



**PROJECT**  
Birmingham's  
New Street  
station  
p13

**TECHNOLOGY**  
People powered  
future  
p18



**CAREERS**  
Temple Group's  
Charlene Baker  
p35



# 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

As Sir John Armitt explains in this month’s Infrastructure Intelligence, for once the two main political parties agree that an independent long term assessment of the UK’s infrastructure needs is worth having. Regardless of who spawned the idea of a National Infrastructure Commission the reality is that few in the infrastructure sector disagree - have ever disagreed – that it is a great idea. Of course, the critical question is how Lord Adonis will run his Commission, and more importantly who he will choose to assist him. Where will he find his “independent body of people, able to make intelligent assessment but not be conflicted or disappear into the weeds.” There can be no doubting the scale of his challenge when attempting to assess the nation’s infrastructure needs and place them into a logical hierarchy amid increasing clamour for attention. And with the Chancellor keen to get a pre-Budget steer on spending priorities for critical schemes such as HS3 and the Northern Powerhouse, Crossrail 2 and London’s transport needs plus the tricky issues surrounding energy supplies and the grid, Adonis has little time to hang around. The task is less about delivery, more about the analysis of need and making the case for infrastructure investment. It is about removing the political “see-saw” inherent in past pet-project-decision-making and getting to the nub of what will really drive our nation’s economy and boost the standard of lives across the UK. And that is hard stuff. But it is a great aspiration and very similar in ambition to that of the Davies Aviation Commission set up in 2012 by the Coalition government to cut through the endless indecision over airport expansion. Yet as we also read this month, a recommendation doesn’t necessarily guarantee a simple decision. The debate is set to continue for some time yet. So without question all infrastructure eyes will be on the government as it prepares to make its promised post Davies recommendation decision. Not least as getting this decision right could well set the tone for the way future Adonis Commission independent recommendations are received down the line.



Antony Oliver,  
editor, Infrastructure Intelligence

Contents

News Roundup	3	This month’s top infrastructure stories
Airports debate	6	Heathrow’s Andrew McMillan and Gatwick’s Alastair McDermid discuss the post Davies issues
Opinion	8	Comment from Mark Bew, Beth West, Christine Townley and Stephen Hamil
Cover story	10	Sir John Armitt on infrastructure’s ascendancy
Project Update	13	Birmingham’s New Street station
Technology	18	BST Global Forum: People Power
EIC Conference	22	Zac Goldsmith and Sadiq Khan head the programme for the EIC Conference on 19 November
Risk Management	24	Griffiths & Armour round table finds consultants’ approach to risk is now maturing well
ACE News	28	Advise on business in the Middle East; CEO Awards shortlist revealed; FIDIC Conference update
EIC	31	Matthew Farrow on the green cities agenda
Online	32	Best read at www.infrastructure-intelligence.com
Careers	35	Charlene Baker of Temple Group

News roundup

BUSINESS

KPMG analysis of the national infrastructure pipeline has highlighted a 28% drop in the number of projects in the pipeline, from 3,148 in December 2014 to 2,262 in August 2015. The total value in the pipeline has also fallen, from nearly £128bn to just under £119bn in the same period.

Ninety percent of firms prefer international arbitration to resolve cross border disputes according to a new study published by Queen Mary University of London in partnership with global law firm White & Case. This is an increase on the last survey in 2006 when the figure was 73%. London and Paris continue to be the preferred venues for international arbitration.

Pell Frischmann, one of the largest privately owned engineering firms, has done a deal with RAG-Stiftung (Foundation) Investment Company which has bought a majority stake in the consultancy. Existing senior management team members Tushar Prabhu and Richard Barrett will become co-CEOs. Dr Wilem Frischmann is stepping down as chairman and will take on a new role as the strategic advisor to the board. The managing director of RAG-Stiftung Investment Company, Jürgen Wild, will join the Pell Frischmann board as chairman.

Wates Group has closed the deal to buy Shepherd Engineering Services (SES) and Shepherd FM including a number of contracts and strategic frameworks from Shepherd Construction. Wates acquires 1200 Shepherd staff with turnover of around £300M. Shepherd Group will retain the reputable Shepherd Construction name and focus on the remaining parts of the business, including the Portakabin Group.



Birmingham New Street’s stunning new look station was completed with the opening of the Grand Central shopping complex, a project cited by the Chancellor as an example of how infrastructure can help reshape local economies. Opening of the shopping complex came after client Network Rail unveiled an iconic new atrium over a huge passenger concourse - five times the size of London Euston’s. The station has been rebuilt while trains continued to run as normal for the 170,000 passengers a day who use it. Find out about the project and the people involved in the Birmingham New Street – How to rebuild a station hub on www.infrastructure-intelligence.com

China Railway Construction Corporation (CRCC) and Mott MacDonald have signed a Memorandum of Understanding and are seeking major international construction projects to pursue together. News of the collaboration came while the Chancellor identified UK projects, including £11.8bn of HS2 contracts, which would be “opened up” to bidders including those from China.

Dutch design and consultancy business Arcadis has consolidated its global business portfolio under the single brand name. The Arcadis name will replace both the EC Harris and Hyder Consulting brands as the two UK businesses are completely absorbed into the parent company following takeovers in 2011 and 2014.

Danish engineering consulting business Ramboll has appointed Robert Arpe, managing director of its Denmark business to replace Steve Canadine as head of its UK business. The firm has given no detailed explanation for the leadership reshuffle stating simply that it had “announced a change of

leadership for its UK team”. The move comes after half year results to June 2015 showed the firm’s pre-tax profits fall by 18%, and margin drop to 3.5% from 4.1%, despite group revenue growth in the same period of 30%.

Kier Group has reported strong results with revenue for the year ending 30th June 2015 up 14% from the previous year at £3.4bn. Profit increased 19% to £104m. Acquisition of consultant Mouchel which completed on 8 June has pushed the firm’s construction and services order book up to £9.3bn from £6.2bn in 2014.

UK contractors are lagging behind in terms of size and capability and must focus on generating profits to reinvest in skills and innovation, according to Medani Sow, UK chief executive and chairman of French contractor Bouygues. Speaking at the Construction Industry Summit, Sow, who joined the Government’s revamped Construction Leadership Council in July, said that improving their cash position was “paramount” to UK contractors’ future success.

ENERGY

Plans to start building the £1bn Swansea Bay Tidal Lagoon next spring have been delayed by a year. The start date has been moved to March 2017 because of delays in agreeing a strike price with Government. The promoter, Tidal Lagoon Power, is asking for a rate higher than wind, solar and nuclear power.

The Chancellor George Osborne revealed loan guarantees worth £2bn for the UK’s first new nuclear power plant in 20 years while he was on a tour of China. The support will be provided by Infrastructure UK and is intended to pave the way for a final investment decision by energy company EDF, supported by China General Nuclear Corporation and China National Nuclear Corporation, later this year.

Rolls-Royce has won £100M worth of contracts to supply the new nuclear power plant at Hinkley Point. EDF has selected the firm to supply heat exchangers worth £25M. And in partnership with Nuvia, Rolls-Royce will also supply systems to treat nuclear waste in a contract worth £75M.

The Department for Energy and Climate Change has refused Development Consent for the Navitus Bay Wind Park close to the Jurassic Coast natural world heritage site. The decision supports the recommendation made by the Planning Inspectorate. The 970MW project was proposed to be built 13.4 miles off the coast from Bournemouth and 10.9 miles from the western tip of the Isle of Wight. It would have powered 700,000 homes a year.

CITIES

Sheffield City Region has agreed a devolution deal



with Government that will see it vote for a directly elected mayor in 2017. The region is one of 38 places which submitted proposals to Westminster to take control of how public money is spent in their area. The Mayor will oversee a range of powers devolved from government including responsibility over transport budgets and strategic planning.

PEOPLE AND CAREERS

EY has appointed Amanda Clack as the head of infrastructure at its advisory practice for UK & Ireland. She joins EY from PwC, where she was a partner for over nine years leading the firm’s south east consultancy business. EY’s Infrastructure practice plans to double its size over the next five years.

Professional services firm Deloitte has changed its selection process so recruiters do not know where candidates went to school or university in a bid to prevent “unconscious bias” and access more diverse talent.

Government has upped its pitch to grab maths and physics students as teachers with top graduates being offered up to £30,000 tax free to train to teach the subjects.

A new study released by EDF Energy, to mark the launch of its #PrettyCurious campaign, has found that a third (32%) of girls in the UK aged 11 to 16 don’t think they are smart enough to become a scientist. That’s despite science being one of the subjects they enjoyed most (28%) and performed best in at school (38%) over the past academic year.

FM Conway has appointed former Miller chief executive Chris Webster as a non-executive director. Prior to his appointment at Miller in 2010, Webster spent nearly twenty years at Amey.



Plans for a National Infrastructure Commission chaired by former Labour minister Lord Adonis and underpinned by £26bn of local spending devolved for local councils to invest in infrastructure were unveiled by Chancellor George Osborne at the Tory conference. He also promised to “sweep away planning rules” to allow more homes to be built. “We are the builders,” he declared in a triumphant post general election victory speech. Plans for the new National Infrastructure Commission are seen as key to driving forward investment in critical national infrastructure. The commission – originally proposed by Adonis and Sir John Armitt for the Labour Party would be “set up in law, free from party arguments, which works out calmly and dispassionately what the country needs to build for its future, and holds any Government’s feet to the fire if it fails to deliver,” Osborne said.

Dame Zaha Hadid has become the first sole female recipient of the RIBA Royal Gold Medal for architecture.

The infrastructure sector must recruit and train some 100,000 new apprentices and graduates across all sectors of the industry if the UK is to meet the challenge of delivering its vital multibillion pound infrastructure investment pipeline, according to Treasury. In its new National Infrastructure Plan for Skills report Treasury also highlighted the need for industry to retrain and up-skill around 250,000 of its existing workforce over the next decade if it is to meet the investment challenge.

Leading engineering bodies from China and the UK have signed a deal which will see employees from Chinese and UK companies take part in a special exchange scheme, to develop new skills and insight into each country’s infrastructure development. The Employee Exchange Scheme agreement was signed

by the Institution of Civil Engineers (ICE) and the China International Contractors Association (CHINCA).

Construction skills charity the Construction Youth Trust has launched a new campaign which it hopes will boost the number of young people seeking careers in the built environment. The campaign #notjustforboys aims, in particular, to challenge the misconception that construction careers are aimed only at men and will try to help more young women identify careers options within the breadth of the industry.

LOW CARBON

Drax has announced it plans to end further investment in the £1bn White Rose Carbon Capture & Storage project after completion of current work because of the government’s decision to reduce subsidies for renewable energy. The two year project is looking at the potential to capture up to 90%

of carbon emissions from a new coal fired power station and safely store them beneath the North Sea.

ENVIRONMENT

High commissioner to India Sir James Bevan is taking on the job of CEO at the Environment Agency on 30 November. He is taking over from Paul Leinster who left the organisation on 25 September after 17 years.

Businesses and governments need to plan for catastrophic weather events as climate change worsens, UK Energy & Climate Change Secretary Amber Rudd has warned. Rudd delivered her message at the launch of a report ‘Climate Change: A Risk Assessment’ in Beijing, which argues that climate risks must be assessed alongside risks to national security, with a focus on ‘worst case scenarios’.

RAIL

Work to electrify TransPennine and Midland Mainline railways will resume but with the bulk of work pushed back to post 2019 under plans announced as part of Sir Peter Hendy’s work to reset Network Rail’s upgrade programme. Transport Secretary Patrick McLoughlin paused the schemes in June, brought Hendy in as Network Rail chairman and asked him to review the whole CP5 programme after concerns about cost and deliverability.

TRANSPORT

Global transport infrastructure investment is projected to increase at an average annual rate of about 5% between 2014 and 2025, according to analysis released by PwC, with the bulk of spending in rail and airports. Roads and ports spending will remain static, the firm

predicts. The 2014 investment of £14.11bn is predicted to increase to £23.86bn. Rail infrastructure and airports investment will almost double by 2025, with growth rates of over 6% per annum respectively.

ROADS

Transport Scotland has announced its preferred route option for improving the A82 trunk road between Tarbet and Inverarnan alongside Loch Lomond following extensive surveys and design development work carried out by the CH2M Fairhurst Joint Venture. The preferred route will closely follow the existing road. Next stage of design, costing over £8M is now underway, with publication of draft Orders for the scheme in 2017.

WSP Parsons Brinckerhoff and Arup have picked up two transport studies in the north worth over £1.5M to address some of the biggest road challenges in the North of England. They have been appointed to investigate the options to improve east-west links between the M6 in Cumbria and the A1(M) in the North East; and major transport improvements to alleviate congestion on the M60 and M62 between Trafford and Bury – one of the busiest stretches of motorway in the country.

Balfour Beatty Carillion jv has been announced as the third construction contractor to build the A14 Cambridge to Huntingdon project after the project was rebid by Highways England “to get the most from its collaborative delivery framework”. The work covers widening the existing A14 from Swavesey to Milton. The initial award is for the pre-construction phase at a value of £461,359. Subject to the scheme being given the go ahead the joint venture will ultimately deliver £292M of

construction work.

STRUCTURES

A landmark new bridge opened in Reading will create an accessible route into the town centre for thousands of pedestrians and cyclists. The 123m cable stay Reading Pedestrian and Cycle Bridge is the result of collaboration between engineers from Peter Brett Associates and Design Engine Architects.

DIGITAL INFRASTRUCTURE

Outgoing Cisco CEO John Chambers has said more than one-third of businesses today will not survive the next 10 years. The only ones that will survive will turn their companies into digital, techie versions of themselves, and many will fail trying, he said. “40% of businesses in this room, unfortunately, will not exist in a meaningful way in 10 years,” he told the 25,000 attendees at the Cisco customer conference, adding that 70% of companies will “attempt” to go digital, but only 30% of those that try it “will be successful.”

WORLD RECORDS

Students from Queen’s University Belfast have set a new world record for the largest ever Meccano structure, building a 100ft bridge over the Clarendon Dock in Belfast. The 600kg structure involved 11000 pieces of Meccano and was built with the support of local contractor McLaughlin and Harvey.

Qatar Railways Company has been officially recognised by Guinness World Records for the largest number of tunnel boring machines operating simultaneously in a single project. There are 21 at work on Doha Metro.

INTERVIEW: Malcolm Walter, COO Bentley Systems



Software specialist Bentley Systems holds its annual Year in Infrastructure conference in November having just launched its new CONNECT Edition software suite which it believes will help move the industry beyond BIM.

Are you seeing a cultural shift towards BIM? BIM is taking information and making it useful in the operation and maintenance of the asset – that is where the money will be made and saved so if we can do that well it is the holy grail for me. If we can convince an owner that engineering content matters to them then we will be selected. But just competing at the tool level – my structural analysis tool versus yours – is a hard fought race.

What is driving infrastructure towards this digitally enabled future? The fundamental shift for me was when the UK mandated the use of BIM. That made it a global conversation. That was the number one game changer. And then Crossrail said that it was going to build a physical and a virtual railway - no one had ever said that before. We built the Crossrail Academy and took the supply chain through it and between us we have taught them what it means.

Will other owners follow Crossrail’s example and work closely with a firm like Bentley? If you are going to be the purveyor of content management it has to be an accepted fact that data will come from everywhere. Our job is to manage that data well and manage those

interconnections. Crossrail went as far as to mandate the tools and while it was great for us it cannot be the norm. [Professionals] will never stop using other tools so we had better embrace them.

You have just launched the CONNECT Edition. How will this help the market? The underpinnings of the CONNECT Edition are that we should have a common modelling environment. Everybody knows the pain of not having one. But we also now have a common performance environment - and it is becoming clear that we really need that. The largest engineering firms used to have a fiercely decentralised model – acquire businesses and let them get on with it believing that the local market knows best. But the ability to act globally has changed that. It doesn’t matter where you are in the world any more so you have to be fiercely centralised

Is it a catch up or leap ahead? In our space [this common modelling and performance environment] is very new but we are not inventing something new. In car manufacturing the idea of integrated project teams was solved decades ago. But we have held on to the notion that an built asset requires a unique project, in a unique place with a unique team.

So your challenge is to help owners care about assets management? That is exactly the conversation. The degree of receptivity is related to the sophistication of the users and what is going on in their surrounding environment. In the UK it is comparatively easy as it is in much of the developed world. But elsewhere we are often speaking a different language – it is missionary work.



# Heathrow or Gatwick – the decision draws nearer



Top: Gatwick airport  
Bottom: Heathrow airport

The London airport capacity problem has perplexed governments for over fifty years. However, last July the independent Airports Commission recommended that Heathrow's north west runway option should be built to provide additional capacity for the south east by 2030.

In making its recommendation, the commission said that the Heathrow option selected would give greater economic benefit with less local impact and that Gatwick, while a credible alternative, would provide extra inter Europe connectivity, mainly for holiday flights, and so offer far less benefit to the UK economy.

As Davies points out in his report, no new full-length runway has been laid down in the South East of England since the 1940s. Other developed and developing countries have tackled this problem and built infrastructure to keep pace with the growing demands of an expanding aviation market. Over the last two and a half years the evidence was reviewed and the Airport Commission's final report was published with the anticipation that Government would make a decision rapidly after. However, for all the clarity in the Commission report, it is clear the debate rages on – and will continue to do so long after Government makes its final decision. Heathrow's Andrew McMillan and Gatwick's Alastair McDermid set out their cases.



Andrew McMillan, Heathrow Strategy Director

## Why is expansion at Heathrow the best solution to the UK's aviation capacity problem?

The opportunity for us is about plugging us into the world economy. London has been the world's leading port for 300 years and we lost that position last year to Dubai – that is a pretty significant shift. What Davies said was that the Heathrow option was the best way to plug Britain into that global economy and that it is worth £200bn in economic value and 180,000 jobs. But he also said it was possible to deal with the economic and community issues that development brings – with less noise and within carbon limits and within air quality limits. So as long as it is done right this is a really good option.

## You have the support from the Davies Commission. Is that enough?

The proposal now has very broad based support – there aren't many things you can get CBI and TUC on the same side of. There aren't many things that you can get chambers of commerce from Lands End to the North of Scotland supporting. There aren't many things that you can get the majority of people who live around the airport to support. That gives us a moment to do something.

## Why do we need another hub?

We already have a hub – that is what provides the long haul connectivity. But we are slipping behind. We have been spoilt for a long time But if that business goes to Schiphol or to Frankfurt or Paris that is their advantage and we will see investment and export going with it.

## Davies has ruled out a fourth runway at Heathrow – does that damage your business model?

The assertion that you need four, five, six runways is a bit of a myth. There are plenty of hub airports out there with empty runways and plenty of airports with lots of runways that aren't hubs. What you need for a hub airport is a series of airlines to fly there and you need a demand. With three runways at Heathrow you get 740,000 flights – enough to get to 90% of the world's GDP with a direct flight and that will keep us going for a long while.

## Davies says this solution will meet demand to 2040. Do you need a vision beyond 2040?

I think we need to have a vision for the next generation to make this stack up. We have delayed this for a very long time and this is about getting a great hub airport for the 21st century that will keep us going for at least the next generation.

## Having Davies' support is one thing. Do you think it is going to be politically deliverable?

Yes. There is a very wide basis of support and a sense of momentum. Certainly there are many powerful people who oppose Heathrow expansion but there are also many powerful people that support it. It is very clear that the majority of people in the constituencies around Heathrow support expansion – that is why 100,000 people signed up to support the proposal.

## Government hasn't yet committed to take action and the London Mayor is against it. Will it go back into the too difficult basket?

Big infrastructure delivery is always difficult in a country with a democracy. It takes time to get proposals right and to develop a degree of support. But when that proposal has been developed we get on with it very well. This is more than a London debate – it is about the UK position in the world. What this process has done is to get us to change our proposals to get them into a position where the Prime Minister can back them and take the tough decisions.

## Howard Davies has put some pretty tough constraints in place not least a curfew on flights between 11.30 and 6am. Will your business suffer?

There will still be a business. Davies' approach quite rightly is that you cannot develop at any price – there has

to be environmental and community constraints. They are not show stoppers.

## When do you expect a decision? When do you need a decision?

The prime minister said before the end of the year and that would be good. A clear decision would make a big difference and then we could get on with it. It is time for us to get on with it. If we get that decision by the end of the year we can have the runway open by 2025.

## If you don't get a decision, what happens?

Any delay causes more knock on delay. The problems is that it adds to our problem of connectivity – our competitors getting ahead of us – that is costing us in the order of £17bn a year in lost trade so it has that affect. But Howard Davies also talked about opposition being the irresistible force that keeps bringing us back to the same question – that question is still how do we connect London to the world?



Alastair McDermid, Gatwick Airport's Commission Director

## You say Government should ignore the Davies Commission recommendation and back Gatwick development. Why is Davies wrong?

This is a debate about what things you attach most importance to and my reading of the Commission's final report is that they have attached no importance to environmental issues. And those issues that they have attached importance to, like the economic benefits, when you look into the analysis, the conclusions are not borne out by their own facts. The volume of UK traffic is the same between

Heathrow and Gatwick, the range of destinations served, and the economic benefits are to all intents and purposes the same.

## You say you have a better and cheaper option – why?

It costs less than half the price of the Heathrow option and for airlines the cost is important. It is better across the whole spectrum that Government has had to take into account – serving the market, economic benefits and environmental factors.

## Could David Cameron realistically ignore this recommendation?

He cannot ignore it and we would not want him to. Could government go against it – yes. But would they go against it in one fell swoop – maybe not. Because the Government is open to legal challenge in the way that the Commission was not, they have to make sure that their decision is robust and evidence based. There will of course be legal challenges either way on this and so the question is which legal challenges would be successful. I would argue that legal challenges against a Heathrow option are more likely to be successful.

## Could we have development at both Heathrow and Gatwick?

The Commission's position is that there is only room to have one and so we argue that on that basis it should be at Gatwick. Could there be a solution where for the foreseeable future you have development at each with neither providing the full capacity – well it's open to the Government to decide.

## Why do we need either? Should we build in, say, the Midlands instead?

We need extra capacity. Why not in the Midlands or elsewhere? Well simply because the critical mass of demand is in the South East. It makes no sense to put the development where there is less demand. Every option has planning difficulties. It is not easy to deliver a runway anywhere. But it is infinitely more difficult to deliver a runway at Heathrow – to the point, in my personal opinion, where it will never happen.

## The Commission says that there is still point-to-point capacity left in the south east. Does that not undermine that case for

## development at Gatwick?

That is a tail wagging the dog argument. Transfer passengers today account for about 14% of the total and on the Commission's numbers that will drop to 10% or less. Surely your primary objective should be to make a decision based on 90% of the market. Logically they should conclude that we both serve the market but the environmental impacts are much less severe at Gatwick and we could provide our capacity five years earlier.

## The world is watching. Does this constant debate risk no one stepping up?

I think there is a good chance that they will step up and make a decision. The reason we haven't had a decision is that Heathrow is just too difficult.

I think the most likely outcome is that Government will make a decision but there is a chance that the government will choose, for good reasons, to play it longer. But even if the decision is in favour of Heathrow it doesn't mean that it is going to happen because the obstacles remain.

## Does it matter who wins the Mayoral election in May?

Not greatly – they are all against Heathrow. But there is something odd about a Government forcing on Londoners something that Londoners don't want. But they have still got to get through the planning process and tackle air quality, pollution and surface access – these are all real world issues.

## So would a Gatwick decision actually provide extra capacity slower because of the inevitable planning and legal disputes that would follow?

No. Not at all. We expect construction to start within five years of getting permission.

## So when do you think a Gatwick second runway could be open?

2025 is the shortest time but it could be a year or two after that. But even if a third runway at Heathrow is deliverable it is not deliverable before about 2030. And if it is later it could be five or six years not one or two years. So there is still a five year or more difference between the two. That should be important to policy makers.



**Mark Bew**, UK government BIM Task Group chair

Whether you describe it as a mandate or simply a direction of travel, the intention over the last few years has been to embed BIM and digital technology into central government spend so as to lever the market towards behaviour change.

Success is helping the market to do things in consistent ways and using the digital economy to transact. BIM Level 2 is a stepping stone along the path.

By helping the client to pull effectively through common data procurement methods – and we have put a number of standards in place to help enable that – then the supply chain would get better at pushing against that common consistent procurement ask.

And that is what we are starting to see, the supply base has worked with software vendors and we now see clients receiving data, using data servers and enabling services, insights and efficiencies that were impossible even a few years ago.

The reality is that this mandate has got people talking about BIM and data. We are starting to reduce Capex but more important we are now having a conversation around operational costs.

We didn't set out on this journey to not succeed. And I am pleased to say that all "in-scope" public sector clients are now green on the HMG register and set

to meet their BIM Level 2 requirement by the April 2016 target.

And because we have met the April date we now want to continue to drive the quality of data up. It is all very well pushing data at each other but if that data is rubbish then what is the point?

So the next step must be a data validation strategy and our new stretch target will ensure all departments have that capability by October 2016. It isn't really new - we already have plans for validation and checking of data and in the recent release of the BIM Toolkit there is a mass of tools to help.

What is new is the realisation just how important this issue is for the delivery of efficiencies, trust and collaborative behaviours.

The fact is that these tools are now available so we need to develop the techniques and pass them down into the supply chain. If we don't start to validate then we don't get trust into our data.

By embracing the BIM level 2 April 2016 mandate the UK has taken a leap forward globally in digital construction and data enabled infrastructure. This new stretch target will keep us driving forward, ahead of every nation facing the same challenges of increasing demand on public infrastructure services and reducing budgets.



**Beth West**, commercial director, HS2

## Can a National Infrastructure Commission really navigate the 'too difficult' basket?

Given the quality and robustness of data on supply and demand across UK infrastructure, it should be relatively straight forward to navigate the politics of prioritisation, shouldn't it?

Well, probably not. Although the methodology for developing forecasts is well understood, accuracy will usually be based on asset life remaining relatively static and assuming that behaviours don't change.

This has been one of the major challenges that we've had in modelling the HS2 benefits – our models assume behaviours don't change but we all intuitively know that they do.

So that begs the question as to what could change to alter our approach to infrastructure planning?

Demand management is one change. Smart metering, for example, could see us reducing our electricity or water consumption and revenue management could also smooth rail demand - depending, of course, on the difference offered in the fare. While these are unlikely to create massive changes in our consumption, they could be enough to impact prioritisation and timing of infrastructure development.

New technology is another change impacting infrastructure, not least as it prompts behaviour change. Will

driverless cars decrease the amount of motorway traffic or increase it or see the use of video conferencing impact the amount we travel for business? On the supply side, could micro power generation reduce the need for large scale generating plants or extensive distribution networks?

All interesting questions to ponder but in reality these issues are likely to be manageable through good scenario analysis to ensure the robustness of our infrastructure development prioritisation is properly tested.

The biggest question for me is more about what the new National Infrastructure Commission will actually do with this data. And with approximately 75% of the country's infrastructure outside of government control, what levers will the Commission have to influence the regulated utilities to bring forward or delay programmes?

We are already seeing skills shortage risks caused by so many infrastructure projects in the pipeline at the same time. Smoothing the delivery of these projects can only be good for the cost of the projects and for employment.

The real issue is how to influence investment decisions. In particular, for projects not funded by Government.



**Dr Stephen Hamil**, director of design & innovation, RIBA Enterprises

## NBS BIM Toolkit revealed

With the Government's deadline for the use of Level 2 BIM on centrally-funded projects rapidly approaching, those involved in the design and delivery of infrastructure projects find themselves at the 'sharp end' of the Building Information Modelling revolution.

As the Level 2 package nears completion, we have moved the NBS BIM Toolkit out of its Beta phase to give a clear signal that it is now fully operational and ready for use on projects. Since its launch in April 2015, more than 3,000 projects have been created using the Toolkit and we're now expecting that number to grow rapidly, particularly amongst those working on infrastructure projects.

Following the brief from Innovate UK and the BIM Task Group, we have created an easy-to-use and free tool that helps clients and managers of infrastructure and built assets comprehensively define information requirements to ensure their needs are met and better project outcomes are guaranteed.

By combining a standardised and digitally-enable classification system with a level-of-definition reference library and digital plan of work tool, the Toolkit enables design and construction

teams to assemble a team with clearly assigned roles and responsibilities to work collaboratively on their Level 2 BIM projects.

User testing and feedback has been absolutely crucial to the development of the Toolkit. In July 2015, a major series of improvements was made, including updates to the Uniclass 2015 tables and updates to the Level of Information (LOI) and Level of Detail (LOD) templates for construction objects. These now number almost 6,000 spanning the systems and products that concern disciplines ranging from architecture, engineering, building services to landscape design.

Other new features added included the ability to define specific Employer's Information Requirements (EIRs) at each stage of a project and refer these back to the original 'plain language questions'. We also incorporated the single most requested change, the ability to invite other members of the project team to access the project on the BIM Toolkit.

The development and improvement of the BIM Toolkit is an on-going process. It has the potential to transform procurement of buildings and infrastructure by defining who is doing what and when at each stage of projects.



**Christine Townley**, chief executive, Construction Youth Trust

## The importance of celebrating construction's young talent

It's really vital that we encourage and recognise young talent coming into the industry, especially those who have struggled to get where they have. It is this talent which is the future of construction and we have a responsibility to ensure that they are mentored and developed – as the success of the industry depends on it.

The construction industry's charity, Construction Youth Trust, has launched its 5th annual awards this month. The Duke of Gloucester's Young Achievers Scheme 2016 celebrates this young talent and offers the winners mentoring from industry leaders to enable them to make an even greater impact in the years to come.

We look for exceptional young professionals under 30 working in construction and the built environment whose achievements should be celebrated. But we particularly look for those who have overcome barriers of race, gender, social and educational disadvantage and reward their determination to succeed.

We've had some incredibly inspiring past winners including young people who have lifted their way out of gangs and environments where there was

low expectations to achieve. We've seen women who have battled against discrimination in the industry and those who have suffered from many health or family setbacks in their young lives. But the one thing they have in common is resilience and a clear vision of where they want to be in life. It is this which drives them forward and enables them to make great career progress, which we celebrate through our awards.

The judges and I are always so impressed every year with what these young people have achieved. Many have spent time already giving back to the industry and community by encouraging other young people to consider a career in construction. These inspiring young people are the best ambassadors we have and will do more to encourage other new talent into the industry than the traditional careers services can.

This year we are encouraging colleagues in the industry to nominate young people in their companies.

Those interested in applying or nominating someone for The Duke of Gloucester's Young Achievers Scheme have until the 6th November 2015 to apply for these prestigious awards.

For further information on the awards and how to apply please visit [www.constructionyouth.org.uk/awards](http://www.constructionyouth.org.uk/awards). The winners will be announced at a gala dinner in Spring 2016.



# Interview: Sir John Armitt – infrastructure in ascendency

Sir John Armitt takes over as the 151st President of the Institution of Civil Engineers in November. As the architect of the Labour inspired, now Tory delivered National Infrastructure Commission, he is upbeat about the on-going drive for UK investment in infrastructure.

**H**aving masterminded the successful delivery of the 2012 London Olympics infrastructure, Sir John Armitt was asked by the Labour Party in October 2012 to review long term infrastructure planning in the UK. A key recommendation in his report was the idea of an independent National Infrastructure Commission to look 25-30 years ahead at the UK's future needs across all significant national infrastructure and set clear priorities.

Having initially kept this Labour backed idea at arms' length, the new Tory government has now embraced the concept and placed former Labour minister Lord Andrew Adonis in charge of driving the Commission forward.

As Armitt prepares to take over as President of the ICE, Infrastructure Intelligence spoke to him about plans for the new Commission, the impending post Davies commission government decision on where to build a new runway in the South East and about his forthcoming year in office at the ICE. *Interview by Antony Oliver.*

## The National Infrastructure Commission

**Chancellor George Osborne has backed your idea for a National Infrastructure Commission. Is it what you hoped for?**

It is very good news and seems to be 85% of what was in our [draft] bill. We are, of course, yet to see what goes into the actual bill – and it will have to have one as a statutory body. It seems that the primary difference is the nature of Parliament's engagement with the Commission's report and in the second phase of the sector infrastructure plans. I was going to run these through Parliament but at the moment, it doesn't appear to be the case. That said, the statement [by Treasury] did say

**“Having made a recommendation after three years of reflecting on the data that Heathrow was the better choice, then clearly what I would hope is that ministers will accept the recommendation.”**

Sir John Armitt

that the Commission's report would be put to Parliament so we need to see the detail to understand exactly what they mean by that. But to be honest, there was more detail in the initial announcement than I thought there would be.

**Did the Government consult you prior to the decision?**

No – but they rang me up to let me know it was going to be published. The fact is that we had one political party proposing an independent infrastructure commission which industry supported, and then the other party said yes we are going to have a commission. Well the headline is that for once we have got the main two political parties agreeing that there is merit in having an independent long term assessment of the country's infrastructure needs.

**What do you think promoted**

**Osborne's decision to support the idea of a commission?**

The [Conservatives] never actually objected to it, but they didn't [initially] come out and support it. However, in the background once or twice ministers told me that they thought it was a reasonable idea – a bit clunky perhaps in structural terms [they said] and so you could argue that what they have seems to have taken out what they thought were those “clunky” bits.

**You take over as the 151st President of the Institution of Civil Engineers in November. Has your involvement with the ICE helped influence this decision?**

It must help I think. There is a pretty regular dialogue between the ICE and [the Treasury's] Infrastructure UK.

**So are you going to be on the Commission?**

I don't know. Andrew Adonis has got to put together his Commission and the challenge as always is conflict of interest – which we had on the Airport Commission. The result is that the Commission almost can't have the people that you really want or might automatically think would be on it because, whoever they are, they might end up having to give evidence [to the Commission]. It has to be an independent body of people who at least have sufficient in their background and knowledge to be able to make some intelligent assessment but not be conflicted or disappear into the weeds either.

**Would you have picked Andrew Adonis to run your commission?**

I can't think of a better person to chair it. We used to discuss this in the margins – we didn't really bother ourselves with who might be on the commission – but there seems to be a

strong argument for a politician to be the chair because at the end of the day this is a political matter. Somebody who is respected and knows his way around the corridors of Parliament must be good. He is interim because until you have the bill you can only have the Commission in shadow form. So it's an interim Commission with an interim chairman until the bill goes through – it then becomes a proper commission.

**What are Lord Adonis' first challenges?**

First we just sit and wait and see who Andrew is going to appoint [to the commission]. But he has to do it quickly because he has to complete three short term pieces of work to give guidance to the chancellor when he is allocating resources next March. That is around HS3 – what do we mean by HS3 and the options to improve connectivity in the North; on Crossrail 2 which again he must decide if it is right and how much support Government gives to this scheme – because it can't happen without central Government support financially; and the really challenging decision around energy storage and making the grid more efficient.

**What do you see as Adonis' greatest challenges?**

I think we always felt that the fundamental challenge for a commission was not about deciding the right projects. It is about getting the political leaders and the public to understand the challenges ahead and the options and choices of how you can meet those challenges and start to put those into some kind of affordability context – because probably you can't have everything. It is giving the priority and a rational menu – one that has not been dreamt up in a darkened room but one which has been exposed to a lot of comments rather in the way that the Airports Commission sought views and opinions. Actually some things which people oppose they are more likely to support if they feel they have a bit more control and is actually something which is related to them, that it is being done with them and on their behalf.

**The Davies Airports Commission**

**You served on the Davies Airport Commission which this summer recommended expansion at Heathrow. With hindsight was this**



Sir John Armitt: ICE's new President is up beat on infrastructure prospects



**commission the right approach?**  
In the absence of anything else it was absolutely the right thing to do – what else could you have done? Ministers could have just made a decision but then someone would accuse them of just making a decision without a full analysis of all the data and information. What the Government was asking is can they look at this body of work and be reasonably comforted and assured that it was about as good in the circumstances as could have been done? And if it was done over again that they would be unlikely to get anything better? You might get a different answer but in terms of analysis [they sought] a thorough piece of work by a respected group of individuals and so something to make a decision on. It has certainly got people thinking about deliverability and about the issues.

**A decision is promised by Government by the end of the year. Will they choose Gatwick or Heathrow?**  
Having made a recommendation after three years of reflecting on the data that Heathrow was the better choice, then clearly what I would hope is that ministers will accept the recommendation.

**Is it more likely that Government will opt to make no decision on this controversial project?**  
I think it would be a tragedy if there was no decision. Tragedy might be a bit strong, but we do not do ourselves any good whatsoever as a modern nation if we cannot make a decision about where to put an extra runway – it beggars belief really.

**And so it should be possible to open a new runway by 2026?**  
It should be and it needs to be – and it can be achieved if we get a decision in the next two or three months.

**President of the Institution of Civil Engineers**

**You take over as ICE President in November – will you have core themes?**  
No because the presidential team is working to three year plans to have continuity of objectives, not different ones for each president. So David Balmforth in the last year has been very focused on the whole innovation debate and raising the profile of engineering

and I will continue to do that. We have also been trying to get an understanding across the Institution that we need to broaden the membership and again I don’t disagree – it is essential that the ICE recognises that engineers by themselves are not the only players that create these major projects. Particularly at the beginning of projects, economists and planners are potentially more important so they need to be brought in.

**What is the ICE’s role in driving the future delivery of infrastructure?**  
The ICE’s role is the same as it has always been. It is an organisation that has an enormous amount of knowledge and experience within its members. So it has a responsibility to society to try to ensure that that knowledge and information is used in a constructive way – in an essentially factual way – like the Commission will use its members and channels of communication to help inform the public about the challenges and choices around infrastructure and generally help everyone understand what infrastructure does and the issues that surround it.

**Training the next generation**

**You are also chairman of the training organisation City and Guilds. Training the next generation remains a big issue across infrastructure – are we getting there in terms of tackling skills shortages?**  
There are a lot of challenges. If you look at the number of graduates it has significantly improved in terms of the number coming out of university with civil engineering degrees. But you equally need to recognise that we have a group of people in responsible positions that essentially were born between 1946 and 1960 – people who are coming to the ends of their careers. So you have a peak which is going to be retiring in the next ten years and so there is a continuous need to be filling up the pipeline. Particularly in the south east people talk about a shortage of skills and a significant increase in the cost of those skills.

**So what is the solution?**  
I don’t think enough training is taking place in the industry. I accept that it is perhaps difficult for some others to agree with but I believe that fundamentally the responsibility for training lies with employers and not Government. The Government’s

responsibility is primarily teaching at school through to 18 and ensuring that those young people are able to have access to as good career guidance as is possible - starting at about age 8 to 10 years old. Clearly then stability of markets enables employers to have confidence to invest in not only training but in research and development and in developing new ideas.

**A great time to be in infrastructure**

**What are the challenges ahead for infrastructure?**  
At the moment Geoffrey Spence (chief executive of Infrastructure UK) would say there is a £400bn pipeline that they have put into the national infrastructure plan. The bulk is either in energy or transport and the projects in energy are largely reliant on private financing. So the key to whether those £400bn of projects happen is going to be consistent energy policy that generates the confidence that the private sector can invest. That is one of the biggest challenges we face.

**Can the new Infrastructure Commission play a role in tackling this challenge?**  
I see no reason why the Commission should be fronting up these issues and be part of the analysis. I think the Commission should be able to comment and bring forward analysis and advise on those issues. Remember that my original commission was never a delivery proposal – it was an analysis and recommendation proposal and Andrew’s will be the same. There are others who say it should be a delivery commission but I have never felt that was appropriate – for a start two thirds of our infrastructure is delivered by the private sector which is going to be driven by regulators and private sector investment profiles which aren’t necessarily coincident with what Government wants. By and large Government can’t make anything happen unless it pays for it –what business wants is a stable environment [in which to operate].

**So would another, say, 15 years of Tory administration provide that consistency?**  
The purpose of the commission is to ensure that there is 15 years of consistent infrastructure policy regardless of who is in power.



# Station creation: building a better Birmingham New Street

The redevelopment of Birmingham’s New Street station to create a bigger, brighter gateway to the city demonstrates the power of infrastructure as a catalyst for growth.

From the innovative bubble shaped atrium that floods the new station with light, to the futuristic stainless steel building façade and improved vertical access to the platforms from 36 new escalators Birmingham New Street station is everything that a modern city centre transport gateway should be. The new hub is the product of a technically complex seven year project by Network Rail and its delivery partner and principal contractor Mace. “The scale of the works that we have undertaken at New Street is epic and all while keeping the station operational,” says Mace project director Martyn Woodhouse. “We have faced many challenges along the way from there being no plans in existence of the old station to finding large quantities of asbestos that needed to be removed. I am very proud of all our team and subcontractors involved and the way that everyone has worked together to produce a spectacular station.”

Central to the £750M scheme was the creation of a new concourse that is five times the size of the original station and will enable 300,000 passengers per day, or 52 million passengers per year to use the facility. But achieving this as well as the delivery of the Grand Central retail development over a live

railway was a huge challenge. “It has been an incredibly complex build whilst keeping the station open and the 170,000 passengers safe who use it every day,” says Network Rail project director Chris Montgomery. “We built the first part of the project in the adjacent car park where we removed a whole floor to create part of the new station. This meant taking out tonnes of concrete over a live railway.”

This work had to be meticulously sequenced to ensure that the station remained operational and posed no health and safety risk. For the demolition of 7500t of concrete Mace implemented an innovative ‘track and hoyer’ system – a two stage cut-and-lift process involving crane rails, which ran the length of the building as the ‘track’ and a gantry crane acting as the ‘hoyer’. “Once the concrete was safely removed we began to construct the new concourse and in April 2013 we closed the old station and passengers moved into the new station the next morning,” says Montgomery. “We then began phase two which was the really tough part.”

The demolition of the east station concourse was challenging due to the age and condition of the existing 1960s building and the accuracy of ‘as built’ drawings for the live services and

internal structures which demanded a comprehensive programme of surveys be commissioned. Asbestos surveys were carried out on a phased basis once live services could be fully isolated and access permitted. The surveys identified significant quantities of asbestos that had to be removed prior to commencing demolition works taking a total of 60,000 hours. Another technically challenging aspect of the second phase of the project was transferring the 200 tonne load from the steel framed ethylene tetrafluoroethylene (EFTE) atrium roof onto the existing concrete station structure.

The project site ran for 24 hours a day 7 days a week and saw up to 3,000 workers on site at peak and included the training of 100 apprentices. Phase two was completed in September 2015.

**Client:** Network Rail  
**Funders:** Network Rail, Birmingham City Council, Department for Business Innovation and Skills, Centro and the Department for Transport  
**Main contractor:** Mace  
**Engineer:** Atkins  
**Architects:** AZPML



# Timeline - 7 years of construction

The construction team faced a multitude of major challenges when it came to rebuilding the station, but with the use of innovative technology, close collaboration with the supply chain and extensive planning, the complex multi-phased programme was successfully delivered during a seven year transformation programme.



2009

After years of detailed planning, work to transform the 1960s station got started. Phase One of the project kicked off with work to the west side of the station to carve out the new Western concourse, while passengers continued to use the old station facilities.



2010

John Lewis was announced as anchor tenant for the Grand Central shopping centre, and a programme developed to refurbish all 12 platforms without reducing any rail services. 10,000 hours of work was taken off site by building a new system for power and utilities in modules and installing them overnight.



2011

The 22-storey Stephenson Tower was dismantled systematically by 1,000 workers over six months to make way for the new John Lewis building.



2012

Façade construction began on the north side of the station. More than two thirds of the 5,000 panels are unique in size and have been carefully arranged to avoid reflecting sunlight at train drivers or obscure signalling. The new Lamp Block office building became the first BREEAM Excellent building on the rail network.



2015

Demolition works beneath the atrium took just six months. It was originally planned to take a full year, but detailed planning and 3D modelling cut this in half. The project really ramped up in the final few months as the retail fit out increased the number of workers on site to 3,000 from its typical level of around 1,000 throughout the rest of the programme, with everyone focused on completing the project safely, on time, and to an exceptional quality.



In September 2015 the station opened creating a new futuristic transport hub for Birmingham with a passenger capacity of 300,000 per day. New vertical access to the 12 low level platforms including 36 new escalators makes the whole station more accessible. The 10,500m<sup>2</sup> concourse is five times the size of the original and the 152,400m<sup>2</sup> of new retail space at Grand Central is expected to attract 50 million visitors per annum.



2013

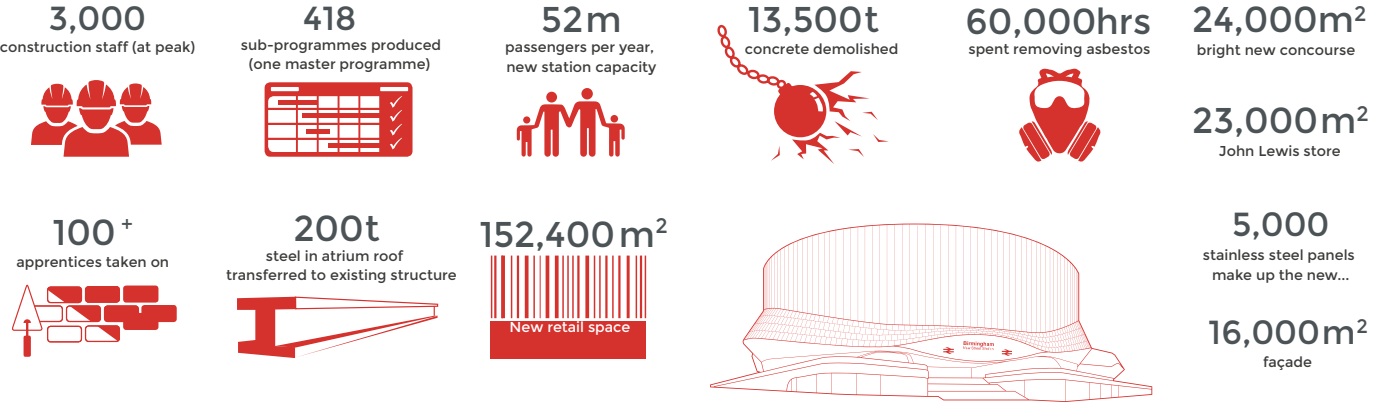
Completion of the first phase of the station redevelopment, culminating in the transition to the new western concourse. Over 200 volunteers helped guide passengers and help staff adjust to the new areas, including representatives from organisations such as Deaf UK and Age UK.



2014

The 100th Birmingham New Street apprentice was taken on within two years of the scheme making a pledge to recruit more than 100 apprentices. Installation of the covering for the new roof began along with the demolition of the two concrete slabs to create the atrium below using the custom-built “mega-muncher”.

## BIRMINGHAM NEW STREET IN NUMBERS





# Mace senior project manager Paul Dalton on delivering Birmingham New Street station

Infrastructure Intelligence asked as senior project manager for the new station Paul Dalton about the challenges and achievements for the construction team.

**How complex was it to rebuild the station and keep it operational?**  
New Street is a highly complex project due to its pivotal location in the UK's rail network plus the fact that the station had to remain operational throughout the works. New Street handles 150,000 passengers per day and on one day last year 200,000 passengers used the station. Our construction site ran 24 hours a day 7 days a week and saw up to 3,000 workers on site at peak. There were limited plans in existence of the old station which posed a significant challenge and there were issues including large levels of asbestos in the existing structure.

**Talk us through the key milestones on the scheme.**  
After two years of planning we arrived on site in 2009 and began by carving out a new western concourse while passengers continued to use the existing station facilities. The following year John Lewis was announced as the anchor tenant for the Grand Central retail complex and we developed a plan to refurbish all 12 platforms without reducing rail services.

During 2011 the 22 storey Stephenson Tower was demolished by a team of 1000 workers over six months to make way for the new John Lewis



Paul Dalton, Mace

building. By 2012 the construction of the facade had began on the north side of the station using 5000 stainless steel panels which have been carefully arranged to avoid reflecting sunlight at train drivers or obscuring signalling. In April 2013 the new western concourse was completed and we started on phase 2, which we delivered in September.

**How many companies and people did you have to coordinate on this?**  
There were over 60 sub-contractor suppliers and more than 10,000 workers for the duration of the project with up to 3000 construction staff at peak.

**What were the most interesting and challenging achievements from a construction perspective?**

- Transferring 200 tonnes of steel onto the existing concrete structure to form the new roof.
- Demolishing over 13,500 tonnes of concrete. Most has been reused.
- 60,000 hours spent removing asbestos safely.
- Using prefabricated elements to speed up construction. Using lean construction and BIM make us more efficient and minimise site time. Achievements include shortening demolition works from 12 to 6 months.
- Commissioning 'the mega muncher' to crush concrete.

**What are the biggest lessons for the future of this kind of scheme from a Mace perspective?**  
Plan for a comprehensive programme of surveys and secure access to areas at the earliest possible time. Design against the phasing strategy and create the environment for collaborative working with the station operational team and train operator representatives from the outset.

## Birmingham's new station makes the right impression

The multitude of benefits expected to emerge from the development project have prompted a massive response at both local and national scales. "The improvements made at this important transport hub have made it into a truly impressive building that passengers and the people of Birmingham can use and enjoy," said Patrick McLoughlin, secretary of state for transport.  
Chief executive of Network Rail Mark Carne summarised the achievement. "Rebuilding one of the busiest stations in the country without impacting on passengers' journeys has been a major challenge, but I'm extremely proud to say that Network Rail and our partners on this project have done just that. That's a significant achievement for

everyone who has helped build this fantastic new station of which they, and all of Birmingham, can be very proud indeed," he said.  
At a local level the leader of Birmingham City Council, Sir Albert Bore, said that the scheme was a key project for the city stimulating growth and regeneration which with the added creation of Grand Central, has provided one of the best-connected retail spaces in the country.  
"This is sure to have a catalytic effect on further regeneration of the city centre and attracting businesses to Birmingham," he said. "The development has also provided a gateway to opportunities for many Birmingham people, with over 3,000

construction jobs created, including over 115 apprenticeships."  
What is more, local property experts said that the new station was underpinning commercial property investment. "We know from our own conversations with both investors and office occupiers that the infrastructure improvements, and in particular the investment in New Street station, have played a part in their decision making," said Martin Guest, managing director of the Birmingham office of global property consultants CBRE as he revealed that the firm expected a record £1bn in commercial property to change hands by the end of 2015: "The level of investment activity in Birmingham this year is unprecedented."

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Headphones off: Interpersonal skills are necessary for building links

# People power

The craik may be all about the newest technology and the tech generation but at the latest BST forum, our group of architects and engineers argued that it is human creativity and ability to communicate with clients and the public that will be the differentiating factor for business.

**What will business life be like with the tech generation?**

**Eduardo Niebles:** “Whoever owns the data is going to own the future. Whether it is contractors, architects or engineering consultants, owning the data – on what was built, how it is performing in use for instance - means you can drive knowledge and be the trusted adviser. There are general consulting firms in the market looking to build their market in infrastructure and acquire engineering firms and that is the proof to me that they understand that data is key.”  
**Roger Ridsdill Smith:** “As construction professionals we need to control the data across a wide spectrum of disciplines and through a series of design and construction stages. We work in an industry with a lot of separate consultants and disciplines who all interact for just a short time frame on each project compared to other sectors such as manufacturing. This means the data is dispersed, and that is combined with less investment in data in our industry than in others. Right now, my impression is that contractors are much more engaged than a lot of consultants about having to control data because it is so essential for them with regards to efficiency on site. We have to ask

ourselves as consultants if we are as in control of the data as we need to be. At Foster, all disciplines work together in a shared model space, and there is a significant benefit to our coordination as a result.”  
**Neil Stirling:** “I had personal experience of how advanced contractors are during phase three of Laing O’Rourke’s new headquarters building. That was transformative for us as a business, being able to see how the contractor used data, interpreted it and applied it to projects.”

**Is technology driving consolidation and collaboration?**

**Michael Walters:** “The trend would seem to be towards bringing everything together, businesses getting bigger and consolidating so they can offer every service from design, to building, to asset management. But it still seems to us that architects remain a trusted adviser, spending our time building relationships to understand what is required and present a brief that responds. For some bigger projects it might be a good thing for clients to go to the one size fits all, we do everything camp. But if you are not in that space in terms of project size, then that may not be what you need as a client; you would

be better off with a smaller firm and a closer relationship.”  
**Eduardo Niebles:** “I’d agree. We see a lot of consolidation in the market but if you are a medium sized firm, there is a lot of business going forward. If you are good and niche, the clients will come to you. Just own that data.”

**Are we ready to deliver in a technical world?**

**Ben Freedman:** “If you are all working on one virtual model in the same office, using the same server, then yes. If not, it’s difficult particularly as the models get bigger and bigger. Computers constantly need updating to be fast enough and fibre connections between offices are a restriction too. We’ve been working in a very collaborative way on projects for years so we are quite nimble and agile with regards to being able to talk to one another. But the virtual world of the model is not working yet.”

**What is the main risk ahead with technology?**

**Ben Freedman:** “The risk is losing the best people to technology giants and other engineering sectors such as software and app developers. Technology giants want graduates with the same skills as we do. And potentially

we’ll lose them to those firms because of the excitement that the virtual design world brings. Our challenge is to ensure that civil and structural engineering design is exciting and attractive.”  
**Harbinder Birdi:** “Ben’s right. It’s not the software, it’s the people. I go into schools and talk about our work on Crossrail stations because my fear is that in 20 years there will be a serious shortage of architects and engineers that want to be involved in major infrastructure. You have to remember it can cost £100,000 to qualify as an architect but the starting salary is just £28,000. The banking sector and tech companies are industries that pay more and are becoming more attractive. And London’s too expensive for young people to live. We’ve set up a studio in Manchester, in part because we expect a brain drain north. Birmingham and Bristol are likely to find the same effect.”  
**Michael Walters:** “I think it’s running before we can walk. There are so many new ways to do things that you struggle to embed them in the workflow and then the technology changes. We haven’t got one thing sorted before we invest in the next thing. It is very frustrating.”

**Are people with technology skills top of your list to recruit?**

**Linda Taylor:** “Infrastructure employers are going to want to recruit staff who can use data to help them communicate. Our job is taking amazing concepts and translating them into what it actually means for the people who should be benefitting from them. Data captures what people think and gives architects, engineers and clients instant feedback from the public in response to their proposals. Being able to understand how to use technology to enable more people to participate and how you handle that interaction will be very important.”  
**Roger Ridsdill Smith:** “At Foster, engineers contribute to the design process from the very beginning of the project conception. In order to be able to do this, we look for a high level of technical expertise in the people that join us. We need to be on the forefront of our technology and we need to be able to deliver the designs that we conceive. I am of the view that the profession of engineering needs no embellishment to justify it. we don’t need to be called design engineers, or use another profession in our name - just be an engineer, it’s a difficult job to do well and it’s fascinating.”  
**Ben Freedman:** “I look for a skill set of

analysis and communication, and the ability to be part of a team. We need all of those aspects, people who can talk to clients but people who also want to do design as they can apply technology skills as they develop.”  
**Neil Stirling:** “We are always looking for creative, intelligent, engaging people. And it is critical that they can work in a team. Architectural training doesn’t necessarily lend itself to working as a team however. When you are learning you are expected to work on your own. But when you step into practice, you are immediately part of a team, and that team is part of a bigger team. We want people who can make the transition.”

**What is the challenge of technology and the tech generation?**

**All:** Headphones!  
**Ben Freedman:** “We need people to have interpersonal skills. A challenge we face is that technology may soon become a barrier, where graduates leave university understanding technology but not with the interpersonal skills necessary to build social links.”  
**Harbinder Birdi:** “I tell all my graduates wearing headphones that 90% of what you learn you hear from what’s going on around you! Take them off!”  
**Michael Walters:** “There is a lot of emphasis on shared space and collaboration. But you also need space to think. The challenge too is to understand what you do with technology, when you do it and how you use it to be more efficient and effective; and not try and apply it in the wrong context.”

**Henry Pipe:** “You can’t assume that desire to use technology is driven by a desire for efficiency. People are keen to play with 3D printing for instance not because it takes a percentage off the bottom line but because it’s a new tool for creative purposes. This is to be encouraged but it has to be managed.”

**How do medium sized businesses handle a future of ever changing technology?**

**Steve Shepard:** “A lot of medium sized businesses take on technology and the associated skills and realise they can’t maintain them. We are seeing more businesses that want to collaborate with technology companies rather than have the skills in house. If you only have a team of a few technology experts, the risk of one leaving is big for an SME. So taking away the risk by working with a technology company can be a benefit for the long term.”



Top to bottom: Linda Taylor; Steve Shepard; Ben Freedman; Roger Ridsdill Smith

## The panel

Mike Walters, managing director, AHR  
Ben Freedman, director, MLM Group  
Linda Taylor, director, Copper Consultancy  
Harbinder Birdi, senior partner, Hawkins Brown  
Suraj Rana, director, IMC Worldwide  
Henry Pipe, senior partner, Max Fordham  
Neil Stirling, director, 3D Reid  
Roger Ridsdill Smith, director, Foster & Partners  
Eduardo Niebles, managing director, international business, BST Global  
Steve Shepard, project head, BST Global  
Antony Oliver, editor, Infrastructure Intelligence  
Jackie Whitelaw, associate editor, Infrastructure Intelligence





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# Zac Goldsmith joins Sadiq Khan at EIC conference in November to set out London's environmental challenge

Two leading London Mayoral candidates will debate the environmental way forward for the capital at next month's Environmental Industries Commission annual conference.

**O**utspoken Tory MP and Mayoral candidate Zac Goldsmith has joined the line up at next month's annual gathering of environmental industry, politicians and experts to lead debate on the "Next Five Years for the Environmental Industry".

Goldsmith joins Sadiq Khan, Labour's newly announced candidate for the May 2016 London mayoral election, for the Environmental Industries Commission annual conference on 19th November to kick off the critical debate over how London can balance vast population growth with its ambitions to be the greenest global city.

Goldsmith, who has vowed to stand down as an MP if David Cameron gives a green light for expansion at Heathrow, will address the conference by video. Goldsmith will tackle the critical issue of aviation but also explain his views and potential policies on air quality, housing, energy and transport issues as the capital manages growth toward 11M population by 2035.

As Member of Parliament for Tooting in south London and former shadow spokesman for London, Khan last month defeated Tessa Jowell, former Olympics minister and Labour front bencher for the party's candidacy.

He also recently claimed he would be the 'greenest Mayor' ever if elected, and is expected to highlight the challenges facing the capital and set out his aspirations, as the Labour Party mayoral candidate, for greening London's economy, creating green jobs and tackling air pollution.

He joins an influential gathering of key note speakers at the EIC annual conference on 19 November including Rory Stewart, MP for Environment who is expected to clarify the new Tory Government's post coalition policy changes.

Other highlights at this critical post-election forum to discuss the expanding environmental agenda include:

- A keynote presentation about what to expect from the Paris climate talks, by Michael Jacobs, former chief energy and environment adviser to Gordon Brown and an adviser to the French Government on the Paris climate summit;
- Case studies on innovation and technology in the environmental sector to be presented and discussed – by UK Flood Barriers, Pavegen, Bio Bean and Minus7
- A presentation and panel discussion on greening the infrastructure boom, to be led by Matthew Bell, Chief Executive for the Committee on Climate Change

The full conference agenda can be viewed at [www.eic-conference.co.uk](http://www.eic-conference.co.uk).

Other confirmed speakers and panellists include:

Lord Deben, Chair for the Committee on Climate Change;  
Mike Putnam, chief executive, Skanska UK and chair of the Green Construction Board;  
Laura Sandys, Chair of European Movement, UK;  
Rhian Kelly, Director for Business Environment, CBI;  
Julia Groves, Director, Trillion Fund;  
Harvey Bradshaw, Head of Environment and Business, Environment Agency;  
Matthew Spencer, Director, Green Alliance

For further details of the event and to register your interest in attending please visit [www.eic-conference.com](http://www.eic-conference.com).



Sadiq Khan



Zac Goldsmith

**Date:** 19 November 2015  
**Venue:** The Willis Building, London  
**To book:** [www.eic-conference.co.uk](http://www.eic-conference.co.uk)

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*"Being based on the campus is of immeasurable value to my business. We have frequent contact with academics from many different departments. We draw upon the academics' expertise, and they often draw upon ours. Above all we value the continuous exchange of ideas," Mike Berners-Lee, Director, Small World Consulting Limited.*

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CASE STUDY: Peak Associates, Manchester Airport

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Graduate researcher Andy Freeman has been working as part of a research collaboration between Lancaster University, Peak Associates Environmental Consultants and Manchester Airport, where they have been exploring alternative sustainable and economic solutions to this environmental challenge.

Mike Matthews, Managing Director, Peak Associates, commented on the benefits of working with Lancaster University, "We got involved with Lancaster University six years ago. We've now got far more interesting projects, such as the one with Manchester Airport, that we couldn't actually do if we weren't based here...Increasingly we're getting involved in intricate projects, which are almost future casting... we certainly couldn't do it without the University's help."

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# Maturing nicely

The business market is much improved, as is the SME consultant's approach to risk, the latest Infrastructure Intelligence/Griffiths & Armour round table group agreed when it met at its regular haunt, London's Gherkin building. But they warned that the new culture might only be skin deep. *Jackie Whitelaw* reports.



The Gherkin played host to the latest G&A round table discussion on risk management

## Challenges of a growing market

For our panel, the answer to the question what is the biggest challenge in a growing market, was saying no to new work. That could be finding the confidence to turn work away or finding a way to do it without offending clients that you want to provide services for at another point when you have the spare capacity.

Max Fordham senior partner Henry Pipe summed up the situation. "The challenge is in trying to stave off work to another time. We are keen to retain relationships with people who are very generously offering work that we would love to take on. And we can stretch to a point – an anticipated immediate start often gets delayed for three or four months down the line which gives us time to manage resources. But sometimes you have to say no. It is naïve to think we can keep taking on work and maintain relationships if we don't have the resources to deliver."

For Alan Baxter managing director Michael Coombs, the market is not so buoyant that workload is unmanageable; rather it is the level of risk firms are being asked to take on that is a concern. "There was a time when the market turned that we were very worried about being totally swamped," he said. "But I don't think workload has actually held up at such a high level. What we won't do is take on jobs where the risks are completely unacceptable. Some clients and project managers seem to think that consultants are there to take on risk and don't understand the risk-reward equation. But that has to be correct and fair."

Being selective on which projects you choose is the way forward for CampbellReith, according to its senior partner Michael Lawson.

"We have moved more into civils rather than pure buildings and structures because we have far greater control over the work and the design. The clients tend to be public

## Collaboration: Is your Professional Indemnity Insurance future proof?

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sector, and we are lead consultant. On building structures we are tier two or three. Design and build contractors in particular are trying to force far greater risk on us and we are trying to avoid it – especially novation.”

The private sector is proving more attractive than the public sector for BWB chief executive Steve Wooler. “We are increasingly going back to working for more private sector developers in this market,” he said. “The public sector work we had was mostly sourced via contractor frameworks which can be an aggressive environment – ‘though not always. Often it’s difficult to get paid, some demand unreasonable terms, and many are difficult to negotiate with, meaning sometimes you have to think carefully whether to take on a project. As the market has become more buoyant we have started turning work away if the terms are unreasonable.”

“Most private sector clients are commercially savvy and we can have grown up conversations on what risk we will accept, sensible payment terms and, if appropriate, risk sharing – we are often willing to speculate effort in return for an enhanced fee”

The overwhelming impression from the conversation was that firms were being very careful with what work they took on as industry picks up, something confirmed by the indemnity insurance experts at Griffiths & Armour. “People are looking at projects and making ‘go’ or ‘no go’ decisions,” said director Paul Berg. “There is a definite assessment process and our team is working increasingly with firms on particular aspects of contract terms as well.”

Couch Perry Wilkes director Simon Seaton-Smith agreed that there was more method than madness in this recovery compared to the past. His M&E consultancy does 60% of its work in the health and education sectors and manages the blend of activity to dilute the risk. “Things go in cycles so we look after our clients who would be there for us in another downturn. But sometimes we can’t deliver or act for them due to unrealistic timescales or excessive risk and would rather say no than let them down. One recently offered a large project but it needed us to have £20M of professional indemnity insurance and we couldn’t do that. We keep our contractor workload balanced at around 20% of our turnover, deliberately because we like to maintain very close and direct contact with end users.”

Paul Wood, director at Elliott Wood Partnership, explained that the strategy



Top to bottom: Michael Lawson, Michael Coombs and Paul Wood

**“Things go in cycles so we look after our clients who would be there for us in another downturn. But sometimes we can’t deliver or act for them due to unrealistic timescales or excessive risk and would rather say no than let them down.”**

Simon Seaton-Smith

at his firm was to try to get fees up, which was having the additional effect of helping to control workload. “We are trying to get our fees up,” he said, “and when we are competing that very often means we lose the job anyway. So you could say we have our own way of turning work away!”

Sweett Group director Simon Offredy said his company also found itself offered onerous conditions. “We will spend time with receptive clients to

agree alternative terms as a way round the problem,” he said.

## Terms and conditions

The consultants all reported themselves much more aware of the potential impact on their businesses of onerous conditions and were more proactive in making sure they were not over exposed in a growing market when deals done in the sun could come back to haunt them in a future downturn. Gateway processes and review committees were common to all. And when in doubt, they checked with a lawyer which meant most were spending more on legal fees.

Lawyer Ruth Lawrence, head of insurance at Hill Dickinson, confirmed the trend.

“We are getting more queries, whether through Griffiths & Armour or directly regarding standard terms and conditions. The feedback I have is that people have a lot of work but are looking at T&Cs and are prepared to challenge them to make sure the jobs are set up correctly,” she said.

Griffiths & Armour’s Berg concurred. “The number of agreements we review in a month has gone up from 500 to 650 at the last count,” he said. “They are all bespoke and the vast, vast majority contain no limitations on the extent of liability. The level of knowledge of risk is far greater than it was but successful consultants will base decisions on informed risk advice.”

## How was everyone dealing with the demands? By pushing back was the general answer.

“We negotiate fair and reasonable arrangements,” said Alan Baxter’s Coombs. “Sometimes it takes a bit of time and if we can’t, we walk away.”

If you find yourself in a standoff during a contract there is benefit in toughing it out, said BWB’s Wooler. “If you stand your ground and invoke the contractual terms, that gains you respect from the contractor,” he said. “And that invariably improves working relationships.”

“I agree entirely,” said Wood. “It all comes down to the original appointment. You have to say exactly what you will do, and for everything else you charge. We keep sending vague appointment terms back.”

Firms can be put under pressure by the client or contractor saying “well everyone else has signed”. But as G&A managing director Carl Evans said: “None of us believe that, do we? Of course, there are also consultants who

make certain commercial decisions without the benefit of an informed risk perspective but that does not then automatically make the contractual risk equitable or acceptable for others.”

## Within this environment, can companies push fees up?

“You certainly can price accordingly,” said Pipe “and start to undo the squeeze. We have seen fees starting to drift back up. It’s a very positive move.”

“But it’s still very difficult, even in this climate and it is not happening very much,” Wood responded. “One of the problems is that costs are going up and contractors prices are coming in way higher than they were supposed to be on the cost plan. That can stall the job so you find yourself hanging around waiting to decide on progress. There’s no benefit there.”

Lawrence sounded a warning that although the people round the table may have a more mature attitude to risk and opportunity, drill deep and it may not have reached other members of staff. “We work for the full range of consultants and big or small, the reasons why they claim on their PI are the same. People take a chance on something outside their expertise, or for the person dealing with the job, it’s outside their expertise; or people don’t have time; or they accept unreasonable demands from the client. So far I haven’t seen a change to that.”

## The panel

Michael Coombs, managing director, Alan Baxter  
Steve Wooler, managing director, BWB  
Paul Wood, partner, Elliott Wood Partnership  
Simon Seaton-Smith, director, Couch Perry Wilkes  
Michael Lawson, senior partner, CampbellReith  
Ruth Lawrence, head of insurance, Hill Dickinson  
Henry Pipe, senior partner, Max Fordham  
Simon Offredy, director, Sweett Group  
Paul Berg, director, Griffiths & Armour  
Carl Evans, director, Griffiths & Armour  
Peter Campbell, senior policy manager, ACE  
Antony Oliver, editor, Infrastructure Intelligence  
Jackie Whitelaw, associate editor, Infrastructure Intelligence



Left to right: Ruth Lawrence and Simon Seaton-Smith

## Key to collaboration

Government and private sector clients are signed up to the idea that better collaboration in the industry will increase productivity and save money. The challenge of course is to change the culture of an industry that has evolved on an adversarial model.

“You can’t change attitudes when you get to the point of dealing with what is wrong,” said Hill Dickinson head of insurance Ruth Lawrence. “We have to change things at the beginning. But even so, things will go awry and people will still look for someone to blame, so we need something like Integrated Project Insurance to deal with that.”

Integrated Project Insurance has been invented by Griffiths & Armour

to insure the project and all its parties to encourage resolution to problems rather than litigation. It is one of the Cabinet Office trial schemes to improve efficiency in construction.

“It is clients who have to decide if they truly want to collaborate,” said Griffiths & Armour managing director Carl Evans. “The problem at this point in time is clients want to but they (or their advisors) are not prepared to amend the contractual agreements to reflect that. That is where IPI can contribute to a more balanced future as it fundamentally changes the concept of how project risk is insured; in the meantime, the need for effective, robust and proven PI solutions are greater than ever.”



# ‘Be Aware’ is the current guidance for consultant engineers in the Middle East

The Middle East is full of opportunity, says *Nelson Ogunshakin*, but there are pitfalls for the unwary. ACE is there to offer advice and support.

After two weeks touring the Middle Eastern region, I have seen first hand the commitment of professional consultancy firms to the positive development of much needed infrastructure projects, and witnessed the resulting potential for large scale business growth. The international collaborations that ensure local needs are met are inspiring. While I see the benefits for members engaging with projects in the region, I must also urge companies to be aware of circumstances before choosing to engage.

ACE’s Middle East Group (MEG) continues to provide the industry with guidance on regional involvement, with the companies involved holding a strong and collaborative role in the development of regional infrastructure. Overall the Middle East market within our sector is stable, and growing in a sustainable way. Yet there are still hurdles for business.

The region is still plagued by the challenges that have been seen by established professional consultancy firms for years. These include late payments, difficulty managing client expectations, contractual labyrinths and the general lack of institutional capacity to deliver.

While these issues may occasionally be faced domestically as well, in the Middle East issues such as late payments stretch far beyond what is seen in other regions. Some see payment delays greater than 200 days for large scale projects, which means consultancy firms require significant amounts of working capital. This puts a significant strain on companies that are counting on regular payments to provide for expenses.

The majority of UK based professional consulting and engineering firms currently working on projects within the Middle East have learned through experience the best business tactics to handle these financial challenges. However for those UK companies in the



**“While I see the benefits for members engaging with projects in the region, I must also urge companies to be aware of circumstances before choosing to engage”**

ACE chief executive Dr Nelson Ogunshakin, OBE

sector still contemplating involvement in the Middle East or for those just commencing regional involvement, these challenges can be a major inhibitor to business success, and a potential deal breaker for those firms without sufficient internal resources to make accommodations.

For those prepared for the potential hurdles of business in the Middle East region, the realignment and better

controlled investments in social and economic infrastructure projects present opportunities for business growth.

It is often the young consultants and engineers that embark from the UK in great number to work on Middle East projects. Because of the unique challenges of the region and the prevalence of young professionals, ACE is establishing a regional Progress Network Group (PNG). The formation of the regional PNG is designed to help people under 35 meet others in the region and cultivate positive relations. It will be launched in November this year. This will, we hope, aid in creating an attractive working environment in the Middle East for young professionals where they can network, share professional knowledge and provide opportunity to debate business issues affecting the area through series of evening meetings with guest speakers from ACE member and non member firms

Because of the unique challenges facing UK based professional consulting and engineering firms in the Middle East, ACE encourages knowledge sharing to raise awareness of the business difficulties. To help members understand their clients and to be able to benchmark their own performance in the region, ACE MEG will be running two surveys which will result in guidance on regional client relations as well as a regional benchmarking. ACE will use such tools to continue to address challenges and aid members working within the Middle East.

There are exciting opportunities ahead for working in the Middle East with EXPO 2020 in Dubai in five years, and the World Cup in Qatar in 2022. But I feel it is incumbent on me to continue to protect as well as advocate for the interests of the UK based professional consulting and engineering firms working in the region, offering current and future support.

# Who are the industry’s top bosses? ACE European CEO Awards shortlist announced

Finalists for the 2015 European CEO of the Year Awards have been revealed by ACE. Now in its fifth year, the awards recognise and celebrate the efforts of industry executives who have demonstrated outstanding leadership and business best-practice in pan-European engineering and consultancy firms.

The names in the frame for top awards to be handed out on 12 November are:

- Jesper Nybo Andersen – Orbicon, Denmark
- Pablo Bueno – TYPASA, Spain
- Neil Cooper – MLM, UK
- Dominik Courtin – Basler Hofman, Switzerland
- Gavin English – IMC Worldwide, UK
- Glyn Evans – Geo-Environmental Service Ltd, UK
- Kimmo Fischer – SITO Ltd, Finland
- Geoff French – AECOM, UK
- Simon Innes – Goodson Associates, UK
- Geoff Morrow – StructureMode Ltd, UK
- Graham Nicholson – Tony Gee & Partners, UK
- Bernard Obika – Roughton Group, UK
- Neil Sandberg – Sandberg, UK
- Pierre Verzat – Systra, France
- Steve Wooler – BWB, UK

(Nominees are pictured far right in order left to right)

“Following one of its strongest ever years, the European engineering consultancy sector is undergoing a paradigm shift in terms of technological advancement, customer centricity and client expectation,” said ACE chief executive Nelson Ogunshakin.

“The construction and economic & social infrastructure service providers are looking to the future to determine which projects are most significant, what investments must be made and which companies can meet these challenges and deliver exemplary skills and expertise where success will be largely dependent on how these firms are managed by their leaders.”

He continued: “A wide variety of candidates have made the shortlist

this year, a fantastic combination of individuals from small and large organisations who demonstrate the best and brightest that European senior executives have to offer. Being shortlisted for a European CEO of the Year Award is a testament to having achieved something outstanding in their career and I congratulate them all.

“As chair of judges it will be a very tough task for Flemming Pedersen the first winner of the European CEO Award in 2011 and current chairman of the Ramboll Foundation, and his fellow judges representing organisations from across Europe to select the overall winners.”

The awards are sponsored by Deltek, Coubari, WSP Parsons Brinckerhoff, Matchtech and FIDIC. London’s Deputy Mayor for Transport Isabel Dedring will give the keynote speech at the award event.

The awards ceremony is taking place during the European CEO conference “Looking beyond our industry for inspiration” where keynote speakers and panellists will include business leaders such as Paul Simpson, Rothschild; Madani Sow – chairman and CEO of Bouygues UK; Fidel Saenz de Ormijana, chief technical officer, Ferrovial Agroman; and Neil MacArthur – CEO of the Arcadis Group.

For details on how to attend the conference or the awards ceremony being held on Thursday 12th and Friday 13th November, please contact Naomi Bari on [nbari@acenet.co.uk](mailto:nbari@acenet.co.uk) or call 020 7222 6557





## FIDIC – taking the lead in positive change

Nelson Ogunshakin reports on the FIDIC 2015 conference in Dubai



FIDIC President Jae Wan Lee

The 2015 FIDIC conference may years from now represent a turning point in the organisation's history, a point of modern reflection of the industry as well as strengthen the integrity and sustainability of the FIDIC brand. The conference renewed aspirations and hope for the high potential of FIDIC, as a chief driver for positive change within the industry.

The FIDIC 2015 conference took place in Dubai, which is itself not without significance. Dubai has in the past seven years adopted a cautious and pragmatic development programme, which is principally driven by the needs of Expo 2020.

With projects such as its metro system extensions, completion of master plans for various end user cities, as well as an extended investment in the World Trade Centre's recurrent income generated asset base, the projects under development for Expo 2020 are estimated to comprise approximately 30 billion USD worth of investments made over the next five years. It is pleasing that for such projects, there are many UK based professional consultancy and engineering firms involved.

Association for Consultancy & Engineering was represented at the conference by myself as ACE CEO, Vice-Chair Gavin English, and past chair Geoff French. Among the FIDIC award winners were Arup and IMC Worldwide both winning FIDIC project

Merit Awards. Philip Jenkins of Atkins was honoured with a prestigious special FIDIC Award for his contribution to the industry.

Founded in 1913, the same year as ACE, the International Federation of Consulting Engineering known as FIDIC has a membership composed of national associations of consulting engineers, and currently covers 97 countries around the world. With the mission 'to work closely with our stakeholders to improve the business climate in which we operate and enable our members to contribute to making the world a better place to live in, now and in the future', FIDIC sets many global standards for industry business practices.

As such it is vital that FIDIC, as a global voice of engineering consulting, is fully representative of the industry within the composition of the board and governance structure. This year's FIDIC elections were a step forward in this regard, with the first Asian President, together with the first Vice President from the African continent.

New FIDIC President Jae Wan Lee from South Korea called for a change in the FIDIC governance structure to reflect the diversity within the industry. It is hoped that within this revision of governance structure it is not only regional or gender representation that will be discussed.

Representation issues are also key - members of FIDIC are national associations, yet there is a lack of national association representation on the FIDIC board which is composed of individuals from companies.

Another main point within the new president's speech was the desire to promote the FIDIC brand as being representative of best practice, integrity and sustainability. With the increased level of international collaboration on projects, it is increasingly important to ensure that best practice standards are maintained, and the integrity of contracts or other official representations of FIDIC standards are properly assured around the world.

The 2015 FIDIC elections and the resulting efforts of those elected regarding the revision of the governance structure will be an essential factor as to whether FIDIC will truly be the representative global voice of the engineering and consultancy industry in the future. The potential of FIDIC's influence, if the governance is adjusted appropriately, is immense. As such FIDIC is likely to remain one of the key drivers for positive change within global industry standards.

## Wales must agree infrastructure vision

The country needs a clear plan that can be developed in collaboration with the whole community, says ACE Wales chair Geoff Ogden.

Wales will struggle to meet future efficiency targets such as those set out in the Construction 2025 strategy and respond to future Welsh needs without a long term vision set by effective collaboration between business, government and civil society, ACE Wales chair Geoff Ogden said.

With the move towards more devolution, the construction industry's role as the 'bellwether' of the economy has deep implications for Wales, he said. And during times of economic strength Wales needs to focus not only on infrastructure and construction today, but also upon the future vision for Welsh infrastructure.

Ogden was delivering a keynote speech at the 'Policy Forum for Wales: Infrastructure in Wales – progress, priorities, and next steps for policy' event in Cardiff.

"Effective collaboration between business, government and civil society is a necessary prerequisite if reforms and investment are to raise productivity and competitiveness," he said. "This calls for strong public and private leadership, a clear vision and effective and ongoing communication to build trust between all parties. It is therefore crucial to create mechanisms and fora to promote dialogue," he said.



ACE Wales chair Geoff Ogden

ACE works hard for SME firms; here are its top 10 activities that make a difference.

1. SME Benchmarking – Optimise your business performance
2. SME Forum & Events – Network & learn with your peers
3. Publications – Valuable business and industry intelligence
4. Legal Agreements – Ensuring your business and clients are protected
5. Adjudication Services – Expert advice when needed most
6. Free Find a Consultant Listing – The definitive "Who's Who" for consultancy and engineering
7. Regional/ Local Authority – Have your voice heard locally
8. Legal Resources – Mitigate business risk at every step
9. Complete Pension Trust – Competitively priced employee benefit package
10. Business Helpline – Support available at your fingertips

## Get behind Northern Powerhouse but beware coming challenges

As George Osborne held meetings in China to reveal £24bn in investment opportunities in the north of England, ACE members met in Leeds to discuss the Northern Powerhouse agenda.

Chief Executive Nelson Ogunshakin urged firms to seize opportunities and engage with key figures. "We must provide the intellectual thinking to create deliverable plans and bankable projects," Ogunshakin said.

"Osborne has made the north his powerhouse and he says he will make it work. We can either criticise him or get on side and make things work," he said.

Challenges remain, explained Ed Cox, director at leading think tank IPPR North. "The government has not got the capacity to deal with the demands being made of it from combined authorities," he said, noting that 38 submissions devolution had been made to Government in September ahead of the Cities & Local Government Devolution Bill, which will be read in the House of Commons next month.

- Ed Cox and Nelson Ogunshakin were speaking at the ACE Northern Region event organised by regional chair Marc Davies of WYG.

## Cities can lead the green agenda



City devolution can be a platform for promoting environmental protection, writes

Matthew Farrow

For those of us interested in environmental protection there was not a great deal to hold our interest at this week's Conservative Conference in Manchester. Liz Truss has clearly decided that her personal political interests are best served by focusing on the farming and rural economy side of Defra's activities. However much this may frustrate me it's a logical enough political judgement.

And while Transport Secretary Patrick McLoughlin did make a passing reference to the fall out from the Volkswagen emissions scandal, there wasn't much either in the fringe events or from the platform on issues such as water quality, recycling, the broader air quality debate, chemicals policy and the like.

Likewise in the broader media, while Volkswagen's woes have given a welcome boost to the air pollution debate, the prospects for Paris and the decimation of the renewables support structure have attracted most attention.

What was very prominent in Manchester though was the city devolution agenda. This was evident not just in speeches by cabinet ministers, but in the number of fringe events about city-level policy making. My feeling is that the city agenda can be a platform to promote the importance of environmental protection. This will not happen though by default.

At the EIC our work on smart cities found that only a minority of smart city initiatives focus on tackling environmental issues. One of our aims in this area is to encourage city leaders and smart technology suppliers to recognise that the smart city agenda can provide a new way to tackle entrenched problems such as low urban recycling

rates and poor air quality in city centres.

The biggest boost though to the green city agenda will be the London Mayoral election. While Boris Johnson has only very belatedly woken up to the need to be proactive on the environment (in his early years at City Hall implementation of schemes such as the Low Emission Zone became laxer), Zac Goldsmith starts his mayoral campaign on the back of a career campaigning for the environment.

In turn Sadiq Khan has responded by announcing his determination to be the 'greenest mayor' ever if elected. Sadiq has agreed to speak at the EIC Annual Conference on 19 November ([www.eic-conference.co.uk](http://www.eic-conference.co.uk)), where he will no doubt aim to take on Goldsmith at his own game. With either Goldsmith or Khan highly likely to be the next mayor, City Hall officials are conscious that their next boss will enter office having made a strong environmental campaign pitch and are no doubt already working on plans for new green initiatives and policies which the next incumbent can pick up.

As always though the environmental agenda, especially beyond low-carbon, needs constant highlighting by all of us if it is to get consistent political and media attention. And then who knows – we might have a party conference season where ministers are queuing up to talk about the green economy.

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

[www.eic.co.uk](http://www.eic.co.uk)

This article first appeared on Business Green

Hear London mayoral candidate Sadiq Khan explain how he plans to be 'the greenest mayor ever' at the Environmental Industries Commission annual conference.

Date: 19 November 2015-10-11

Venue: The Willis Building, London.

To book: [www.eic-conference.co.uk](http://www.eic-conference.co.uk)

Event sponsors: Willis, Beale and Company, Lafarge Tarmac, ACO Technologies, Lancaster University



# Adonis to chair National Infrastructure Commission, Ramboll leadership reshuffle, sustainability needs a reboot and New Treasury skills report

All articles can be read in full at [www.infrastructure-intelligence.com](http://www.infrastructure-intelligence.com)

## TOP STORY: Former Labour transport minister *Andrew Adonis* to head National Infrastructure Commission



Andrew Adonis will head a new National Infrastructure Commission

The announcement from Chancellor George Osborne that Lord Adonis would lead a newly created National Infrastructure Commission was the talk of the Conservative Party Conference and the most read story online this month. In a surprise political shift Adonis will give up the Labour Whip to drive forward the Commission – an idea that was originally devised and championed by Sir John Armitt for the Labour Party – to identify and speed up delivery of critical transport, energy and housing projects.

Osborne also promised to spend a further £5bn on infrastructure projects over the next five years, paid for from the sale of “buildings and land that the government doesn’t need now” to build for the future. “This is all about Britain taking the bold decisions to provide security and jobs for the next generation, to make sure that we have the railways and the roads and the runways that are going to power our economy going forward,” said Osborne pointing out that it would be “a disaster for the country if we stopped building now”.

The commission will start immediately said Osborne and while the actual decision-making will remain

with the elected government the NIC is expected to take the politics out of infrastructure planning by providing an independent view on the delivery of key transport, aviation, housing and energy generation and supply.

The concept of a national infrastructure commission was first floated by incoming ICE president and architect of the 2012 Olympics’ infrastructure Sir John Armitt in his independent review for the Labour Party. The idea was a key part of the Labour manifesto for the 2015 general election.

Industry immediately backed the announcement with ACE Chief Executive Nelson Ogunshakin saying that the NIC had long been needed. “The underlying principle of non-politicised discussions and cross-party national consensus will effectively support the completion of infrastructure projects, vital to the UK’s economic and social prosperity. The selection of Lord Adonis as head of the National Infrastructure Commission is a show of this Government’s commitment to put the contentions of political parties aside and allow those best suited to drive UK infrastructure forward,” he said.

## New NIC seeks CEO



### Recruitment of NIC chief executive to start immediately.

Following the announcement of the creation of the National Infrastructure Commission chaired by Lord Adonis, government published details of the remit for the organisation including the need for a CEO. The commission’s role is to establish a long-term plan and assessment of national infrastructure needs early in each parliament, reporting every five years on what a government is expected to do during this period and updating the reports on a rolling basis.

The NIC will be made up of around 25-30 permanent staff, but will have statutory powers to allow it to draw on the expertise of sectoral regulators, and key national delivery bodies such as Network Rail and Highways England. It will be overseen by a small board, appointed by the Chancellor, and able to commission research and call for evidence from public sector bodies and private sector experts.

The NIC will initially focus on:

- plans to transform the connectivity of the Northern cities, including high speed rail (HS3)
- priorities for future large-scale investment in London’s public transport infrastructure
- how to ensure investment in energy infrastructure can meet future demand in the most efficient way

The Commission will publish advice to the government on these issues before next year’s Budget. It will also begin work on a national infrastructure assessment, looking ahead to requirements for the next 30 years.

## Ramboll reshuffle



### Robert Arpe to lead UK business as Ramboll completes reshuffle.

The Danish engineering consulting business has appointed Robert Arpe, managing director of its Denmark business to replace Steve Canadine as head of its UK business. Canadine is understood to have left Ramboll last week. The firm has given no detailed explanation for the leadership reshuffle stating simply this week that it had “announced a change of leadership for its UK team”.

“Robert Arpe, managing director of Ramboll Denmark, will assume the position of acting managing director for Ramboll UK, replacing Steve Canadine, who will be leaving Ramboll,” said the statement.

“During his time with Ramboll, Steve Canadine has significantly developed our position in the UK and played an important role in building the design and technical excellence for which Ramboll in the UK is renowned,” it added. “We thank Steve and wish him all the best in the future.”

The move comes after half year results to June 2015 which showed the firm’s first half pre-tax profits fall by 18%, and margin drop to 3.5% from 4.1%, despite group revenue growth in the same period of 30%. Problems in the UK business, including a major write down linked to a Middle East contract, plus tough conditions in the oil & gas market were highlighted in the firm’s half year results.

Arpe is described by Ramboll as one of its “most experienced leaders” having and been a member of the executive management team of Ramboll Denmark since 2006.

## Sustainability needs stirring up



### Sustainability rhetoric has become boring and we need to stir things up

Sustainability has lost some of its popularity and fallen down the media agenda and as professionals some of this could be our fault said Mandhy Senewiratne, lead sustainability consultant at MWH. We need to revisit how we promote and develop sustainability. Having attended many sustainability events it regularly feels like each is a repeat of the last. Most have the same strap lines, rhetoric and frequently the same outcomes. Audiences are often not being inspired or challenged and so are seldom ‘stirred’, if ever, ‘shaken’ into action.

Of course, challenges to conventional thinking rarely happen if everyone agrees with each other. We need to invite devil’s advocates, doubters, unbelievers and the as yet unconverted into our discussions. To embed sustainability into our DNA, we must challenge mindsets with alternative ways of thinking and practical examples of innovation.

For example, in the water sector we have new low-carbon materials like cement-free concrete, construction techniques like virtual trial-holing, low energy treatment approaches including reed beds for phosphorus removal and pyrolysis for advanced sludge treatment.

There is also real time energy management and radical ideas such as heat recovery from sewers and using zebra mussels removed from outfalls as a fuel source for CHP engines. These real world innovations need to be highlighted to keep the arguments fresh.

## NIP delivery needs more skills



### National Infrastructure Plan for Skills

### Delivering the NIP pipeline is only possible with major recruitment and training

The infrastructure sector must recruit and train some 100,000 new apprentices and graduates across all sectors of the industry if the UK is to meet the challenge of delivering its vital £411bn investment pipeline, according to the Treasury.

In its new National Infrastructure Plan for Skills report published this week, Treasury also highlighted the need for industry to retrain and up-skill around 250,000 of its existing workforce over the next decade if it is to meet the investment challenge.

“We face challenges to ensure that we can build a skilled and productive workforce to deliver these plans,” said Jim O’Neill, Commercial Secretary to the Treasury in his foreword to the report. “And it’s not just more skilled people we need, it’s also a different blend of skills.”

The National Infrastructure Plan, published in July 2015, contains details of a £411bn investment across 564 projects and programmes from 2015/16 onwards. However, to deliver this investment, explains the report, the infrastructure sector will need over 250,000 construction and over 150,000 engineering workers by 2020.

This, says the report, means investing in new apprentices, technicians and graduates and attracting skilled workers from other industries. The report also points out that a lack of detail on demand and supply makes it harder for workers to move easily between sectors and projects, adding to skills shortages on key projects and programmes.



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## Careers

### Career path: Charlene Baker, Temple Group

A trip to New Zealand introduced planner *Charlene Baker* to large infrastructure projects, which have formed the focus of her work since she returned to the UK.

#### Tell us about your job

My job involves managing and coordinating large infrastructure and property projects, focusing on environment and planning issues. Using project management skills I aim to deliver projects that are technically robust and satisfy the client in terms of cost, quality and programme. I am also the people manager for the planning and sustainability team.

#### Why did you decide to go into engineering/infrastructure?

I had been working in a local authority as a planning officer and decided to take a year off and travel. I went to New Zealand with a work permit and secured a job with a large engineering firm working on infrastructure projects. During that time I really enjoyed working on large infrastructure schemes and have continued to do so since then.

#### What did you study?

I studied Urban Studies and Planning at Sheffield University, with my second



year in the University of Illinois, USA. I always enjoyed geography at school but I wanted to do something that was more practical and more orientated to a career path at university, and the Urban Studies and Planning course offered that.

#### Who was your first employer and why?

South Gloucestershire Council as a planning officer. Following my first job I moved to New Zealand and spent nearly a year working for an engineering consultancy. Since then I have been in London for seven years, and have worked at two environmental

consultancies. I moved to Temple Group four years ago.

#### What is special about where you are and why did you stay?

Temple Group offers me the blend of large and interesting projects within a small company setting. This allows me to continue strengthening my project skills and provides me an opportunity to develop other business skills. The people are great as well!

#### What keeps you interested?

I really enjoy variety. I can go from detailed contract management issues, to reviewing reports about noise impacts or protected ecological species. Large projects provide different challenges and new people to work with.

#### What advice would you give your younger self?

Just keep learning as you go, and not to worry about mistakes, they are a learning opportunity.

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