. The result and its significance gives us all a chance to reflect upon our personal, political and business processes.

The results of the EU referendum have seen the promised end of David Cameron's term as prime minister of the United Kingdom, for which we hope to soon see the appointment of a steady, competent replacement. While the new PM must, if Article 50 is activated, negotiate a favourable withdrawal from the European Union, they must also succeed in mending the rifts in UK society. While many of these rifts have been longstanding to a degree, the EU referendum drew attention to these rifts in a way previously unseen.

Market volatility, lack of confidence and credibility has been the media headline. Healing will be essential for UK society, the



**“We in the UK must collaborate, working together to stabilise UK business and economy, achieving the best deal possible within the withdrawal process, to subsequently improve the UK’s standing in the world.”**

**Chief Executive Nelson Ogunshakin, OBE**

economy as well as politics. While we as the UK must work together to ensure global competitiveness, we cannot continue to propagate bitter divisions within internal politics. Not only the Conservative party, but the Labour party and all other political parties must strive to move past bitter divisions and accusations regarding the result of the referendum. Politicians must bear in mind their true purpose – to serve in the best interest of the people, moving the UK progressively forward.

Now, we all must play a part, no matter what you voted. All leaders must now take up their mantle – chosen or not – and provide stability to those who follow. Government must do all that is possible to maintain the confidence of the market by taking the big decisions on Heathrow expansion, or on HS2, to maintain deal flow in infrastructure investment.

While the people have spoken and made their choice, and the path we now travel is unknown, we in the UK must collaborate, working together to stabilise UK business and economy, achieving the best deal possible within the withdrawal process, to subsequently improve the UK's standing in the world.

There is no need for immediate or rash actions, regarding personal, political or business concerns, as it must be remembered that the withdrawal process will take at least two years from the day the prime minister officially invokes Article 50 with the European Union.

The withdrawal process is not simple, as can be seen in ACE's work on this issue at [acenet.co.uk/EUReferendum](http://acenet.co.uk/EUReferendum), but throughout this process ACE will continue to keep members informed as well as advocate for strengthening the competitiveness of our industry, maintaining essential business ties and seeking innovative business solutions.

As David Cameron said on 24 June “Britain is a special country”, serving as “a great trading nation, with our science and arts, our engineering and our creativity respected the world over.”

We must now make sure that those words continue to ring true around the world and throughout history.





# How can we prevent Brexit being bad news for the environmental sector?



UK membership of the EU has been seen by many in the environmental sector as a positive influence on issues like air quality and climate change. *Matthew Farrow* looks at the potential ramifications of the vote to leave the EU.

**A**t a show of hands at last year's Environmental Industries Commission annual conference, delegates overwhelmingly expressed a preference for staying in the EU. Many of the luminaries of the 'green blob' have eloquently explained how EU membership has helped turn Britain from a country of landfills, toxic air and filthy beaches to respectable mid-table on most sustainability indicators.

Yet the public's choice over Brexit turned less on the environment but on many issues and we will now see the start of the long trudge towards legal dissolution of our EU membership. So, once the initial shock at the result has dissipated, what should the green movement's focus be?

The priority, of course, must be to ensure that Brexit does not lead to the environmental disaster some predict. For over 20 years the green community has been able to rely on the fact that the EU's environmental competence has taken environmental standards out of day-to-day UK politics and enabled steady progress to be made. What it has also done, I hope, is embedded an assumption in the public's mind that clean water, clean air, more recycling and so on is their right and an automatic part of a modern society.

So in air quality for example, while the EU Directives provided a vital hook for 'Client Earth' to challenge the government's complacency, we are now seeing more of a media focus on rising asthma levels among young children and the iniquity of schoolchildren attending schools in areas poor air quality. There will be a need for the green movement to ensure that public support (and that of stakeholders such as thoughtful business groups) is consolidated around core areas of EU environmental policy which must be retained or replicated post-Brexit.

Everyone will have their own list of what these core areas are, but top of mine would probably be air quality, REACH, energy efficiency standards and water quality (plus of course carbon budgets where the UK already has a domestic legal framework through the Climate Change Act).

In the spirit of looking for silver linings, let's also remember that Brexit would of



**All players in the environmental sector – NGOs, trade associations and think tanks – will need to redouble their efforts to nurture alliances with sister organisations across the EU.**

course give us the ability to tailor EU regulations where they have not been working well in a UK context. It's worth noting that a survey of environmental professionals by the Society for the Environment found that alongside general support for EU environmental policy, respondents did on balance see the lack of national flexibility as a disbenefit.

A particular bugbear of mine is the separate collections provisions of the revised Waste Framework Directive – badly drafted legislation combined with a 'one size fits all' mentality have caused years of pointless lawyerly debates and a judicial review and undermined attempts to have a pragmatic UK discussion about improving the quality of recycle. Equally for some of the water quality directives, I hear concerns from my environmental laboratory members that the detection levels legally required have been set without regard to the measurement capabilities of laboratory equipment.

One of the biggest drawbacks from Brexit would be a loss of influence over

shaping the EU's international stance in international environmental negotiations. Over the years I've been involved in EU-level debates where the UK has been a vital progressive counterweight to member states such as Poland keen to protect their coal industries. There is no easy way to restore this influence from outside the EU, but all of us in the green sphere, NGOs, trade associations and think tanks will need to redouble our work in building and nurturing our alliances with our sister organisations across the EU to maximise our influence beyond our shores.

There is no point in pretending that Brexit is not a setback for progressive outward-looking environmentalism. But the Climate Change Act shows that we are perfectly capable of producing strong, effective, home-grown environmental legislation.

We will need to be doing much more of this the future.

*Matthew Farrow is director of the Environmental Industries Commission, the leading trade body for environmental firms.*





Steph  
McGovern.

# Awards reward excellence, innovation and talent

More than 350 people packed the Grand Connaught Rooms in London's Holborn on Tuesday 24 May 2016 to see Terry Morgan, Crossrail's chairman, be crowned Ambassador of the Year, WYG win best large firm of the year and BWB scoop two categories in the 2016 Consultancy and Engineering Awards.

Guests at the glittering event were drawn from across the industry and included John Holland-Kay, chief executive of Heathrow Airport, Simon Kirby chief executive of HS2 and Lady Barbara Judge, of the Institute of Directors.

The 13 awards celebrated the best of the UK's consultancy and engineering profession and showcased the remarkable work of ACE members and supporters across a variety of specialisms. 2016 also saw the introduction of new category awards to reflect the growing need to recognise the wider partnerships and collaborations that are involved in moving business practices forward in an ever changing environment.

Commenting on the event, Dr Nelson Ogunshakin OBE, chief executive of ACE (pictured left) said: "All our winners are outstanding examples of excellence in the industry. More importantly the evening recognised the people who sit at the heart of our organisations, each and every one playing their part to deliver work of the highest standard."

Chair of Judges Mike Brown MVO, commissioner at Transport for London, said: "I was extremely pleased to have been invited to chair a most distinguished judging panel for this year's awards representing a truly broad range of clients, stakeholders,

media and academics from across our industry."

The awards were hosted by BBC *Breakfast* business reporter Steph McGovern (above left). No stranger to the consultancy and engineering sector – Steph is a former winner of the Young Engineer for Britain Award – she presented the event at London's Grand Connaught Rooms with gusto, humour and enthusiasm.

The 'winner of winners' – or The Diamond Award – was presented to a delighted and surprised Glyn Utting from WYG who had earlier in the evening been recognised as the Young Professional of the Year.

The Consultancy and Engineering Awards full list of winners for 2016 is listed below and described in more detail over the following pages.

## The winners

### Best UK Business Performance – Small Firm Winner:

Green Structural Engineering

### Best UK Business Performance – Medium Firm

Winner: BWB Consulting

### Best UK Business Performance – Large Firm

Winner: WYG

### Highly Commended: Cundall

### Apprentice of the Year Winner: Sanna

Shabir, Atkins

### Highly Commended: Laura

Brown, CH2M

### Young Professional of the Year Winner:

Glyn Utting, WYG

### Collaboration Champion of the Year Winner:

Chapman BDSP and

Rapiere Software

### Inclusion and Diversity Champion of the Year Winner:

Transport for London

### Sustainability Champion of the Year Winner:

Max Fordham

### Technology Champion of the Year Winner: Cundall

Highly Commended:

StructureMode

### Training Initiative of the Year Winner:

BWB Consulting

### Highly Commended:

Mott MacDonald

### Ambassador of the Year Terry

Morgan, CBE:

Chairman –

Crossrail

### Special Recognition Award Atkins

Diamond

Award for

Engineering

Excellence

Winner: Glyn

Utting, WYG



Nelson  
Ogunshakin.



# **Best UK Business Performance – Small Firm** (less than 50 staff)

## **Winner – Green Structural Engineering**



**Green Structural Engineering on stage with Steph McGovern.**



Green Structural Engineering (GSE) won the prize for Best UK Business Performance, Small Business, after impressing the judges with strong business growth, well sustained profit margins and a commitment to staff training with a real focus on maintaining the wellbeing and job satisfaction of each individual in the company.

The company started in 2008 and turnover and profit has grown year on year. Since 2013, turnover has increased by 36% to 2014 and 28% to 2015. Profit has been maintained at between 43% and 49% over the same period. The company was praised in the ACE SME benchmarking study for its “astonishingly high profit margin” compared with the industry norm.

In the last year, GSE has taken further strides forward, launching a new, updated website which profiles the company’s work more effectively and moving into new, larger offices in March to enable the firm to grow in number while ensuring that staff would be in a comfortable work environment.

Underlining the firm’s focus on all levels of staff, GSE has implemented new training initiatives for its graduate engineers while also introducing a senior management training programme and business plan to triple the size of the company over the next three years.

It hasn’t all been plain sailing for GSE, with the firm’s efforts to grow its CAD team made harder by difficulties in finding good and

competent technicians to fit into the company dynamics. They have also lost some staff, who wanted to work on bigger projects, who have moved to larger companies. Through this adversity however, GSE has agreed a strategy to enter new market sectors in order to ensure

that work remains varied with a view to increasing staff retention.

GSE’s senior management team have led the firm’s focus on a more varied portfolio of work. They have maintained their current percentage of high-end residential work but increased the percentage of Temporary Works and Commercial projects undertaken in the office. External marketers have been hired to increase the firm’s profile in the marketplace and on social media and business development consultants have also been brought in to help.

A new and improved business plan is already paying off with new projects being won and extra staff being recruited. The firm is justifiably proud of a burgeoning reputation for being “very efficient, friendly and super professional” (according to one client) and their strong commitment to their staff, which is contributing to a strong and close-knit team.

### **Judges’ comments**

“Green Structural Engineering demonstrated not only strong business growth, but also well sustained profit margins. This was largely down to an organised and well developed business plan which has recognised the benefit of not only investing in overall training of its workforce but also the need to maintain the wellbeing and job satisfaction of each individual. “

“With the introduction of new training initiatives for graduate engineers and the company’s acceptance on to the government funded Business Growth Accelerator Programme their ambition to triple the size of the company in the next three years was extremely impressive.”

**Finalists:**  
**Buxton Associates**  
**Skelly & Couch**



# Best UK Business Performance – Medium Firm (50 to 250 staff) Winner – BWB Consulting

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DELIVERING BUSINESS TECHNOLOGY



BWB Consulting has secured the prize for Best UK Business Performance, Medium Firm, for its resilience through tough economic conditions and an enduring and focused commitment on delivering excellent service for their clients.

Over the past three years, BWB's business performance has strengthened considerably, growing turnover, profitability, staff numbers and also increasing staff utilisation and efficiency. Long-term investment in improving BWB's people, processes and profile has been the real driving force behind the firm's impressive business performance. A strong supporter of the annual ACE Benchmarking project, they have used their results to help shape and develop the business over the past five years.

BWB's business planning capability and effectiveness has improved substantially for many years and the firm has seen a "sea-change" in performance over the second half of 2015, largely due to well-planned and



targeted long-term investment in business process improvements, market positioning and people development.

These steps, complemented by selective acquisition of two smaller businesses, have enabled BWB to expand its service offering, widen geographic coverage and compete successfully in new market sectors. This has resulted in a doubling of annual turnover from £2.37m in Quarter 1 2012 to £4.75m in Quarter 4 2015.

As well as marking BWB's

25th year in business, 2015 turned out to be a truly remarkable year in terms of achievements, awards and accreditations. The firm's bespoke academy programme



has played a transformational role in the lives of staff and the success of its business. Last year BWB received the Investors In People Gold Standard, just 12 months after achieving Silver Standard.

The firm has skilfully used industry awards to raise its profile in key market sectors and their success has been widely recognised by a number of construction and business related award schemes. The enhanced profile that awards and accreditations provide, combined with a growing portfolio of high-profile projects for an increasingly 'blue chip' client base has attracted some exceptional new talent to BWB.

This year sees BWB at its strongest, most efficient and most resilient position in the 25 years since it was founded in 1990 and with an extremely bright and promising future ahead. The company's vision to be recognised as an employer of choice and to be seen as a great place to work is steadily becoming a reality and not just a business plan aspiration.

## Judges' comments

"BWB Consultancy has consistently proven its business resilience through the difficult times and challenges during the recession, where the company has made business efficiencies and come through each cycle with strong growth."

"A stand-out feature of their submission was the exceptional recognition by their clients of the outstanding work they deliver combined with superior customer service. BWB Consulting put client relationships at the very heart of its organisation."

**Finalists:**  
BCS Design  
Clancy Consulting



**BWB Consulting**  
celebrate their win.

# Best UK Business Performance – Large Firm (More than 250 staff)

## Winner: WYG

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WYG celebrate winning the large firm award.



WYG has won the Best UK Business Performance, Large Firm award, impressing the judges by growing their business in good as well as challenging times while retaining a key focus on involving their employees and building commitment and buy-in.

WYG's UK business has undergone a transformation over recent years from break-even to being the cash and profit generating engine of the wider WYG international business. The company achieved a 50% increase in operating profit on 15% turnover growth last year, and with an order book of more than £60m and increasing, WYG's growth trend looks set to continue for the foreseeable future.

WYG believes its business growth is largely due to the commitment of its people. Feedback from the company's employee surveys has encouraged them to place staff at the heart of their thinking more than ever before. The company has introduced a number of new staff initiatives and benefits including free fruit to offices and discounted gym memberships and the launch of a new health and wellbeing handbook.

Increased staff communications include local monthly office briefings and the

### Judges' comments

"WYG has succeeded in a tough economic environment and competitive market by recognising that to continue future growth it was important that they brought their employees along with them and got their commitment and buy-in. Key to this fundamental objective was management's appreciation that WYG staff wanted to engage and connect with the local community and give something back. Judges praised the introduction of 'Make a Difference Days', where WYG gives employees up to two days extra leave to undertake voluntary work. This was used by a number of employees in Cumbria to support clean-up efforts following the 2015 floods."

**Finalists:**  
**AECOM**  
**Mott MacDonald**  
**WSP | Parsons Brinckerhoff**

launch of a monthly internal e-newsletter, *The Thread*. WYG also gives staff an extra day's leave in the week of the employee's birthday and has also introduced 'make a difference days' where staff can take up to two days paid leave to undertake voluntary work. Several WYG staff in Cumbria used the initiative to help out during the clean-up effort after the recent floods.

Having established the need to create more of a community culture within the business, an innovative company-wide initiative was launched in summer 2015 – "WYG 80 days" – where employees were encouraged to walk, swim, cycle or row submitting their miles to reach a combined company target of 10,000 miles supported

by a web and social media campaign. Milestones led to information being shared about offices to educate employees about the wider business whilst charities also benefited from sponsorship and donations.

The response was unprecedented with over a third of WYG's UK employees taking part and many more staff supported staff in their efforts. Overall more than 80,000 miles were clocked in the 80 days, brilliant success, and 2016's campaign is already being planned.

WYG is convinced that increasing staff commitment and buy-in to the company has been a significant factor in their business success and they are looking to build on that even further in the months and years ahead.

### Highly commended: Cundall

Cundall's global turnover has increased from £25.5m in 2013 to £35.4m in 2015. Profit has also gone up, from £4.4m in 2013 to £5.9m in 2015. Staff numbers in the UK and internationally have also increased and the company's commitment to staff development and involvement is

a key part of Cundall's success.

Cundall is the first consultancy in the world to be endorsed as a One Planet Living Company. The company proactively looks to reduce its environmental impact, through training of staff, investment in its offices and changing procurement policies.



# Apprentice of the Year Winner: Sanna Shabir (Atkins)

Sponsored by



Sanna Shabir, a civil engineering Technician Apprentice at Atkins Global has earned this year's award for Apprentice of the Year due to her tireless work to rise past professional challenges amidst maintaining high marks within all units of her first year NVQ qualification.

Having proved herself to be responsible and skilled in her first two months, Sanna was placed on the Al Habtoor Dubai Polo Ranch project where she worked as a CAD technician. New to the world of engineering and computer aided design software, this was a challenging project to not only ensure that engineering designs were sufficient for construction teams, but also to work with international stakeholders and ten buildings with unique designs. These challenges sharpened her skills through daily learning opportunities and a high level of pressure to meet tight deadlines.

Yet it cannot be forgotten that as a newcomer to the industry, not only did Sanna have to navigate working life but she also had to continue to submit college work and collect evidence for the NVQ portfolio.

After this initial project success, Sanna worked on the Battersea Pressure Reduction Station where she was able to apply her refined skills to a new set of challenges, working with her team to overcome hurdles and successfully deliver her objectives.

Over the past year she has also worked on several projects for Crossrail and Old Oak Common, including serving as a CAD draughtsman on the Old Oak Common depot project. While she initially served in a structural engineering team, she



Sanna Shabir.

Sanna Shabir, receives her Apprentice of the Year Award.



has challenged herself to also produce civil utilities drawings.

Important to the future of the industry, Sanna regularly engages in a spectrum of activities that are geared to encourage others to pursue apprenticeships in STEM subjects. Feeling that it is important for her to fulfil her part to help overcome the widening skills gap she has become an Atkins apprentice ambassador, a buddy to an apprentice in first year, a STEM ambassador as well as a committee member for the Atkins London STEM committee hub. From East London, she is keen for Pathways to Engineering to be a great success, participating in the launch by delivering a speech with the chairman of Atkins and Mayor of London in front of 200+ industry leaders.

## Highly Commended: Laura Brown, CH2M

Having begun her career with CH2M in September of 2014, Laura has had a range of learning experiences which have refined skills for the specialised maintenance of listed structures within the local area. She has been successful with her work on the West Midlands Highways Alliance Framework as part of the structure maintenance team looking after the bridges and structures within her home county, and has also had a lead role in the start-to-finish project success of a Grade 1 listed culvert rebuild. Amidst all this, she continues to advocate for STEM and the importance of apprentices in addressing the skills gap.

## Judges' comments

Sanna's ability to exceed expectations was clear when she was successful as a CAD technician on an international project early on in her apprenticeship at Atkins. Amidst this she was able to maintain grades of distinction in all seven units of her first year NVQ qualifications and is now working towards becoming a chartered structural/civil engineer.

"Sanna is a clear star for the

future, taking on a challenging project early on and successfully delivering results. All the while, maintaining an excellent standard within her first year NVQ qualification."

**Finalists:**  
**Charlie-ann Forker (Atkins)**  
**Lewis Wade (Atkins)**  
**Matthew Fellows (Jacobs)**  
**Sam O'Sullivan (Pell Frischmann)**

# **Young Professional of the Year and Diamond Award for Engineering Excellence** **Winner: Glyn Utting (WYG)**

Glyn Utting, an international project manager at WYG has earned this year's Young Professional of the Year Award due to his spectacular work, not only to fulfil project requirements but to make lives better for local people where he has worked. Glyn wowed the judges to such an extent that he was also named as the overall "winner of winners" and the recipient of this year's Diamond Award.

Glyn gained particular attention due to his work not only within the UK, in Cumbria after extreme flooding, but also internationally. Despite being a young professional, he has successfully taken on the leadership of a diverse range of projects in conflict-affected or natural disaster-affected countries.

After five years of experience delivering a major UK infrastructure project for the Ministry of Defence, from January 2014 he project managed the construction of

Camp Qargha, an officers academy and NATO support base for the Afghan National Army in western Kabul, Afghanistan. From there he moved on to projects in Tripoli, Libya, and assessment studies for the Defence Infrastructure Organisation for the reconfiguration of multiple army bases in the north of England.

Following the Nepal earthquake in 2015, Glyn led his employer's damage assessments and its rebuild programmes done through Community Action Nepal. As a UK-based charity geared to aid the mountain people of Nepal,

Glyn engaged with local communities to fully assess the damage and need, following through to lead the rebuilding projects on eight rural schools and 12 rural health posts.

Glyn has worked to achieve project success in potentially hazardous environments, amidst increasing militia fighting or dire circumstances. He has dealt with the myriad working issues seen by UK teams abroad, such as ensuring that UK health and safety standards were maintained as well as overcoming linguistic or cultural barriers. He dealt with up to 12 concurrent projects at once during his work on the assessment studies for the Defence Infrastructure Organisation. Through all his



**Glyn Utting, a worthy winner of two awards.**

projects he has had to handle remote logistics and best use of local supplies to achieve project success.

Overall, Glyn's passion for his work exceeds the average level of dedication. It is clear from the projects he's taken on that bettering human societies is his ultimate goal, no matter where they are, or what circumstances those societies face.

## **Judges' comments**

"Choosing a winner was difficult but Glyn's sheer passion for his work and desire to change the quality of lives in areas ravaged by war or after natural disasters was decisive. His commitment to go the extra mile to contribute to bettering lives is remarkable; whether in Cumbria after the extreme flooding, disaster relief in Nepal or through other efforts to better conditions in war ravaged areas."

"In deciding the overall "winner of winners" and the recipient of the Diamond Award we have one phrase to sum up this remarkable young man – 'He took our breath away!'"

**Finalists:**  
**Dr Christian Christodoulou (AECOM)**  
**Sophie McPhillips (Atkins)**  
**Zoe Green (Atkins)**  
**Mark Glendinning (WSP | Parsons Brinckerhoff)**

**Glyn Utting.**  
**Judges said,**  
**"He took our**  
**breath away".**







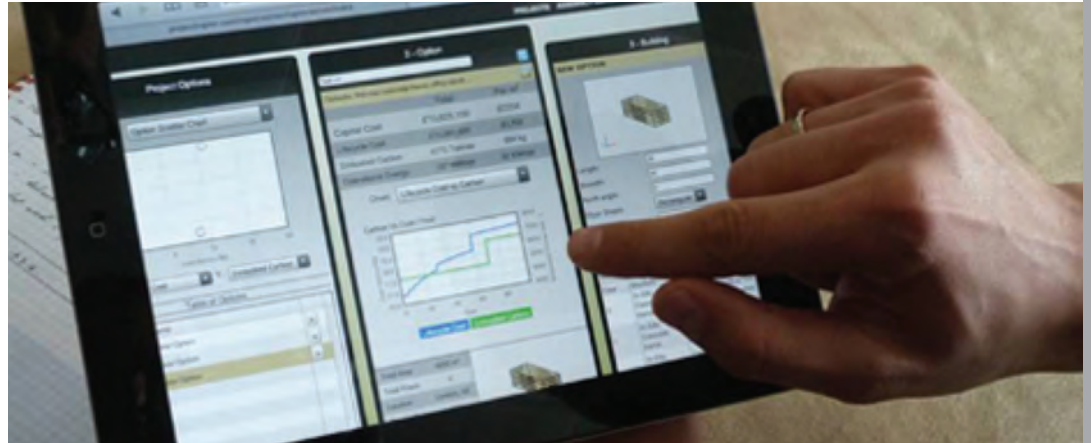
## Collaboration Champion of the Year Winner: Chapman BDSP and Rapiere software

Four very different consultancies came together to develop what has ultimately become the Rapiere design software. Instinctive tendencies to guard rather than share commercially sensitive information were overcome, as were other fears of risk to reputation and concerns over funding being committed to what initially appeared to some a nebulous, non-core activity.

Determination and truly collaborative efforts won through. Rapiere is now a commercial asset in its own right, used to substantially benefit the design work of the four companies, Chapman BDSP, GreenSpace Live, Architype and Sweet Group, while also now offered to the market through a separate Rapiere branded company.

The motivation behind the software came from recognition of a need to efficiently measure and analyse the carbon, cost and energy consumption of buildings or projects throughout their lifecycle.

Early design decisions are critical to the profitability and ultimate success of any project and the development of Rapiere was initiated due to the growing frustration of architects, engineers and environmental specialists as they encountered difficulty optimising designs across multiple disciplines. What



was needed was a single platform of software that all could use concurrently for single projects.

Employees from the four partners came together and set to work, each researching and providing a robust data model based on industry standards for their specific discipline. Sweet Group provided the capital and lifecycle cost model; Chapman BDSP developed an energy and services model; Architype supplied similar for embodied carbon; while the collaborative software solution came from GreenSpace Live.

All this was despite initial hesitancy from the companies' shareholders. A collaboration between such different

companies and disparate disciplines had not been attempted before. To begin with there were fears that development of Rapiere could reduce the earning potential of the partner companies by doing the work currently carried out by their employees. There were also

potential conflicts of interest as proprietary knowledge that made up the partners' unique intellectual property had to be shared as part of the collaboration.

However, the persistence of visionary individuals from each organisation convinced senior management teams to maintain their support for the initiative. Rapiere is now a very useful asset, producing better designs in terms of lifecycle cost, carbon and energy performance.

Feedback received from users of the software has revealed substantial cost and environmental savings on specific projects. One such is a recently completed office building, which had a target BREEAM rating of Outstanding, with a benchmark figure for embedded carbon of 980 CO<sub>2</sub>kg/m<sup>2</sup>. The final outcome for the building was 140 CO<sub>2</sub>kg/m<sup>2</sup>. The capital cost remained within budget and under a set benchmark target per m<sup>2</sup>.

### Judges' comments

"The four companies involved in developing the Rapiere software overcame instinctive barriers to form a truly collaborative and ultimately successful venture. Despite battles over time and resources, Rapiere is now on the market and being used as it was intended, with considerable success."

**Finalists:**  
**Eckersley O'Callaghan and Apple**  
**Jacobs and South East Water**  
**Network Rail**  
**Infrastructure Projects – Commercial Directors Forum**  
**Pell Frischmann, Arcadis and South West Water**  
**Turner & Townsend and Crossrail**

The winners receiving their Collaboration Champion award.



# Inclusion and Diversity Champion of the Year Winner: Transport for London



Transport for London's initiative for Championing Inclusion and Diversity through Women, has earned this year's award for Inclusion and Diversity Champion of the Year due to its far-reaching promotion of the issue through various forms of effective staff support.

In 2012, Transport for London (TfL) created its Single Equality Scheme (SES), which set out an overall action plan to improve the various facets of equality for all of the diverse communities throughout London. This was done in response to its customers, employees and suppliers identifying equality as a key objective for TfL to achieve and since the creation of the scheme, TfL has been working hard to achieve equality across all of its activities.

As a key organisation in the industry, many of the efforts made have provided an effective model for others to implement while also helping TfL to identify best policies to foster a culture of equality. Through initiatives such as the Women's Staff Network Group, a number of gender based policies and working practices have been developed such as

the Maternity Leave Working Group in partnership with Tommy's, a pregnancy charity, as well as creating guidelines for those going through life events

such as IVF treatment as well as the menopause.

During the past year, the focus has turned to celebrating 100 Years of Women in Transport. Launched in November 2014, this has been a collaboration between Network Rail, the Department for Transport, Crossrail Ltd, Women's Engineering Society, Women's Transportation Seminar, London Transport Museum, as well as a variety of sponsors. Whilst the programme of activities has been complex, it has led to a reach that far exceeds other efforts, growing the campaign's collective network to more than

11,000 individuals in over 270 organisations.

With a total of 16 events that were attended by 1,600 people, the entire campaign has been designed to fully embrace inclusivity and well as diversity. Through revolutionising support for employees, the initiative has exceeded other efforts and created a real platform to support both personal development as well as progression of staff.

**Above: Some of Transport for London's Women's Staff Network Group. Below: Transport for London receiving their award from Steph McGovern.**

## Judges' comments

"Every so often an initiative is launched that will change public perception and revolutionise modern working practices. Transport for London's 100 Years of Women in Transport campaign is one such initiative. Engaging a wide support network, a key feature of the campaign was the organisation of 16 events in a variety of formats, to meet the needs of its diverse audience. These events, attended by around 1,600 people, have supported the personal development and progression of staff in a truly diverse and inclusive campaign."

**Finalists:**  
Arup  
Crofton Design  
Mott MacDonald  
Mouchel Consulting  
Turner & Townsend





# **Sustainability Champion of the Year Winner: Max Fordham**

Max Fordham's unique approach to unique projects, their commitment to innovation, willingness to share their ideas and spread sustainable best practice, made the firm an irresistible proposition to judges for Sustainability Champion of the Year.

Sustainability starts with design and runs right through the construction process and into the operational phase of a building. Modern sustainable engineering must be devoted to sustainability to be credible and one firm has this ethos at its very core. Max Fordham was founded by the man himself in 1966 and its original ownership model has kept the company democratic, idealistic and utterly committed to sustainability.

Max Fordham's approach to design seems to be as unique as the company itself. Their submission focused on quirky projects that stimulated innovative approaches to sustainability and included work on heritage buildings, working libraries and art galleries, each presenting their own challenges.

They showcased how they had developed systems to allow



**Max Fordham staff delighted with their award.**

natural light into air galleries while simultaneously adhering to painting conservation procedures, used unobtrusive methods such as air-tightening to insulate heritage buildings and reduced CO2 emissions by 50% in a Worcester library. Furthermore, Max Fordham's approach to research in urban design as part of their Green Cities project is incredibly holistic. It looks for ways to make green and blue rooves to provide greater water management, biodiversity, ecosystem services, pollution reduction and food production. Clearly, Max Fordham understands the

interconnected nature of the environment and design appropriately.

The company has set up the MAX R+I, a research and innovation department that both actively shares its findings with the rest of the industry through events and publications, but also has testing facilities to assure clients that more experimental sustainable methods and technologies do what they say on the tin, minimising risk.

What's more Max Fordham has built a 'Sustainability Matrix' that allows clients to work collaboratively with the consultants to communicate

their sustainability aspirations. This outward-looking model is a big part of why the judges decided that Max Fordham's approach was worthy of the Sustainability Champion of the Year Award.

What makes Max Fordham's approach truly special is their clear commitment to buildings beyond the project's formal duration. They continue to monitor their impact on reducing carbon emissions and even conduct post-occupancy review of their projects, enabling them to identify when a building may be performing at less than its optimum. More importantly, this perspective provides a learning opportunity for future projects and encourages best practice in every part of the organisation meaning that it isn't just the sustainability teams that care about sustainability.

## **Judges' comments**

"Of particular note for the judges was that throughout the design process Max Fordham engineers considered the life-cycle impacts including the environmental effects of the project from construction through to eventual demolition or reuse. They collaborated closely with client, architects and design teams and used local materials wherever possible to reduce their carbon footprint."

**Finalists:**  
**AECOM**  
**Cundall**  
**ERM**  
**Mott MacDonald**  
**Ramboll**



# Technology Champion of the Year Winner: Cundall

Cundall's Virtual Acoustic Reality software tool in action.



This year's winner of the Technology Champion of the Year Award is Cundall Virtual Acoustic Reality (VAR), a unique software tool set to transform building and infrastructure design with three-dimensional audio modelling.

Eschewing the flat 2D graphic interface of conventional acoustics modelling, the Cundall team has combined a virtual reality headset with a gaming engine and high-quality audio to take project teams on a 3D audio and visual tour of buildings before they are built.

This will enable valued decisions to be made based on 'experiencing' the building rather than numbers on a page. Cundall VAR links a powerful 3D graphics program, Unity, with the CATT Acoustic software to enable clients and the design team to experience how audio performance changes as they walk around a virtual model of a building's interior.

The Cundall VAR system was developed to allow the acoustic effects of design decisions and changes to be easily understood. Proposals can be evaluated and potential problem

areas identified and rectified at the design stage, preventing costly and difficult remedial works once a building has been constructed and commissioned.

Clients can use the system to assess the merits of investment

## Judges' comments

"Cundall has found a novel and innovative way for project teams to design and manage the acoustic performance of buildings by combining audio prediction modelling with game-quality graphics. The VAR is a cutting-edge software tool for project teams and holds great potential for coordination with other disciplines and BIM models."

**Finalists:**  
**AECOM**  
**Geo-Environmental Services Limited**  
**StructureMode**  
**WSP | Parsons Brinckerhoff**  
**WYG**

in acoustic treatments. Likewise, architects and designers can evaluate how relatively simple changes to their design can improve the acoustics of a space. For acoustic engineers it can be used to justify where treatments are most effective, while providing a simple way of demonstrating this to the rest of a design team. Property developers, owners and agents will be able to use the VAR system to assess how any existing acoustic problem can be

resolved, or how a proposed building refurbishment could change the aural environment.

Most of the hurdles overcome in developing VAR involved getting the various pieces of software, each using different software language, to talk to each other in real time. A method of synchronising the user's position with the sound that would be heard at that location was required, together with a simple way of control for moving around inside the model.

A standard hand-held gaming controller was selected. These are relatively familiar to most people and ease of use was one of the key aspects of the design. Future development of VAR may refine the hardware to make a smaller 'second generation' system, as well as seeking to combine the auditory experience with more information from other design disciplines, such as lighting, for coordination with BIM models.

Consultancy  
& Engineering  
AWARDS 2016



The Technology Champion Award is presented to Cundall.

## Highly Commended: Structure Mode, Fabric cast reinforced concrete

Structure Mode has helped to rebuild a community centre in the coastal Cambodian city of Sihanoukville with innovative use of fabric formwork for casting reinforced concrete. Use of concrete was a well-reasoned decision for a location where timber has become scarce and steel expensive. The fabric formwork is lighter, easier and cheaper to produce than traditional timber formwork and

improves durability. Following computational analysis and physical testing, a woven polypropylene formwork was designed and used successfully in the construction. The Bomnong L'or Centre, which provides supplementary education to local children and adults, now has four new teaching spaces, a computer room and administrative and service spaces.



# **Training Initiative of the Year** **Winner: BWB Consulting**

BWB Consulting's academy has won the Training Initiative of the Year Award for playing "a transformational role in the lives of its people".

The multi-disciplinary engineering and environmental consultancy came up with the idea for its training academy in the depths of the recession. It knew that if it was to improve its long-term prospects in such a harsh business environment, it had to develop the technical excellence, intellectual rigour and commercial acumen of its people. An academy, with training programmes that developed the rights skills sets and expertise, was to be the way to build future resilience.

The design of the academy's content was led by BWB's leadership team, and subsequently shaped with input from other staff members

Although BWB was investing effectively in technical training, it recognised BWB needed good all-rounders – people with sound commercial acumen, strategic awareness, operational know-how and skills to adapt their



interpersonal style to get the best out of others. The aim was, therefore, to devise a training programme that would equip individual staff to become the 'complete professional'.

The academy has three levels – Bronze, Silver and Gold – each increasing in complexity and challenge, with their ten-month modular programmes requiring significant commitment from participants. Bronze and Silver have been implemented, with Gold under design. Bronze is in its fourth year and 25% of BWB's people have completed the programme. Another 7% will



**BWB's academy (top) impressed the judges and their staff are impressed with their award (bottom).**

start the programme in September 2016.

The initiative demands huge personal investment from BWB's Leadership Team since 95% of the content is designed and delivered by them in order to share in-house expertise and manage cost. The consultancy believes its investment in the academy is saving it £15,000 per annum in training costs.

BWB is convinced the academy programme has played a transformational role in the lives of its people and the success of its business. It has led to significant improvements in the behaviours and effectiveness of its people combined with planned and successful diversification into new markets and geographies. Revenues have doubled between 2012 and 2015. In addition, 15% of employees have been promoted as a direct result of applying academy learning and 86% have passed their ICE professional examinations.

## **Highly Commended: Mott MacDonald Railways Division – Women's career development programme**

Determined to boost the number of female engineers in its workforce, Mott MacDonald Railways Division engaged gender diversity specialist Skills 4 UK to deliver its Career Development Programme for Women to help attract, develop and retain more female employees. All 40 women in the 350-strong division, no matter how junior, were given the opportunity to take part in the programme which lasted six days and spanned two months.

The results have been impressive. Women are putting

themselves forward for tasks they might previously not have undertaken. They are more proactive, volunteering to do presentations, putting themselves forward for awards. The company says its managers are seeing a real difference in the quality of the women's contributions.

Since the course, four of the women who took part have been promoted to more senior management positions, and one has taken over the leadership of the Young Professional Excellence network.

## **Judges' comments**

"BWB Consulting's academy has played a truly transformational role in the lives of its people and the success of its business. The academy was conceived and developed in the depths of the recession as a means to build future resilience, and this rigorous approach to investing in training was the standout feature that impressed the judges the most."

**Finalists:**  
**Hurley Palmer Flatt Limited**  
**Mott MacDonald**  
**Pell Frischmann Ramboll**

# Ambassador of the Year Winner: Terry Morgan CBE, Chairman, Crossrail

Crossrail chairman Terry Morgan CBE is this year's recipient of the ACE Ambassador Award, presented periodically to an individual who has made an outstanding contribution to the industry. Previous recipients have included Sir John Armitt and Sir Michael Latham.

Morgan, who was knighted in the Queen's Birthday Honours for services to UK infrastructure, skills and employment, was nominated for the award for his exemplary leadership skills at the helm of Crossrail and for the tireless and passionate way he has championed apprenticeships and training in the sector.

Morgan became chair of Crossrail in 2009, the same year he was awarded a CBE for services to the railway sector. Crossrail is the biggest construction project in Europe, and the first complete new underground line in more than 30 years and Morgan is steering it to the finishing line on time and on budget. The £14.8bn project is an incredible engineering feat and has involved boring 26 miles or 42km of new 6.2m diameter rail tunnels under London weaving in and out of existing complex tunnelling networks. When the line opens as the Elizabeth Line in 2018, Crossrail trains will transport up to 72,000 passengers per hour.

Before joining Crossrail, Morgan had made his mark in delivering world class infrastructure as chief executive at Tube Lines, A PPP company contracted to maintain and upgrade the tube's infrastructure on the Jubilee, Northern and Piccadilly lines.



**Terry Morgan receives his award from ACE chairman Gavin English (left) and chief executive Nelson Ogunshakin.**

## Comment

"Terry Morgan is a fantastic leader, a huge advocate of training. He is someone who walks the talk. He is a great ambassador for our sector."

**Dr Nelson Ogunshakin, chief executive, ACE**

Previously to that, Morgan has held senior positions at a number of engineering firms, including group managing director, operations, BAE Systems and managing director (Land Rover), Rover Group.

Down to earth and plain speaking, Morgan started his own illustrious career as an apprentice at the Lucas Girling factory in Cwmbran in Wales and soon converted to a student apprentice to learn engineering skills. After completing a master's degree in engineering production and management, he

switched over to British Leyland, quickly being promoted to operational management roles, before moving the Rover Group.

As a former engineering apprentice himself, the value of bringing young people into the sector through this route has not been lost on Morgan who set into procurement policy at Crossrail the need for firms to take on engineering in both contracting and consultancy. As of April 2016 Crossrail had created 550 apprentices – far exceeding the target it set itself. This extraordinary success caught the eye of secretary of state, Patrick McLoughlin, who asked him to develop the Transport Infrastructure Skills Strategy, published in January 2016. The government has a pledge to create 30,000 new rail and road apprenticeships by 2020. He continues his educational and training role as the chairman of HS2 College Governing Body. Morgan sits on the ACE Editorial Advisory Board and is the past president of the CMI (Chartered Management Institute).



# Special Recognition Award Winner: Atkins

Investing in talent development is at the heart of any industry-leading firm and this year the judges felt that one company, Atkins, should be awarded a Special Recognition Award for confronting and addressing the problem with their commitment to apprentice, technician and graduate development.

Investing in young people is widely recognised as being vital to the future of the industry as well as the long-term stability of the UK economy. This not only means seeing young talent them as a collection of qualifications but helping them to develop other vital life skills too.

Scare stories abound in the industry about the skills gap time bomb that is ready to explode due to the lack of children choosing to study STEM subjects and subsequently consider a career in engineering. The industry faces challenges that it needs to face head on.

With three apprentices shortlisted for Apprentice of the Year, and two engineers shortlisted for Young Professional of the Year, the judges believed that Atkins is blazing a trail to show its contemporaries how to rekindle interest in the industry. Of the five shortlisted candidates four were also young women, demonstrating Atkins' commitment to equality, diversity and inclusion as part of their overall business strategy.

Equally important was how Atkins was thinking much more creatively about the role they help their young people play within their communities and within society. They have recognised the



difference volunteering makes to a young person's horizons and encouraged them to discover that when they are valued and respected by others, they value and respect themselves more.

Many of Atkins' young people are STEM subject ambassadors visiting schools to deliver the important message that a career in engineering is rewarding, challenging and motivating. How better to engage school pupils

than for them to see a mirror-image of themselves in a few years' time standing on the stage inspiring them to join the growing workforce that is building Britain for them and their future.

In the words of Allan Cook, chairman of Atkins: "A more inclusive and diverse workforce is

a business imperative. We have to explore and find innovative solutions to inspire, recruit, retain and motivate the best talent from across the entire population". With this kind of transformational leadership and belief in releasing the potential of their people, it will be difficult for Atkins to fail.



## Judges' comments

"In an environment where many companies are looking for solutions to a growing problem of recruitment, Atkins has demonstrated a true commitment to the training and development of young people and are ahead of the curve in terms of their progression. Atkins has given their young people the opportunities to succeed and put their ambition at the heart of the company ethos to harness the skills and creativity of young people to meet their business goals."



**Delighted Atkins' staff on stage receiving their well-deserved award.**

# Late payment and the Construction Act



Construction firms are still plagued by the scourge of late payment and the problem persists despite measures to tackle it, writes *Sheena Sood*.

It is widely acknowledged that late payment is an endemic issue across the construction industry. According to the Asset Based Finance Association, construction and real estate firms had to wait an average of 107 days to receive payment – longer than in any other industry.

There have been a number of initiatives to improve payment practice in the construction industry, chiefly the payment regime under the Housing Grants, Construction and Regeneration Act 1996.

The Act introduced a payment process and adjudication to improve payment in the Construction industry. It advocates payment in stages with specific events and dates triggering payment. If payment isn't made the recourse is adjudication.

The Act, now close to 20 years old, has helped introduce stronger payment mechanisms but the issue of late payment in construction has not been solved.

Reasons for this include:

- the Act most benefits those who understand the complex payment process and it can be difficult to apply in practice ;
- suppliers may be reluctant to employing the tools provided by the Act due to concerns of jeopardising long term relationships with an employer;
- the Act is being exploited, for example, by the inclusion of extremely prescriptive contractual payment provisions which seek to circumvent the Act, such as requiring significant additional requirements and condition precedents to be complied with before payment will be due.

A review of the Act has been commissioned by parliament and it remains to be seen if any amendments will address the concerns listed above.

## Legislative initiatives to tackle late payment

There are a number of legislative initiatives which are in the process of being implemented to tackle the issue of late payment generally and will therefore affect the construction industry.

### Small Business, Enterprise and Employment Act 2015

The *Small Business, Enterprise and Employment Act 2015* provides for further regulations



requiring companies to publish a report on their payment practices and procedures. This requirement will undoubtedly help with payment but it is unclear if it will cause a wholesale change in construction payment practices. Having the requirement enshrined in statute will surely help.

Secondary legislation was supposed to be introduced in April 2016 to introduce these requirements and a league table of companies and their payment practices. No legislation has been passed and it remains to be seen whether it will be.

### Late Payment Directive

The Late Payment Directive (2011/7/EU) has only been implemented in part in the UK. One of its features is a right for industry bodies to challenge “grossly unfair” payment terms. To date this has yet to be implemented in legislation.

### Other steps to address late Payment Project Bank Accounts

Project Bank Accounts (PBAs) have been successful in the public sector. When a PBA is used the contractor and named members of the supply chain are paid out of a single account. PBAs provide additional certainty and transparency and the Government Construction Strategy 2016-2023 proposes an increased use in PBAs in the public sector which will hopefully result in their use in appropriate private sector projects.

### Payment Charters

Payment charters like the Prompt Payment Code and the Construction Supply Chain

Payment Charter have set a good benchmark but have not been used to their full potential. There is no real incentive to become a signatory and the consequences for failing to comply are not significant. If used to their full potential then payment charters can be another helpful tool in tackling late payment.

### Technology

New technology and the digitisation of the construction industry could also assist in late payment. Issuing payment applications, invoices and pay less notices digitally would make the payment process transparent and would standardise the payment process.

### Our view

Late payment remains an endemic issue for the construction industry. Whilst recognised as an inherent problem, with efforts being made by government and industry, the measures to improve the position must be fully embraced by the industry across the supply chain. Our advice to business remains that the best way of tackling late payment is good payment practices. That means fee proposals that are realistic, contract terms that embody a fair and sensible payment mechanism, prompt submission of applications for payments and invoices, prompt chasing for payment and taking early and effective action when payment is delayed.

*Sheena Sood is a partner at lawyers Beale and Company.*



# Career path: Monica Steele

*Monica Steele, geotechnical engineer, Amey, on her unusual route into engineering.*

**What is your job?**

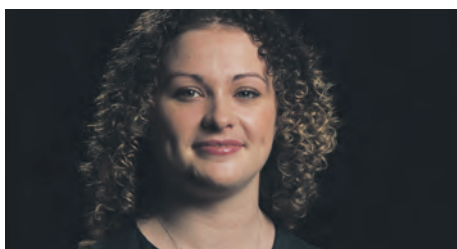
I work for Amey, one of the UK market leaders in the provision of infrastructure services. As a geotechnical engineer I am involved in infrastructure projects, specialising in earthworks and foundation design and geotechnical and environmental ground investigations.

**Why did you decide to go into engineering?**

Growing up I enjoyed science fiction, which inspired me to focus on science and maths. As I got older I wanted to use my interests and make a difference, therefore engineering seemed a perfect fit.

**What did you study? How did that lead to your career at Amey?**

At 16 I left school to study manufacturing engineering; however changed to civil engineering, and gained employment as a part-time technician with Amey who supported my studies. Understanding the variety of engineering roles helped me structure my education and decide what I



wanted to pursue. After getting my degree I secured a graduate position with Amey.

**What is special about where you work?**

The people – they are amazing! Amey has provided the support to help me achieve my career goals and provided me with a wide variety of opportunities, helping me grow my skills at every stage.

**What is exciting?**

The diversity of office and site work, getting involved in projects from the foundations up and influencing designs right from the outset. Amey's range of services and end to end capability means

we see projects from initial concept, right through to delivery, which I thrive on.

As a STEM ambassador I enjoy inspiring the next generation of engineers, working with schools, colleges, careers fairs and female networking events, and supporting new members of my team.

**What about the work keeps you interested?**

Variety! Delivering site investigations, report writing, developing design solutions and communicating with a variety of stakeholders, clients and contractors.

**What is the best thing so far in your career?**

Shortly after graduating, while working on the Belfast Rapid Transit Scheme, I was given sole responsibility for designing a geotechnical structure. Working on roads I had probably driven on a thousand times really brought home that my job was important and Amey really do help create better places to live, work and travel.



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