

— THE GOLDEN THREAD

THE REGIONAL PICTURE —



The objectives:

- create a set of robust and evidence-based benchmark statistics around the size and contribution of the profession to the UK economy
- raise the awareness of the extent of 'projectification', and of the project profession
- provide a platform to encourage a wider debate on how projects can be delivered better.

We sought to provide a benchmark for future research and generate debate to better understand the importance of the project profession and the contribution of projects and project management to the UK economy.

THE GOLDEN THREAD: A STUDY OF THE CONTRIBUTION OF PROJECTS AND PROJECT MANAGEMENT TO THE UK ECONOMY

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Foreword

Background on the report

As the chartered body for the project profession, APM is committed to building the status and importance of project management as a profession. In the past year, APM has launched its chartered register and achieved the milestone number of 1,000 Chartered Project Professionals, helping to raise the profile and status of the project profession. But, we recognise there is still a lot to do, particularly in demonstrating the benefits good project management can have for organisations whether private, voluntary or public. This links strongly to APM's mission to increase the visibility and understanding of project management's economic and societal contribution. We believe this rapidly changing

environment calls for a more adaptive project management approach, which is more inclusive and responsive to the needs of society. An approach which builds a community of credible, capable and trusted project professionals delivering positive, effective change, across all sectors and to all stakeholders.

Surprisingly, the size and extent of the project profession in the UK is still opaque and that is why APM commissioned PwC to research and benchmark the contribution of the project profession to the UK economy and society. The results from this research were published April 2019 in the landmark report ***The Golden Thread (a study of the contribution of project management and projects to the UK economy and society)***.

2.13

MILLION FULL-TIME EQUIVALENT WORKERS (FTEs)

£156.5

BILLION OF ANNUAL GROSS VALUE ADDED (GVA)

7.9%

OF UK EMPLOYMENT (FTEs)

8.9%

OF UK GVA

The contribution of projects and project management to the UK economy

Contribution of other professions
and industries to the UK economy

£186bn

Professional and
business services

£113bn

Construction industry

£115.3bn

Financial services

£35.5bn

Marketing profession

A hidden profession revealed – project management contributes approx. £156.5bn to UK economy and employs almost 1 in 12 workers

The Golden Thread research provided, for the first time, robust data on the contribution of the project profession to the UK economy. It highlighted the significant impact of the profession across many sectors and revealed some of the challenges that are just around the corner. The aim is to generate debate and discussion among project professionals around how to take the profession out of the shadows to embark on the next stage of its evolution.

Debbie Dore, chief executive of APM welcomed the publication of the original report stating:

"Project management has for too long been cast as a 'Cinderella' or 'hidden' profession, working hard behind the scenes to ensure other's success. But *The Golden Thread* recasts the profession into the role of a 'golden thread' – a seam that runs through UK plc, helping to develop new services, drive strategic change and sector-wide reform. In short, this report finds that the project profession is a thread truly woven into the fabric of UK societal and economic success."

The *Golden Thread* research by APM has generated significant interest in the economic contribution of the project profession both within the UK and beyond. Following highly positive feedback and numerous requests for further information – particularly regional and sectoral detail – APM commissioned PwC to undertake a second phase to build on the original research. This deep dive focused on regional analysis and three key growth sectors that APM identified: pharmaceuticals and health, charities and SMEs. In this report we have set out the findings of the regional deep dive analysis. The sectoral analysis will follow at a later date.

The project profession is a major contributor to the economy in all regions of the UK, both in terms of supporting employment and driving economic outputs. Whether it be mega construction projects like Hinkley Point C in the South West, the programme of cultural events planned for Coventry (the UK's City of Culture in 2021), or the vast array of projects undertaken by SMEs – projects and project professionals support economic growth the length and breadth of the country.

Some areas, such as London and the South West display higher concentrations of project professionals than might be expected, compared to general employment levels in these areas. This can be explained by the large number of major projects in these areas and their associated supply chain networks, boosting economic growth, which in turn creates further project opportunities. This will be explored further in the regional snapshots later in this report.

KEY THEMES AND NEXT STEPS

This report builds on the original *Golden Thread* report (APM and PwC, 2019) and focuses on the regional perspective for project management activity, looking at five specific areas of economic activity in the UK.

Key themes

Although each of these regions has its own challenges, opportunities and growth drivers, these deep dive analyses suggest that there are certain overarching themes from our interviews with project professionals and local industry figures.

Connectivity

In terms of both transport and digital infrastructure, connectivity is a central means of unlocking and driving economic growth. Several regions face key infrastructure challenges in both the transport and digital space. As a result, project professionals delivering major infrastructure within the regions covered are an essential component of local development.

Uncertainty

Both political and economic uncertainty was cited as an ongoing challenge, resulting in changeable levels of investment, delays to project work and backlogged project pipelines. As a result, planning for an uncertain future and flexibility were highlighted as key soft skills for project managers in the face of the current climate.

Strategic planning

Project professionals highlighted a need to plan well and integrate impact assessments from the first stage of every project, to ensure the outcomes are measurable. There is a recognition that in light of these themes, and as the nature of work changes and becomes more dynamic, good project management has become significant as a means of coordinating workstreams and embedding change.

Measuring benefits

Assessing and embedding the results of projects was highlighted as the key final step, reflecting a widespread view that effective project management goes beyond 'box-ticking', and delivers demonstratable change and benefits at a regional level.

Creating sustainable growth

Identified as a key aim across the regions covered, sustainable growth refers to an increase that is economically maintainable in the long-term, and 'clean' and beneficial for the environment. This has resulted in the development of innovative projects intended to boost local economies while sustaining the regions' nature and resources.

Skills shortages and future needs

Across regions, encouraging the use of and awareness of project management techniques across industries will help increase demand for

project professionals. It was identified that raising awareness of project management as a career path could help retain local graduates and attract new talent. Upskilling current workforces is thought to be necessary to help emerging sectors grow and attract further investment. Future needs in each region are highly variable and dependent on each location's unique sectoral productivity and current infrastructure.

Next steps

- Look out for Sectoral analysis of project management activity in pharmaceuticals and health, charity and SMEs.
- The research will be disseminated across the profession and seek to deepen the picture set out in the original *Golden Thread* report to provide a more granular view of regional project activity.
- We will use this research to help develop the work we are doing to build the capacity of the project profession – and in particular look at the skills needed to ensure the increasing use of projects to deliver economic and social change.
- We welcome feedback on the research and report to help inform future work. Please share any feedback, case studies or ideas to research@apm.org.uk.

Project management is key to regional development

Projects – and good project management – are integral to regional economic growth. From infrastructure 'megaprojects' to local community programmes, the successful embedding of project work creates a virtuous cycle, boosting regions' economies and unlocking investment that, in turn, creates further project opportunities.

As a result, APM identified a need for detailed regional analysis to bring the connections between projects and economic development to life. This examination focuses on five key hubs – these areas are interesting from a project perspective as their major industry sectors are evolving, creating notable opportunity and need for project management. Our research concludes that project management makes a significant contribution to the regions covered in this study, and additionally has the potential to mitigate challenges and bolster growth moving forward.

Legend



Contribution of the project profession in terms of GVA by region



Project professional jobs by region

Scotland

189,000

Project professional jobs by region (full time equivalents)

£13.95bn

Contribution of the project profession in terms of GVA by region

8%

UK employment (%)

9%

Project management employment (%)

North East

189,000

Project professional jobs by region (full time equivalents)

£13.94bn

Contribution of the project profession in terms of GVA by region

12%

UK employment (%)

9%

Project management employment (%)

North West

260,000

Project professional jobs by region (full time equivalents)

£19.1bn

Contribution of the project profession in terms of GVA by region

11%

UK employment (%)

12%

Project management employment (%)

N.Ireland

24,000

Project professional jobs by region (full time equivalents)

£1.7bn

Contribution of the project profession in terms of GVA by region

3%

UK employment (%)

1%

Project management employment (%)

Midlands

284,000

Project professional jobs by region (full time equivalents)

£20.8bn

Contribution of the project profession in terms of GVA by region

16%

UK employment (%)

13%

Project management employment (%)

Wales

47,000

Project professional jobs by region (full time equivalents)

£3.5bn

Contribution of the project profession in terms of GVA by region

5%

UK employment (%)

2%

Project management employment (%)

South West

331,000

Project professional jobs by region (full time equivalents)

£24.3bn

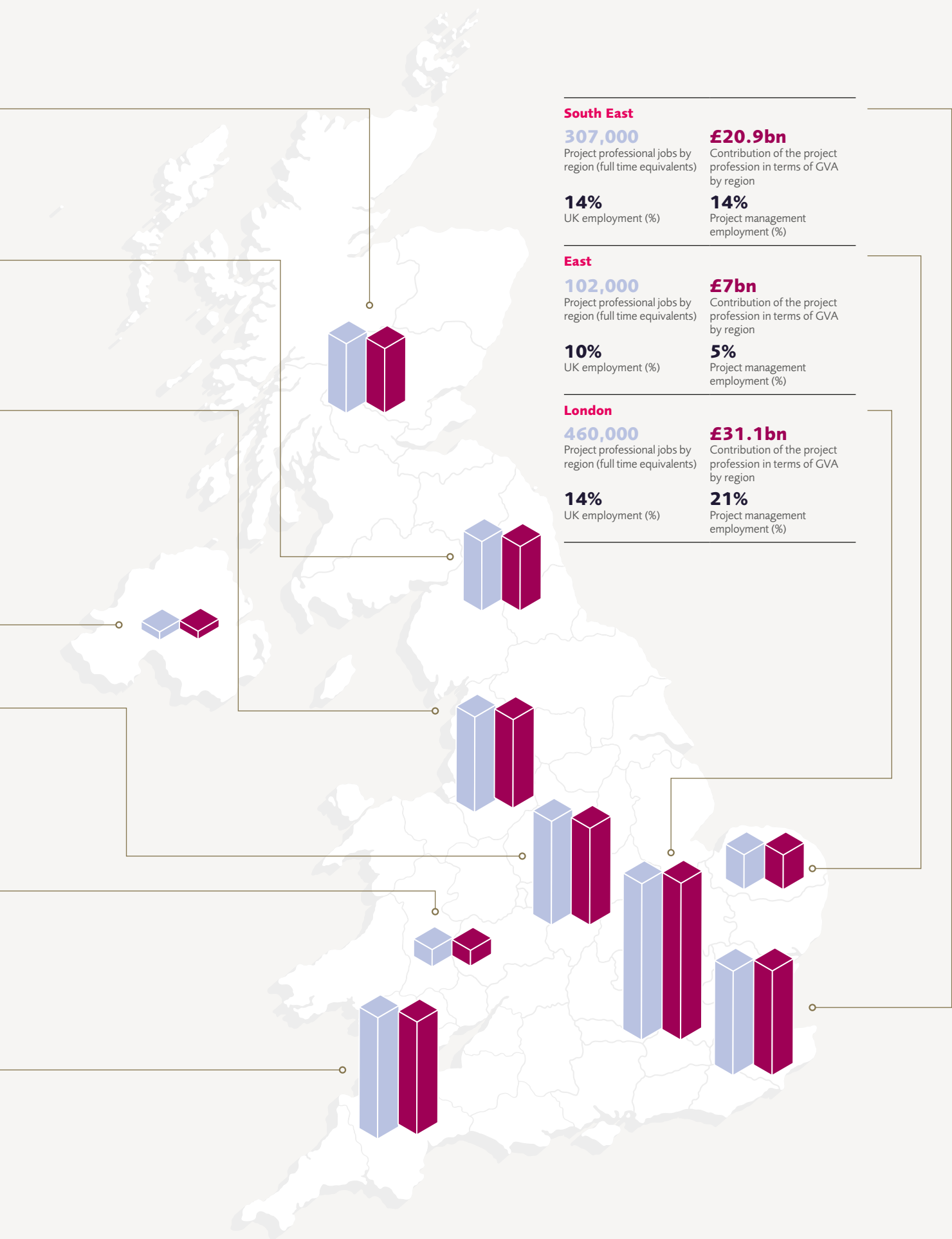
Contribution of the project profession in terms of GVA by region

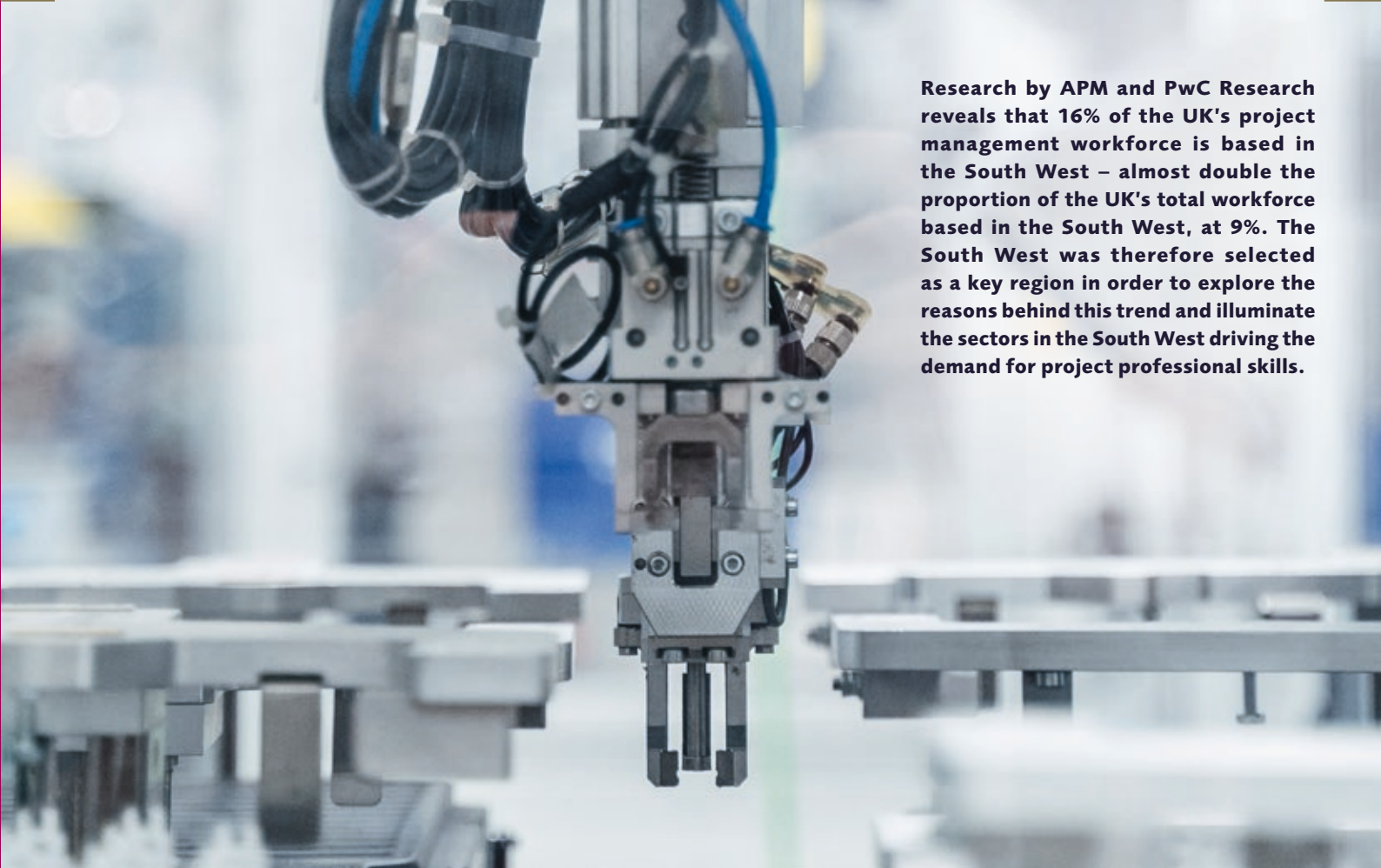
9%

UK employment (%)

16%

Project management employment (%)

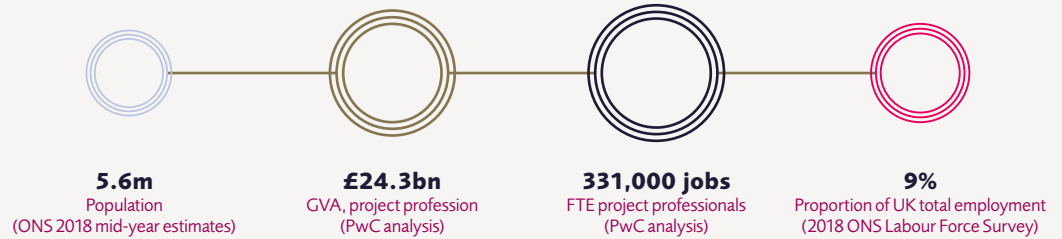




Research by APM and PwC Research reveals that 16% of the UK's project management workforce is based in the South West – almost double the proportion of the UK's total workforce based in the South West, at 9%. The South West was therefore selected as a key region in order to explore the reasons behind this trend and illuminate the sectors in the South West driving the demand for project professional skills.

Key Facts and Figures

Key Industries: Tourism, agriculture, engineering, aerospace, defence, marine, photonics, nuclear, digital technology



THE SOUTH WEST

The South West is one of the largest geographical regions in the UK. A mainly rural region containing two national parks and 700 miles of coastline, it has a thriving tourism sector and a long-standing agricultural industry. Further north, Bristol, the area's largest city, has long been considered an engineering hub which continues to draw investment into the region.

Analysis by PwC Research indicates that the project profession in the South West region contributes £24.3 billion in GVA to the UK economy. In terms of full-time equivalent jobs, PwC estimates that the region employs 331,000 project professionals, or 16% of the profession's total UK workforce. This is significantly higher than expected, given that total employment in the south west region is 9% of the UK total.

Several factors drive the disproportionately high levels of project management activity in the region. The high profile Hinkley Point C nuclear power plant, currently under construction, has stimulated demand for project management skills

to successfully deliver this megaproject. It has also generated a significant supply chain of small and medium sized enterprises in the region. Hinkley Point C has helped establish the South West as an energy hub, boosting the local energy and environmental technology industries.

In addition, the South West benefits from the historic concentration of engineering, aerospace, defence and marine activities around Bristol and Somerset. The area has benefitted from a diversification of industry and infrastructure investment, but some areas struggle with economic underdevelopment, and there is an in-region north/south divide.

While the northern part of the region benefits from strong industry sectors centred around engineering, the emergence of digital industries in the southern part of the region is helping to diversify the economy and boost areas with more sluggish growth.

Despite its diverse and dynamic economy, key challenges the South West faces include building adequate infrastructure to meet growing demand,

adapting to new digital technologies and skill gaps within the region. The region has a strong reputation for higher education but can struggle to retain top graduates and has a relatively older population as a result. Additionally, economic growth in the South West has been weaker than in the UK as a whole in recent years⁽¹⁾.

The government has continued to commit to devolution in the area, giving more autonomy to local councils to make investment based on the needs of their unique areas⁽²⁾. Key growth strategies in the region focus on capitalising on the diverse economy and improving digital infrastructure to increase the competitiveness of businesses. The overall aim is to showcase the South West as a leading hub for technological and digital innovation.

The South West has a smaller concentration of larger firms compared to the rest of the country, a lower level of business start-ups and lower value of exports. Supporting start-ups and driving innovation is a key strategy laid out by the government and Local Enterprise Partnerships (LEPs)⁽³⁾.

Buoyant Sectors

Nuclear

The construction of Hinkley Point C has attracted highly skilled project professionals from across the UK to the South West and has provided a huge boon for SMEs involved in the supply chain. Local LEP Heart of the South West and the West of England Combined Authority have collaborated with EDF Energy and the Welsh Government to form the Hinkley Supply Chain Programme, which aims to assist local firms in bidding for and winning supply contracts linked to Hinkley Point C's construction⁽⁴⁾.

Furthermore, this megaproject will increase demand for housing developments and improved transport networks – all of which will need skilled project professionals.

The region also includes a nuclear sector cluster group – Nuclear South West – which is a partnership between industry, academia, local businesses and public sector stakeholders⁽⁵⁾.

Other major projects in the South West's nuclear sector include:

- Decommissioning of two nuclear power stations in Berkeley (Gloucestershire) and Winfrith (Dorset).
- £1.8 million nuclear defence programme in Devonport (Plymouth).

Defence

- The Ministry of Defence has a strong presence in the region. DE&S and the Submarine Delivery Agency (SDA) headquartered in Bristol employ around 11,500 people, of which an estimated 3,000 are project professionals or engineers involved in project management. This facility is serviced by a significant supply chain of small and medium sized businesses in the region.
- Government Communications Headquarters (GCHQ), the intelligence and security organisation responsible for providing signals intelligence and information assurance to the government and armed forces of the UK, is located in Cheltenham, Gloucestershire. GCHQ employs in the region of 6,000 employees, with an estimated 10-15% being project professionals.
- Babcock International works across the marine, nuclear and defence sectors and help to support the UK Royal Navy. The complex engineering projects that Babcock carries out at Devonport (Plymouth), including refitting the HMS Vengeance, creates demand for highly skilled project professionals in the area.

Aerospace

The South West is a globally significant aerospace region – the largest aerospace cluster in the UK – and home to many major players in the industry, plus an extensive supply chain. As an industry, aerospace is a major employer of in-house project professionals, which sit within the major international aerospace companies in the region.

Supported and continued growth in these industries and increased integration with digital technology will increase the need for project professionals in the region.

Marine

The South West is home to a robust marine sector, including two of the largest luxury yacht manufacturers in the world, the Oceansgate development at South Yard in Plymouth – one of the largest dockyards in Europe, and the Thales Group, also in Plymouth, linking the aerospace and marine industries. The marine sector overlaps with numerous other industries, including renewables, advanced engineering, design and manufacturing, and robotics. The universities of Plymouth and Exeter lead technology and innovation around the maritime industry and environmental sectors.

Digital

While the northern part of the region benefits from strong industry sectors, the emergence of digital industries in the southern part of the region is helping to diversify the economy and boost areas with more sluggish growth. Major developments include the UK Hydrographic Office and Met Office in Exeter, both of which provide data that can boost activity in the South West's significant marine sector.

The expansion of digital capabilities in the South West is likely to increase demand for experienced project professionals and open more training opportunities for those wanting a move into the project profession.

"Why are there so many project professionals in the South West? I can tell you in two words and one letter – Hinkley Point C. It's one of the major national projects and the whole region is benefitting."

(Research respondent, South West)

Major Projects

Including the pre-eminent Hinkley Point C project, major projects in the region focus on improving infrastructure and increasing technological capabilities. Drivers for the increased demand for project professional skills in the area centre around aerospace, defence and marine/environmental technologies. Other key corporates in the region include Leonardo, Thales and Msubs – further enhancing demand for project professionals.

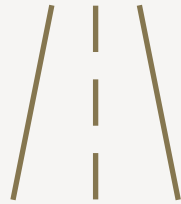
Examples of major projects



Hinkley Point C
£19.6bn-£20.3bn
Project approval in 2016,
construction 2018



**South West
Route Capacity**
£1.2bn
2012-2020



**A303 Amesbury
to Berwick Down**
£1.5bn-£2.4bn
2020-2026

"If we can increase the use of digital data in the agricultural and tourism sector, those bedrock parts of the economy, it will help grow productivity."

(Research respondent, South West)

Regional Challenges

Despite the obvious growth and buoyancy in the region, looking forward, the south west faces several challenges if it is to further expand.

The Tech Crunch

Growth of digital and AI was highlighted in our research as a major benefit and as a challenge – known as the ‘tech crunch’ – as the South West’s workforce and infrastructure adapts to support the new industry. Universities will be key stakeholders in this challenge, helping to drive innovation and bring in top talent from around the world. Exeter and Plymouth’s environmental expertise and data capabilities will be important in growing the economy, especially in the relative absence of big businesses in the region.

Traditional sectors

From a project perspective, the South West benefits strongly from its heavy engineering history. However, certain subsectors of engineering – such as shipbuilding – are perceived to be less diverse and more traditional in their thinking and approaches. This can inhibit companies from taking full advantage of new project approaches and techniques. In the opinion of our local experts, these industries will need to incorporate new ways of working, embrace diversity and be willing to adapt to new project management systems in order to grow the project profession within these industries.

The urban/rural divide

Clustering of industries around the region can create skills gaps in some areas. Devon,

Somerset and Cornwall have a higher than average concentration of tourism activity, but a smaller number of larger employers compared to the North where aerospace and technology companies tend to cluster.

Skills shortages

Although the region attracts top graduates from across the UK to its universities, particularly in the marine and engineering industries, it struggles to retain them and many leave the area after graduation. To combat this, universities are attempting to create a ‘vortex’ to retain talent, by providing more opportunities and encouraging start-ups. Exeter Science Park was developed to meet this purpose, by providing a hub and support to start-ups specialising in STEM subjects.

“The South West is a large and diverse region. Bristol is a thriving city, you could say it has more in common with London and Birmingham than the southern, rural areas here, which struggle a lot with older populations and less industry.”

(Local economic expert)

Growth Drivers

Collaboration between sectors

Engineering, aerospace and marine technologies are established industries that continue to see growth; key corporates in this space include Airbus and Rolls Royce. Aerospace in particular is a tech-focused, cutting edge industry that tends to be proactive and looking to adopt new ways of working, which can drive demand for project professionals.

Furthermore, Hinkley Point C represents a massive opportunity for businesses in the supply chain for nuclear, which also includes current decommissioning projects around Hinkley Point A and Oldbury nuclear station.

In contrast, digital and data is an emerging sphere in the South West and is growing in importance. Encouraging collaboration between the energy, engineering and digital sectors will help encourage innovation and drive growth in the region. Project professionals have the opportunity to play an important role in this integration, with project management methodologies beneficial in coordinating workstreams.

£24.3

BILLION GVA OF PROJECT PROFESSIONALS

331,000

FTE OF PROJECT PROFESSIONALS

9%

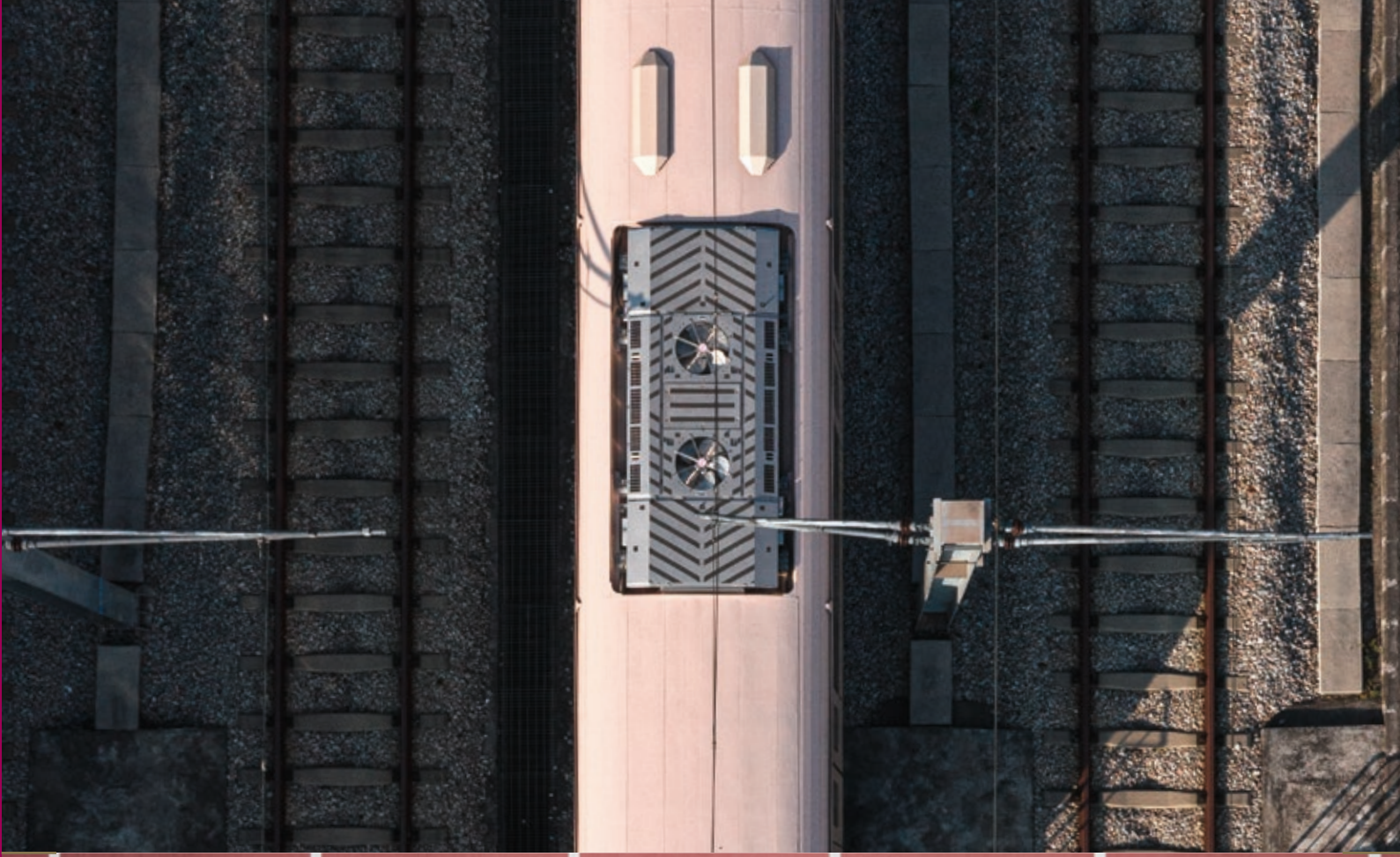
PROPORTION OF UK TOTAL EMPLOYMENT

(ONS, 2018)

16%

PROPORTION OF UK PROJECT PROFESSIONAL JOBS

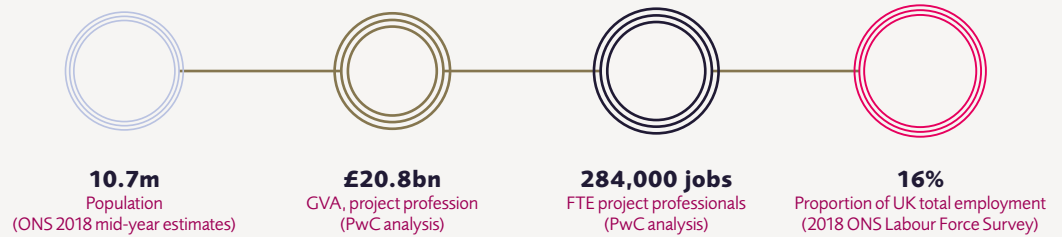
(PWC RESEARCH, 2020)



The Midlands Engine is a coalition of councils, combined authorities and LEAs, universities and businesses across the region. The coalition aims to establish the Midlands as the 'growth engine' of the UK. We were interested in exploring how project management is helping to deliver the Midlands Engine strategy, from major transport projects like High Speed 2 to smaller local programmes improving quality of life throughout the region.

Key Facts and Figures

Key Industries: Advanced manufacturing and engineering services, retail, automotive, transport, defence, medical, technology, sports industry and research.



THE MIDLANDS ENGINE

PwC's analysis indicates that the project profession in the Midlands contributes £20.8 billion in GVA to the UK economy. In terms of full-time equivalent jobs, PwC estimates that the region employs 284,000 project professionals, or 13% of the profession's total UK workforce. This is slightly lower than expected, given that total employment in the Midlands region equates to 16% of the UK total.

From an economic perspective, the Midlands is nationally significant due to its strong industrial heritage. The region today accounts for a fifth of the UK's total manufacturing capability⁽⁶⁾. Traditionally, the East Midlands has been focused on light manufacturing (textiles in particular), while the West Midlands is known for advanced manufacturing.

While manufacturing is still essential in the Midlands efforts to diversify the economy have led to the development of key services, encompassing real estate activity, business services, financial and insurance activities⁽⁷⁾. Retail, defence, sports research and medical technology have also developed as key industry sectors.

Despite these strengths, the Midlands' economy faces certain challenges. There is a widening gap in productivity levels between the Midlands and the rest of the UK, and an acknowledgement that elements of the Midlands' economic potential remain untapped.

As a result, the Midlands Engine was developed by the UK Government as a strategic initiative, intended to establish the Midlands as a 'growth engine' for the UK, able to compete with London, the South East and the Northern Powerhouse. The initiative unites the East and West Midlands under a common identity, capable of attracting international investment⁽⁸⁾.

What is the Midlands Engine?

The Midlands Engine is a coalition of councils, combined authorities, LEAs, universities and businesses across the region. This coalition is working with the UK Government to form a collective identity and voice for the region, and establish it as England's 'growth engine', capable of competing with the South East and the Northern Powerhouse.

This collective identity, bringing the East and West Midlands together, is intended as a means of attracting international trade and investment. The Midlands Engine is also focused on increasing economic growth and quality of life for the region, by generating added value through local authority and enterprise partnerships.

In its 'Vision for Growth', the Midlands Engine sets out five priority areas of focus: connecting the Midlands, investing in strategic infrastructure, growing international trade and investment, increasing innovation and enterprise, and shaping great places [to live, work, learn and visit from the Vision.]

Buoyant Sectors

Manufacturing

The region's traditional and major industries, advanced manufacturing (in the West Midlands) and light manufacturing (in the East Midlands) are key contributors to the local economy and major drivers of project demand. The manufacturing sector is particularly important due to the supply chain it creates, boosting smaller businesses in the area.

Automotive

The Midlands is sometimes described as the UK's 'vehicle heartland' and has a strong automotive industry, including major UK manufacturers such as Aston Martin and Jaguar Land Rover. In addition to its own manufacturing activity, the Midlands automotive sector generates project opportunities through strong investment in innovation and new technologies.

Aerospace

The Midlands is home to a notable aerospace cluster, centred around Rolls-Royce in Derby, (which is one of the leading manufacturers of aircraft engines) and aircraft controls systems manufacturers in Birmingham, Wolverhampton and Coventry. Like the automotive sector, aerospace is tech-focused and innovative. As a result, project professionals reported that companies in this sector tend to proactively trial and adopt new ways of working, including new project management techniques that enable them to coordinate multiple workstreams.

"Will the Midlands become that service station that no one really wants to go to, but they all just stop off at on their way from the South East to the Northern Powerhouse?"

(Local economic expert)

Future Opportunities

HS2

As a major project in and of itself, the construction of HS2 is a huge employer of project professionals nationwide. However, the impact of the project is wide-reaching, creating a vast supply chain and boosting the local economy. Perhaps more significantly, the connectivity that HS2 is forecast to deliver is anticipated to strongly boost the region's economy and stimulate project demand in other major sectors.

Science, research and tech

The Midlands is home to a robust research base by virtue of its 20 universities, in particular Birmingham, Warwick and Nottingham, which are in the top 150 in the world rankings, and Loughborough University – renowned

for sport science. The East Midlands is also establishing itself as a tech centre, notably through the presence of the Loughborough University Science and Enterprise Park, a major tech hub that additionally has had plans for a second manufacturing and office hub approved. The science, research and tech industry in the East Midlands is planned to receive a further boost, with the £100 million Leicester Space Park receiving the green light. Significantly, the planned eastern leg of HS2 Phase 2 will connect the East and the West Midlands, providing the opportunity to link East Midlands' universities and science centres with advanced manufacturers in the West Midlands: this is forecast to increase opportunities by translating innovative research into revenue for the region. Additionally, Queen Elizabeth

Hospital Birmingham's status as a world-leader in innovative medical research will continue to attract skilled project professionals to the region.

Green projects

Notable examples include the development and manufacture of ultra-low emission and electric vehicles, leveraging the region's automotive heritage and expertise. This project compliments other key projects and areas of development in the region – namely, sustainability, transport and housing construction (through the addition of charge points). Local councils and LEPs are also developing programmes around cycle path regeneration, in order to ease congestion, and improve the region's environmental future as well as its economic outlook.

Major Projects

A number of large, high profile projects based in the Midlands are connected with the Midlands Engine initiative. The best-known of these is High Speed 2 (HS2), the government's rail infrastructure project intended to improve connectivity not only in the Midlands, but between the North and South. Other major projects on the Infrastructure and Projects Authority (IPA) Major Projects Portfolio include the 2020 Commonwealth Games and the Midlands Main Line Programme.

Project professionals in the Midlands highlight that there is a challenge and an opportunity around the delivery of these megaprojects, in terms of ensuring that the local community can continue to reap the benefits in the future. This includes employing a local workforce to work on HS2, and converting the Commonwealth Games athletes' village into housing, as was done in East London following the 2012 Olympics.

Examples of major projects



High Speed 2
Opening in two phases:
2028-2031 and
2035-2040



Commonwealth Games 2020
£778m
2017-2020



Midlands Main Line Programme
£514m
2014-2023



Coventry UK City of Culture 2021
£8.5m to invest in related projects
2020-2021

"Greater Birmingham is a real digital hub. This has been a great driver of economic development, but it's important to balance this with the human side. We need to develop our workforce so that we are growing the number of jobs available alongside our tech advancements, and not creating growth that outpaces skills, or replaces humans with machines."

(Research respondent, Midlands)

Regional Challenges

The overarching challenge identified by project professionals and key local figures interviewed throughout the Midlands was the risk that the region could be eclipsed by the economically strong South East and developing Northern Powerhouse. There is a feeling that, although the Midlands has significant potential for growth, there are challenges that need to be addressed for this to be realised.

Skills shortages

Economic reports have long highlighted skills shortages as a significant contributor to the gap in the Midlands' productivity levels, which fall below the national average. Local figures have also raised this as a challenge, stating that a better-skilled workforce would enable emerging sectors in the region to grow, and additionally, that a stronger local skills base would attract further investment for the region.

There are several nuances to the Midlands' skills shortages. One is the challenge around skills retention – encouraging graduates to remain in the Midlands following university. Local experts assert that the more significant challenge is the skills gaps and distribution. Although the Midlands does support an educated and skilled workforce, local industries have reportedly struggled to hire employees with certain advanced skills, such as leadership experience and technical training. This applies equally in the project profession.

Intra-regional differences

While areas focused on advanced engineering are experiencing growth other areas dependent on more vulnerable sectors, such as low value-added manufacturing, were hit harder by the 2008 recession and have struggled to recover. Other areas struggle with specific local issues: Leicester, despite being one of the country's high growth cities, is undergoing challenges around house prices and congestion, while land remediation challenges inhibit construction work

in the Black Country⁽⁹⁾. As a result, identifying and commissioning projects to benefit the region as a whole can be challenging, and involves balancing the collective with the specific.

Uncertainty

Project professionals in the Midlands stated that the importance of the automotive industry in the West Midlands means that uncertainty around the UK's future relationship with the EU has had an especially strong effect. Local figures report that Brexit uncertainty has been an issue for car manufacturers as it has changed the usual conditions of trade with the EU, and additionally has reduced consumer and business confidence, compounding the challenge.

Changing attitudes around sustainability and clean air have also reportedly led to a decline in diesel sales across Europe. Although those in the automotive industry report that this presents opportunities for innovation – for instance, the production of electric vehicles – making this transition is challenging in the current environment.

"Over the past few years, something we've learnt is that we can't control politics and the uncertainty it generates, but we can control our own long-term strategic project planning. So, we've really focused on this area, generating long term plans and strategic partnerships, so that we have our own stability and continuity despite political flux."

(Local industry leader)

Growth Drivers

Building connectivity

The Midlands' favourable location means it has the potential to become a hub between North and South and connect neighbouring regions. The improvement to transport links through major projects is a core component of the Midlands Engine strategy – most notably through HS2 – and would enable the region to fully benefit from its central location.

Establishing a Midlands identity

One of the cornerstones of the Midlands Engine strategy is establishing a strong, collective identity for the Midlands (encompassing both the East and West Midlands). It is proposed as

a key means of promoting the region as a global economy and thus attracting international attention and investment – mitigating the downturns that the local economy suffered as a result of globalisation in the past.

Quality of life

As housing prices rise and congestion issues are increasingly highlighted in London and other major English cities, local council and LEP figures in the Midlands have taken the opportunity to promote the Midlands as an attractive place to live – being less costly, with a good quality of life and strong employment opportunities. The success of these initiatives would help to resolve some of the issues around skills shortages in the region.

Local planning and partnerships

Despite the certain regional challenges described above, local figures and project professionals in the Midlands reported that they are largely optimistic about the region's future and potential for sustainable growth. The Midlands Engine programme is a key reason for this, but local councils and LEPs also point to the region's own internal attention and careful strategic planning. Furthermore, regional commentators reported increased demand for project professional skills coming through local SME networks and small developers.

£20.8

BILLION GVA OF PROJECT PROFESSIONALS

284,000

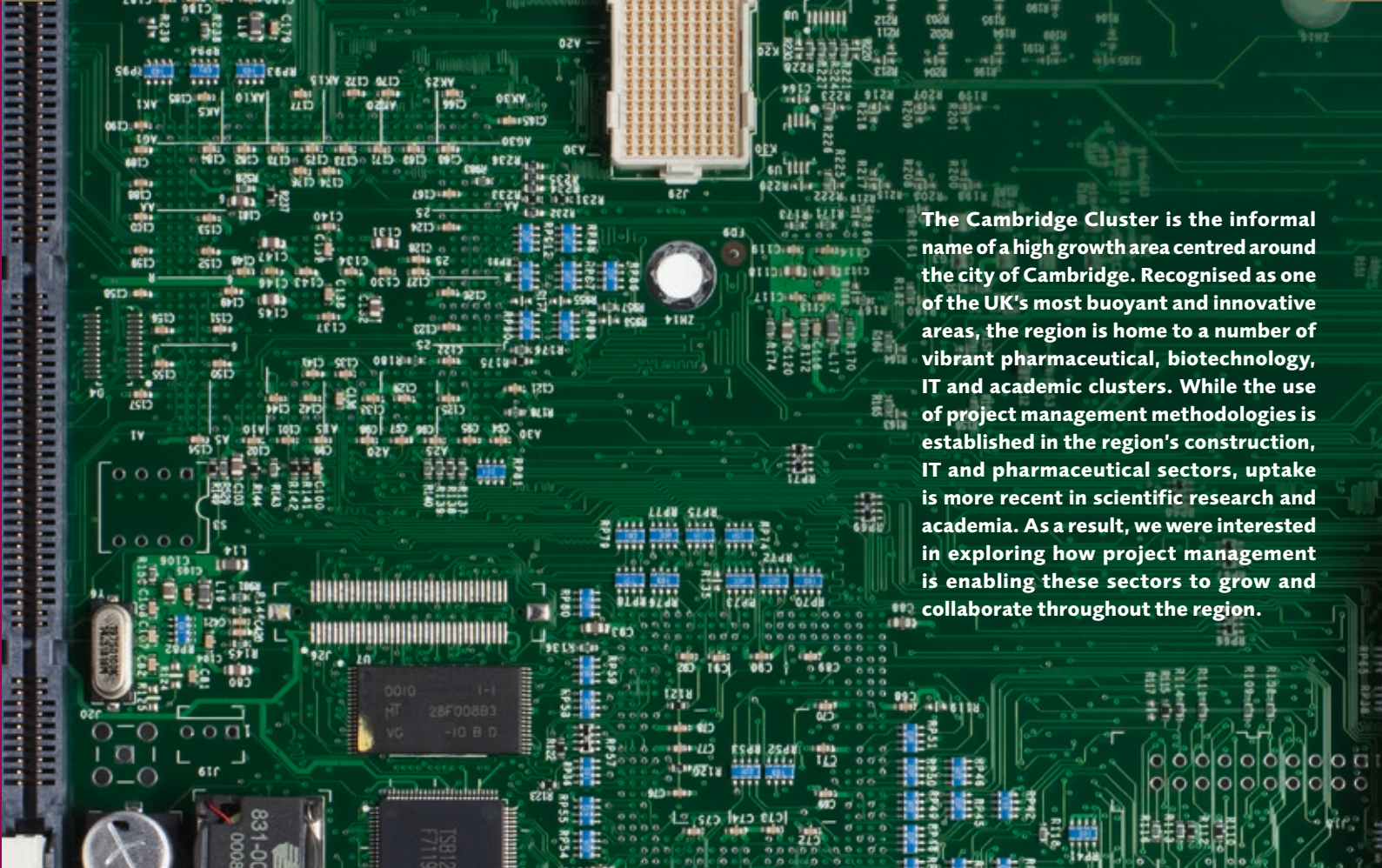
FTE OF PROJECT PROFESSIONALS

16%

PROPORTION OF UK TOTAL EMPLOYMENT
(ONS, 2018)

13%

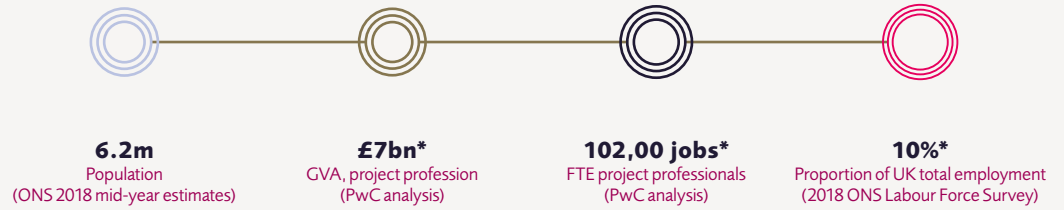
PROPORTION OF UK PROJECT PROFESSIONAL JOBS
(PWC RESEARCH, 2020)



The Cambridge Cluster is the informal name of a high growth area centred around the city of Cambridge. Recognised as one of the UK's most buoyant and innovative areas, the region is home to a number of vibrant pharmaceutical, biotechnology, IT and academic clusters. While the use of project management methodologies is established in the region's construction, IT and pharmaceutical sectors, uptake is more recent in scientific research and academia. As a result, we were interested in exploring how project management is enabling these sectors to grow and collaborate throughout the region.

Key Facts and Figures

Key Industries: Biotechnology, electronics, life sciences, software



* Statistics refer to East England as a whole

THE CAMBRIDGE CLUSTER

Cambridge, as both a county town and a famous university base, is recognised as one of England's fastest growing and most innovative cities⁽¹⁰⁾.

From construction and capital projects intended to develop and ease pressure on the city's transport network, to IT transformation projects and increasingly, scientific and academic research, examples of project management in the Cambridge Cluster are widespread and varied.

The city is the heart of the Cambridge Cluster – also known as Silicon Fen – with a large grouping of advanced technology businesses in the biotechnology, electronics and software industries. Over the past 20 years, these businesses have proven extremely successful in attracting venture

capital and local and international funding, enabling businesses and the local economy to grow rapidly. The area also benefits from University of Cambridge, which has close ties to the Cambridge Cluster and additionally attracts a highly skilled local workforce.

Although Cambridge has benefitted from being a fast-growth city, local councils and LEPs have recognised that there is a need to support this growth and ensure that it is sustainable over the long-term. Infrastructure challenges, skills gaps and the continual need for an international outlook have been identified as challenges for the region over the medium-term.

What is the Cambridge Cluster?

Cambridge Cluster (sometimes known as the Silicon Fen) is the name given to the region around Cambridge, which is home to a large collection of high-tech businesses focusing on software, electronics and biotechnology. Many of these businesses have connections with the University of Cambridge, and the area is now one of the most important technology centres in Europe.

Buoyant Sectors

Construction

As in many other locations, construction was the first industry in Cambridge to make use of project management approaches and according to local project professionals, remains the primary employer of project professionals in the region. Cambridge's construction sector has been bolstered by the success of its other major, high-growth sectors. For instance, the success of the pharmaceutical and biotechnology industries historically led to the development of the Cambridge Science Park, the Cambridge Biomedical Campus and more recently, Astra Zeneca's £500 million-plus headquarters and R&D centre. In addition, the University of Cambridge is a major landowner and as a result the demand for new buildings, refurbishments

and other engineering projects sustain the local construction industry.

IT

Local project professionals identify Cambridge's robust IT sector as likely being the city's next strongest user of project management approaches. These approaches were adopted by Cambridge's IT sector in its early days – inspired by the construction sphere – as a high number of initial IT start-ups and projects failed. It is now traditional to use project management approaches in IT transformation and other related projects.

Pharmaceuticals and biotechnology

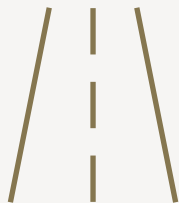
Drug development is highlighted as the key pharmaceutical sub-sector for project management approaches by Cambridge-based project professionals. As much of the

world contends with aging populations and the increased prevalence of chronic diseases, drug development remains a key priority. Drug development projects face a number of challenges while driving a product to market, including dealing with complex medical topics, multiple stakeholders and contractors, and stringent regulatory requirements. To improve new product development, the sector adopted project management as a means of ensuring projects are delivered on time, within budget and to a high standard. Project management was also identified as a means of enabling the industry to become more agile and respond to scientific developments and regulatory changes. Cambridge's position as a world leader in the pharmaceutical and biotechnology fields ensures that demand for pharmaceutical project professionals is strong in the region.

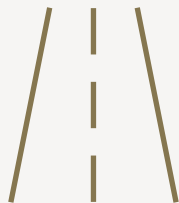
"Getting into Cambridge is the challenge. I'm only half-joking – seriously, congestion is a real issue. It limits who can feasibly live and work here, and it really adds to time pressure on projects that involve moving biomedical equipment. Local industry has been flagging this issue for some time now."

(Research respondent, Cambridge)

Examples of major projects



A428 Black Cat to Caxton Gibbet
£15 billion
 2021-2022, with a second phase 2025-2026



A14 Cambridge to Huntingdon Improvement Scheme
£1.5 billion
 2016-2019

Regional Challenges

Cambridge is celebrated as one of the country's fastest-growing cities. However, the speed at which the local economy has developed has facilitated and masked emerging infrastructural issues that, if unchecked, have the potential to limit growth in the future.

Local councils and LEPs have proposed that investment in housing and infrastructure is required to ensure that economic development is sustainable and can be maintained over the long term⁽¹¹⁾. Although housing and transport are highlighted by local project managers and figures as the city's primary challenge, additional issues were also cited, including the future of the city's international ties and the need for highly skilled labour.

Growth outpacing infrastructure

Although Cambridge is known for its highly educated workforce, retaining young, newly graduated Cambridge University students in the city is becoming challenging as they are increasingly priced out of the area. There is a lack of affordable housing, particularly in the west which has an ideal combination of rail connectivity to Cambridge and London and road links to industries at Cambridge's high-tech business parks. This limits who can live and work in the area, thus restricting inclusive growth.

Furthermore, a knock-on effect of Cambridge's high house prices is the high levels of in-commuting to the city from neighbouring towns and villages. Cambridge businesses have highlighted the strain that lengthy commutes and congestion place on the local workforce; furthermore, for project professionals (predominately in the construction and biotechnology sectors), congestion puts

pressure on project timelines as it takes time to move people and equipment around the city. As a response to this challenge, several major road and rail projects are underway, including the development of the A14 and A505 roads and Cambridge South Station.

International ties

The potential for the UK's exit from the European Union to dampen Cambridge's links to the rest of the world is of concern to some, especially in the academic and scientific research spheres as research funding is often linked to EU funding. Cambridge's scientific and pharmaceutical sectors are also reliant on highly educated and specifically skilled labour. As a result, there are worries that it could become harder to attract EU nationals to work in the city in the longer term, resulting in global businesses moving their premises to other academic and scientific innovation centres outside the UK. Academic and scientific research are core sectors in Cambridge, and any declines could diminish the initial inroads that the project profession has made in these fields in recent years.

Knowledge-intensive industries

Given its major industry sectors, Cambridge has a higher concentration of projects and project professionals in highly technical sectors, such as IT, life sciences, biotechnology and pharmaceuticals, encouraged by the setting up of Cambridge Science Park in 1970. This means that the city needs to attract project professionals with specific skills. For instance, project professionals in the pharmaceutical industry noted that employers require project professionals with 'dual skills', both robust project management qualifications and experience in medical and pharmaceutical fields (such as drug development or diagnostics).

Furthermore, project professionals working in these industries noted that there is a need for continual learning and training, not only in terms of project management but around the latest scientific or pharmaceutical advancements and regulation changes. The need for many project professionals in the city to become highly knowledgeable about the fields they are working in can add to workloads and create stress.

There is a feeling among some that this challenge will be addressed in coming years: as the project profession becomes entrenched in these sectors, it is forecast that there will be an increased availability of training courses, conferences and knowledge-sharing opportunities specifically for project professionals in these industries, mirroring what occurred when project management first saw uptake in the IT industry⁽¹²⁾.

"Greater Cambridge is a magnet to companies from across the globe and the home of world-leading digital (including artificial intelligence) and life science clusters. Its labour supply and research and innovation reputation are of the highest order. But there are signs that constraints are starting to bite. Modelling shows that housing, energy capacity and transport issues will significantly reduce the success of Greater Cambridge, if not dealt with."

(Local industry leader)

Emerging Opportunities

Scientific research

Project professionals and project management frameworks are increasingly specified by funders and sponsors in Cambridge's scientific research sector – particularly for high-budget, collaborative projects involving multiple organisations and stakeholders. This has created opportunities for local project professionals to not only explore a new industry sector, but to additionally develop new project management approaches suited to this field. Research projects are often exploratory, rather than outcome-driven, making them very different from more traditional projects. As a result, project professionals in this sphere are pioneering ways

of applying project approaches in a flexible manner, additionally developing best-practice approaches to major re-planning.

Transport

Cambridge's well-publicised congestion issues have ensured that transport is not only a major area of attention, but also an area of opportunity for project management. Transport-focused projects range from major road and rail constructions to the Cambridgeshire Autonomous Metro concept run by Cambridge and Peterborough Combined Authority. In addition, the city's focus on environmental sustainability has increased efforts to create clean air and congestion free zones, including the Air Quality Action Plan and the Quality Bus Partnership.

Tourism and hospitality

Although Cambridge is a world leader in several fields, local experts have identified a need to broaden Cambridge's growth and strengths beyond its main industry sectors, in order to keep generating inclusive growth that benefits the whole community. As a result, tourism and hospitality have been identified as sectors that could benefit from further attention moving forward, as mid-size industries comprised largely of local SMEs. There is recognition that these sectors and smaller business could benefit from adopting project management approaches on a smaller scale, in order to grow.

"In Cambridge, we have what I would describe as a 'filtration effect', as our big industries are intertwined and talk to one another. The IT industry picked up project management from construction after seeing the benefits, and now we have the same thing with academic research adopting project management after seeing how it worked for pharma."

(Local industry leader)

Growth Drivers

A strong local economy

The strength of Cambridge's local economy means that there is scope for the city's successful Silicon Fen companies to further accelerate their growth, particularly if Cambridge's infrastructural challenges can be mitigated. There is potential for the project profession to help tackle these infrastructural challenges and mitigating these challenges to enable these companies to grow further will likely create further project opportunities in high-growth Silicon Fen sectors.

Investment from international firms

Cambridge is Europe's foremost biotechnology cluster. Project levels and demand for project professionals are bolstered by major international firms choosing to locate their headquarters in the region, as it leads not only to new biotechnology and pharmaceutical programmes,

but additionally to new construction work. A key example is AstraZeneca, which moved its global headquarters to Cambridge in May 2016 and has generated both biotechnology and construction projects, including the building of AstraZeneca's new facilities in the Cambridge Biomedical Campus.

The 'filtration effect'

Cambridge's tight-knit local economy and cross-industry collaboration ensures that work approaches that have been successful in one industry tend to gain a positive reputation, leading to uptake in other sectors. Cambridge's young IT start-up sector adopted project management techniques based on learnings from the local construction industry, and there is evidence that the same is now happening in the scientific and academic research sectors, following the successful use of project management approaches in larger-scale private sector projects.

Specification by research funders

Local project professionals have highlighted that project professionals are slowly becoming in demand in Cambridge's academic and research sectors. This has been largely funder-driven, with local figures stating that funders and project sponsors awarding large grants increasingly either request project professionals to oversee larger, expensive research projects, or favouring research funding bids in which project management is included. In turn, this has exposed researchers to project management and inspired some to include it in their work.

£7.0

BILLION GVA OF PROJECT PROFESSIONALS

102.0000

FTE OF PROJECT PROFESSIONALS

10%

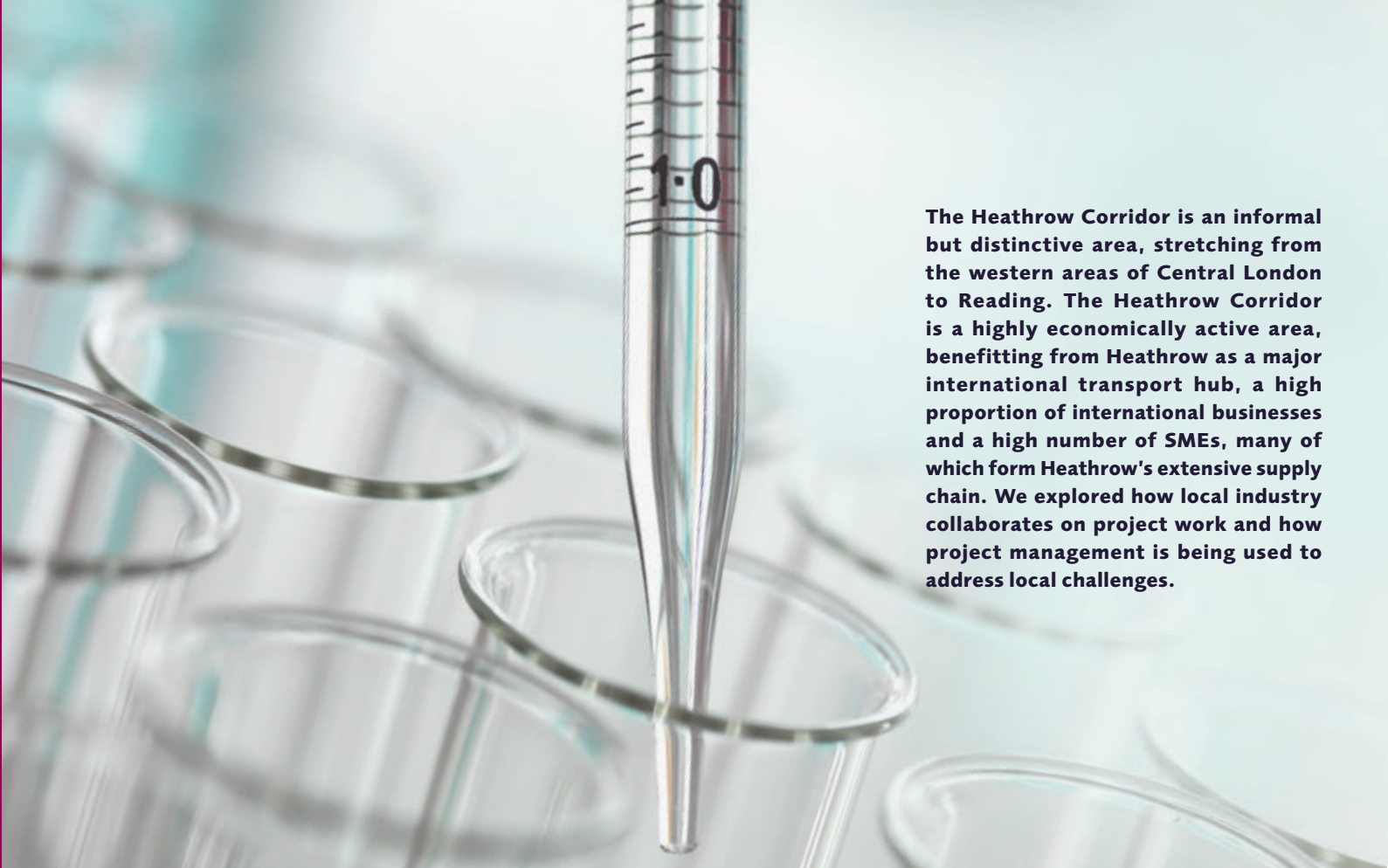
PROPORTION OF UK TOTAL EMPLOYMENT

(ONS, 2018)

5%

PROPORTION OF UK PROJECT PROFESSIONAL JOBS

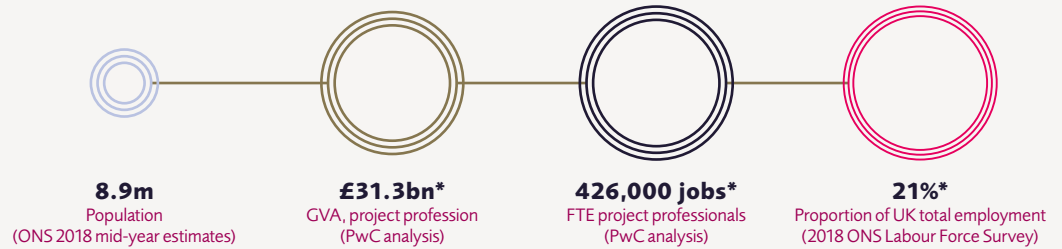
(PWC RESEARCH FIGURES, EAST OF ENGLAND, 2020)



The Heathrow Corridor is an informal but distinctive area, stretching from the western areas of Central London to Reading. The Heathrow Corridor is a highly economically active area, benefitting from Heathrow as a major international transport hub, a high proportion of international businesses and a high number of SMEs, many of which form Heathrow's extensive supply chain. We explored how local industry collaborates on project work and how project management is being used to address local challenges.

Key Facts and Figures

Key Industries: Transport, rail and aviation, healthcare, pharma/life science, manufacturing, construction, tourism, media, professional services.



* Statistics refer to London as a whole

WEST LONDON: HEATHROW CORRIDOR

West London: Heathrow Corridor is an informal but distinct area of London, with a concentration of industry around Heathrow linking the area to the rest of the UK and the world. The presence of a major transport hub provides a huge opportunity for SMEs in the supply chain and helps to attract talent to the region. Outside transport, there are a high proportion of jobs in information and communication, healthcare and pharma, science and professional services⁽¹³⁾.

West London represents a quarter of London's total population. The region benefits from historic government investment, established infrastructure, a diversified local economy and a robust population. As a result, the Heathrow Corridor has huge potential and demand for projects and project professionals.

Though its established infrastructure creates an excellent network for businesses, the area risks being overwhelmed by traffic congestion and the influx of workers. Not only can these factors decrease the quality of life for employees in the region, it can impact supply and project timelines. West London also faces key challenges around inequality, housing shortages and political uncertainty.

To capitalise on its diverse economy, several local organisations have put forward strategic initiatives aiming to capitalise on the diversity of businesses and its global transport links including the University of West London and West London Business.

What is the Heathrow Corridor?

West London: Heathrow Corridor is made up of several boroughs stretching from Marble Arch through to Heathrow and Slough. Major transport links in West London have helped to create a varied and dynamic economy that is considered distinct from other areas of London.

West London has a highly skilled population, with over 45% of the workforce educated to Level 3 or above and provides an estimated £73bn to the economy – a bigger contribution than Birmingham, the UK's second largest city. Key corporations in the region are British Airways, Sky and GSK.

Buoyant Sectors

Transport

With some of the biggest infrastructure projects in Europe, the transport sector in West London has increased demand for project professionals in the area and the need to upskill current staff in project management. Heathrow Airport as a corporate member of APM, is committed to the development of its project professionals, advocating a minimum of APM's Project Management Qualification (PMQ). Should expansion plans proceed, Heathrow Airport's recruitment and training of new staff will increase alongside it due its commitment to excellence in project management.

In 2016 Crossrail announced its partnership with APM to help share success and insight from the construction project. Following on from a successful partnership between APM and the Olympic Delivery Authority, which helped share approaches from the great success of the London Olympics, Crossrail have already implemented. Learning legacy from the project will be shared on a dedicated website, helping to raise awareness of best practice, innovation and insight into project management, helping other organisations to raise the bar across the project industry⁽¹⁵⁾.

The West London Orbital project plans to revive unused rail lines in West London as part of the London Overground network. Transport for London predicts this project will help to address housing shortages and increase employment by improving connectivity in the region. This will help to bring more land into use and encourage investment⁽¹⁶⁾. TFL estimates that up to 29,000 homes could be delivered through this scheme if a flexible approach to planning is applied⁽¹⁷⁾, which is where project management will be crucial to its success.

"Local council budget cuts are a challenge. The trickle dries up, which creates a lack of distribution of the tax flow back into the borough for further generation of industry."

(Research respondent, West London)

Major Projects

Major projects in West London centre around transport, including plans to install a third runway at Heathrow. Should the expansion proceed, it will attract highly skilled project professionals to the region; career opportunities in project management are already prominently advertised on Heathrow website.

Another megaproject underway in transport, the London Crossrail project, aims to build a high frequency rail line from Heathrow to Canary Wharf. With an approximate budget of £18bn, it is one of the largest and ambitious infrastructure projects in Europe. An impact study carried out by Crossrail estimated the project will have a significant impact on new homes and property values. 90,599 new homes are predicted by 2021 and 4.4 million square feet of commercial office⁽¹⁴⁾. Increasing connectivity between West and Central London, it will help drive investment in the area and further reinforce West London as an economic powerhouse.

Outside of transport, the Blythe House Programme is the first of its kind between a national museum and a UK university, helping to relocate the historic and cultural collections at Blythe House to world class facilities. The British Museum and University of Reading are working in collaboration to provide more access to the incredible collection housed at Blythe House. With an estimated budget of £338m, the program has attracted project professionals experienced in project and resource management and experience in working to tight budgets.

Future Opportunities

Media and communication industries

The media and communication industries across the UK accounts for nearly 8% of GDP and West London plays a central part in this. Continued growth in this area and the incorporation of digital connectivity increases the opportunities for project management professionals in these sectors. Sky Digital in Hounslow and Ealing Studios are potentially key corporates in this space.

Tourism

West London attracts visitors from all around the world, particular to Wembley Stadium, Hampton Court and Windsor. Increased connectivity through Heathrow's third runway will only help to increase the flow of visitors through West London.

Examples of major projects



Crossrail Programme (Paddington to Heathrow) £18.2bn

Began in 2009, estimated to open in 2021



Blythe House Programme £338m

To be completed in 2023

Case study: AK Optimise, West London

Amerjit Walia is a seasoned project management practitioner and academic based in West London, who delivers change through people and projects. He is the owner of **AK Optimize**, which helps organisations to transform their project management offer and develop fit for purpose programmes. Amerjit leads APM offerings for the University of West London Project Management Centre with the Claude Littner Business School and develops training solutions for organisations ranging from SMEs to large corporates.

As a project practitioner based professionally in West London, Amerjit has a clear view of the region's dynamism and believes that it is a truly unique part of London. In his view, West London benefits from its wide range of companies, from the so called A4-M4 'Golden Mile' with large corporates like GSK and Sky, to mid-size engineering companies working with, or on Crossrail, HS2 or the forthcoming Heathrow third runway. Furthermore, there is large presence of IT, construction, retail and charity sectors give the region a unique blend of diverse employment opportunities for its residents. Amerjit points to figures from the West London Alliance (a partnership

between seven West London local authorities), estimating that West London alone added £80 billion of value to the economy in 2018. (Source: West London Alliance Report 2018).

In Amerjit's view, West London is 'buzzing with SMEs' and has more than its fair share of entrepreneurs running small enterprises. There is also a significant increase in new internet start-up companies aided by artificial intelligence. Based on his experience at AK Optimize, Amerjit believes that SMEs have a key role to play in the execution of projects in the region moving forward, as they are largely involved in the supply chain. West London SMEs face considerable challenges of growth and stiff competition from each other as well as larger organisations. However, Amerjit feels that SMEs are innovators and drivers of change, and therefore will be a key feature of the area's development in the future.

'SMEs are innovators and drivers of change without always knowing it. Responding to change is very much in the hands of people, change itself is not! Whether we are architects of change or not, we will be impacted upon by changes in our environment. If we are to lead change and be where we want to be, then we need to have the vision and drive to get us there and take our people with us. People deliver projects!' Amerjit Walia

When AK Optimize provide training for SMEs, seeing the relevance of certain processes like business/project planning, risk or quality is not always foremost in their list priorities, although schedules and cost control is. In Amerjit's view, discussing the governance of projects is like speaking in a different language and a turn off. Project management is seen as extra layers of bureaucracy and unnecessary.

People deliver projects

AK Optimize has tried to develop project management solutions and processes that are relevant, that speak to SMEs and address their needs, in a language that is understood by them. Amerjit's view is that they are often written in a language or use terminology that is outside of the experience of SMEs. SME projects vary in size and complexity, requiring flexible and streamlined practices for successful project delivery, such as Agile. SMEs often see this as time and resource consuming.

'When pushed they do acknowledge that good project planning can lead to project success and we are beginning to see SMEs reach out to us for appropriate project development support, particularly from the new high-tech companies and charity organisations.' Amerjit Walia

Regional Challenges

Pressures on infrastructure

An increasing population in West London has caused significant traffic congestion. This has a knock on effect of impacting supply and therefore project timelines, but also impacts air quality and employees' quality of life. A reputation of heavy congestion and difficult commutes can put off top talent from moving to the region, however, the Orbital and Crossrail projects are designed to combat this issue.

In the digital space, internet connectivity has been highlighted as a need in the region giving the flexible and dynamic nature of businesses in West London. Connectivity will be essential for companies to compete with an ever-evolving digital landscape. Wider access to 5G has been highlighted along with increasing digital skills.

Developing the local workforce

Despite a strong population buffer, half of West London's population are economically inactive resulting in high levels of inequality and poverty in the region (West London Alliance Report 2018). Developing this workforce would have a massive impact on the UK economy, considering the region already contributes £70 billion to the economy. The West London Alliance has a vision for growth which has highlighted the skills gap as a key challenge in the area and are helping to create policies that will reduce this and help those on lower incomes move into higher skilled jobs. An opportunity exists here for the project profession to raise awareness of the project management career path to help develop the skills of the local population.

Another contributing challenge is the housing shortages that exist in the region. It is crucial that the West London Orbital and Crossrail

projects deliver on their predictions for housing development in order to encourage the continued flow of residents into the area.

Mitigating uncertainty

Ongoing political uncertainty in the UK has highlighted the need for strong contingency plans to be in place, especially for large-scaled projects, which face heavy media scrutiny over budget overruns and delayed milestones. In particular, Heathrow Expansion is a major project responsible for a lot of 'ripple effect' project work in West London; delays on this project create challenges for other project work and businesses relying on the supply chain.

Retaining local funding

Keeping money in the borough is cited as a key challenge, often linked to council budget cuts, with emphasis on the need for council spending and tax flow to continue for the region to remain buoyant.

"London is congested generally, but West London is particularly congested, but new projects like the Orbital are a response to that."

(Local industry expert)

Growth Drivers

Population buffer

Although increasing the economic activity of the local population is a challenge, the high population density in West London increases the potential to upskill. The region benefits from a strong skills base, and shortages are of less concern than other locations. The local availability of skilled labour helps to attract major projects and investment to the region, as funders have confidence that the area has the workforce and supply chain capacity to deliver major project work.

Diverse local industry

In contrast to other regions that have faced setbacks from historic declines in their major industries, West London benefits from being home to a range of businesses and organisations spanning different categories. This creates project prospects beyond a single stratum and creates the opportunity for cross-sector collaboration. This cross-sector approach means that work is increasingly dynamic and using project management approaches to coordinate workstreams is seen as business as usual.

Strong transport infrastructure in place

Although improving local transport links is a priority given the region's large population, West London nevertheless benefits from robust connectivity and its status as an international hub and gateway, via Heathrow Airport. This is complemented by strong train networks and proximity to major motorways such as the M25. From a project perspective, this gives the region a logistical advantage in supporting goods and creating a mobile workforce.

£31.3

BILLION GVA OF PROJECT PROFESSIONALS

426,000

FTE OF PROJECT PROFESSIONALS

29

14%

PROPORTION OF UK TOTAL EMPLOYMENT

(ONS, 2018)

21%

PROPORTION OF UK PROJECT PROFESSIONAL JOBS

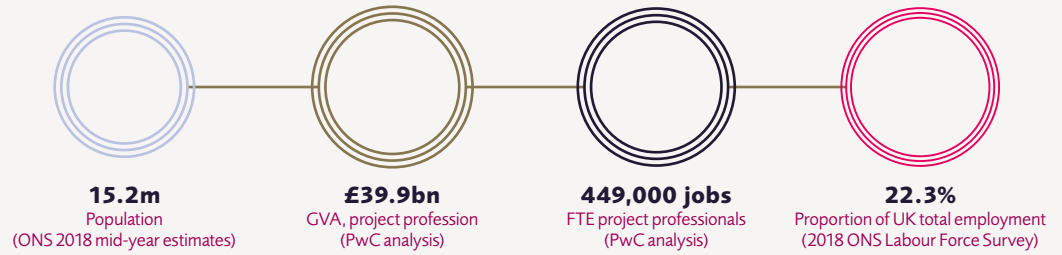
(PWC RESEARCH FIGURES, LONDON, 2020)



The Northern Powerhouse is an economic initiative, intended to revive the North of England economy and boost productivity outside the South East. Developing infrastructure throughout the North, in order to unlock economic growth, is a central priority of the Northern Powerhouse. Project management will play a critical role in both building infrastructure and attracting further investment to the region.

Key Facts and Figures

Key Industries: Advanced manufacturing, engineering, health, pharmaceuticals, life sciences, digital, transport, energy



THE NORTHERN POWERHOUSE

The Northern Powerhouse’s geographic footprint is defined as the 11 LEP areas of the North of England – Cheshire and Warrington, Cumbria, Greater Manchester, Humber, Lancashire, Leeds City Region, Liverpool City Region, North East Sheffield City Region, Tees Valley, York, North Yorkshire, and East Riding – and North Wales.

The overarching goal of the Northern Powerhouse is to boost economic growth in the north of England by bringing local councils and enterprises together, as a means of forging strong partnerships and attracting higher levels of investment through the common Northern Powerhouse identity.

A crucial component of the Northern Powerhouse is Transport for the North, the UK’s first sub-national transport body (STB). STBs group councils together in order to provide strategic transport governance at a large scale. Improving the North’s transport infrastructure is a key priority and several transport-based projects are planned, including the North of England Programme and HS2.

Analysis by PwC Research indicates that the project profession in the north of England region contributes £39.9 billion in GVA to the UK economy. In terms of full-time equivalent jobs, PwC estimates that the region employs 449,000 project professionals, or 21% of the profession’s total UK workforce.

What is the Northern Powerhouse?

The Northern Powerhouse is an economic initiative, proposed by the 2010-2015 Conservative/Liberal Democrat coalition government. The initiative was established as a means of reviving the Northern economy and boosting productivity outside the South East through agglomeration, in particular, in the core cities of Manchester, Liverpool, Leeds, Sheffield, Hull and Newcastle. Initial project work has focused on improving transport links, regional devolution, and generating investment through agglomeration.

Buoyant Sectors

Advanced manufacturing and engineering

The North's traditional industries, manufacturing and engineering, remain key pillars of economic growth in the region, and manufacturing and engineering project management is an established discipline. The sector is a notable source of several major capital projects in the region, such as the engineering and manufacture of the Dreadnought-class submarines, intended to replace the UK's Vanguard-class ballistic submarines. The North has the historic technical knowledge and infrastructure to support this kind of advanced engineering project, which local LEPs involved in the Northern Powerhouse are eager to emphasise in order to continue being a base for this kind of project in the future. Future areas of development include engineering low-carbon technologies and materials.

Health innovation

The research highlights health innovation as one of the region's prime capabilities. Local experts believe the North has the potential to be a leader in this area, through the presence of various pharmaceutical, health-related product manufacturing, research and health tech clusters throughout the region. In terms of research, Liverpool is a centre for infectious disease research, while Newcastle and Durham are leaders in ageing innovation research.

This is combined with clusters of private sector health tech and pharmaceutical companies throughout Manchester, Cheshire and Leeds, and manufacturing of health products in the Humber. The NHS is also an important employer of project professionals in the region: key areas of project demand include mobilisation (moving into new regions where healthcare services are lacking), digitalisation, and improving patient pathways. All these areas of focus have a similar end goal – improving efficiency – which is why demand for project management approaches in this sector is strong.

The use of project management in the pharmaceutical sector has seen strong development in recent years, and adoption is increasing in the life sciences and research sectors. Furthermore, local figures in the North's healthcare sector have identified attracting investment – which the North has lacked historically – as a key requirement in supporting the health innovation industry to grow further. Commercialising health innovation research so that it can be translated into revenue and jobs for the region is also highlighted as a priority for economic growth. Local project professionals working in and around the healthcare sector feel that stronger adoption of project management frameworks could support investment and funding bids, and project management approaches would act as a valuable means of

coordinating workstreams in the future (for instance, between universities and commercial entities) to support the commercialisation of healthcare research.

Digital

Digital was also highlighted as a prime capability in the region and local project professionals agree this is an important sector for both economic growth and project management demand, with the tech and IT industries having employed project professionals and project management methodologies for some time now. Manchester's tech industry is vibrant, based on a large number of tech start-ups in the region that emerged through the presence of the local universities. Newcastle is home to another tech cluster, with Cobalt Business Park, the UK's largest business park, a popular location for tech and IT companies. Local project professionals emphasise that opportunities for growth and the use of project management methodologies in the region's digital sector spans beyond 'pure' tech and IT companies, with opportunities emerging from corporates, government, charities, and healthcare, through emphasis on digital transformation.

Emerging Opportunities

Transport infrastructure development

Transport infrastructure development is highlighted by local figures and project professionals as both an important driver of economic growth in the Northern Powerhouse and a major potential source of project demand. Transport for the North is a huge and important player in the region and an important part of the Northern Powerhouse agenda. Transport infrastructure either underway or marked for development includes the construction of more rail links, electrification (the North of England Programme) and new TransPennine route linking the North and Scotland. HS2 is also forecast to be critical, should Phase 2 go ahead. The emphasis on transport also interlinks with other buoyant sectors, alongside improved east-west movement of goods and equipment in the North highlighted as a means of supporting the region's advanced manufacturing and health innovation sectors.

Energy and clean growth

As highlighted in the Northern Powerhouse's Independent Economic Review, the North benefits from historic work and expertise around the energy sector, and more recently the development of low-carbon technologies. As in the health innovation sector, researchers, LEPs and the local energy industry are considering opportunities for the North to lead the way in developing these technologies, and the ways in which this could be commercialised in order to support regional growth moving forward.

Higher education

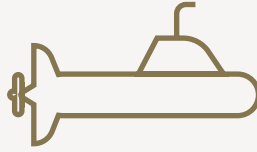
The North's major universities have long been engines of growth, supporting the region's advanced manufacturing and engineering sector and spurring the creation of the North's digital and health innovation sectors through research, innovation and expertise. Local figures and the Northern Powerhouse Independent Economic Review highlight that higher education and

local universities have strong potential to act as future hubs for collaboration between the public, education and private sectors. Anecdotal evidence suggests that the adoption of project management methodologies in the academic research sector (mainly STEM subjects) is gradually increasing, driven by specification from funders and uptake by university researchers. This has increased the number of administrators exposed to project management approaches and raises awareness of the benefits of project management in the delivery of research programmes.

Examples of major projects



Sellafield Model Change
£121bn
Present to 2120



Dreadnought Submarines
£31bn lifetime cost
2011-est. 2029



North of England Programme
£1bn
2015-2018

"I think there's two issues here. What enables economic development is infrastructure development, and project managers are required to deliver infrastructure development. So, project management is absolutely essential, but it's a means, not an end."

(Local economic expert)

"Certainly, what we're hearing from the voice of business is that they would really like to grow, but they need the people to do it. So, what we need is to create a virtuous circle, in which our young people have the skills they need to be employed by businesses, and the businesses can employ them and grow, and then employ and train up more young people."

(Research respondent, Northern Powerhouse)

Regional Challenges

Unlocking investment

Across our interviews, local experts and project professionals highlighted the role that a lack of investment has played historically hindering economic development in the North. One view is that the UK's decision-making process for allocating investment can disadvantage the North, as it tends to follow economic growth, rather than seeking to stimulate it. This contributes to the North/South divide. The other challenge surrounding investment is that political and economic uncertainty generally (e.g. election, Brexit) leads to less spending. The capital sector is often hit disproportionately by this, as capital projects can be regarded as discretionary or non-essential. Unlocking public and private investment in transport infrastructure is highlighted as particularly important, as poor connectivity between East and West in the Northern Powerhouse region is perceived as a key inhibitor of growth and development of the region's major and emerging industries.

Skills shortages

Skills shortages have long been highlighted as a major barrier to economic growth in the Northern Powerhouse's footprint. Despite the presence of major universities, the North East struggles with a high proportion of low-scoring schools and levels of academic attainment below the national average⁽¹⁸⁾.

Outside of education, local businesses (SMEs in particular) report that although they want to grow, they struggle to find and employ people with the skills that they need⁽¹⁹⁾. This, in turn, contributes to higher levels of unemployment throughout the North. In larger corporates, the key issue is leadership and management skills, as a lack of these inhibits growth and productivity⁽²⁰⁾. A lack of technical skills is also mentioned as a challenge. In addition to a lack of education or skills gained while in school, 'brain drain' is also highlighted as a contributor to skills shortages, with the region struggling to retain highly educated and/or skilled workers that either grew up in the North or came to the region for university, as career and salary opportunities are often stronger in the South.

As a career path, project management is not excluded from these challenges. There is anecdotal evidence from local project managers that pathways to becoming a project professional in the North can be challenging, due to low awareness of it as a career path and a lack of on-the-job training in certain industries. This is significant not only as it limits local industry, but also because it could potentially negate any benefits gained through potential infrastructure funding investment in the future, as the North would lack the project professional workforce to carry out infrastructure projects.

Lack of new businesses

Local project professionals and industry bodies noted that new business growth and spending on innovation and research and development is lower amongst Northern businesses than in other parts of the country⁽²¹⁾. This is significant as high-growth businesses account for a strong proportion of job creation⁽²²⁾. The issue is also tied to the skills shortage issues in the North, as businesses – especially smaller start-ups – struggle to employ people with the specific skills they need in order to grow in the area.

Growth Drivers

Collaboration and partnerships

As demonstrated by the buoyant and emerging industry sectors within the Northern Powerhouse footprint, partnerships and collaborations between the public and third sector (councils and local authorities, charities, education/universities) and the private sector (corporates, investors and SMEs) have the potential to be the engines of growth moving forward, offering opportunities to capitalise and expand upon each other's work within industry sectors. Project management methodologies are already used in this area as a means of improving communication and coordination between these industries and workstreams and use of project management in this way has the potential to develop further moving forward.

Investment

Writing project management plans and frameworks into funding bids is recognised as a valuable means of attracting investment, as it signifies to funders and investors that the project's outcomes will be delivered to a high standard and in a timely manner.

Mentoring schemes and frameworks

'Advanced' skills – for example, technical and leadership – are highlighted as key requirements for Northern regional development and growth. As a result, mentoring schemes and frameworks have been considered as a means of assisting the local population – young people in particular – to develop skills while on the job, which would additionally boost employment levels. Local project professionals felt that mentoring schemes would also be a beneficial means of

bolstering the next generation of the North's project management workforce (for instance, through mentored apprenticeships for young people studying for project management qualifications). Supported on-the-job training, was seen as the key to building leadership skills and a stronger, applied knowledge base: many also felt it would help to publicise the appeal of project management as a career option to local young people.

£39.9

BILLION GVA OF PROJECT PROFESSIONALS

449,000

FTE OF PROJECT PROFESSIONALS

22.3%

PROPORTION OF UK TOTAL EMPLOYMENT

(ONS, 2018)

21%

PROPORTION OF UK PROJECT PROFESSIONAL JOBS

(PWC RESEARCH FIGURES, NORTH EAST AND NORTH WEST, 2020)

Overview of Methodology

This research is a continuation of our Golden Thread Report. This is a deep dive analysis of key sectors and regions across the UK which consists of 3 stages:

- 1 **Online Surveys:** We boosted our sample of 438 UK businesses surveyed to 535, focusing on businesses within the charity, healthcare and life sciences sectors. This survey helped us calculate the type of projects being undertaken, the size of these projects in terms of budget and FTEs involved and the proportion of project activity for each of the key sectors.
- 2 **Validation Interviews:** In each of the key regions and sectors, we undertook several exploratory in-depth interviews with industry leaders, project professionals, LEPs and academics with a detailed understanding of regional developments and project activity.
- 3 **Literature Review:** We built a more detailed picture of the regional and sectoral outlook for project management by reviewing key sources, including white papers, policy reviews, ONS data and local council and LEP industrial strategy documents. ONS data included: ONS Annual Business Survey, ONS Labour Force Survey and ONS Mid-year estimates 2018.

Further details of our methodology can be found in our *Golden Thread* Report:

apm.org.uk/media/35641/apm_methodology_may2019-v2.pdf

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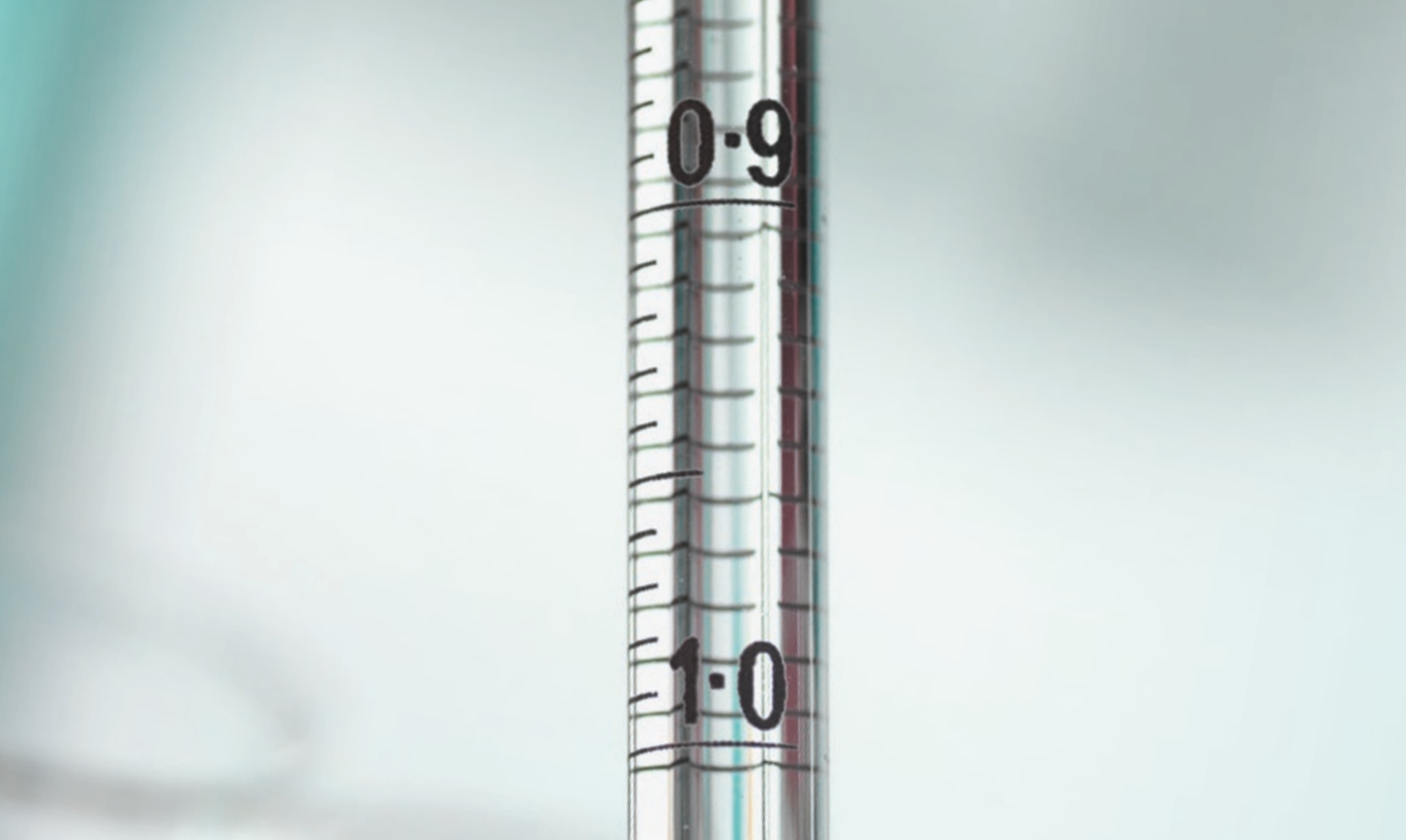
APM would like to thank PwC Research for their research for this latest report and developing the methodology used in the original report. We would like to thank the local industry and regional experts who took part in the study, whose invaluable input helped to shape this report. In the interest of confidentiality, all quotes included in the report have been anonymised.

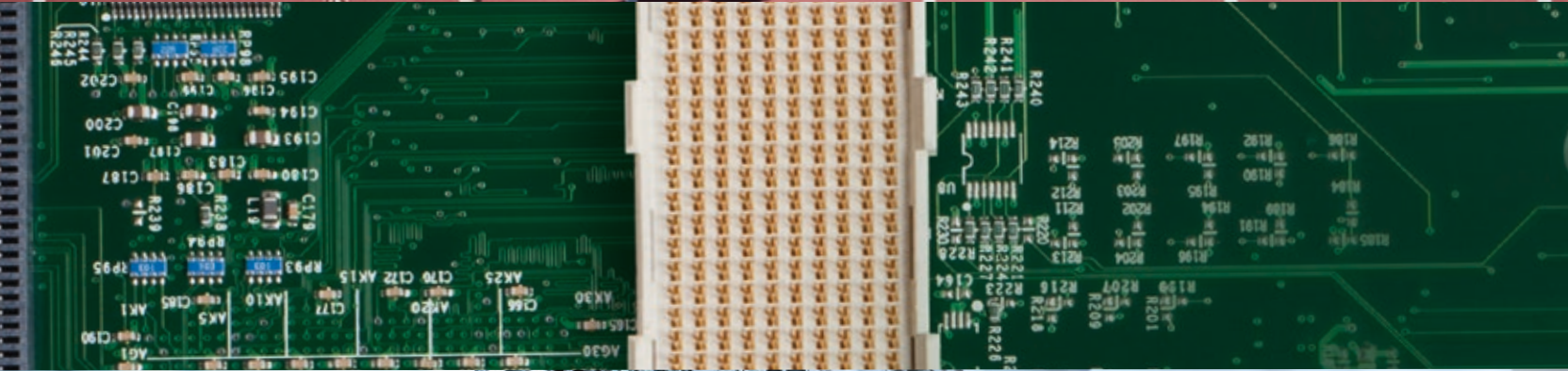
The contribution of the 535 organisations that took part in our UK-wide, cross-sector online survey is also acknowledged.

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