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JOURNAL



CAREERS
SPECIAL

The official magazine of the Chartered Institution of Building Services Engineers

January 2015
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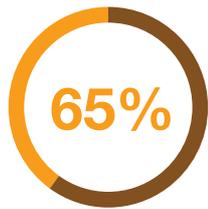
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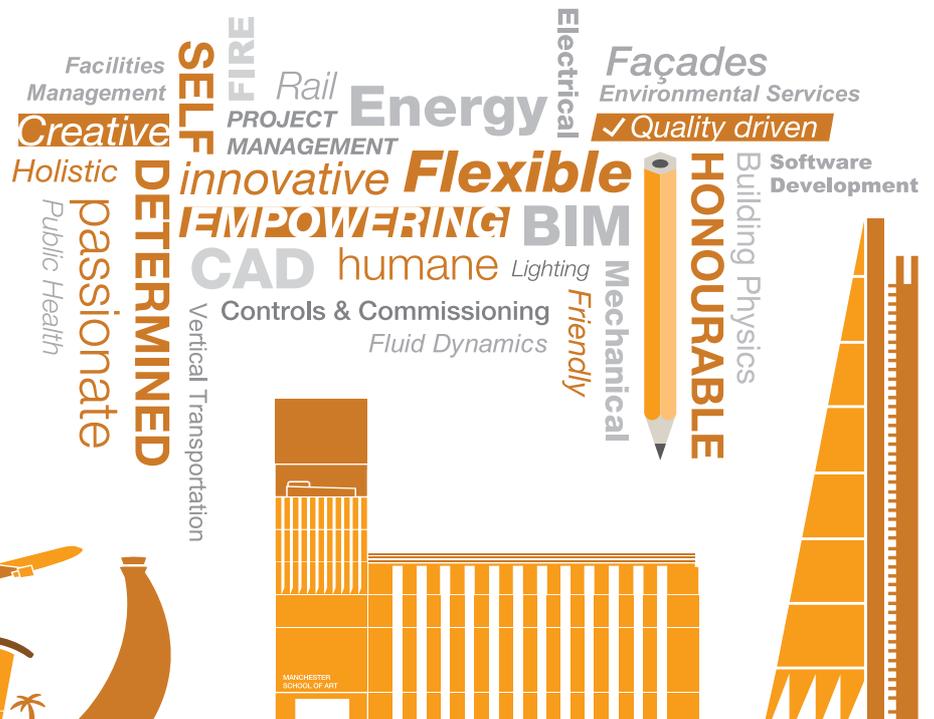


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Career highs

The most exciting time to enter the building services industry in 25 years.' That's how one consultant describes the current opportunities available to those considering a career in this most dynamic of sectors.

Sustainability is at the heart of building services design and, with increasing government and market pressure to cut carbon and energy use, engineers with the ability to make an impact on building performance have never been more sought after.

The 2015 Hays Salary Survey reveals 77% of firms are planning to recruit more engineers in 2015. This increase in demand means salaries are spiralling upwards – and not just in London (page 13).

Our careers special spells out the opportunities available (page 4). It focuses on young engineers who chose a career in building services and who have never looked back. They include Gustavo Brunelli, who was involved in creating London's Olympic Velodrome, and Charlotte Mercer, third in the CIBSE ASHRAE Young Engineer of the Year Awards.

Daniel Collins is another success story. He moved to the Middle East and worked on a series of projects in Dubai and Abu Dhabi, before returning to England with a wealth of experience and a three-fold increase in salary (page 10). If you are feeling a little envious, then check out the directory of recruiters and colleges (page 22), and you could soon be following in Daniel's footsteps.

The industry not only offers financial benefits; an increasing number of firms are allowing employees to work at times conducive to raising families. This enlightened approach is essential, not only to encourage women back into the industry after motherhood, but also to attract them into the industry in the first place. And with a looming skills crisis, companies that offer flexible working are best placed to get the skilled staff they need to win contracts.



Alex Smith, editor
asmith@cibsejournal.com

CONTENTS

04 ENGINEERING SUCCESS

Why this is the most exciting time to enter building services in 25 years

10 MIDDLE EASTERN PROMISE

What the Gulf region has to offer building services professionals

13 REACHING THE PEAK

Pay in building services is on the up as firms embark on a recruitment drive

18 HOW TO GET HIRED

Polish your CV, get expert help, make a serious career plan – the right approach could help you land that job

20 HAVING IT ALL?

As more firms embrace flexible working, we explore the advantages – and pitfalls – of staying away from the office

22 DIRECTORY

Training courses and employment opportunities



How CIBSE supports building services engineers in their career

CIBSE has more than 20,500 members worldwide, including students and newly qualified graduates.

We continue to encourage young people into the industry and can assist in supporting them, through their career in building services engineering and help them reach their goals.

CIBSE offers free membership to all full-time engineering students for the duration of their

course. A small fee is payable for those studying on a part-time basis. Members can gain access to the huge resource which is our CIBSE Knowledge Portal, and the wealth of information it offers.

There are a number of Young Engineers Networks active in the UK and overseas, offering valuable opportunities to network with other professionals in their area, as well as other regional groups, and special interests groups.

We want to mentor new talent and support all engineers in our industry, no matter what stage they are in their careers.

Building services is a viable and exciting career that is open to everyone and we want to do everything we can to encourage people into the industry.

For more information on CIBSE membership visit www.cibse.org and follow us on Twitter at @CIBSE

'THIS IS THE MOST EXCITING TIME TO ENTER BUILDING SERVICES IN 25 YEARS'

– **Steven Hale, Crofton Design**

With the built environment accounting for up to 40% of the world's energy use, building services is on the front line of the fight against global warming – and it is also a rewarding career with exciting opportunities, as **Roxane McMeeken** explains



Buildings are draining the world's resources. The global built environment accounts for 30-40% of energy use, 20% of water use and around a third of carbon emissions, according to the UK Green Building Council (UK-GBC). In contrast, the aviation industry accounts for just 2% of global carbon emissions, according to the sector's Air Transport Action Group.

As much as we may want to combat climate change, abandoning buildings is not a realistic option. So, instead, we need to maximise the efficiency of the buildings we have, and those that we're planning. The people on the very front line of this battle are building services engineers. This is just one of the reasons to choose a career in a sector that has multiple, attractive entry routes.

Building services engineers are a critical element in the fight against global warming because their job involves designing the systems, within built structures, that consume energy and water. These include lighting, heating, ventilation, lifts, acoustics, security, plumbing and drainage. They also redesign systems in existing buildings – a crucial area of work considering that the UK-GBC says the UK's existing built environment is responsible for no less than 37% of Britain's greenhouse gas emissions. Angela Ringguth, head of careers promotion at CIBSE, says: 'The work of building services engineers has never been more crucial.'

This means it is now an exciting time to work in the discipline. With building services engineers becoming so vital, they're being brought into projects earlier, and taking more of a leading role. Ringguth says: 'It is now understood that, to really improve the performance of a building, the traditional approach of constructing it and then adding the services is not sufficient. This is because every aspect of the building plays a part in its performance – for example, the orientation of the building and the choice of windows affect heating requirements. So a holistic approach to the design of the building and its services is required from the inception of the project.'

The career also offers a stunning variety of projects all over the world, or even in a single city – from iconic structures to community buildings that change lives.

Steven Hale, managing director at Crofton Design, says: 'After a few years as a building services engineer, you can walk around London and point to all the buildings you've helped make happen – whether that's the Shard or the

redevelopment of King's Cross station. Recently, we put an incredibly powerful laser into a laboratory at Imperial College.'

Jolyon Smith, a British senior engineer at Arup, is currently based in Cape Town, but has worked in Dublin, Seoul and Doha, in Qatar, among other places. He says: 'I've mostly worked on art galleries, including some by signature architects like David Chipperfield. It's fantastic to work on one-off, showcase projects around the world.'

Meanwhile, Rosie Jones, senior design engineer at Skelly & Couch, says: 'I just love designing schools because you can have an impact on the quality of children's education.'

Building services engineers are also at the forefront of technological changes within the construction industry. These include building information modelling (BIM), an approach to managing the construction and operation of buildings through a data-heavy computer model that all disciplines use together. The industry is also beginning to create models of buildings with video-gaming technology that allows you to 'walk through' the site, as well as surveying sites using cameras on flying drones. The sector is even exploring building on the moon using 3D printers.

Hale says: 'The technological change we're seeing is really radical. The way we design is

Essential services

The components that make buildings habitable

- Energy supply – gas, electricity and renewable sources
- Heating and ventilating
- Water, drainage and plumbing
- Lighting – natural and artificial
- Escalators and lifts
- Harnessing renewable energy, such as solar power
- Communications, telephones and IT networks
- Security and alarm systems
- Fire detection and protection
- Air conditioning and refrigeration
- Façade engineering
- Public health engineering
- Control systems

Jolyon Smith

33, senior engineer, Arup, South Africa

What has been your career highlight so far?

My work on various art galleries has been fantastic. The central challenge usually involves ensuring a beautiful design can be built, while not compromising on the environmental conditions needed for the artwork or visitor comfort.

Are you really making a difference?

That is a big part of what we do. Building services engineers are the main proponents putting forward the sustainability agenda within the construction industry, and we're seen as the people who can solve sustainability problems.

Why did you become chartered?

People understand that you have a certain level of experience and you are, therefore, a valued member of this community. It shows that you've worked hard and you know what you're doing.

Why did you move from London to Cape Town?

Arup had a vacancy in their office here, so I went for it. I'm a few months into a two-year placement – and I'm loving it. I get to see Table Mountain every day and spend my weekends exploring the coast.



➤ completely different from what it was even three years ago, so – in the next three to five years – it will probably change again.’

Then there are the technical challenges. How about designing lifts for the world’s (current) tallest building? Or you could be tasked with lowering the energy bills of an entire residential development, while ensuring that the inhabitants are warm enough in winter and cool enough in summer.

Ringguth says: ‘Building services is a great career for people who enjoy finding out how things work and making things. It’s about solving problems and thinking outside the box.’

You will often be working within teams and alongside other disciplines, so it’s important to be a good communicator too.

If you’ve got the personal qualities for this career, the next step is to choose a way into it. First, you must have grade C or above in GCSE maths. You could then opt for a university degree in building services engineering. However, not all of the relevant degrees have ‘building services’ in the title, so look out for degrees with titles such as ‘architectural’, ‘environmental’ or ‘energy’ engineering, as well as mechanical and electrical engineering.

However, more universities than ever will charge the maximum tuition fee possible from next year – the Office for Fair Access says that 76% of institutions with access agreements will charge a maximum £9,000 for some or all of

JASON HAWKES/GETTY IMAGES



Opportunities

Building services cover a wide-ranging brief

- Managing the environmental performance of buildings throughout their life-cycles – the ‘cradle to grave’ approach
- Collaborating with world-leading clients, architects, interior designers, structural engineers and more
- Opportunities to work all over the planet
- A role at the heart of construction projects, and becoming even more integral because of the growing importance of energy efficiency
- On the front line of the ongoing battle against global climate change
- Exciting projects such as stadiums, skyscrapers, science laboratories, music venues, schools in developing countries, multinationals’ headquarters, hospitals, art galleries and museums
- Working with cutting-edge and rapidly changing technology, including building information modelling
- Membership of CIBSE – a highly respected and agenda-setting body

Charlotte Mercer

23, graduate electrical engineer, Aecom, St Albans

What do you do?

I design the electrical services for buildings such as research centres, laboratories and hospitals.

What’s the best thing about your job?

The variety of interesting work. Right now, I’m redesigning the electrical services within an existing building, which involves a lot of time on site to investigate what’s already there. After doing everything in theory at university, it’s really satisfying to work, first hand, on a building. At the same time, I’m designing services for a new hospital, which is a highly specialist and entirely desk-based job. It’s just as challenging, but a complete contrast.

How did you get into building services?

I did a four-year joint honours degree in environmental engineering and architecture at the University of the West of England, gaining my BEng (Hons) and RIBA Part 1. I became interested in becoming an engineer at 17, when I realised that I enjoy problem-solving and am good at maths and physics – despite previously thinking the opposite! I also saw adverts saying that there would be huge demand for engineers, so I figured that I would always have a job.

What’s it like being a woman on a building site?

I’m really enjoying dealing with the specialist contractors on my site-based project. Some might have been a bit surprised the first time we met, but I’ve not had any problems and I’m learning a lot from them.



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Gustavo Brunelli

35, associate director,
Hurley Palmer Flatt, London



After qualifying as an architect in Brazil, why did you switch to building services?

Architecture is an art. It's about subjective issues, such as how attractive a building is or how well it fits in its context. Building services, though, is objective. For example, you can precisely quantify how sustainable a building is by using a rigorous approach to measuring energy use. There is also so much potential for innovation. There is always new technology that you need to be up to date with, especially on the sustainability side. You can then take these definable elements and help architects to create designs informed by them.

What's the best project you've done?

The 2012 Olympics Velodrome. I was involved [while working for BDSP Partnership] in the design, from when it was a blank sheet of paper, in 2007, through to opening. You're really proud when a building you've worked on is on television and recognised around the world.

What advice would you give someone starting out in building services?

Always look at the bigger picture. Focus on the fan or duct that you are designing, but keep an eye on what's happening in the whole of the building, so that you understand how your part contributes. It's satisfying – and will also prepare you for a bigger role.

➤ their courses, compared with 72% in 2014-15. It is, therefore, well worth looking for a company to sponsor you to do your degree.

Companies in the sector appear to be pursuing this approach more enthusiastically than before, now that the market is picking up and skills are in short supply.

Another alternative worth considering is an apprenticeship. Hale says: 'It pays quite well from the beginning. At 16, you'll be earning around £14,500, and combining work with study while other people are racking up debt. By 19, you'll be qualified and earning around £24,000.'

You're also likely to become chartered faster,

because you'll accumulate the years of experience necessary, long before someone who starts work at 21.

In addition, Higher Apprenticeships, launched in 2009, enable you to reach level 5, which is equivalent to a foundation degree – level 6 being a degree. To progress to a Higher Apprenticeship you must first complete an Advanced Apprenticeship.

So there is a good choice of routes into a career that offers really exciting opportunities – not least the chance to make a difference to global carbon emissions. Hale concludes: 'This is the most exciting time to enter building services for 25 years.' 

Rachel Smith

23,
mechanical
engineer,
Desco



How did you get into building services?

I saw an advert for a trainee with Gateshead Council, which involved the employer paying for you to do a degree in building services engineering – working four days and studying one day a week.

How did you change employer while staying on the same degree course?

Desco agreed to take on my course fees. I moved because I wanted experience of the private sector and bigger projects.

What are you currently working on?

University buildings, veterinary surgeries and various projects in the Middle East.

What should young women considering a career in building services know?

Employers in the sector don't treat women any differently. It is often teachers who think you'll be treated differently but in the real world employers don't care.

Thomas Bamber

28, project
engineer,
Skelly &
Couch



Why did you become a building services engineer?

I planned to become an architect. Then I went to the Caribbean for my gap year and met a number of engineers, who persuaded me to study engineering. What attracted me was the environmental side.

Why does building services interest you more than civil or structural engineering?

With environmental engineering there are more shades of grey; there is the potential for the building to perform less or more successfully. The job is driven by major cost implications and the climate imperative.

Anything to say to would-be architects?

I think the canvas is much broader in building services. It's easier to get to work on the interesting projects.

The spice of life

There is a variety of jobs within building services

- Air conditioning engineer
- Business manager or proprietor
- Building physics engineer
- Carbon emissions specialist
- Computer-aided design technician
- Commissioning engineer
- Consulting engineer
- Contract or project engineer
- Design engineer
- Domestic heating engineer
- Domestic plumber
- Ductwork installer
- Educator and trainer
- Electrotechnical panel builder
- Electrical repair and rewinder
- Energy inspector/adviser
- Estimator
- Facilities manager
- Fitter/welder
- Gas fitter
- Heating and ventilating engineer
- Highway electrical systems installer
- Industrial and commercial plumber
- Installation electrician
- Instrumentation installer/engineer
- Lighting expert
- Maintenance electrician
- Public health engineer
- Quantity surveyor
- Refrigeration engineer
- Satellite systems engineer
- Service and maintenance engineer
- Sheet metal weathering specialist
- Site supervisor
- Environmental engineer
- Project engineer

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- Loughborough University
- Open University
- Royal School of Military Engineering
- University of Cambridge
- University of Central Lancashire
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- Northumbria University
- University of Nottingham
- University of Reading
- UWE Bristol
- University of Ulster



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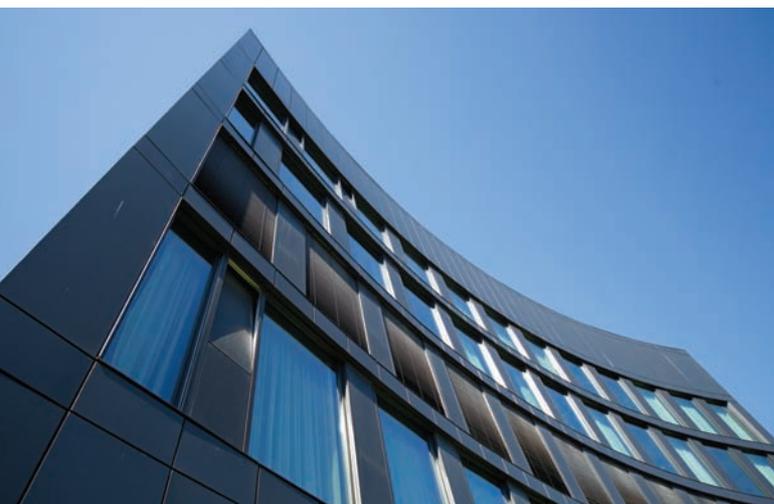
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– Michelle Wong, CEng MCIBSE, UK

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LUCIANO MORTUOLA / SHUTTERSTOCK



LAND OF OPPORTUNITY

After qualifying as a building services engineer, Daniel Collins moved to the Middle East and work on some of the region's iconic projects. He tells **Roxane McMeeken** how working in Dubai and Abu Dhabi put his career on the fast-track

CIBSE regions

CIBSE has many overseas regional groups supporting its 4,500 International members. These groups offer opportunities to network and build contacts with other building services engineers in your local areas. This includes a newly-formed UAE Group. For more information about all the regions visit www.cibse.org

At school, Daniel Collins (27) always thought he would be a plumber. But after starting as a plumbing and gas apprentice at Salford College, he found out about building services. A few years later Collins was a qualified building services engineer working on multi-million pound mega-projects in Dubai.

Collins, who is now a principle engineer at WSP, switched from plumbing to building services engineering at Salford, where he gained an Advanced Apprenticeship in mechanical engineering. He made the change because, he says, he realised he 'preferred designing to installing'.

He then joined Foreman Roberts. Collins worked one day a week while being sponsored to complete the HNC Building Services at Stockport College, where he studied mechanical, electrical and plumbing engineering. In 2011, after five years with Foreman Roberts, an ex-colleague – who had moved to WSP in the

Middle East – told him about a vacancy. The position was design engineer in Abu Dhabi, the capital of the United Arab Emirates (UAE), based on site full-time. Collins says: 'I was quite dubious about it at first. I was worried about leaving my friends and family – especially my girlfriend – and I had heard the stories about strict rules for foreigners and of people being [allegedly] kidnapped and taken into the desert.'

But the allure of the iconic projects in the Middle East was hard to ignore: 'It was clearly an opportunity to work on far bigger things than I'd done in the UK and to learn how construction is done in the region.' The fact that there is no income tax in the UAE, which added up to a substantial pay rise, was also tempting. An extra sweetener was year-round warm weather. 'After much deliberation, I decided I had to go for it,' says Collins.

The project he worked on initially certainly gave him the experience of mega-schemes that he wanted. The New York University campus on



UMAR SHARIF / SHUTTERSTOCK

Saadiyat Island comprises 38 buildings, covering an area of 440,000m².

He says: 'It's an absolutely huge complex and it has all types of buildings. This gave me the chance to design water and drainage services for a large array of different types of building, all condensed into one project.'

The first thing that he had to adjust to was the breakneck pace at which construction projects happen in the Middle East – the result of clients with money to spend and often no shareholders or taxpayers to answer to. 'Things change fast, so you have to be ready for the brief to be altered without warning. At the same time, design programmes are condensed. If it would take you about three or four months to do a RIBA stage-three design in the UK; in the Middle East you'd have to do it in six weeks. It's hard work, but it's exciting to move at that pace and it means that you learn more in less time.'

Collins also had to learn the American approach to construction, because the New York University project followed US building standards. 'It was a steep learning curve, but it's given me a much broader view of global construction as well as valuable experience that could allow me to work elsewhere in the world,' he says.

About 18 months later, Collins remained within the UAE but transferred to Dubai. Here he worked on a number of shopping centres, including a major extension to Dubai Mall, comprising more than 100 retail units, for

big-name developer Emaar. 'I designed water, drainage and gas for the development so – as well as getting experience of another very large scheme – I expanded the services I was involved with.'

The project was completely different from what he'd done in Abu Dhabi. 'The role was entirely office-based and we held daily workshops to co-ordinate all the services, as well as meetings every fortnight where we had to present an update to the client.'

Dealing with gas was a particularly interesting challenge, he says. 'Liquefied petroleum gas (LPG) is treated completely differently over there from in the UK. The rules around it focus heavily on mitigating the risk of explosion.' LPG in the UAE is typically stored in a liquid format, either at roof level or within a covered concealed space at ground floor.

The LPG storage is refilled by a third party via a filling point, which must be located away from public access. The building services engineer must ensure that all this is safe, says Collins. This means that flashing – the process of turning LPG from a liquid to gas – must be completed before the distribution pipework enters the building. The building services engineer must then ensure that internal pipework is kept to a minimum within a dedicated ventilated riser to serve appliances.

Collins' worries about living in the Middle East turned out to be – mostly – unfounded: 'It wasn't at all like the tales I'd heard. The locals



‘It was a steep learning curve, but it's given me a much broader view of global construction as well as valuable experience that could allow me to work elsewhere in the world'

Daniel Collins

► were always friendly and, in Dubai, I felt particularly at home because there are so many expats around. It was easy to make friends there because everyone's in the same boat.' WSP also organised social events for staff and Collins joined expat social groups, such as the UK Club in Abu Dhabi.

However, he adds that life in the UAE is somewhat restricted. 'WSP gives you an induction on local customs and how to behave before you move to the Middle East, and that made very clear you don't get drunk in public. In fact, the only public places where you can drink alcohol are hotels. You can drink at home, but you do need a licence.'

He also missed friends and family. 'It was hard sometimes. We kept in touch through Skype, but because the UAE is four hours ahead sometimes you'd find someone wanted to chat when you were already tucked-up in bed.'

However, he flew home three to four times a year, with WSP covering the cost of one flight a year as part of his package, as many UK firms do. He also managed to maintain his relationship with his girlfriend, whom he married in 2014 after returning to the UK.

For Collins, the sacrifices were worthwhile: 'I would advise anyone to go, even if only for a



ZHUOKUO/OLEG / SHUTTERSTOCK

year. You're working at much bigger scales and it's amazing how much you can learn from a large, fast-moving project. For instance, you get a much better understanding of programme – then you can bring that knowledge back home.'

The experience that he gained resulted in a promotion to senior engineer in the UAE and, more recently, another step up the ladder to

principle engineer. As a result, he is now earning three times the salary he started on at WSP. Collins also recently completed his IEng, which he says was based on his international work.

Looking ahead, he is keen to go overseas again. 'With the number of countries that WSP works in, it's pretty straightforward to pick a country and ask for a transfer. I've always quite liked the idea of moving to the US...'



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SCALING THE HEIGHTS



Building services engineers are seeing their salaries rise, and those with BIM skills are attracting the highest premiums. **Roxane McMeeken** observes the peaks in the 2015 Hays Salary Survey

After taking a long, swooping dive, the construction industry is swiftly pulling up and out of recession. The jobs market is reacting accordingly – with more vacancies and intense competition for candidates – but there are skills shortages in some areas of building services. As a result, employers will have to work harder to recruit and retain talent – which is not as simple as merely raising salaries, although that will help. Candidates, however, should not be complacent.

So just how strong is the industry's recovery and the attendant uplift in the jobs market? Richard Gelder, UK director for property disciplines at Hays Construction & Property,

Consultant: director

	Typical 2015	Min 2015	Max 2015
London	£80,000	£70,000	£90,000
South West	£53,000	£52,000	£57,000
South East	£66,000	£62,000	£67,000
Wales	£53,000	£52,000	£57,000
East of England	£55,000	£49,000	£59,000
West Midlands	£55,000	£50,000	£60,000
East Midlands	£55,000	£50,000	£65,000
North West	£55,000	£47,000	£57,000
Yorkshire & the Humber	£50,000	£42,000	£54,000
Northern Ireland	£60,000	£45,000	£70,000
North East	£50,000	£42,000	£54,000
Scotland	£50,000	£42,000	£54,000
National average	£56,833	£50,250	£62,000

VIXIT / SHUTTERSTOCK

Intermediate-level engineers with experience of building information modelling are particularly rare because of the novelty of the software, and the fact that younger people tend to be more eager to be trained in new technology

says: 'A year to 18 months ago, most firms in the sector were down to a skeleton staff, so even a small rise in construction activity would lead to recruitment. However – since the third quarter of 2014 – we've been seeing a clear surge in recruitment activity.'

Our building services salary guide, compiled exclusively for *CIBSE Journal* by Hays, bears this out. The findings – based on candidates Hays has placed, and interviews with employees and employers – revealed that 77% of construction industry bosses plan to recruit in the next 12 months.

Another clear sign of confidence, Gelder adds, is that there are more employers looking for permanent recruits than seeking temporary members of staff. 'This is a reversal of the trend of recent years, where there was a preference for temporary roles.'

Gelder says there is a 'genuine and sustained increase in workloads in the sector'. Indeed, evidence of recovery in the industry is widespread. For example, figures released in November, by the Construction Products Association, show that the third quarter of 2014 was the industry's sixth consecutive quarter of growth. Around 60% of contractors, of all sizes,

reported increased activity in Q3 2014, across all sectors apart from private housing.

As a result, Gelder says, competition for candidates is heating up and, therefore, some employers are increasing salaries: 'It's a really mixed picture. We are still in the midst of change, so we're seeing building services firms, coming to the market for the first time, looking not – as they would see it – to overpay for candidates. In contrast, firms that have been recruiting for nine months tend to see a need to increase salaries. They have concluded that, to do otherwise, would create the opportunity of missing out on good candidates.' If some firms are raising salaries, others will surely follow.

The greatest demand – and, hence, the most marked rises in salaries so far – for building services engineers of all types is in London, which is leading the construction recovery. However, Gelder says: 'We are seeing demand widening out to the Home Counties, the south, and the South East.'

Phil Jones, senior partner at Ridge – an Oxford-headquartered multidisciplinary consultancy, with offices in and around London – explains this 'domino effect': 'The problem with being based close to London is that you

Consultant: associate

	Typical 2015	Min 2015	Max 2015
London	£65,000	£58,000	£68,000
South West	£45,000	£40,000	£50,000
South East	£56,000	£52,000	£58,000
Wales	£45,000	£40,000	£50,000
East of England	£45,000	£35,000	£50,000
West Midlands	£50,000	£45,000	£55,000
East Midlands	£50,000	£45,000	£55,000
North West	£50,000	£45,000	£55,000
Yorkshire & the Humber	£45,000	£42,000	£48,000
Northern Ireland	£42,000	£38,000	£46,000
North East	£42,000	£38,000	£45,000
Scotland	£47,000	£45,000	£50,000
National average	£48,500	£43,583	£52,500

Consultant: intermediate design engineer (M&E)

	Typical 2015	Min 2015	Max 2015
London	£35,000	£32,000	£38,000
South West	£32,000	£28,000	£35,000
South East	£30,000	£28,000	£32,000
Wales	£32,000	£28,000	£35,000
East of England	£32,000	£30,000	£37,000
West Midlands	£27,000	£24,000	£30,000
East Midlands	£27,000	£25,000	£28,500
North West	£29,000	£27,000	£33,000
Yorkshire & the Humber	£25,000	£22,000	£28,000
Northern Ireland	£25,000	£23,000	£28,000
North East	£26,000	£22,000	£28,000
Scotland	£30,000	£28,000	£34,000
National average	£29,167	£26,417	£32,208

Consultant: senior design engineer (M&E)

	Typical 2015	Min 2015	Max 2015
London	£52,000	£45,000	£60,000
South West	£42,000	£38,000	£45,000
South East	£49,000	£45,000	£52,000
Wales	£40,000	£38,000	£45,000
East of England	£43,000	£37,000	£44,000
West Midlands	£42,000	£38,000	£45,000
East Midlands	£41,000	£39,000	£44,000
North West	£40,000	£38,000	£45,000
Yorkshire & the Humber	£40,000	£38,000	£45,000
Northern Ireland	£38,000	£35,000	£44,000
North East	£40,000	£36,000	£45,000
Scotland	£42,000	£40,000	£45,000
National average	£42,417	£38,917	£46,583

Consultant: junior design engineer (M&E)

	Typical 2015	Min 2015	Max 2015
London	£26,000	£22,000	£28,000
South West	£23,000	£22,000	£25,000
South East	£26,000	£24,000	£28,000
Wales	£23,000	£22,000	£25,000
East of England	£23,000	£20,000	£25,000
West Midlands	£21,000	£18,000	£22,000
East Midlands	£23,500	£21,000	£25,000
North West	£22,000	£20,000	£24,000
Yorkshire & the Humber	£20,000	£18,000	£24,000
Northern Ireland	£23,000	£20,000	£24,000
North East	£21,000	£18,000	£24,000
Scotland	£23,000	£20,000	£24,000
National average	£22,875	£20,417	£24,833

OLGA DANILENKO / SHUTTERSTOCK



have to compete with London-based firms for candidates who are willing to commute.'

There is strong demand in many parts of the UK for design engineers, who are in short supply because of a lack of people entering the discipline, as well as older employees retiring. Hays found that the national average salary for a junior design engineer is a healthy £22,875, and

£26,000 in London. An intermediate design engineer can command an average of £29,167 (£35,000 in London), while the national average at senior level is £42,417, (£52,000 in the capital).

There is also a dearth of candidates who can use the new technology that is sweeping the sector, Hays has found. Intermediate-level engineers with experience of building information modelling (BIM) are particularly rare because of the novelty of the software, and the fact that younger people tend to be more eager to be trained in new technology.

Clare Wildfire, technical director at Mott MacDonald, says the shortage of design engineers and BIM experts could be the tip of the iceberg. 'We kept a trickle of graduates coming in during the downturn, but the industry's overall intake has been well down for the past few years because of lower workloads – so the next hurdle the sector faces is a widespread building services skills shortage.'

However, even companies that have the right number of employees should beware; Hays found that 63% of construction employees planned to move to a new role in the next 12 months. Jones says: 'With all the new vacancies at other companies appearing, it might be

difficult to keep some people. For instance, in the recession, people were willing to travel to keep their job, but now they might prefer to find a job closer to home.'

So what is the best way for firms to gear up for increasing workloads? Boosting salaries is an obvious tactic for recruiting and retaining staff. Hays found that 65% of employees in construction are unhappy with their pay. Jones says: 'Salaries are inflating and you have to keep up if you want to attract people. We are about to review salaries in early 2015.' Ridge is also improving its benefits packages – for instance, car allowances were lowered during the downturn, but have now been returned to pre-recession levels.

However, Jones says, pay and benefits alone won't be enough. He says that 'mapping out a clear career path for each member of staff' is key. For younger building services engineers, that means supporting them to become chartered. For those further down the line, it could mean sending them up the management ladder – but you also need to recognise that this is not what everyone wants, Jones adds.

'Engineers, in particular, are often just interested in getting better and better at what

Consultant: Revit/BIM technician

	Typical 2015	Min 2015	Max 2015
London	£36,000	£32,000	£45,000
South West	£32,000	£30,000	£35,000
South East	£36,000	£34,000	£38,000
Wales	£33,000	£30,000	£35,000
East of England	£30,000	£26,000	£32,000
West Midlands	£27,000	£24,000	£30,000
East Midlands	£26,000	£23,000	£28,000
North West	£32,000	£27,000	£35,000
Yorkshire & the Humber	£32,000	£28,000	£35,000
Northern Ireland	£23,000	£22,000	£27,000
North East	£32,000	£28,000	£35,000
Scotland	£23,000	£20,000	£25,000
National average	£30,167	£27,000	£33,333

Consultant: CAD technician

	Typical 2015	Min 2015	Max 2015
London	£32,000	£28,000	£35,000
South West	£25,000	£23,000	£28,000
South East	£28,000	£26,000	£30,000
Wales	£25,000	£23,000	£28,000
East of England	£24,000	£22,000	£26,000
West Midlands	£25,000	£21,000	£27,000
East Midlands	£25,000	£21,000	£28,000
North West	£25,000	£22,000	£28,000
Yorkshire & the Humber	£25,000	£22,000	£28,000
Northern Ireland	£20,000	£18,000	£23,000
North East	£24,000	£21,000	£25,000
Scotland	£20,000	£18,000	£23,000
National average	£24,833	£22,083	£27,333

Contractor: director

	Typical 2015	Min 2015	Max 2015
London	£80,000	£70,000	£90,000
South West	£55,000	£52,000	£60,000
South East	£66,000	£62,000	£67,000
Wales	£53,000	£52,000	£60,000
East of England	£55,000	£49,000	£59,000
West Midlands	£50,000	£45,000	£55,000
East Midlands	£50,000	£45,000	£55,000
North West	£50,000	£46,000	£56,000
Yorkshire & the Humber	£50,000	£42,000	£54,000
Northern Ireland	£55,000	£50,000	£75,000
North East	£50,000	£42,000	£54,000
Scotland	£50,000	£45,000	£55,000
National average	£55,333	£50,000	£61,667

Contractor: senior contracts manager

	Typical 2015	Min 2015	Max 2015
London	£55,000	£45,000	£60,000
South West	£42,500	£40,000	£45,000
South East	£50,000	£45,000	£55,000
Wales	£42,500	£40,000	£45,000
East of England	£45,000	£38,000	£48,000
West Midlands	£43,000	£38,000	£48,000
East Midlands	£38,500	£35,000	£45,000
North West	£39,000	£36,000	£45,000
Yorkshire & the Humber	£37,000	£34,000	£43,500
Northern Ireland	£38,000	£35,000	£40,000
North East	£37,000	£24,000	£43,500
Scotland	£42,000	£35,000	£45,000
National average	£42,458	£37,083	£46,917

Contractor: contract quantity surveyor

	Typical 2015	Min 2015	Max 2015
London	£48,000	£40,000	£60,000
South West	£38,000	£34,000	£44,000
South East	£48,000	£42,000	£50,000
Wales	£38,000	£34,000	£44,000
East of England	£37,500	£30,000	£40,000
West Midlands	£35,000	£32,000	£40,000
East Midlands	£38,500	£37,500	£42,500
North West	£37,000	£36,000	£43,000
Yorkshire & the Humber	£35,000	£30,000	£40,000
Northern Ireland	£34,000	£31,000	£36,000
North East	£35,000	£30,000	£40,000
Scotland	£38,000	£35,000	£42,000
National average	£38,500	£34,292	£43,458

Contractor: estimator

	Typical 2015	Min 2015	Max 2015
London	£48,000	£40,000	£55,000
South West	£33,000	£30,000	£37,000
South East	£43,000	£42,000	£50,000
Wales	£33,000	£30,000	£37,000
East of England	£40,000	£32,000	£45,000
West Midlands	£35,000	£28,000	£38,000
East Midlands	£37,500	£33,000	£40,000
North West	£34,000	£28,000	£36,000
Yorkshire & the Humber	£33,000	£25,000	£35,000
Northern Ireland	£31,000	£30,000	£36,000
North East	£34,000	£27,500	£35,000
Scotland	£34,000	£30,000	£38,000
National average	£36,292	£31,292	£40,167



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► they do – so, for those employees, it's about broadening the spectrum of projects they work on, or going into more depth in one area and becoming our specialist in that niche.'

Jones believes it's also important for managers to keep talking to employees. 'The trick is to spot the waverers [those who are considering leaving] and find out what you can do to make them stay.'

At Mott MacDonald, Wildfire says the strategy is to differentiate the firm from competitors. 'We find it helps to emphasise that we are employee-owned. It means our people feel very much part of the company and – because we are not owned by shareholders – we're not ruthless.'

Sector-wide skills shortages, though, require firms to ramp up the recruitment of new talent, as Aecom is doing. The company plans to take on around 500 graduates and 200 apprentices in

2015, across all construction disciplines – which is an overall rise of a third compared to 2014.

Adam Phillips, graduate recruitment lead at Aecom, says graduate electrical engineers are especially difficult to find. 'This is a key area where we struggle,' he says.

However, Aecom has noticed an improvement in the volume of applicants after placing adverts in publications, and attending events at universities for electrical engineers – so it plans to keep this up.

'We realised we weren't promoting enough how large we are, and that we are global, but we're addressing that now,' he says.

Hurley Palmer Flatt aims to attract even younger students. Jay Amin, head of HR, says: 'For school-leavers considering their options, we look to engage and enthuse them by presenting at careers evenings – including, very recently, at Whitgift School in Croydon. We also offer very structured work experience and summer placement schemes for school-leavers, providing hands-on experience of our business.'

From an employee's perspective, the jobs market is looking more positive than it has done for some time. 'Right now, many building services candidates – and particularly design engineers – have their pick of jobs,' says Gelder.

However, he warns: 'Don't fall into the trap of complacency. You still have to deliver a great interview, and show that you are the right person for the job.'

Also, he says, keep your expectations realistic: 'There is definitely an opportunity to negotiate – not just on salary, but also on wider aspects of the job, such as flexible working. But remember that employers are not desperate.'

So candidates and employers must have a strategy for the current conditions in the jobs market. In particular, employers will need to think beyond improving pay and benefits alone, and be creative about how they recruit and retain staff.

Contractor: project manager

	Typical 2015	Min 2015	Max 2015
London	£55,000	£50,000	£60,000
South West	£39,000	£37,000	£42,000
South East	£52,000	£45,000	£55,000
Wales	£39,000	£37,000	£42,000
East of England	£40,000	£35,000	£45,000
West Midlands	£42,000	£35,000	£50,000
East Midlands	£42,500	£38,500	£50,000
North West	£42,000	£40,000	£45,000
Yorkshire & the Humber	£42,000	£35,000	£55,000
Northern Ireland	£35,000	£33,000	£36,000
North East	£42,000	£35,000	£55,000
Scotland	£37,500	£35,000	£40,000
National average	£42,333	£37,958	£47,917

Contractor: project engineer

	Typical 2015	Min 2015	Max 2015
London	£37,000	£30,000	£42,000
South West	£32,000	£28,000	£35,000
South East	£34,000	£28,000	£35,000
Wales	£32,000	£28,000	£35,000
East of England	£30,000	£28,000	£35,000
West Midlands	£34,000	£30,000	£38,000
East Midlands	£33,000	£27,500	£35,000
North West	£30,000	£30,000	£32,000
Yorkshire & the Humber	£28,000	£26,000	£30,000
Northern Ireland	£29,000	£28,000	£31,000
North East	£27,000	£25,000	£28,000
Scotland	£34,000	£29,000	£37,000
National average	£31,708	£28,125	£34,417

Contractor: CAD technician

	Typical 2015	Min 2015	Max 2015
London	£32,000	£28,000	£38,000
South West	£25,000	£24,000	£30,000
South East	£28,000	£26,000	£30,000
Wales	£25,000	£24,000	£34,000
East of England	£24,000	£22,000	£26,000
West Midlands	£25,000	£21,000	£27,000
East Midlands	£26,500	£23,500	£29,000
North West	£25,000	£23,000	£27,000
Yorkshire & the Humber	£24,000	£21,000	£25,500
Northern Ireland	£28,000	£23,000	£29,000
North East	£24,000	£21,000	£25,000
Scotland	£20,000	£18,000	£22,000
National average	£25,542	£22,875	£28,667

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HOW TO LAND THAT JOB

Don't miss out on a buoyant building services employment market. Hays' **Richard Gelder** has five tips for making the most of the UK's construction boom

As we have seen in this year's *Hays Building Services Salary Guide*, demand for professionals in the sector is increasing – and there is a particular need for mechanical and electrical design engineers at all levels. This improving picture means that many of the professionals looking for work have not been active in the jobs market for some time. If – like 63% of construction employees in the UK – you are planning to find a new job in 2015, but haven't been in the recruitment market for a while, now is the time to take stock of the opportunities around you, and to plan how your next move will support your career in the long term.

1. Make a plan

Even if you are not looking for a job immediately, career planning is an important step to getting where you want to be. For the majority of professionals, career planning will be a mix of setting formal objectives through appraisals and continuing professional development, and more informal discussion around your career plans.

Think about your skills, what you enjoy doing, and where you want to be. Whether you measure success by promotion, contributing to society or addressing your work-life balance, the first step is to identify your goals and motivations.

2. Bridge any gaps

Once you know where you want to be, it's much easier to figure out how to get there. Breaking down your long-term aspirations into short- and medium-term goals makes them more manageable, and enables you to take first steps towards reaching them. You might realise that you need to take a training course to learn new skills or refresh old ones, or develop your IT or language skills through online learning. By keeping up to date with the jobs market, you can ensure your skills match

those being sought by employers, such as building information modelling (BIM).

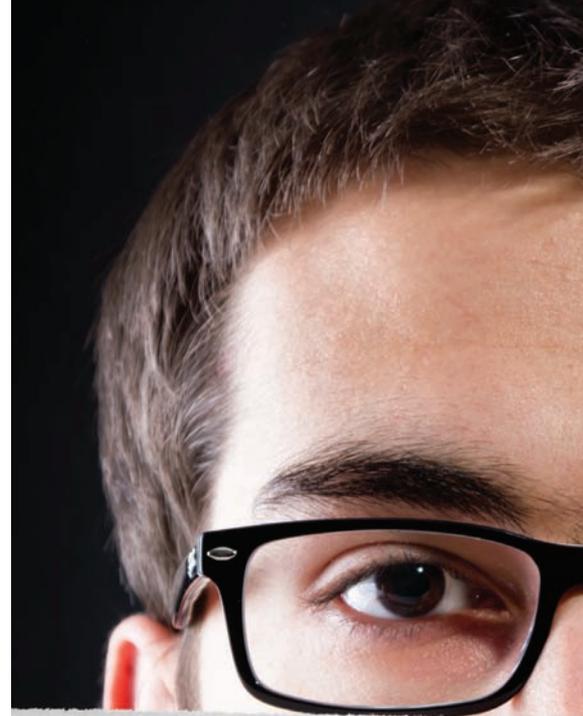
If you are planning a bigger career change – or are ambitious for promotion – start talking to people who do the job you're interested in, and find out how they got there. You'll make valuable connections and get a clearer idea of the skills and experience you need to have. Look for ways to take the first steps in the right direction. This could mean taking on new responsibilities in your current role, or attending seminars or networking events to meet people in the area.

3. Update your CV and online presence

If you have been in the same role for some time, your CV is likely to be out of date and not reflective of your current skills and experience. When updating your CV, think about the key attributes that employers will be looking for, and emphasise these, avoiding any company jargon and removing out-of-date information.

Make sure that key skills, like design, project management or expertise in specific areas, such as BREEAM, stand out. Include details and figures to quantify your success, such as contract sums and sectors in which you have worked. This will demonstrate your skills clearly to a potential employer.

Building your individual 'professional brand' will increase the chances that employers will think of you when a vacancy



Successful

Opportunities in

arises, recruiters will contact you, or a personal recommendation will help you to secure a job offer. Personal connections are key here – whether that's maintaining links with former colleagues or making new connections through networking.

Internal networking can also lead to new opportunities or involvement in projects that will help build your skills in new areas.

Don't underestimate the importance of professional social media networks to help improve your connections and employability. Make sure your LinkedIn profile is up to date and that it sells your skills to recruiters and employers – and connect with relevant individuals to develop your network. Don't forget to make your personal social media presence a positive reflection of your professional brand, check your privacy

Swinging sixties: Data suggests an upwardly mobile sector. See page 13 for more.

63%

of construction employees in the UK are planning to find a new job in 2015

60%

of contractors (outside of private housing) reported more activity in Q3 2014

65%

of construction employees are unhappy with their level of pay



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settings, and remove anything you don't want a current or future boss to see.

4. Choose the right opportunity

Across the UK, we are moving into a more competitive skills market, where the best candidates will have their pick of two or three jobs, and can be offered a role quickly. This is often the case now for M&E design roles, and some contracting roles, such as estimators or quantity surveyors. After several years of fewer job vacancies, employees could now be faced with multiple offers to consider, so it is essential to look at the options as part of your overall plan, rather than taking the first job available.

Take time to consider what you are looking for in a new job. Businesses are putting more and more effort into promoting themselves as an employer, making available detailed information on the benefits and opportunities they offer – so do your research, and make sure the company you are applying to has the benefits and opportunities you want.

During the interview process, you should be prepared to ask questions about the things that matter to you. Good employers will use the interview as a chance to sell themselves

to you – not just quiz you on your experience – so, if flexible working or support for training is really important to you, make sure they know this.

5. Ask for advice

Seeking the support of experts can help you in your current role, as well as in your job search. Managers and colleagues will give guidance, while a mentor can often provide a valuable external perspective on your career path. Talking to an expert recruiter, such as Hays, can help highlight the skills and experience that you might be missing – even if you're not planning to move right away. A recruiter can also give your career plans context and highlight what employers are looking for.

Opportunities are growing for building services professionals, and taking the time to plan your career will help you to maximise these opportunities, now and for the future. 

● For more information and job opportunities visit www.hays.co.uk/buildingservices

RICHARD GELDER is director at Hays Building Services

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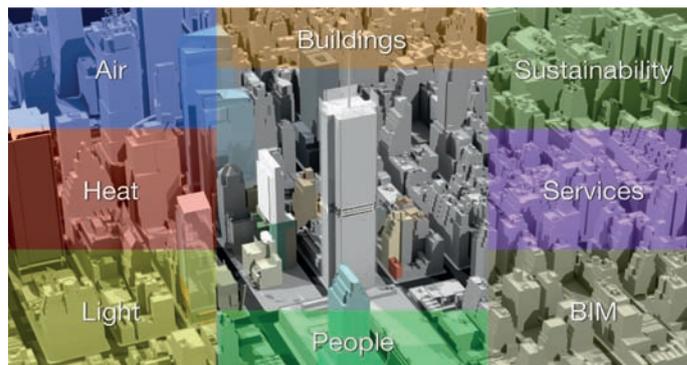
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BALANCING ACT

Working while raising a family can be tough, but now firms are making it easier for parents to continue in the industry. **Roxane McMeeken** looks at the benefits – and challenges – of flexible working

Rosie Jones, a senior design engineer at Skelly & Couch, London, was about to hand in her notice. 'I loved my job, but I had a young family and we wanted to move out of our tiny flat to a house in the countryside, so quitting seemed the only option,' she says. However, Skelly & Couch suggested working from home, full time. Two years (and a second baby) later, Jones, aged 35, has been able to keep her London job, while living and working at home on the farm outside Newcastle where she grew up. 'I can't believe how well it's worked out,' she says.

In June 2014, it became a legal right in the UK for any employee to ask to work flexibly, and a growing number of building services firm are actively encouraging the practice.

Flexible working can take a variety of forms. It could mean starting the working day earlier and

leaving earlier in order to pick up children from school, or working from home, phased retirement or simply taking time off for your child's sports day.

As well as supporting employees in all sorts of ways, the process can also deliver valuable business benefits, including helping firms to retain talent, which is particularly important during the current skills shortage. But there are also potential pitfalls for both employers and employees to watch out for.

Flexible working has also helped **Mary-Ann Clarke** MCIBSE – principle engineer, building services, at Aecom – combine having two children with her career. Clarke says: 'It's really important to spend time with your kids, so even before I got pregnant, I thought I would probably have to leave my job to have children. But it seemed such a shame. I have a mechanical engineering degree and I love my job.' Instead, Aecom agreed that Clarke could work four days a week, including a shorter day on Friday, making up the lost hours in the evenings.

While enabling firms to hang onto valued staff in the shorter term, flexible working may also inspire much sought-after long-term loyalty. Clarke says: 'Aecom has been amazing and I feel very committed to my job.' Jones adds: 'I feel incredibly valued, which makes me feel extremely loyal and want to give even more to the job.'

Sarah Davis is managing director of Skills4Stem, a skills and succession planning consultancy, and the founder and chair of WiBSE, the organisation for women building services engineers. She says a company demonstrating that it is open to flexible working



Above left, Rosie Jones and daughter Cora; above: Rosie's home in the country; and left: the RIBA Award-winning theatre, arts and music teaching accommodation she designed for Lady Eleanor Holles School, Hampton



Mary-Ann Clarke with her two sons

will also attract talent: 'When candidates are choosing an employer, they don't only look at salary, and flexible working is increasingly something that employees expect.'

Davis adds that it can facilitate succession planning. 'It can give someone younger the chance to fill in some hours for a more senior member of staff, which will prepare them for stepping into their shoes full time. It's a way of bringing agility to the workforce.'

Flexible working can also make employees more creative, argues **Florence Lam** FCIBSE FSLL, director of lighting at Arup: 'It's important to have other interests besides work, and being exposed to other influences can inspire you in your work – whether those influences are your family, the community or even an advanced yoga class.'

Lam previously worked part-time, which gave her the opportunity to be a school governor. She says: 'As well as contributing to my local community, I gained experience in how these types of governing bodies make decisions, which has helped me with my role at Arup.'

Agreeing that a member of staff can work flexibly often entails trusting them – especially if it means working from home. So should employers worry about this being abused? 'Possibly,' says Lam, 'but that sort of person could be failing to do what they're supposed to do while in the office, nine to five, anyway. I think a responsible employee will always meet deadlines, and forward-thinking companies don't mind when they work, as long as they get things done.'

Another potential problem could be employees not being available when needed. However, Lam says that a team-based approach ensures that members of staff can cover for each other.

For employees, though, could opting to work flexibly damage their careers? Clarke says there is a risk of being seen as someone who is 'just part-time', which she worries could mean missing out on promotions or the best projects.



Mary-Ann's project St James's Market

But she says this can be tackled. 'You need to prove you're working just as hard as everyone else. If I've been working at home until late, I do tend to let people know.' Related to this, though, is that in your effort to prove yourself, you could end up working extra hours. She says: 'I admit that in the evenings, I sometimes do work more hours than I'm paid for.'

On the other hand, Clarke advises making the most of time away from work. 'Remember that you're not getting paid on your day off, so use the time wisely. I try to pack in as many activities as I can with my boys, whether it's swimming, horse-riding or reading. I don't even have time to check my emails!' 



Being exposed to other influences can inspire you in your work – whether those influences are your family, the community or even a yoga class

– Florence Lam



The male perspective



Jason Richards MCIBSE, aged 43, building services technical director at WSP, was given the option to purchase additional leave, which enables him to have a four-day working

week to help him cope with his disability, following a spinal cord injury. He also works from home if required. This arrangement has been in place for 18 months.

He says: 'Having this flexibility is vital as it allows me to take some additional rest when it is required to help me stay healthy and avoid illness.'

'My flexible work arrangement means I suffer less from the usual ailments and fatigue associated with spinal cord injuries, so WSP does not suffer from unpredictable sick leave, and my clients have assured continuity and delivery.'

Richards said he had to make adjustments

in his lifestyle, and was concerned about being seen as 'just part-time' and how this may affect his career progression.

'However, it was essential I made the changes for my own health and didn't worry about how others may react. I have proved that the flexibility has not prevented me from doing my job to my full potential, and instead have found smarter ways of working. Indeed, I was promoted to technical director earlier this year.'

Sometimes, Richards find himself working additional hours under pressure from workload and deadlines, particularly where bids and tenders are concerned. But he regulates this by taking time in lieu to minimise any impact from the longer hours.

He adds: 'My current flexible working arrangements provide me with a better balance than working full-time. There is a fine line between work-life balance and affordability; you have to try to balance your work, health and finances the best you can and WSP is helping support me with this, while still enabling my career to flourish.'



The College of Estate Management

Address: Whiteknights, Reading, Berkshire, RG6 6AW
Website: www.cem.ac.uk
Telephone: 08000 199697
Contact: Enquiries department
Email: enquiries@cem.ac.uk
Courses offered: Foundation Degree Surveying Practice. BSc (Hons): Building Surveying; Construction Management; Real Estate Management; Quantity Surveying. MSc: Building Surveying; Quantity Surveying; Construction Management; and Real Estate. MBA: Construction and Real Estate.



UCL (University College London)

Address: Bartlett School of Environmental Design and Engineering, Central House, 14 Upper Woburn Place, London, WC1H 0NN
Telephone: 0203 1089945
Contact name: Leila Tufekci, Programme Administrator
Email: l.tufekci@ucl.ac.uk
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www.bartlett.ucl.ac.uk/iede/programmes/postgraduate/mscdiploma-facility-environment-management-singapore (Singapore)
Courses offered: MSc Facility and Environment Management



School of Energy, Geoscience, Infrastructure and Society, Heriot-Watt University

Address: Edinburgh Campus, Edinburgh, EH14 4AS
Website: www.hw.ac.uk/egis
Telephone: 0131 451 8363
Contact: School Office
Email: sbe-enquiries@hw.ac.uk; for distance learning enquiries: sbedlenquiries@hw.ac.uk
Courses offered – CIBSE and EI accredited: BEng/MEng Architectural Engineering; MSc Architectural Engineering.
RICS and CIOB accredited: MSc Building Conservation (Technology & Management); MSc Construction Project Management.
EI accredited: MSc Carbon & Energy Management.
RICS accredited: MSc Quantity Surveying; MSc Real Estate & Planning, MSc Real Estate Management & Development; and MSc Real Estate Investment & Finance.



Faculty of Engineering and Computing, Coventry University

Address: Department of Civil Engineering, Architecture and Building, Sir John Laing Building, Much Park Street, Coventry, CV1 2LT
Website: www.coventry.ac.uk/cab
Telephone: 02476 887688
Contact: Engineering and Computing Admissions Team
Email: admissions.ec@coventry.ac.uk
Courses offered: BSc Construction Management CIOB accredited; BSc Building Surveying RICS accredited; BSc Quantity Surveying and Commercial Management RICS accredited; BEng Building Services Engineering (2 year direct entry); MSc Construction Project and Cost Management RICS accredited; MSc Low Impact Building Performance and Evaluation; and MSc Construction Management CIOB accredited.



University of Ulster

Address: Shore Road, Newtownabbey, Northern Ireland, BT37 0QB
Website: study.ulster.ac.uk/
Telephone: 028 9036 6521
Contact: Faculty Office
Email: adbe@ulster.ac.uk
Course offered:
 BSc (Hons) Energy* (full time)
 BEng (Hons) Architectural Engineering* (full time and part time)
 MSc Renewable Energy and Energy Management+
 All undergraduate programmes contain a year-long placement.
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University of Salford

Address: School of the Built Environment, Maxwell Building, Salford M5 4WT, UK
Website: www.salford.ac.uk/built-environment
Telephone: 0161 295 4545
Contact: Enquiries Team
Email: enquiries@salford.ac.uk
Courses offered – Undergraduate courses: Architecture; Architectural Design & Technology; Building Surveying; HNC Construction; Construction Project Management; and Quantity Surveying. Postgraduate courses (including distance learning and part-time opportunities); BIM and Integrated Design; Construction Law and Practice; Construction Management; Project Management in Construction; MSc Quantity Surveying (Mechanical and Electrical); Quantity Surveying; Real Estate and Property Management.

EDUCATION & TRAINING PROVIDERS



Cardiff University

Address: Cardiff School of Engineering, Queens Buildings, The Parade, Cardiff, CF24 3AA

Website: www.cardiff.ac.uk/engin

Telephone: 029 20870050

Contact: Sunny Deng, admissions office

Email: engineering-pg@cardiff.ac.uk

Courses offered: MSc in Manufacturing Engineering, Innovation and Management; MSc Structural Engineering; MSc Civil Engineering; MSc Civil and Geoenvironmental Engineering; MSc Civil and Water Engineering; MSc Sustainable Energy and Environment; MSc Professional Engineering (Distance Learning); MSc Advanced Mechanical Engineering; MSc Electrical Energy Systems; MSc Wireless and Microwave Engineering.



Leeds College of Building

Address: North Street, Leeds, LS2 7QT

Website: www.lcb.ac.uk

Telephone: 01132 226003

Contact: Higher Education Department

Email: info@lcb.ac.uk

Courses offered: Specialists in construction and engineering training, from entry level through to senior management. We have a full suite of building services courses, including level 3 apprenticeships, HNCs, HNDs and the new higher apprenticeships.



Loughborough University

Address: School of Civil and Building Engineering, Loughborough University, Loughborough, Leicestershire LE11 3TU

Website: www.lboro.ac.uk/departments/cv/pg/

Telephone: 01509 228529

Contact: Pam Allen

Email: p.j.allen@lboro.ac.uk

Courses offered – CIBSE and EI accredited: MSc Low Carbon Building Design and Modelling; MSc Low Energy Building Services Engineering
JBM accredited for 'further learning', and CIWEM accredited: Water and Environmental Management; Water and Waste Engineering; and Infrastructure in Emergencies

JBM, RICS and CIOB accredited: MSc Construction Business Management; MSc Construction Management; and MSc Construction Project Management

Other masters course: MRes Energy Demand Studies.



DIT (Dublin Institute of Technology)

Address: Dublin Institute of Technology, Bolton Street, Dublin 1

Website: www.dit.ie

Telephone: 353-1-4 023626

Contact: Chris Montague, Dr Ben Costelloe

Email: Miriam.Daly@dit.ie, Chris.Montague@dit.ie, ben.costelloe@dit.ie

Courses offered: BE Building Services Engineering (sustainable energy systems) – Four-year whole-time honours degree programme, established 1983, accredited by Engineers Ireland, reference DT026; BEng Tech Building Services Engineering – three-year whole-time ordinary level degree, established 1972, accredited by Engineers Ireland, reference DT005; Higher Certificate in Building Services Engineering – three year part-time programme, accredited by Engineers Ireland, reference DT033.

RECRUITERS



Cundall

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Website: www.cundall.com

Telephone: 0191 2131515

Cundall is a multi-disciplinary consultancy, with 20 offices across the UK, Europe, MENA and Asia Pacific. Our 400+ staff provide integrated engineering services to clients across a range of sectors, and our innovation and expertise have been recognised through a host of industry awards. We work collaboratively with our clients to design sustainable solutions that create real and long-lasting change. We employ engineers from building services, and mechanical and electrical engineering backgrounds, as well as from other engineering disciplines. We are wholly owned by partners who work within the business, and all of our growth has been organic.



Grontmij

Address: 1 Bath Road, Maidenhead, Berkshire, SL6 4AQ

Website: www.Grontmij.co.uk

Telephone: 01628 623423

Contact: Geoffrey Palmer, director – Energy, Planning & Design

Email: Geoffrey.Palmer@Grontmij.co.uk

Grontmij is a major multi disciplinary engineering consultancy. The building services group consists of three director-led design groups providing mechanical, electrical and public health expertise, with support from specialist disciplines, including Environmental Modelling, IT/AV, Fire Engineering, Vertical Transportation and BMS design. Projects range from high-end commercial office and residential projects to universities, schools, hotels and leisure facilities.

CUNDALL

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South Australian Health and Medical Research Institute, Adelaide, Australia © Peter Clarke

Cundall is growing! We now have 20 offices in locations across Europe, MENA and Asia and Australia. We are proud of the fact that all of our growth has been organic and we are committed to remaining wholly owned and run by people who work within the business. We have ambitious targets to grow our UK and international business and this creates opportunities for talented design engineers to contribute to and share in our success.

We currently have opportunities in the UK and internationally and details are on our website: www.cundall.com/careers



Asia Australia Europe MENA UK

www.cundall.com

So what makes a "Cundall person"?

We are driven by a passion for engineering excellence. We are committed to working with our clients to provide sustainable solutions that exceed their expectations. We continue to learn and grow, together. We support each other and work collaboratively across our offices, sharing opportunities, expertise and knowledge.

People join us from a variety of backgrounds. Some are degree-qualified, others have developed excellence through their practical experience. Most importantly, we are "people people", able to work effectively with each other, our clients and the communities that our work touches.

We are proud of what we have built and would like to share it. Find out more about what drives us, and how you could be part of our future by visiting us online at www.cundall.com/careers. Connect with us on Twitter at @Cundall_Global or on LinkedIn.

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