

# PROJECTING THE FUTURE

A big conversation about the future of the project profession

CHALLENGE PAPER 6

THE FUTURE OF WORK AND SKILLS

APRIL 2020

#projectingthefuture

## ABOUT THIS PAPER

### HOW DOES THE PROJECT PROFESSION THRIVE IN A CHANGING WORLD?

**That is the question at the heart of Projecting the Future, a big conversation about the future of the project profession which has been led by APM throughout 2019-20.**

This is the sixth and final Challenge paper in the Projecting the Future series and in some ways, it brings the conversation full circle to themes raised in our launch paper. Rather than focusing on the project profession exclusively, it takes a broader look at the changes under way in how we work and the implications for skills. It asks: what are the changes taking place in the world of work? What skills will be needed for future success, particularly in the project profession?

And how should the profession as a whole get ahead of the curve in meeting the needs of the future?

This brief paper is only a starting point for answering such questions; answers also have to reflect the challenges explored in other Projecting the Future papers. They must also reflect the new reality created by the coronavirus crisis in 2020. Its impact on the economy will be profound, and may manifest itself in unexpected ways. However the recovery plays out, we cannot afford to neglect the skills agenda in the years ahead.

As at every stage of Projecting the Future, we have recognised that answers can only be developed through collaboration and discussion. We have been listening throughout – for instance, the scope and title of this paper evolved as a result of discussions over recent months. Whether you contribute to the ongoing conversation as an individual, an employer, or an expert in the field, your voice is an essential part of the conversation.

We look forward to your input, and to working with you to develop a shared view of how the project profession as a whole can realise its potential as a true leadership delivery profession.

## JOIN THE CONVERSATION

We hope you will share your views, insights and evidence with us and other project professionals on LinkedIn, Facebook, or Twitter. You can also email your thoughts and comments to [ptf@apm.org.uk](mailto:ptf@apm.org.uk).

   **#projectingthefuture**

We are particularly keen to hear about examples of projects or strategies being put in place to address the points raised in this paper.

We recommend reading the original Projecting the Future discussion paper, and the five Challenge papers in the series which have followed since.

1. The fourth industrial revolution, data, automation and artificial intelligence
2. Climate change, clean growth and sustainability
3. Ageing and demographics: the 100-year life
4. The future of mobility and transport
5. Smart cities, urbanisation and connectivity

They can be found at [www.apm.org.uk/projecting-the-future](http://www.apm.org.uk/projecting-the-future)

## THE BIG ISSUES

**Digital transformation and the fourth industrial revolution, the climate crisis, longer human lifespans: the powerful dynamics of change and complexity which have been explored by the Projecting the Future series will drive profound changes in the nature of work in the years ahead. The skills needed to succeed are set to change significantly – and they could make professional project skills more highly-valued than ever before.**

As the best organisations in every sector recognise, having the right skills\* is a pre-requisite of success. At a policy level, they are recognised as critical drivers of both organisational and national productivity and economic performance, yet the UK faces substantial problems related to skills. As the influential Industrial Strategy Council stated in its 2020 report: "The UK is facing an unprecedented skills challenge, with most UK companies reporting skills shortages and 40 per cent of the workforce having skills significantly mismatched with their jobs."

The national discussion about skills has often focused in recent years on the importance of STEM skills – science, technology, engineering and maths. But the importance of so-called soft or people skills is also increasingly recognised. Both areas are important for project professionals in a world where increasing amounts of work are set to be automated by sophisticated digital technology and AI. In the world of 'project management 4.0' (see the Projecting the Future launch paper), interpersonal skills, communication, relationship-building and leadership will be every bit as important as new technical skills like data analytics. Tomorrow's adaptive professional will have to master both areas.

Indeed, the success of project professionals in developing their skills is a matter of significance not only for people in the profession, but for everyone with a stake in the performance of business, public services and the government. After all, the project profession is responsible for delivering a substantial amount of economic value: as PwC research for APM has shown, 2.13m people are employed in the project sector

in the UK, representing 7.9% of the total, and generating £156.6bn of Gross Value Added (GVA) annually.<sup>ii</sup> As the pace of change in the economy has accelerated, the rise of project working has led researchers to talk of the 'project economy'<sup>iii</sup>: perhaps it should be described as the 'project society'. With profound change ahead, the economic value and importance of the profession is only set to grow, and the ability of project professionals to deliver excellence will have ever bigger consequences for society as a whole.

In many ways, the last 20-30 years have seen work transformed. The years ahead could see even more rapid change in how work is carried out. Factors like globalisation and the rise of virtual teams (now dramatically brought to the fore by Covid-19), changing employment relationships, flexible organisational structures, open innovation models, more diverse workforces, and changing corporate cultures will all have an impact on the skillsets expected of tomorrow's professionals. Work is often increasingly complex, carried out in uncertain and unpredictable environments, and that demands different behaviours and skills from leaders including project professionals. The imperative to keep learning throughout life will be greater than ever before.

Work is changing. Project professionals' skills must keep pace.

**"If you want to be a lifelong employee anywhere today, you have to be a lifelong learner"** Thomas L. Friedman, New York Times

*\* We use 'skills' throughout this paper in a broad sense: as a term that describe people's capabilities, including knowledge and behaviours.*

IN NUMBERS

ACCORDING TO MERCER

85%

OF EXECUTIVES GLOBALLY EXPECT TECHNOLOGY TO BE A MAJOR DRIVER OF CHANGE

98%

EXPECT TO REDESIGN THEIR ORGANISATIONS TO MAKE THEM FIT FOR TOMORROW

85%

OF CHIEF EXECUTIVES SURVEYED BY PwC EXPECT AI TO SIGNIFICANTLY CHANGE THEIR BUSINESSES IN THE NEXT FIVE YEARS

#1

VIDEO-CONFERENCING APP ZOOM BECAME THE MOST DOWNLOADED APP ON THE APPLE APP STORE GLOBALLY IN MARCH 2020 AS A RESULT OF CORONAVIRUS

54%

OF ALL EMPLOYEES ARE EXPECTED TO NEED SIGNIFICANT UPSKILLING OR RESKILLING BY 2022

ONLY 51%

OF UK EMPLOYERS ARE CONFIDENT THAT THEY CAN FIND PEOPLE WITH HIGHER-LEVEL SKILLS

5.5M

PEOPLE IN THE UK MAY HAVE PROJECT MANAGEMENT SKILLS SHORTAGES BY 2030

UK EMPLOYERS SPEND

£44.2BN

ON SKILLS ANNUALLY – AN AVERAGE OF

£1,500

PER EMPLOYEE

4.8M

PEOPLE IN THE UK ARE SELF-EMPLOYED

15%

OF THE TOTAL WORKFORCE

#1

EDUCATION AND SKILLS ARE THE BIGGEST DRIVERS OF REGIONAL PRODUCTIVITY DIFFERENCES ACROSS THE UK, MAKING THEM CRITICAL TO 'LEVELLING UP' THE ECONOMY

KEY SKILLS FOR THE FUTURE OF WORK INCLUDE:



ANALYTICAL THINKING AND INNOVATION



CREATIVITY, ORIGINALITY AND INITIATIVE



ACTIVE LEARNING AND LEARNING STRATEGIES



TECHNOLOGY DESIGN AND PROGRAMMING



COMPLEX PROBLEM-SOLVING

1,000

THE NUMBER OF CHARTERED PROJECT PROFESSIONALS ACHIEVED BY DECEMBER 2019

6,500+

THE NUMBER OF LEVEL 4 PROJECT APPRENTICE STARTS TO DATE

150

THE NUMBER OF DEGREE-LEVEL PROJECT APPRENTICES TO DATE

## OPPORTUNITIES AND CHALLENGES

### ■ How work is changing – technology

#### Work and the fourth industrial revolution (4IR)

Sophisticated digital technology including artificial intelligence (AI) could quickly allow for the automation of significant amounts of work that is currently done by people. The benefits could be enormous. At the level of people's current jobs, it could start with simplifying and speeding up work, for example by automating repetitive, dreary tasks. Tasks identified by project professionals at APM's Corporate Partner Forum in early 2020 as ripe for automation included scheduling, reporting and report generation, and document management, among others. At a macro-economic level, the productivity gains could quickly run to billions of pounds: AI could add as much as £654bn to the UK economy by 2035, according to Accenture.<sup>xiv</sup>

#### Technology's impact

It is useful to think about how technology might affect work in terms of particular tasks, rather than jobs as they are currently constituted. There are a variety of potential effects. Tech might straightforwardly substitute human work; but it might also augment what people do; or, it might transfer work to different groups of people. It can also generate new work by making the hitherto unimaginable possible (not only creating work for tech firms).<sup>xvi</sup>

#### Disruption to work

These effects are certain to disrupt how organisations and jobs are currently organised. Simple, repetitive tasks are most easily automated but more sophisticated work is also likely to be affected quickly as the power of technology grows, meaning that automation is set to affect both blue- and white-collar jobs, and unexpected industries. Some thinkers have described a 'second wave' of digitisation which is now affecting asset-heavy sectors that previously seemed immune to its effects.<sup>xvii</sup> Uncertainty is inherent in forecasts about how future developments in technology might affect jobs, but as many as 800m jobs globally could be at risk by 2030 according to some forecasts; as many as 35% of UK jobs are at high risk of automation, according to Bank of England forecasts. See the initial Projecting the Future discussion paper and the first Challenge paper for more on this theme, and recall the words of Microsoft founder Bill Gates: ""We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten."

### Are workers unprepared?

Recent research by Nesta, the innovation foundation, suggests that many UK workers are "woefully unprepared" for the potential impact of automation. Research among workers in roles deemed to be at high risk of automation found that 68% did not believe their jobs were likely to be automated in the next ten years. Around a third (34%) had not had any formal training over the last five years, and a further 14% had received no formal training at all since leaving school or college.<sup>xviii</sup>

### ■ What other factors are reshaping work?

#### The purpose of work

For many commentators and business leaders, the very purpose of organisations – and of work itself – needs to be revisited, in part because of the potential impact of technology. The evolution of work in Western economies has been shaped by the limited company and the legal need to create profit for the benefit of shareholders. Many thinkers now question whether that model is sustainable. The British Academy's work on the future of the corporation has set out eight principles for purposeful business, from reforming corporate law, to governance and investment.<sup>xix</sup> In the US, the Business Roundtable group has released a Statement on the Purpose of a Corporation, signed by the CEOs of 181 major companies, which articulated the need for business to shift away from putting shareholders' interests first in favour of creating long term value for all stakeholders, including customers, employees, and wider communities.<sup>xx</sup> Many leaders are seeking to prioritise purpose-driven activity as part of an effort to 'rehumanise' business and improve employees' engagement with their work.<sup>xxi</sup> The price of failing could be significant, with one study finding that 80% of executives expect a rise in 'workplace activism' in the next 3-5 years: a potential risk to corporate reputation, but also a potentially significant force for good.<sup>xxii</sup> **In the wake of coronavirus and the associated economic shock, might there be an appetite for more radically rethinking the purpose of business and restructuring the economy?**

#### Diversity and inclusion

Beyond technology, there are multiple other drivers of change in how organisations work. Diversity, in all its dimensions, is a defining feature of modern workforces. Working in teams and groups that effectively combine people from different backgrounds – drawing on their different viewpoints, experiences, ideas and insights – will be critical to organisational performance and innovation.<sup>xxiii</sup> Leading employers increasingly aim to be not only diverse but inclusive, ensuring that different voices are amplified and listened to in solving problems, innovating and making key business decisions.<sup>xxiv</sup>

### Change and the rise of project working

Another defining feature of modern work – and one which represents a huge opportunity for the project profession – is the rise of project working throughout organisations. The pace of change in the external environment means that for many organisations, work is less about 'business as usual' and increasingly about delivering change, which has made projects more and more important. Since their success will depend on project skills, project professionals could be much in demand. Professionals of other hues may also look to learn from the project profession. One US-based educator has argued that since "work has changed from being based on operations, to projects", executives need to "rethink [their] approach to talent, and recognise the new skills and behaviours needed to succeed in a world that is oriented around projects."<sup>xxv</sup>

#### Complexity and unpredictability

Another defining characteristic of the modern economy is its complexity: organisations operate in systems which comprise multiple parts that interact in unpredictable ways. The Cynefin framework developed by Dave Snowden, which was explored in the Projecting the Future launch paper, is one way of understanding this trend. One of the implications of increasing complexity is an increasing need for project professionals to involve stakeholders, including end users, in making project decisions. Doing so could help mitigate uncertainty and increase the likelihood of projects delivering desired benefits.

#### Open innovation culture

Digital technology has enabled organisations to become increasingly fluid and permeable in their boundaries. Research and development of new products and services are increasingly happening in partnership: with different organisations, and in collaboration with customers and clients.<sup>xxvi</sup> The end-user perspective is critical for the project profession.

#### Changing employment relationships

Another significant factor in the changing landscape of work is in how people are organised and contracted to perform work. Organisations' fluctuating needs for resources – linked to the rise of project working – mean that employment relationships have been undergoing major change. It has been widely accepted that the notion of a 'job for life' is outdated, and for many people, even the notion of a 'job' as understood in previous periods is changing. Teams are increasingly drawn together to deliver work before disbanding, with new teams forming to deliver new work. The rise of the 'gig economy' has seen the legal basis of work change for millions of people: the number of self-employed in the UK rose from 3.3m in 2001 to 4.8m in 2017, or 15% of the total workforce.<sup>xxvii</sup> Technology has enabled online marketplaces for contingent work: examples

include Uber, for driving, Upwork, for freelance professional services, and TaskRabbit, for odd-jobs and errands.<sup>xxviii</sup> Policymakers have often seemed unwilling or powerless to challenge these trends, but might this change in the wake of the coronavirus crisis? Given widespread concerns about those working in the gig economy, there may be renewed discussion about policy interventions to address the balance between labour market flexibility and social security.

#### What effect will new ways of working have?

For some critics, there are profound questions for society to answer about the 'precariousness' of new forms of work and the loss of social security provided by good jobs and stable employment – though advocates point to the increased flexibility on offer for both individuals and organisations. There are also questions about how workers outside of traditional employment structures can access opportunities to improve their skills and develop. What responsibility do organisations bear for professional development? How do organisations retain knowledge and develop their corporate cultures? More broadly, will people's leisure time increase, and what impact would that have on society? How should the implications for job security and income be managed? One think tank has called for a minimum wage for self-employed workers,<sup>xxix</sup> while the idea of a universal basic income has started to be discussed by politicians and policy makers as part of a possible response to job automation. Comparisons can be made to the unprecedented action taken by governments to support people's income in the face of the coronavirus crisis.

## ■ The implications for education and skills

### Growing demand for higher level skills

The changing nature of work has long been recognised as driving demand for higher level skills in general. According to the latest research among employers, "Higher level education is more in demand than ever" – but only 51% of employers surveyed for the 2019 CBI/Pearson education study were confident that there will be enough people available to fill jobs needing more than entry-level qualifications in the years ahead. The research found that most employers are satisfied by young people's academic knowledge, with "character, behaviours and attributes" deemed to be the most important considerations for employers when recruiting school and college leavers.<sup>xxx</sup>

### The UK's education performance

The OECD's latest evaluation of education performance around the world, the 2018 PISA results,<sup>xxxi</sup> saw the UK rise from 27th to 18th in maths – although average scores recorded by pupils in science and reading have not improved in 13 years, with the UK ranked 14th in both areas. The OECD's Andreas Schleicher described the UK's results as "a positive signal" but warned that it would take the UK "a very long time" to catch up with the highest-performing economies.<sup>xxxii</sup>

### Skills drive performance and prosperity

Analysis by the CBI has shown just how important skills are to business productivity and performance: in fact, people's education and skills levels are the biggest predictor of differences in productivity levels between the different parts of the UK.<sup>xxxiii</sup> At a time when the government has committed to 'levelling up' across the UK, skills policy could be more important than ever. Skills do not only drive individual opportunity: they are also pivotal to organisational productivity and to macroeconomic outcomes.<sup>xxxiv</sup> As the recent report of the 2070 Commission noted, action is needed to raise the skills of every part of the UK to the levels of the best. The Commission has called for a national plan to raise attainment levels.<sup>xxxv</sup>

### Which skills will be needed?

Debate on skills has long focused on 'STEM' skills – science, technology, engineering and maths. Shortages of these skills have been estimated to cost UK businesses £1.5bn annually.<sup>xxxvi</sup> Steps to improve the UK's technical skills base are being supported by education system reforms including the Apprenticeship models rolled out in recent years, and the T Level courses, combining classroom learning and 'on the job experience' which will start rolling out from September 2020. The Industrial Strategy Council has found that apprenticeships

reforms "have raised vocational education standards in the UK, with larger numbers of higher-level apprenticeships", although there are concerns about the "somewhat inflexible and restrictive" funding system: it concludes that greater flexibility is needed.<sup>xxxvii</sup>

### 'Human' skills

With technology set to take over increasing areas of work, there is growing recognition of the value of so-called 'soft' and 'human' skills, which are less susceptible to replication by technology. Essentially human abilities – such as being creative, defining and solving problems, or engaging, influencing and inspiring other people – will be at a premium. This has been a theme in extensive work by different bodies.

### Rising priorities

The influential World Economic Forum has published the skills that it sees as critical in the near future. Its analysis of the most important emerging skills for the UK includes: analytical thinking and innovation; creativity, originality and initiative; active learning and learning strategies; technology design and programming; complex problem-solving; critical thinking and analysis; leadership and social influence; systems analysis and evaluation; reasoning, problem-solving and ideation; and emotional intelligence.<sup>xxxviii</sup> Other analyses highlight similar priorities. EY's Future Skills work, for example, identifies the top skills needed to navigate the changing world of work as creativity, emotional intelligence, collaboration, complex problem solving, and cognitive flexibility.<sup>xxxix</sup>

### Multidisciplinary working

Another aspect of the demands facing tomorrow's professionals is that of multidisciplinary working. A 2019 study by IMechE found that engineers will need to be "technically fluent" in a wider range of areas, with strong collaboration and problem-solving skills. The report concluded that, in order to develop a sustainable career, engineers will be required to have broader expertise and the ability to move between fields.<sup>xl</sup> Multidisciplinary *teams* will also be critical, especially in adapting to new technology. Rob McCargow, director of AI at PwC, told APM's 2020 Corporate Partner Forum that his team includes a business ethicist working alongside technical specialists: in his field, it is critical to remember that "just because we can do something doesn't mean we should". As natural team builders, project professionals should already be comfortable with multidisciplinary working – but what are its implications likely to be in the years ahead?

## ■ Learning and development

### Is the UK investing effectively in skills?

According to a recent CBI report, business spending on on-the-job training and development decreased by £3m between 2011-2017 – at the same time that off-the-job training expenditure increased by £7m. Yet on-the-job training is often the most effective form of development.<sup>xli</sup> As skills needs evolve, what will be the most effective forms of learning and development?

### New routes into the professions

The skills sector has been subject to continual upheaval for decades. Further Education has been subject to almost 30 major pieces of legislation since the 1980s. APM has called for greater stability to help increase employer's confidence in the system and unlock long-term investment, while recognising the value of reforms to create new routes into the profession to expand the talent pool. Such policy initiatives in recent years have included the Trailblazer Apprenticeships, including in project management, which have offered an innovative and powerful blend of academic study and practical workplace learning. Varied ways to enter the professions are to be welcome, as long as they are adequately funded and win employers' confidence.

### Flexible learning

How should the skills system, including employers, higher education providers, professional bodies and others, deliver the skills needed for the future? One report highlights the importance of flexibility, tailoring programmes to individual and organisational needs, and a focus on business and 'soft' skills as well as technical abilities.<sup>xlii</sup> Courses will also need to allow the flexibility for learning to be combined with work, so universities will need to evolve what they offer, or could become increasingly challenged as providers of advanced training, with industry looking elsewhere for CPD provision.

### Learning through life

The extent of change across the economy, combined with expected rises in life expectancy and health – and hence in the duration of working lives, as highlighted in the fourth Projecting the Future Challenge paper on the '100 year life' – mean that learning new skills will be an imperative throughout life. Thomas Friedman, the influential New York Times columnist, has written: "The notion that we can go to college for four years and then spend that knowledge for the next 30 is over. If you want to be a lifelong employee anywhere today, you have to be a lifelong learner." Everyone has a responsibility for their own development, he adds: "More is now on you. And that means self-motivation to learn and keep learning becomes the most important life skill."<sup>xliii</sup>

## Infrastructure and modern construction

Some of the biggest challenges and most exciting project opportunities in the years ahead lie in the field of infrastructure and construction. The government is set to invest significantly in infrastructure and Sir John Armitt of the National Infrastructure Commission has said: "The immediate future offers a once in a generation chance to fix the UK's infrastructure. That chance must not be missed."<sup>xliv</sup> Ensuring that the UK has the skills needed to deliver through modern, or 'smart', construction methods will be critical – as Nick Smallwood, chief executive of the Infrastructure and Projects Authority, has pointed out, the construction sector is the least productive industry in the UK. But as he also adds, improved technical skills needs to be accompanied by professional project skills in government: "we have to become a more informed and intelligent client"<sup>xlv</sup> While project delivery skills in government "are improving", he says, "there remains a significant shortfall in both capacity and capability" against the government's ambitions. It is an urgent challenge: "we need to level up in project management, in our people, in the skills available and in all regions of the UK."<sup>xlvi</sup> That means not just having more project professionals coming through the development pipeline, but better-skilled ones, reducing the numbers of what APM has described as 'accidental' project managers.<sup>xlvii</sup>

### Opportunities for skills in the wake of the Covid-19 crisis

Among the many side-effects of the coronavirus crisis has been a delay in launch of the government's National Infrastructure Strategy. Responding to the announcement at the time of the Budget in March 2020, APM chief executive Debbie Dore urged the government to use the extra time created by the delay to reflect on its proposals for skills development. "Investing in people, as well as material resources, will create the skills necessary to deliver projects now and in the future," she said. "Project professionals will need to develop skills that can address emerging challenges and deliver sustainable solutions. Whether projects form part of plans for tackling disease, building modern high-speed railways, tackling the effects of climate change or planning the construction of new homes, it is important that people have the right attributes and skillsets to adapt and thrive."<sup>xlviii</sup> To what extent will changes in how people work, such as the boom in remote working – and the benefits, such as reductions in CO2 emissions – be sustained beyond the immediate coronavirus crisis?

## THE BIG CONVERSATION: DEBATING THE FUTURE OF WORK AND SKILLS

**The future of work and skills were at the centre of the conversation at APM's Corporate Partners Forum in March 2020.**

Katie Harrison, senior project manager at Turner & Townsend, and Claire Dellar, director of Transformists Ltd, led an interactive session on the future of work and skills, outlining a world that will be marked by increasing diversity and flexibility. That diversity will be evident not only in terms of the protected personal traits – such as gender, sexuality, race and ethnicity – but in a range of other dimensions including working hours, employment relationships, location and backgrounds. This shift will demand flexibility from employers and careful thinking from project professionals about what is needed to work effectively across diverse teams; about how they can instil a culture and ensure that team members act in accordance with shared values; and how they can effectively share knowledge. The "human factor" will be critical.

Indeed, interactive polling during the session revealed that Forum attendees saw communication as the most important skill for project professionals, both now and in the future. Dellar showed how she uses the virtual office space service, Qube, to enable effective communication and collaboration across her team. This theme generated a lively debate about the balance between remote and on-site working. Some Forum participants argued that the small signals and non-verbal cues which can be picked up through face-to-face communication – for example about wellbeing and stress – cannot be picked up online. Dellar suggested that people do still share signals, and the skills and techniques needed to pick up on such signals can be developed; one simple practical step is for leaders to dedicate time to general catch-ups with team members, rather than meeting only to discuss project work.

The session also saw discussion about the impact of digital technology on work. Harrison suggested that, for now at least, "technology means augmentation" – supporting professionals by streamlining laborious tasks, freeing them up to focus on the real priorities of delivering change. These changes are set to make data skills crucial, and initiatives like the London Project Data Analytics Meet-up have started to explore this agenda. Forum attendees identified scheduling, report generation and document management as some of the areas where automation is most likely over the next five years.

The future of work and skills were also to the fore in the day's session on automation and AI. Sophie Newbould suggested that technology could help address some of the perennial problems that afflict major projects, providing for greater clarity about agreed project aims and decisions taken as projects progress. But, she argued, it is still the case that success relies on "People, ideas, machines – in that order!", in the words of the US Air Force Colonel John Boyd.

Rob McCargow, director of AI at PwC, explored the state of adoption of AI to date, highlighting both its enormous potential for good – for example in medical research – and possible pitfalls, such as the replication of social biases in AI decision-making. Adapting people's skills for the future is a major challenge: PwC research into the impact of AI on people's jobs has found that 77% of people say they are ready to learn new skills, yet 26% say their current employer has given them no opportunities at all to learn.

PwC has launched its own response to automation in the form of a \$3bn global 'New World, New Skills' programme, which aims to support all of PwC's people in up-skilling and preparing for an increasingly digital world. In the UK, this includes a digital accelerator initiative which will provide an immersive technology training programme, a digital hub for self learning, badges for employees to earn, and a digital fitness score to track progress. Employees will also be invited to face-to-face training days at PwC's digital academy, learning more about some of the technology the executive team believe will be critical for the future. <sup>10</sup> Bob Moritz, PwC's global chairman, has promised employees who opt in to the programme that "we will not leave you behind. I can't guarantee you the specific job that you have or want to have. But I can guarantee you you're going to have employment here."

## THE PROJECT PROFESSION CAN THRIVE IN THE FOURTH INDUSTRIAL REVOLUTION

**Dr Ian Clarkson, head of organisational consultancy at QA, was the guest speaker at one of APM's Projecting the Future events on the future of work and skills and has blogged for APM on this theme.<sup>1</sup>**

"We don't know what the future will hold, yet what we do know is that change is omnipresent – and therefore the need for project management is only going to increase.

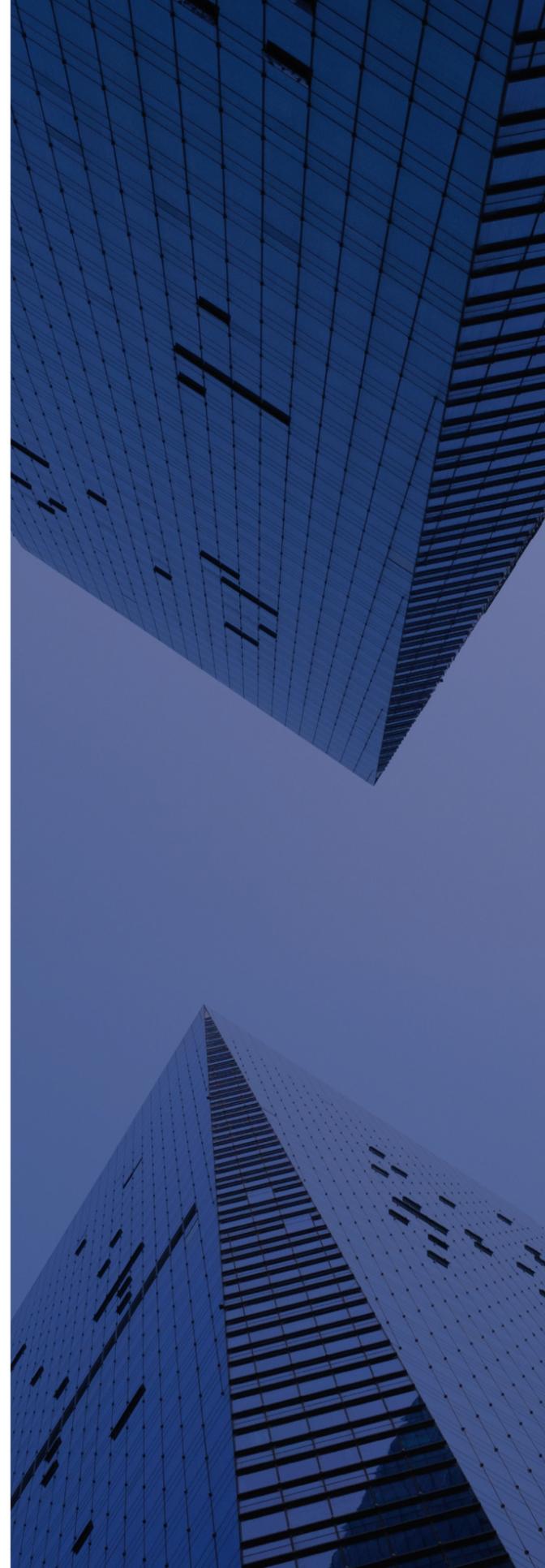
Yet a McKinsey report published in 2019 (*The future of work: Rethinking skills to tackle the UK's looming talent shortage*) projects that project management will have 5.5m workers with skills shortages by 2030.

In my experience, 'softer skills' are all too often underappreciated and underdeveloped compared to 'technical' skills. I get increasingly frustrated when I still see project management roles with a heavy weighting on the technical skills. I contend to flip it. Put more weight on the 'softer' skills. And look to a wider resource pool: what talent is there that possesses the softer skills, but perhaps not all of the technical skills?

We need people with ideas, creative thinking, awareness of human bias (e.g. loss aversion, endowment effect) and influences, for example behavioural economics ('nudges'), psychology, and neuroscience, to understand human foibles and how these impact on projects. At a time when we need to do more work with schools, perhaps these skills will attract the next generation more than planning, risk, quality and so on.

Tye Brady, Amazon's chief robotics technologist, has talked about the need to "smartly design our machines to extend human capability." Instead of focusing on what AI and robotics will replace, he thinks about this as "a symphony of humans and machines working together." What a beautiful phrase. We've always known the importance of the 'soft' skills – the digital revolution will make them even more important.

With an open mindset and a lifelong learning attitude we will always be able to adapt. The project profession can thrive in the 4IR."



## A PROJECT PROFESSION VIEW: AN ADAPTIVE PROFESSION

**What are the potential implications of the changes ahead in work and skills for how you work? And how might they affect the project profession more broadly?**

How people work is set to be profoundly reshaped in the years ahead. Underpinned by the transformational technologies of the Fourth Industrial Revolution, there are complex factors in play which will have significant implications for project professionals. If the project profession is to be the engine of change, what must it do to thrive?

One important answer is to cultivate a 'growth mindset': a commitment to continually learning new skills over the course of a career. Credited to Stanford psychologist Carol Dweck,<sup>li</sup> the idea of the growth mindset is contrasted to the 'fixed' mindset, or the belief that talent is innate. It has also been described as the shift from 'know-it-all' to 'learn-it-all'. One leader who has championed this notion is Satya Nadella, who has put it at the centre of his leadership of Microsoft since becoming chief executive in 2014.<sup>lii</sup> By extension, the idea of the growth mindset suggests that sustainable business success requires support for employees' ongoing learning and personal development.

At a time of longer working lives and technological disruption at work, that responsibility is becoming more and more important. We believe that we are entering the era of the adaptive professional. Project professionals will need to respond and adapt to – and in fact, to shape and lead – change in any number of fields. Certain technical skills, such as those relating to data analytics or the automation of our work, will be much in demand. At the same time, the human factor will be more important than ever, as project professionals are tasked with pulling together, influencing and leading diverse groups to achieve transformational outcomes.

**“I said: ‘I’ve got to become a learn-it-all’”**

Satya Nadella, Chief executive, Microsoft

### Learning throughout our lives

In the face of far-reaching change, it is surely time for a complete rethink of traditional approaches to learning and development. Education cannot simply finish at 18 or 21: today's young professionals could face technological job disruption several times over their working lives, which will add to the urgency of providing opportunities to retrain and adapt. Indeed, the idea of more-or-less linear progression through education, a career, and retirement is already breaking down. One alternative is a 'learning, leveraging, longevity' model.<sup>liii</sup> This recognises that people are increasingly likely to move back and forth between learning and work over time. The potential advantages including greater control for individuals, a recognition that long and diverse working lives will require periods of study and re-training, and flexibility, enabling a better balance between work and other parts of life (like family care) when needed.

As Lynda Gratton and Andrew Scott have argued in their work on the '100 year life',<sup>liii</sup> merely “brushing up” on the latest knowledge will not be enough: people will need to make serious investments in learning and retraining. Making sure that happens will take coordinated thinking by employers, government, professional bodies and individuals alike, to develop a shared long-term vision and commitment to provide education and training through life. Yet for now, funding is still mainly oriented around learning at the start of life. How could that be changed?

One approach would be to introduce Personal Training Accounts in the UK. This idea has been proposed by influential thinktanks including the RSA<sup>liii</sup> and Social Market Foundation,<sup>liii</sup> drawing on the system that has successfully been used in Singapore. Such accounts could give people control over funding for their personal development throughout their lives. That is critical: there has to be support for professional education at every stage of life, both providing a strong pipeline of people entering the professions – building on the momentum generated by the Trailblazer Apprenticeships in recent years – and enabling established professionals to continue learning and to retrain where needed.

As the SMF also argues, various other elements are needed for a successful policy approach to the “50-year career”: support for modular learning, a focus on workers in industries at particular risk of automation, and support from the

healthcare system for longer working lives. This has to add up to a coherent system, as the cross-party Skills Commission pointed out in its 2020 report, where it called for a long-term framework for skills and lifelong learning. As the Commission warned, employers have been struggling to engage with a fragmented system.<sup>liiii</sup> One result is visible in the high numbers of people who have been denied access to training and development at work, which risks creating a two-tier society divided between those used to learning, and those who are not. The UK and the global economy will be hard pushed to recover from the economic shock created by the coronavirus pandemic – we cannot afford to neglect the skills agenda in the years ahead.

### AI and the human factor

As 4IR gathers pace, there will of course be demand for technical skills. But automated systems and AI cannot do everything. Critical areas of work will remain innately human. For project professionals, as for professionals in other areas, there will be convergence on these vital – and profoundly human – skills. They will include analytical and creative skills, communication, and team working.

Two recent PwC white papers on AI explore these points, arguing that it is technical project management skills which could most usefully, and most easily, be automated or augmented by technology. When it comes to decision making, tech can help with data and modelling – but it cannot replace the elements of human judgement that are ultimately needed. Neither can AI take emotional or social dynamics into account, which means it cannot replace the management, leadership and interpersonal skills needed around important decisions. As the authors state: “In the midst of this evolution it is important to remember that there is something AI cannot do – be human.”<sup>liiii</sup>

For all the excitement of AI evangelists, this is likely to remain true for some time. 'Being human' is where project professionals will add most value – and where their skills will need to be at their sharpest.

## WHERE NEXT FOR PROJECTING THE FUTURE?

**Tim Banfield, chair of the Projecting the Future Group, looks at what might lie ahead for the 'big conversation'.**

This is the sixth and final Challenge paper in the Projecting the Future series and we are almost a year on from the launch of Projecting the Future as a 'big conversation' about the future of the project profession. Now, as we explore what comes next, we would again welcome your input.

As we said from the very start of Projecting the Future, we did not come into this with prescriptive views about what lay beyond the first year – but we did have clear principles. Critically, we said we would be responsive to how the conversation unfolded and reflect on what we heard from APM members and stakeholders throughout the year.

So, we have been listening over the past months. We need to ensure that our next steps align with what you have said will be needed to support individuals and organisations alike in a changing world. Throughout Projecting the Future, you have highlighted the extent of change happening all around us, in so many different dimensions. We need adaptive professionals with the skills to lead and manage that change.

Throughout this conversation APM has listened to the key emerging themes. The areas you have raised are varied and wide reaching, including leadership, learning styles,

data, meta-competencies, inclusivity, global challenges such as climate change, and how we build confidence in the profession. These will have implications for continuous professional development (CPD) for many years to come, and APM is already responding, starting to look at how these needs can be incorporated in both learning and qualifications. No doubt more themes will emerge as we learn more and as change continues to accelerate around us.

Projecting the Future has been exciting, challenging and eye-opening. The engagement of APM members and wider stakeholders has been at the heart of its success and will be every bit as important to APM's future. And from all our conversations so far, the single most inspirational message I have taken away is that as project professionals, everything we do changes the world a little bit for the better.

The chance to make those changes even bigger and more effective is the opportunity which makes the next phase of our work together so exciting, as we Project the Future.

**Tim Banfield**  
Chair, APM's Projecting the Future Group

## DISCUSSION QUESTIONS FOR THE PROJECT PROFESSION

Throughout Projecting the Future, we want to explore the questions that matter about the future of the project profession.

We want to hear from you: from individuals, teams, departments, organisations, institutions and communities. We want your views, ideas and evidence relating to these questions, and we are keen to hear stories – whether from individuals or organisations – that help show how the project profession is starting to adapt to these challenges.

**1. How is project work changing in your organisation or sector? What factors are driving those changes?**

**2. As a result of these changes, how will the skills needed by the project profession change over the next 5-10 years?**

**3. What skills will be needed from project professionals at different career stages?**

**4. How can your organisation respond to these challenges and develop project professionals fit for the future? What action has it already taken?**

**5. What action is needed from others – e.g. government, educators, professional bodies – to ensure that there is a strong pipeline of project professionals coming into the labour market with the right skills and abilities over the next 5-10 years?**

**6. Are skills and learning given sufficient consideration in the projects that you are involved with today? Could projects be better used to generate learning and lasting improvements in skills? How?**

**7. What role should APM, as the Chartered body for the profession, play in the future?**

**8. Is there anything else that hasn't been covered here that should be discussed in relation to the future of work and future skills needs in the project profession?**

**9. And finally – what steps will you take to prepare for the future of work?**

**See page 2 for details of how you can join the big conversation. We look forward to your input.**

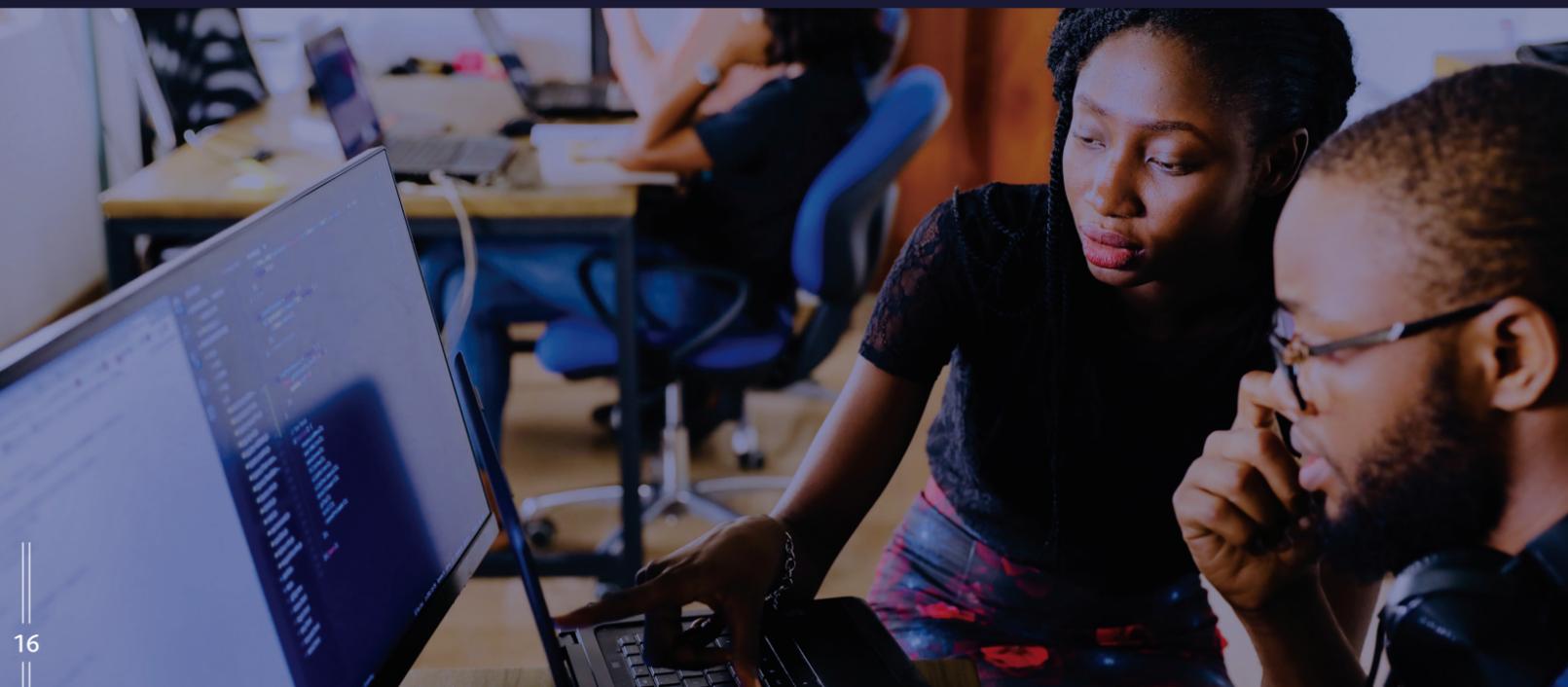


## FIND OUT MORE: TOP SOURCES

- The *Leadership 2025* report from the Recruitment & Employment Confederation (REC) is its latest Future of Jobs white paper, in association with the APM. It examines how employers can identify and nurture a new generation of leaders and project managers that is equipped to steer organisations through evolving business landscapes and inspire a multi-generational workforce. Find the report, and others in the series, at: [www.rec.uk.com/help-and-advice/policy-and-campaigns/future-of-jobs-commission](http://www.rec.uk.com/help-and-advice/policy-and-campaigns/future-of-jobs-commission)
- The World Economic Forum's *Future of Jobs Report 2018* offers a wide-ranging assessment of the future of work. It includes analysis of the drivers of change in the jobs market, the types of technology that could be adopted, the prospects for a wide range of jobs, and emerging skills needs on a country and regional basis. The report is part of the Forum's workstream on Preparing for the Future of Work, which can be found at: [www.weforum.org/projects/future-of-work](http://www.weforum.org/projects/future-of-work)
- The RSA's Future Work Centre carries out research and analysis on the future of work, aiming to equip policy makers, employers and educators with the insights needed for tomorrow's workplace. In particular, the Centre focuses on ways to increase 'good work', how radical technologies are set to affect jobs, and the implications for the social contract. [www.thersa.org/action-and-research/rsa-projects/economy-enterprise-manufacturing-folder/the-future-of-work](http://www.thersa.org/action-and-research/rsa-projects/economy-enterprise-manufacturing-folder/the-future-of-work)
- The CBI/Pearson Education and Skills Survey provides insights into how employers perceive and engage with the education and skills system. Now in its second decade, the 2019 report is available at: [www.cbi.org.uk/articles/education-and-learning-for-the-modern-world](http://www.cbi.org.uk/articles/education-and-learning-for-the-modern-world)
- The Department for Education's Employer Skills Survey is the authoritative source on employer spending and policies on skills in the UK. The latest edition is online at: [www.gov.uk/government/publications/employer-skills-survey-2017-uk-report](http://www.gov.uk/government/publications/employer-skills-survey-2017-uk-report)
- The Industrial Strategy Council was created to provide an impartial and expert evaluation of the UK government's progress in delivering the aims of its industrial strategy and its impact on the economy. Its 2020 annual report assess progress on a wide range of issues, from the 'Grand Challenges' of automation, climate change, mobility and the ageing society, to the impact of local industrial strategies, as well as covering skills and recent apprenticeship reforms. <https://industrialstrategyCouncil.org>

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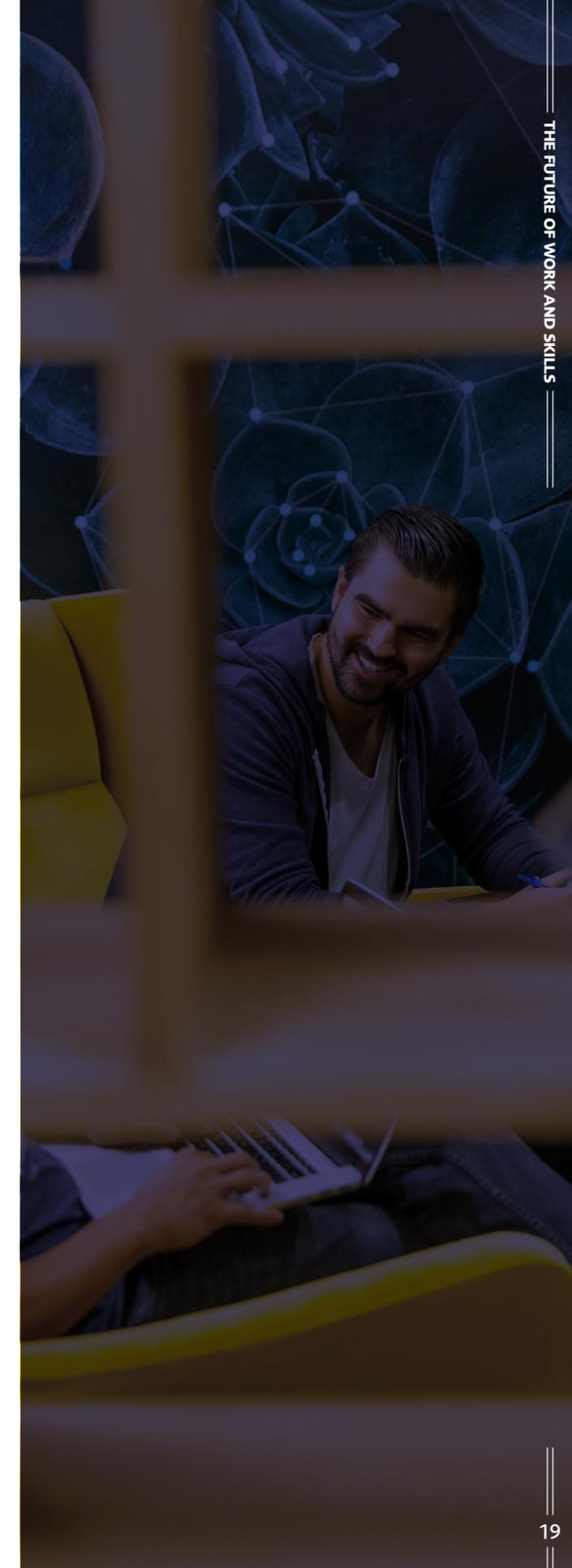
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**Association for Project Management**

Ibis House, Regent Park  
Summerleys Road  
Princes Risborough  
Bucks, HP27 9LE

Tel (UK) 0845 458 1944  
Tel (int) +44 1844 271 640  
ptf@apm.org.uk  
apm.org.uk



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