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FROM THE EDITOR

50 years of game-changing projects

As APM celebrates its 50th anniversary, there's no better time to reflect on past achievements

The Queen isn't the only one to enjoy a significant anniversary this summer. Back in the summer of 1972, when men sported bushy moustaches and flares, and women staggered in platform shoes, APM came into being. Leafing through the archive of *Project*'s predecessor, *The Bulletin*, in the Ibis House archives was a lot of fun and (once I'd got past what working life in the 1970s looked like) a revelatory experience – in two ways. First, in how our work worries haven't really changed. And second, in witnessing the birth, development and delivery of iconic projects that have become the background to our lives. Let me explain.

The early issues of *The Bulletin* contained reports on new technology, new ways of working, how to keep teams motivated and how to communicate effectively. These are themes that are not out of place in 2022. *Plus ça change* – although I would like to think that some progress has been made the past 50 years. Also, as someone who grew up in the 80s and 90s and lived in London thereafter, it was unbelievably interesting to see how game-changing projects like the Channel Tunnel slowly came to life, and how what we take for granted (I watched the Shard climb skywards from my bedroom window) actually came into being.

I hope you enjoy this special issue of *Project* that walks through the decades to celebrate the projects that have changed the world, no matter the 'challenges' that they met along the way. There's a lot to be proud of, so give yourself a pat on the back and pass this copy of *Project* along to friends and family to spread the word about what project professionals have achieved.

And once you're done going back to the future, please take time to read my interview with BBC presenter Evan Davis – an informed outsider and clued-up commentator we invited to talk about the importance of projects in improving society and, well, everyday life. He gave a thoughtful, entertaining and personal take on the megaprojects that have crossed his life (and if you want more, then listen to his APM Podcast at bit.ly/3lLODvV). I'm only sorry that we couldn't include more…

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APM at 50:
Better projects for a better future

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"The Channel Tunnel genuinely excites me still. I'm one of those people who look out the window when I'm in the tunnel hoping to see that they've left the gates open and I can grab a glimpse of the other line, or ideally a train coming the other way."

Will Amlot

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APM

PROJECTS THROUGH THE DECADES

As APM celebrates its 50th anniversary, *Project* takes a look at the era-defining projects of the past five decades. We salute successes, witness the birth and growth of the modern profession, and understand how ways of doing things have changed. From Concorde and NASA's Voyager space programme to the London 2012 Olympic and Paralympic Games and the birth of the World Wide Web, *Project* goes back to the future: Enjoy!

NEWS
ANALYSIS

ØRESUND BRIDGE'S IMPRESSIVE LEGACY

The road and rail link between Sweden and Denmark is the perfect example of a megaproject that has transformed the world for the better

As part of the celebrations for its 50th anniversary, APM is throwing a spotlight on 50 projects that have beneficially impacted on our lives, and the bridge that links Copenhagen and Malmö is one of them. Opened to the public in June 2000, the megaproject is not only symbolic of international cooperation, but also testament to the engineering feats that are now possible. The bridge is a 16km-long road and rail link between Sweden and Denmark that spans the Øresund strait. It consists of three sections: a bridge, an artificial island and a tunnel. The bridge opened on budget and ahead of schedule, and has reduced the travel time between the two countries from a one-hour ferry trip to a 10-minute car or train ride. It was the largest European binational project since the Channel Tunnel connected France and Britain.

Dealing with the disruption of war

The Russian invasion has affected the business and lives of those based in Ukraine, but it is also indirectly impacting projects everywhere. Project skills are clearly being put to good use

Project professional Colin Ross, General Director of Gleeds Ukraine, left central Kyiv on 26 February, two days after the Russians invaded. "There were Russian tanks about 5km from where we lived. That was the trigger for us to get away quick," he tells *Project*. Ross had lived and worked in Kyiv for the past 17 years and is married to a Ukrainian. They left with two suitcases and their cat, and headed for the UK. "We left Kyiv on the Saturday morning and it took us 20 hours to drive to the Slovakian border and over 60 hours to cross the border because of the mad rush to get out."

Colin Ross

Keeping the team safe

Ross is responsible for a team of 15 Ukrainian employees, usually based in the Kyiv office. As the first ex-pat director, he joined in October to build up the business and oversee the cost and project management of projects for international and local clients. Projects ranged from office fit-outs and retail to wind farms, logistics and manufacturing. "Because of hybrid working in COVID, we were very used to working remotely, so as soon as

"Work was a secondary consideration. Everyone could do what they needed to do to keep themselves safe and we still had our daily calls."

this all happened, we said 'look after yourself; you decide what you want to do,'" he says. The team knew that they could all still keep in touch.

From a business perspective, Ross says the planning was around making sure people were going to be safe if something happened. "We had grab bags ready, we had plans in place and we knew what would be the trigger points for making difficult decisions," he explains. Three of his team decided to stay in Kyiv, while the others left, heading to western Ukraine or leaving the country, ending up in Warsaw, Paris, Barcelona or on their way to the UK. "Work was a secondary consideration. Everyone could do what they needed to do to keep themselves safe and we still had our daily calls," he says.

As work with his Ukrainian team can carry on remotely, Ross has no plans to return to Kyiv immediately. "The hope is to go back sooner rather than later but I'm not putting a timeline on it," he says. While all the business's projects in Ukraine were halted as war broke out – either by clients or by Gleeds – his Ukrainian colleagues still receive their monthly salaries and are free to work on humanitarian projects as the war continues.

Project restart

Ross says one project has restarted since war broke out. "We have a project in the early stages of design and procurement, and are working closely with a local team, an international team and a local developer. The

"Some clients are looking to start reconstruction. Others are a bit more cautious – they don't want to be investing money if they don't know what is going to happen."

recommended detailed design is going through and we are looking at the tendering options at the moment... It was nice to see a big organisation show commitment."

He says some clients are now planning how to repair projects that have been damaged or complete them. "Logistics centres were bombed so there is a shortage. Some clients are looking to start reconstruction. Others are a bit more cautious – they don't want to be investing money if they don't know what is going to happen," says Ross. "We've got materials sitting on the ground at the moment and we have to make sure they don't get damaged," he adds.

The impact of war on projects everywhere

Building materials and building work, whether in Ukraine or the UK, are being affected by the Russian invasion. A May 2022 Gleeds market survey of operators in the UK built environment revealed that at least 87% of contractors said they had experienced price hikes, while over two-thirds believed current challenges are negatively affecting growth in the sector as schemes stall due to lingering uncertainty. Sixty-two per cent of contractor respondents had also experienced reduced availability of specified materials since Russia's invasion, with 60% experiencing disruption in the supply chain and reduced validity periods. Almost 90% said that steel was the material most heavily impacted."

Dave Corbin, Senior Director and Head of Programme and Project Management (UK) at Gleeds Management Services, tells *Project* that "While 2022 started on a fairly steady footing, Russia's invasion of Ukraine changed the picture suddenly and issues with commodities price escalation and international trade disruption have meant a revision to, and increase in, our previous inflation forecasts. Prices of steel products have been surging along with many others, and these inflationary rises are adding further pressure to stretched budgets.

"There is clearly a concern that this uncertainty could lead to schemes being delayed until confidence returns

"We have all experienced many challenges over the past couple of years and, against a difficult backdrop, there is genuine hope that the industry can emerge stronger."

to the market. However, we have all experienced many challenges over the past couple of years and, against a difficult backdrop, there is genuine hope that the industry can emerge stronger."

■ **Gleeds UK supports RefuAid, refuaid.org**

VOLUNTEERS STEP UP

Eric Burgess is a Senior Project Manager for Infrastructure at Turner & Townsend and spent three years working in Ukraine, visiting annually over the past 25 years to volunteer on humanitarian projects there. These included a children's activity camp, Camp Maximum, in Zolotonosha, 200km south of Kyiv. It is now a refugee camp.

"I was able to go to Romania and bring out the camp director's family and bring them to a safe location in Poland," says Burgess, who quickly took the lead on finding what was needed to assist refugees, like additional vehicles, fuel, body armour for the drivers, food and medical supplies.

"I have been using my project management skills to find and coordinate suppliers, so we have sent 12 tonnes of food to help with their food programme, arranged several lorry loads of specialist aid and continue to raise both funds and awareness through public speaking and networking across the industry," Burgess explains.

Meanwhile, Gordon Mackay FAPM, Project Management Capability Lead at Sellafield, volunteered to deliver humanitarian aid bound for Ukraine via Poland, driving a van from Newcastle in April.

"It all began with a local Ukrainian couple who kindly offered warehouse space to store incoming humanitarian aid," he says.

"In terms of project management skills, I was keenly aware of the emergent 'fusion power', with a shared vision imbued with a sense of almost transcendent purpose and driven by an element of gratitude, if not relief, in finding a means of expressing otherwise pent-up frustration and helplessness in a positive, constructive, life-changing, if not life-saving, way. As per my own book for APM, *Evolving Project Leadership*, this drives home yet again the power of a vision that resonates and succeeds in securing engagement from and between the team."

■ **Maximum for Ukraine, bit.ly/3m7lpbf**
■ **West Cumbria Ukrainian Appeal, bit.ly/3z7Z6Kd**

APM launches new strategy

The new five-year plan is based on a vision of a world in which all projects succeed

Since the introduction of its previous strategy in 2017, APM has celebrated many significant milestones. However, the world has also experienced unprecedented challenges, and 2022 sees the launch of a refreshed strategy that will support APM's bold vision: 'A world in which all projects succeed'.

Says APM Chief Executive Professor Adam Boddison: "This vision encapsulates all that we want to achieve as the only chartered membership organisation for the project profession. By inspiring people to understand how to plan and deliver projects successfully, we believe we can truly change the world."

With an inspiring vision to work towards, the focus for the association has been on creating a strategy that will help deliver it. APM and its broader community recognise APM's advantage as the only chartered membership organisation for the project profession in the world, and are keen to leverage its influence to raise professional standards and give members the route to do so.

APM's new strategic themes

The 2022 APM strategy is centred on four strategic themes that provide the community with a clear direction. The first strategic theme is that APM provides leadership of the profession. This relates to leveraging the impact of chartered status for the profession and to raising standards. The second strategic theme is that APM is a professional body for all project professionals. This theme demonstrates the breadth and complexity of the project community. At one extreme, it includes 'invisible' project managers. At the other, it includes leaders who have direct oversight of project-delivery teams.

"For leaders of organisations, my premise is that organisational change and development is typically a more significant aspect of their leadership compared to business as usual. It is therefore important that all leaders have at least a basic understanding of project management," says Boddison.

The third strategic theme is that APM identifies and enables the right skills for the project profession. "This is about optimising learning pathways and ensuring that sustainability is at the heart of all we do. Similarly, it is important that APM prioritises diversity and inclusion, as well as the innovative use of technology," Boddison explains. The final strategic theme is that APM is an outstanding professional body. "APM is known for quality, but it is not yet known widely enough, particularly in certain sectors," he says.

Realising its goals

In its 2022 strategy document, APM explains that over the past five decades, it is proud to have established a knowledgeable and diverse membership, including numerous volunteers who share their time and expertise to help us support the project community. Chartered Project Professionals, APM mentors, accredited educational institutions, accredited training providers and its corporate members also make valuable contributions. "Working in partnership with these valued stakeholders has not only

APM'S FOUR STRATEGIC THEMES

APM provides leadership of the profession

APM is a professional body for all project professionals

APM identifies and enables the right skills for the project profession

APM is an outstanding professional body

helped us forge our refreshed strategy, but will also be crucial to delivering it," the strategy document notes.

Furthermore: "As awareness of projects and their value grows among business leaders and the general public, we'll work to establish new partnerships with public, private and third-sector organisations, as well as with communities who depend on projects succeeding in their local areas. And, of course, we continue to invest in our employees by supporting their professional development, creating a culture where everyone can be at their best and expectations are exceeded regularly. We've also adapted to new ways of working, allowing us to be more agile and responsive to change. This continues to be at the core of the way we do things."

Celebrating the achievements made

Mark Hepworth, APM's Chief Financial Officer, has said that when APM launched its 2017 five-year strategy 'Inspiring Positive Change', "we recognised the challenges faced by the profession at that time and

> **"By inspiring people to understand how to plan and deliver projects successfully, we believe we can truly change the world."**

that we needed to continue to adapt. Many of those challenges remain, but it's the unexpected and enormous impact of the coronavirus pandemic above all else that has emphasised the importance of adaptability. There has been much to celebrate over the past five years, and we have already come a long way in our journey to deliver the key objectives set out in our strategy.

"Key achievements in attaining these strategic objectives have included continued progress in establishing our chartered status as the leading global standard for project practitioners, growing our membership to over 34,000 individual members and launching the *APM Body of Knowledge 7th edition* alongside a major refresh of qualifications and learning content," Hepworth explained.

APM'S FOUR VALUES IN PRACTICE

PROGRESSIVE
■ APM is a new generation of professional membership organisation — it approaches things with an open mind.
■ The world and how we work are changing — it innovates, embraces technology and has a global outlook.
■ Time and resources are limited — APM finds the most creative way to get things done.

THOUGHTFUL
■ The project profession is constantly evolving — APM listens and leads debate.
■ Project delivery is changing — APM constantly evolves and

shares its perspective, and it owns its voice.
■ The environment for project delivery is complex — APM supports the skills that go beyond project management process alone and are fundamental to success.

WARM
■ Membership organisations are of and for their members and the profession — APM is flexible, friendly and collaborative.
■ Sometimes we have to make tough decisions — APM treats everyone with empathy and respect, however challenging the circumstances.

■ The world and the workplace are varied — APM champions diversity and inclusion.

EXCELLENT
■ The project profession needs to be more clearly understood — APM is committed to promoting the profession and raising its profile.
■ In a changing and challenging world, the project profession has never been more important — APM sets the benchmark with chartered status.
■ When projects succeed, everyone benefits — APM invests in quality of thought, delivery, dialogue and service, constantly challenging itself to improve.

APM's '50 projects for a better future'

APM reveals the 50 most inspiring projects from the past five decades to make the list marking APM's 50th anniversary

As part of its 50th anniversary celebrations, APM, together with its membership and other experts, has compiled a list of its 50 most inspiring projects from the past five decades. They were selected for their positive legacies and for the game-changing benefits they have brought to our lives.

Professor Adam Boddison, Chief Executive of APM, says: "To mark our 50th anniversary, we wanted to celebrate and recognise the impact that projects have had on the world, and the important role that project professionals play in embracing change and opportunity. The 50 projects on this list all have their own legacy in the impact they have had on society, the economy and the environment, as well as acting as a catalyst for other projects which followed and will follow them in the future."

Project chooses just a couple here to showcase...

The Channel Tunnel
At 25 miles, the Channel Tunnel is the longest undersea tunnel in the world. It is also one of the biggest engineering projects ever undertaken in the UK. Digging commenced in 1987 and, in 1994, the finished tunnel was unveiled by the Queen and President François Mitterrand. It was recognised as one of the Seven Wonders of the Modern World by the American Society of Civil Engineers.

Madrid Metro extension
Praised for its emphasis on functional, passenger-friendly design, the Madrid Metro underwent a major extension programme between 1995 and 2003. Delivery of the extension in such a short time frame was a major success that bucked the trend of cost and time overruns seen so frequently on subway construction projects. The use of a modular design and reliance on proven, pre-existing technology were two key factors driving its delivery.

APM's list of '50 projects for a better future' was launched at APM's Power of Projects conference this month. See more from the full list at apm.org.uk/anniversary

APM'S 50 MOST INSPIRING PROJECTS

1. Canary Wharf
2. Channel Tunnel
3. Maeslant Barrier, the Netherlands
4. Unisphere, USA
5. Hong Kong International Airport
6. Madrid Metro extension
7. Øresund Bridge, Denmark/Sweden
8. Thames Barrier
9. SWIFT banking service
10. The Netherlands Cycling Revolution
11. HIV antiretroviral therapy
12. Nepal Earthquake Response
13. NHS Electronic Prescribing Service
14. Global Polio Eradication
15. UK HPV Vaccination Programme
16. Human Genome Project
17. In vitro fertilisation
18. Tackling Poverty Programme in Renfrewshire
19. UK's COVID-19 Vaccine Rollout
20. *Angel of the North*
21. BBC Children in Need
22. Forest Green Rovers
23. The Eden Project
24. FIFA Women's World Cup 2019
25. Guggenheim Museum Bilbao
26. *Hamilton*
27. London 2012 Olympic and Paralympic Games
28. Parkrun
29. Swat Valley Project, Pakistan
30. Tate Modern
31. The International Space Station
32. Howdon and Bran Sands Gas to Grid
33. Hubble Space Telescope
34. Kielder Water Reservoir
35. The Large Hadron Collider
36. The Mars Perseverance Rover
37. Svalbard Global Seed Vault
38. Dolly the sheep
39. The Voyager spacecraft programme
40. Amager Bakke, Denmark
41. GPS
42. The PACUNAM Lidar Initiative
43. Landsat
44. Raising the *Mary Rose*
45. The Peace Bridge, Northern Ireland
46. The Train Protection and Warning System
47. The Eurofighter Typhoon
48. Wikipedia
49. The World Wide Web
50. The Falkirk Wheel

Perspectives

THE TRIPLE CONSTRAINT REVISITED

Adrian Dooley considers the legacy of Martin Barnes' time/cost/quality triangle. Just don't call it the Iron Triangle

Adrian Dooley HonFAPM is the Lead Author of praxisframework.com – a free online framework of good practice in project delivery and a set of tools to help embed that practice with real effect

Dr Martin Barnes first came up with his idea of the time/cost/quality triangle in 1969, partly as a means of bringing together different roles within an engineering management team that separately looked after the schedule, the costs and the output of a project. When training, he would move a coin around an overhead projector to illustrate "how the three tensions competed".

While Barnes was the originator of the project management version of these three constraints, the idea of 'good, fast or cheap, you can only pick two' has been around for decades – or maybe centuries. The 19th-century philosopher John Ruskin is purported to have addressed the relationship between cost and quality when he said, "The common law of business balance prohibits paying a little and getting a lot – it can't be done." The purpose of the 'Barnes Triangle' is to illustrate the tensions between getting a lot, getting it cheap and getting it quickly. While that may seem obvious, project management is constantly plagued by the optimism bias that seemingly ignores this truism.

The triangle itself has been given various names: the Barnes Triangle, the TCQ triangle or my preferred title, the

Triple Constraint. Sadly, somewhere along the line, somebody named it the 'Iron Triangle'. This was one of the greatest disservices to project management. It demonstrates a complete misunderstanding of what the Triangle is all about and suggests that all three corners are fixed rather than there being a natural trade-off between the three.

As far as I can tell, the term 'Iron Triangle' was originally a description of the policymaking relationships between elements of the American political system in the 1950s. Its adoption as a name for the Triple Constraint may have originated in an article in 2010 when,

The Barnes Triangle (TIME, COST, SCOPE)

also misleadingly, it was cited primarily as the basis for project success criteria rather than a mechanism to understand what is viable at the start of a project.

Returning to the development and history of the triangle itself for a moment, Barnes himself decided that 'Quality' was not the ideal name for one of the corners. After all, the quality of an output (as in fitness for purpose) also includes elements of how much you

have to pay for it and when you can get it. His own later versions of the triangle replaced quality with 'Performance'. Personally, I prefer the more common modern use of 'Scope', making the three constraints: Time, Cost and Scope.

When any model gains a wide exposure and common adoption, many people decide it can be 'improved'. The result over the years has been quadruple constraints, quintuple constraints and even hexagonal constraints.

For me, the triple constraint is like the three primary colours of red, yellow and blue. These can be used to address the competing primary components of
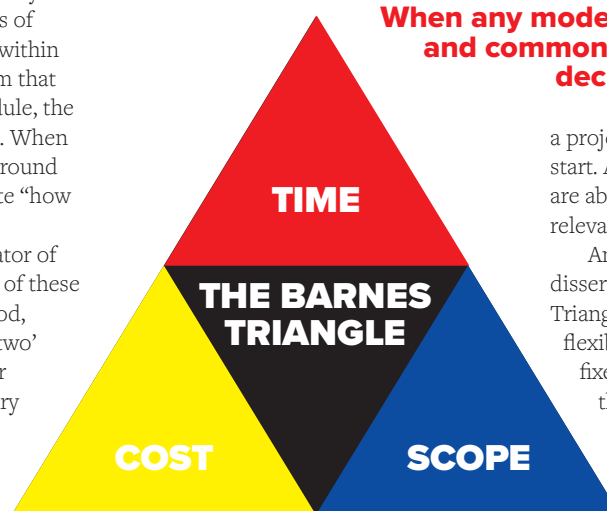
> **When any model gains a wide exposure and common adoption, many people decide it can be 'improved'.**

a project when setting priorities at the start. All the suggested 'improvements' are about adding hues – these are relevant but do not affect the primaries.

And so I come back to the great disservice done by calling this the 'Iron Triangle'. This term implies there is no flexibility and that all three corners are fixed. Fixed parameters and rigidity are the traits that those who promote the idea of 'traditional waterfall projects' love to latch on to. The 'Iron Triangle' is apparently one of the problems solved by agile. The falsehood here is that the problem never existed in the first place so, in this respect at least, agile is not solving a problem.

The Barnes Triangle of time, cost and quality is just as relevant as it was in 1969. It has been refined into the Triple Constraints of Time, Cost and Scope and represents the primary colours of a project from which a full picture of multiple hues can be painted – once you have found the right balance between the primaries.

Perspectives

IT'S TIME FOR MORE EFFECTIVE AND HONEST RISK MANAGEMENT

Peter Simon on the single most influential factor in project success and why it must be done better

Peter Simon HonFAPM is Chair of APM's Risk SIG

Risk management has always been an integral part of project management, either based on gut feeling and instinct or, more recently, a formal approach. The first edition of the PMI's *PMBOK Guide* (1987) included it as one of its eight functions, and APM's own *Body of Knowledge* followed in 1992 with the inclusion of risk management as one of the 13 processes and procedures competencies. Today, it would be difficult to find any textbook or methodology that did not include risk management as a key ingredient of project management. Despite the belief that risk management has been around forever, its importance has not always been recognised.

In 2002, Dr Terry Cooke Davies published empirical research findings that showed risk management as the single most influential factor in project success. The same research also found that risk management attracted the lowest score of all project management techniques in terms of effective deployment and use. Twenty years on, have things improved? Is risk management now effectively deployed on all projects? The answer appears to be not, even though many government and corporate bodies insist on it being carried out. To assist in its implementation, international standards

have been developed (e.g. ISO 31000), corporate procedures have been created or enhanced and many helpful books have been written. But projects still run late, go over budget and/or fail to deliver the promised benefits.

Why is this? The failing appears to be not in the theory but in the application. Carrying out risk management too late in the life cycle, unwillingness to accept the results of quantitative risk analysis, focusing purely on threats rather than threats and opportunities, and inappropriate allocation of risk in contracts are things we frequently observe, and all of which reduce the effectiveness of risk management. Couple these with optimism bias and strategic misrepresentation of estimates, and all the theory goes out of the window.

There is no empirical evidence to support the ability of risk management to reduce timescales or budgets, or to increase benefits. What it can do is make the achievement of objectives more likely – but only if those objectives are realistic in the first place. A schedule, cost estimate or benefits plan that does not take into account risk should be given little credibility. All of these failings contribute to making many promised objectives impossible to achieve right from the day they are made public.

Let us assume that risk management is carried out appropriately and truly achievable objectives are agreed. In this

The end result will be more (note we do not say 'all') projects delivered on time, within budget and, most importantly, achieving the promised benefits.

case, risk management will also help to protect the objectives. The end result will be more (note we do not say 'all') projects delivered on time, within budget and, perhaps most importantly, achieving the promised benefits.

So why does this matter now?
Ignoring the impact of COVID-19, which could have been predicted, there is one compelling reason why we need to improve the initial planning and estimating on projects, as well as their delivery. The 2021 COP26 Climate Change Conference set the goal to 'secure global net zero by mid-century and keep 1.5 degrees within reach'. The date of 2050 has been set as a target with an expected annual budget of $100bn. But what will happen if the projects that are initiated to achieve this goal suffer from poor risk management, unfounded optimism, government mishandling or misrepresentation on the part of key stakeholders intent on preserving their reputation? Simply, projects will not be

THE EVOLUTION OF A PIVOTAL PROFESSION

Ruth Murray-Webster reflects on how project management has burst out of its original straitjacket

Project professionals must ensure that all projects – specifically those relating to climate change – consider the risks to which they might be exposed.

delivered on time, the money will run out and the goal will not be achieved with potentially disastrous consequences.

The time for effective, honest project risk management has never been more pressing. We know the theory, we know how to implement the tools and techniques needed, and we have the required skills. Project professionals must now ensure that all projects – specifically those relating to climate change – consider the risks to which they might be exposed (both threats and opportunities) so that promised schedules, cost estimates and benefits reflect the risks. At the same time, we should resist pushback from sponsoring entities to adjust, ignore or misrepresent any of these measures to satisfy external vanity.

When I first joined APM in 1998, I had been leading organisational change initiatives for a decade. I had been trained in the mid-1980s to understand objectives, decompose scope, put together resourced schedules and budgets, and to consider potential threats and opportunities. My work focused on implementing strategy and delivering measurable improvements. I passed my APMP (now PMQ) and became an APM member.

I joined a project management consultancy where my experience leading the people side of change was recognised and valued, but my experience somehow wasn't seen to be project management. The 'products' of my projects had been changed organisational routines and behaviours rather than physical assets. I remember HR specialists who argued that planned organisational change was far more complicated than project management – that it was a separate discipline.

The interest in programme management in the early noughties gave the permission for entrenched positions on projects and project management to be reconsidered – for the role of projects in 'internal change', in strategy implementation, to find a home. But there was an unhelpful terminology war between projects and programmes with futile attempts to put 'clear blue water' between the two.

I became fascinated with risk management through a people-not-process lens, and forged a professional practice around delivering strategic change in risky and important contexts. It was a shock to find when I started my doctoral research in 2008 that there were people in academia, too, who had compartmentalised project management into something to do with the built environment or information systems, whereas organisational change was seen to be something to do with strategy, leadership and HR.

I was both honoured and slightly amused in 2018 to be asked to be editor of the seventh edition of the *APM Body of Knowledge*. APM has broadened its perspectives and reach over the years, and I'm sure this will continue. APM continues to embrace that delivering the desired benefits from investments in change requires a grasp of all the 'hard' techniques (to plan, monitor, control) and all the 'soft' techniques (to bring people along, too, working with the politics and conflict), and an ability to do this in a context of disruption.

Organisations now realise that the most difficult part of planned (project-based) change is reconciling the tensions between the structural difficulties of delivering scope at pace, the sociopolitical difficulties when people are involved and the emergent difficulties because little is stable in our world. I am proud to be part of a profession that has moved on, that is pivotal in delivering change for our world to thrive into the future.

Dr Ruth Murray-Webster HonFAPM is Director of Potentiality UK, and an Associate Fellow at Saïd Business School at the University of Oxford

Perspectives

THE DIVERSITY OF PROJECTS IN THE AGE OF AGILITY

Professor **Darren Dalcher** on the value of not having a universal best approach to projects

Darren Dalcher HonFAPM is Professor in Project Management at Lancaster University Management School

Projects come in different shapes and sizes. They are initiated, defined and deployed in diverse settings, requiring approaches that are sympathetic to the specific context and unique characteristics of each situation. The direct implication of the situated and highly contextual nature of projects is that they defy explicit recipes and best practice formulae.

The seventh edition of the *APM Body of Knowledge* is therefore predicated on the recognition that there is a diversity of potential approaches for structuring project work. It acknowledges that organisations operate in dynamic contexts, increasingly characterised by uncertainty, novelty and turbulence. The shift in emphasis from a culture of delivery towards an ethos of value merits greater prominence for the role of the manager in appreciating the context, selecting and shaping the approach, and assuming responsibility for the outputs, outcomes and benefits of project work, as well as the long-term impacts.

Responsible managers are increasingly expected to make informed choices. The choice of approach depends on multiple factors, including the expected levels of uncertainty, novelty and risk appetite. The scenarios they encounter range from highly predictive situations that assume that knowledge regarding the context is well-established and stable to highly adaptive settings, replete with features of volatility, fragility, ambiguity and turbulence.

The choice is largely influenced by the availability of knowledge. More predictive approaches rely on knowledge being available at the start, allowing work to proceed in a sequential manner, while adaptive contexts imply that new knowledge is created as the work progresses, which is then used to inform and guide the remaining effort. It must be obvious that there is no universal best approach. Project professionals select the most suitable arrangement for their specific context, often combining and merging features for different phases, tranches or parts of the initiative, thereby forming a unique hybrid approach.

Where does agile fit in? This is not a simple answer... The term 'agile'

There is a growing realisation that hybrid approaches enable a pragmatic mix of philosophies, fusing together elements from predictive and adaptive perspectives to create new models or approaches.

is often invoked in conversations regarding radical management and the transformation of organisations in novel and uncertain contexts. Yet, agile seems to mean different things to different people, resulting in many different practices, ideas and concepts clamouring for attention. In practice, identifying what they have in common can be problematic.

Agile often implies small, autonomous cross-functional teams working in short iterative cycles on relatively small tasks that aim to deliver little chunks of value to customers. The approaches harness the power of iteration and continuous learning to acquire insights and innovate faster. Agile approaches combine different sets of practices that endeavour to enable teams to optimise their performance. The collection of practices can be utilised to support fast, furious and focused experimentation. Agile can thus provide the means for small and rapid iterations in more adaptive contexts, where less is known upfront. Such focused achievement can be nourished in small autonomous teams, but becomes a management challenge when organisations look to scale up the work of a multitude of independent teams operating in close proximity with great levels of dependence between their expected work products.

The *APM Body of Knowledge* recognises that there is little value in trying to identify a particular agile stance or a specific set of practices that typify agility. Instead, there is a growing realisation that hybrid approaches enable a pragmatic mix of philosophies, fusing together elements from predictive and adaptive perspectives to create new models or approaches.

Truly agile thinking employs and combines iterative, incremental and evolutionary elements, with linear aspects, to fit the context and needs of a project, avoid rigidity and enable much-needed governance and oversight. Blending, merging or mashing of approaches, ideas, principles, practices and methods applies equally to programmes and portfolios, and to organisational or business agility. Ultimately, organisations can become more responsive, innovative, flexible and resilient through the pragmatic tailoring and blending of approaches, thereby respecting, acknowledging and celebrating the diversity, differentiation and distinction inherent in project settings.

IT'S IMPORTANT AT APM THAT WE 'EAT OUR OWN TOAST'

APM Chief Executive **Adam Boddison** on why it's essential to practise what you preach

We live in challenging times, and society looks to project professionals for the delivery of effective change, which is why our profession is so vital. It needs clear, consistent leadership to build the profile it warrants, challenge the status quo where it matters and set the highest standards. This, of course, is where APM comes in.

I have now been Chief Executive of APM for almost a year. I have met so many incredible people and learned lots about the project profession, but I have also had the opportunity to ensure that as an organisation we practise what we preach. Or, as a member of APM staff put it to me recently, it is important as the chartered body for the project profession that we 'eat our own toast'. We can't just talk about effective practice; it is essential that we demonstrate it ourselves.

More strategic projects

To that end, APM's portfolio team has been particularly busy. This impressive team of project managers, including a Chartered Project Professional, has successfully delivered several business-critical and sector-essential projects. Internally, the portfolio team has already implemented a new HR/payroll system and a new telephony system, with progress towards a new customer relationship management system well under way.

Externally, the portfolio team worked in partnership with APM's Education & Lifelong Learning team to implement an up-to-date competence framework and a new mentoring programme, with APM's rebrand project due to launch later in 2022.

A key factor in these successful projects was the interplay between the portfolio and leadership teams. Since joining APM, I have been advocating structures that enable project professionals to have influence on strategic decision-making. This is something I have sought to realise as part of my own leadership, which has ensured that project excellence is at the heart of APM.

'The big four'

A significant focus for APM in recent months has been what I call 'the big four'. This refers to four substantial projects, each of which are of significant strategic importance. They are: the implementation of a new CRM; the delivery of APM's new brand; celebrating APM's 50th anniversary this year; and the launch of APM's new strategy. APM's new strategy formally launches in June, and is based on a vision of a world in which all projects succeed.

This vision encapsulates all that we want to achieve as the only chartered membership organisation for the project profession. By inspiring people to understand how to plan and deliver projects successfully, we believe we can truly change the

APM's new strategy formally launches in June, and is based on a vision of a world in which all projects succeed.

world. The APM strategy, and indeed our charitable objects, is centred on four strategic themes. These provide the APM community with a clear direction and strategic focus.

Our strategic themes

1 The first strategic theme is: APM provides leadership of the profession. This relates to leveraging the impact of chartered status for the profession and to raising standards.

2 The second strategic theme is: APM is a professional body for all project professionals. This theme demonstrates the breadth and complexity of the project community. At one extreme, it includes 'invisible' project managers. At the other, it includes leaders who have direct oversight of project delivery teams.

For leaders of organisations, my premise is that organisational change and development is typically a more significant aspect of their leadership compared to business as usual. It is therefore important that all leaders have at least a basic understanding of project management.

3 The third strategic theme is: APM identifies and enables the right skills for the project profession. This is about optimising learning pathways and ensuring that sustainability is at the heart of all we do. Similarly, it is important that APM prioritises diversity and inclusion, as well as the innovative use of technology.

4 The final strategic theme is: APM is an outstanding professional body. APM is known for quality, but it is not yet known widely enough, particularly in certain sectors. Ultimately, APM is focused on both making the toast and eating the toast to ensure we get it right for all project professionals.

EVAN DAVIS

The BBC presenter lives above London's Northern line extension, grew up with the disruption of the M25 being built and is a frequent traveller to France via the Channel Tunnel. In APM's 50th anniversary year, **Emma De Vita** asks Davis for the outside view on all things project, not least how they have the power to transform the social, economic and cultural life of a country

O n Zoom, it's hard to escape the feeling that Evan Davis (of the BBC's *Newsnight* and Radio 4 *Today* programme) should somehow be interviewing me, even though he's at home and I'm the one who's doing the interviewing. The current presenter of BBC Radio 4's daily news programme *PM* is also well known as the presenter of BBC One's business reality show *Dragons' Den* and Radio 4's weekly business discussion programme *The Bottom Line*. Davis does not come from the Jeremy Paxman school of broadcasting. He's simply the nicest, most enthusiastic, twinkliest-eyed person – a cockapoo to Paxman's Rottweiler.

Davis has been interviewing the movers and shakers of business, politics and economics since he joined the BBC in 1993 as Economics Correspondent, so who better to give the big picture on the importance of projects? He's been in the thick of it for the past couple of decades and witness to the transformative power of projects at a personal level, too – not least because he lives above TfL's Northern line extension work in south London. "It's about three floors down under this house, but we do hear a very, very faint rumble," he says with a chuckle.

His experience of megaprojects came at an early age. "The M25 had a big presence in my childhood because it came through my village, Ashtead, in Surrey. It was an enormous debating point when I was a kid, and I think what it shows is how difficult it is before the event to imagine how transformative it will be after the event. It seemed to many in the community like the most horrendous idea... and how, once it's bedded in, and the generation have got used to it, that immediately it just seems like the state of nature. If you said to people, take it away, they would be horrified," he says.

"The Channel Tunnel genuinely excites me still. I'm one of those people who looks out the window when I'm in the tunnel hoping to see that they've left the gates open and I can grab a glimpse of the other line, or ideally a train coming the other way."

THE BIG INTERVIEW

The M25 was a "game-changing" project for London, says Davis. "One has to wonder whether London could have done what it has done over the past 30 years if there hadn't been a way of organising traffic around and outside it," he reflects. He's also the user of another game-changing project: the Channel Tunnel. His partner is French, so they visit France a lot. "The Channel Tunnel genuinely excites me still. I'm one of those people who looks out the window when I'm in the tunnel hoping to see that they've left the gates open and I can grab a glimpse of the other line, or ideally a train coming the other way," he says, laughing again. He never has, though (and later on he reveals that going through the service tunnel would be a dream come true. Any *Project* reader who can help with that?).

Davis believes the Channel Tunnel changed the UK's relationship with the Continent, making possible the expansion in trade of the past decades, and helping make the world feel smaller to us. It was also a "fairly stupendous piece of engineering", he says. "Being an observer of both these projects [the M25 and the Channel Tunnel], you see the economic transformation and the psychological transformation," he says. He's a big fan of the Guggenheim Bilbao Museum (although admits he's "one of those people who was much more interested in the building than its contents"), but doesn't think other towns trying to replicate its regenerative effect have always been successful. "There are places that thought that if they plonked an art gallery there, they would suddenly have this bohemian ideopolis, but it takes a little bit more than buildings," he says. Davis was left impressed by Frank Gehry's new Luma art complex in Arles: "It's this stupendous, cathedral-sized, crinkly silver paper building that you can see from miles away."

At the moment, Davis is involved with an important cultural regeneration project: the relocation of the Museum of London (of which he is a trustee) from its current site on London Wall to a redeveloped area of Spitalfields meat market. It's given him a direct window onto the work of project professionals. "It's an interesting and massive project and just watching that I realised how difficult and complex it is to make everything align. It has made me in awe of the whole project management thing."

Back in 2012, Davis made the BBC TV series *Built in Britain*, which looked at the construction of infrastructure projects. "I was wearing a hard hat and high-vis before it was so popular with politicians," he quips. He was chuffed to go into the Crossrail tunnel while it was being bored, and to climb atop the Forth Bridge. "It was a really, really wonderful opportunity to clamber around things," he says. "One of the things I said in that series was that we don't have to be scared of these projects because we're much better at delivering and building them that we used to be... We said Crossrail is going to be delivered better than anything. I went into the Crossrail tunnel and Sir John Armitt explained to me that the use of a particular contract – the NEC 3 – had improved [project delivery] enormously.

"I now look back at that series and my contention that we can do this stuff better, and I feel sort of embarrassed

Far right: BBC presenter Evan Davis. Inset: Davis in a London Underground tunnel on BBC Two's *Mind the Gap*, in 2014

having said 'isn't it great that we can do this better', and then Crossrail is basically four years late. Maybe your readers will put me right on this, but I think part of Crossrail has actually been a great success. I think a lot of what has gone wrong with Crossrail has been in the very late-stage stuff; it's not been in the stuff that might have once caused enormous headaches – boring the ground and concreting the tunnels. It's been around the complex final stuff: the signalling and rolling stock, and the like. I would like to believe we did the difficult stuff easily, and the stuff that was meant to be easy with great difficulty."

Does he think project professionals are given a hard time by the public? "I have a view about how communication and public perception works, I even wrote a book on this

At the moment Davis is involved with an important cultural regeneration project: the relocation of the Museum of London (of which he is a trustee) from its current site on London Wall to a redeveloped area of Spitalfields meat market.

> **"I'm an optimist by nature. And, by the way, Crossrail will open and everyone will be wowed by it. Everyone will say in a year's time, 'isn't it marvellous?'"**

(*Post-Truth: Why We Have Reached Peak Bullshit and What We Can Do About It*). Broadly speaking, professions get the reputation they deserve, so my advice is work on that assumption." Davis keenly presses the point that he doesn't think project managers have a bad image. Actually, he doesn't think they have much of an image at all within the popular psyche. "I don't think the public have a very clear idea about project managers. I think what happens is the public hates it when these things go wrong. They get annoyed when they see Crossrail was meant to open in 2018 and is opening in 2022.

"That's the negative, but the truth is the public swoon over some of the great achievements that project managers do, and they love it when projects go right. What you really see out there is a kind of a complex amalgam of different feelings: 'we hate it when they're being built, and we love it when we walk through the fancy new railway stations'. It's a complicated love-hate relationship, and I think it's probably deserved. The public are entitled to say: 'you said this would be delivered and it wasn't, and we were a bit fed up with that'. I wouldn't blame the public for their views," he says.

The problem that irks him more is what he calls 'the politician's dilemma', which is about the overselling of projects that politicians are forced into to gain voter support, and then the inevitable sense of disappointment after it has been delivered, even if it's a great thing that has been achieved. "That is the kind of area where I think it's difficult for project managers... Look back at the Channel Tunnel and I don't think anyone really thinks we shouldn't have built it. I look back at the exaggerated promises of the number of passengers on the Eurostar at the time, trying to justify it. You see it was a good idea, but it wasn't as good an idea as Alastair Morton [CEO of Eurostar at the time] and his team promised. But they really felt, I think, that you had to look on the upside, you have to see the glass is half full all the way through, otherwise we wouldn't have a Channel Tunnel."

I ask him if he's an optimist. "I'm an optimist by nature. And, by the way, Crossrail will open and everyone will be wowed by it. Everyone will say in a year's time, 'isn't it marvellous?'"

■ **Listen to Emma's interview with Evan for the APM Podcast at bit.ly/3NJrJkN**
■ **APM's** *50 Projects For a Better Future* **can be found at apm.org.uk/anniversary**

We've made tracking CPD easy for our members

All individual members of APM can now access our new development, My CPD. Members can use this online tool to set objectives, track and reflect on what they have learned throughout the year.

Find out more at: **apm.org.uk/myapm/cpd**

APM

PROJECTS THROUGH THE DECADES

As APM celebrates its 50th anniversary, *Project* takes a look at the era-defining projects of the past five decades. We salute successes, witness the birth and growth of the modern profession, and understand how ways of doing things have changed. From Concorde and NASA's Voyager space programme to the London 2012 Olympic and Paralympic Games and the birth of the World Wide Web, *Project* goes back to the future. Enjoy!

APM

PROJECTS THROUGH THE DECADES

1970S

This decade gave birth to many awe-inspiring projects, from NASA's Voyager space programme and Concorde's supersonic transatlantic flights to the first IVF baby… and APM itself

The 1970s are remembered by Brits for many things – not many of them good. The oil price shock, double-digit inflation and persistent industrial unrest, for example, at least two of which seem to be making an unwelcome comeback 50 years later. But it wasn't all bad: the 70s also saw an expanding nuclear power programme, the beginnings of the North Sea oil boom – which ultimately yielded tens of thousands of jobs and billions of pounds in revenue for the nation – and the first scheduled flights of the equally high-profile (if rather less commercially successful) Concorde supersonic airliner. In 1976, the UK even won the Eurovision Song Contest.

There were also remarkable achievements further afield thanks to high-tech landmark projects like the US Voyager space programme and the Landsat and GPS navigation systems (see boxes). These projects still reverberate today, as satellites girdle the planet, and every smartphone has a GPS chip and can pinpoint its location to within a few metres. Such bold undertakings married large price tags, strict timescales and plenty of jeopardy to increasing levels of complexity and multiple interdependent elements and disciplines that all relied on one another. They pushed the boundaries of what was possible and called for equally ground-breaking techniques to keep them on track and on budget.

The project manager

Enter the project manager, a breed of professionals who, despite having a suite of powerful planning and management tools at their disposal, were, at the beginning of the decade, largely unknown outside a few specialist sectors. A decade later, however, and they would be firmly established as an important part of the business of Getting Things Done in industries ranging from defence and construction to pharmaceuticals, chemicals and even banking and finance.

APM was founded in 1972, the same year a state of emergency was declared as the miners' strike plunged the UK into disruption and darkness; Britain entered the Common Market; and the Watergate scandal broke. Meanwhile, on 13 May, a group of like-minded individuals met in the lobby of the Sheraton Stockholm Hotel in Sweden, holding the first executive committee meeting of a newly formed UK chapter of INTERNET, which was holding its third World Congress there, and which subsequently became known as the Association of Project Managers (APM).

APM TIMELINE

1972
APM's forerunner, the UK chapter of INTERNET, is founded, and its first executive committee meeting is held on 13 May in Stockholm. Eleven days earlier, fewer than 80 people had paid a £1 subscription fee to join, and represented the engineering, construction and IT professions. Geoffrey Trimble, the first professor of construction management in the world, is the executive committee's first president.

1974
INTERNET (UK) has its first report, *Programs for Network Analysis*, published by the National Computing Centre.

1975
APM is beginning to get organised. Membership is steadily rising, meetings are more regular, seminars are being run and the association wins the bid to host the fifth INTERNET World Congress in the UK. The first issue of the association's newsletter, *The Bulletin*, is published for members. It becomes *The Project Manager* in 1976.

1976
INTERNET (UK) becomes the Association of Project Managers, and signs up its first corporate members: the Department for Health and Social Security, and the Open University.

1978
With membership numbers approaching 500, residential weekend schools are added to regular seminar events.

Alamy

Take off...

...HT 21st JANUARY 1976

THE VOYAGER SPACE PROGRAMME

"Nothing will ever be what the Voyager mission was. It was the mission that showed us what the solar system is like."
Carolyn Porco, member of the Voyager imaging team

APM 50 PROJECTS FOR A BETTER FUTURE

Launched by NASA in 1977, the two Voyager space probes are currently racing towards the furthest reaches of our solar system, returning unprecedented data about the planets they pass and the composition of interstellar space. The Voyager programme developed out of NASA's earlier Mariner project, taking advantage of a favourable alignment of planets as a good opportunity to launch. The probes, carrying Carl Sagan's famous gold record detailing humanity's achievements, have gone further than any other spacecraft, returning close-up images of Jupiter, Saturn, Neptune and Uranus, discovering several new moons and confirming the existence of a 'hydrogen wall' at the outer edges of the solar system.

1970s

INTERNET brought together those interested in applying critical path (or network) analysis to project planning, mainly from Europe and the Nordic countries. It went on to become the International Project Management Association (IPMA). Just 11 days earlier, 78 people paid their £1 subscription and signed up as members at the inaugural meeting of INTERNET (UK) at the Royal Society of Arts in London. Many came from engineering, construction and IT professions.

"The APM pioneers did nothing new in the way they organised themselves and their activities. What was new was the evolution of the new activity, which brought them together and inspired them – project management," later reflected APM member number 10, Dr Martin Barnes.

Pioneering project techniques

Among the early membership was Albert Lester, one of the UK's first exponents of network analysis. Now 93, he still recalls the impact of network analysis on some of his early successes in the petrochemical industry. "We got an order to build what was then the biggest petrochemical construction project in Europe, at Billingham on Teesside.

"There was a computer program but we never used it ourselves. We drew out the network manually, on the boardroom table."

It was a £600m project – about £2.8bn in current money."

The facility was commissioned by US giant Phillips Petroleum, to process North Sea oil from the Ekofisk field to the tune of one million barrels of crude a day. Network analysis allowed the huge and complex project to be broken down into its component stages and planned in unprecedented detail, enormously reducing the risk of overruns and delays. "There was a computer program but we never used it ourselves. We drew out the network manually, on the boardroom table. And we finished bang on time – it opened precisely on the scheduled contractual date."

It was also the decade when the 'Barnes Triangle' of time, cost and quality was formally defined – a concept that remains a cornerstone of the profession to this day. As its originator, Dr Martin Barnes had noted: "It was a huge stimulus to the profession because it showed that it was about managing things by integrating time control, cost control and delivery of performance." (See page 13 for a discussion of its continuing relevance.)

Medical miracles

Project management techniques and disciplines are now the norm in both the public and private health and medical sectors. One of the more unlikely landmarks of project management in the 1970s was a newborn baby, Louise Brown, the first child to be born as a result of in vitro fertilisation (IVF). Her birth on 27 July 1978 at the Oldham and District Hospital may have been uneventful, but the IVF techniques pioneered by British researchers Patrick Steptoe, Robert Edwards and Jean Purdy were anything but.

They had to overcome not only the huge medical and technical challenges of fertilising a human egg outside the mother's body, and then successfully implanting it into her uterus, but also widespread public concern as to the ethics of 'playing God' by even attempting to do so in the first place. The Vatican denounced IVF, and the Medical Research Council refused to fund it, but the millions of infertile couples who have been able to conceive via IVF in the 45 years since owe the trio – and Louise herself – a huge debt of gratitude for their perseverance.

Technical and engineering beginnings

For women in the profession, it was a different story, however – the 70s' world of work was male-dominated anyway, technical and engineering roles like project management even more so. But the country's first equal pay legislation was enacted in 1970, beginning the long fight towards full gender pay parity.

GPS

"People thought I was crazy when I started talking about all these applications for GPS."
Kristine Larson, Geophysicist at the University of Colorado

APM 50 PROJECTS FOR A BETTER FUTURE

First proposed by the US Department of Defense in the 1970s, the Global Positioning System (GPS) has since gone on to revolutionise not just navigation, but also communications, timekeeping, meteorology, aviation and defence. The GPS programme began in 1973 when a number of related projects across the US Armed Forces were combined. Ten satellites were launched between 1978 and 1985, and the system became fully operational in 1995. Since then, the GPS network has been expanded for civilian use, and its accuracy and reliability have been improved iteratively. What's more, GPS will continue to be vital as self-driving cars and the next generation of smart tech rolls out.
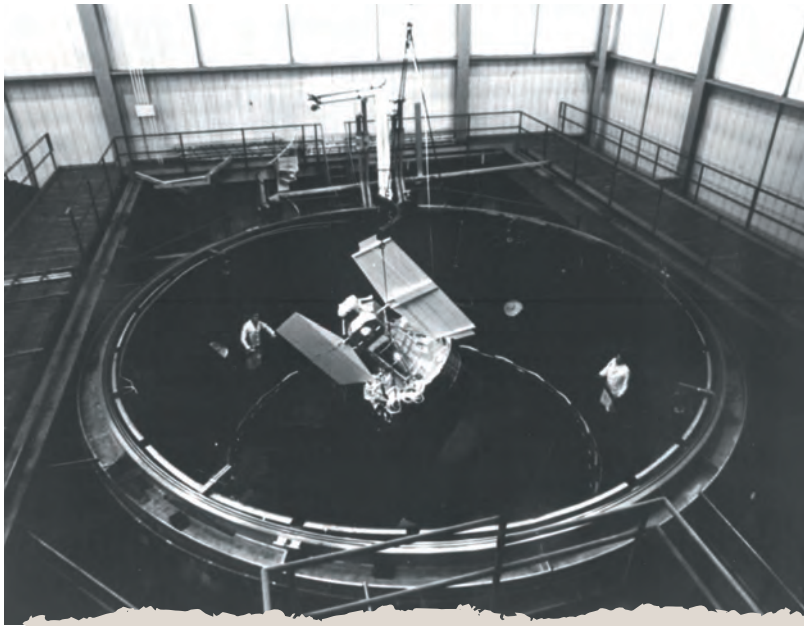
LANDSAT

"Landsat is a critical tool of stewardship for our home planet."
Karen St Germain, Director of NASA's Earth Science Division

APM 50 PROJECTS FOR A BETTER FUTURE

Launched in 1972 and still operational today, the Landsat programme is the longest-running and most ambitious satellite-imaging project ever attempted. Nine separate satellite launches to date have sustained this collaboration between NASA and the US Geological Survey, producing a detailed, ongoing record of changes affecting the Earth's surface. The images captured by Landsat have helped to track the progress of urban sprawl, deforestation, wildfires, and the shrinking of glaciers and the polar ice caps. This data can be accessed by governments, NGOs and individuals around the world free of charge, helping to shape policy responses and inspire behavioural change.

COVERLINES

1974
The June 1974 issue of *INTERNET (UK) Association Bulletin* (issue number 2) states membership has reached 190, and that "those who direct the destiny of our Association have shown a degree of technical excellence for organising one-day seminars".

1975
The February 1975 issue of *INTERNET (UK) Association Bulletin* goes big on two diagrams that illustrate 'Activity-on-Node' and 'Activity-on-Arrow' networks. This is cutting-edge 1970s graphic design that helps readers catch up on a meeting the previous December.

1975
The April 1975 issue of *INTERNET (UK) Association Bulletin* leads with 'A Pert/Cost System to Meet Ministry of Defence Requirements on Aero-Space Projects', and features a report of the 'Communication and Project Planning' seminar held the previous month. *(Some preoccupations remain eternal – Ed.)*

From the microscopic to the macroscopic, NASA's 1977 Voyager space programme to the outer limits of the solar system also helped to put the capabilities of project management firmly in the public eye. Its very inception was due to competition for resources from the much bigger Space Shuttle programme. "The shuttle proved to be our biggest competitor," as Voyager's first project manager, Bud Schurmeier, told the US Planetary Society in 2002. A more ambitious Grand Tour plan to send spacecraft to every outer planet in the solar system had to be scrapped because it was too expensive. "Cost and politics led to the cancellation of the Grand Tour. But it wasn't that the agency didn't want to explore the outer planets, it just wanted something less costly," he said.

So, the team came up with the two Voyager missions – to Mars and Venus respectively – instead, based on existing technology from the earlier Mariner programme. Schurmeier described his role as being where "the buck stopped"

The country's first equal pay legislation was enacted in 1970, beginning the long fight towards full gender pay parity.

and one of his major decisions was not to fit radiation shielding to the pair of Voyager craft. That saved money and time, but at the risk of premature failure from radiation damage to onboard systems. It seems to have been the right call – Voyager provided some of the most iconic images of our solar system ever produced (including Carl Sagan's "Pale blue dot, the only home we've ever known") and outlived its design expectations many times over.

Its old rival the shuttle has been grounded since 2011, but as of early this year, *Voyager 1* was still transmitting faintly from the depths of interstellar space, and having travelled almost 14.5 billion miles, it is now further from Earth than any other artificial object has ever been.

APM
PROJECTS THROUGH THE DECADES
1980s

Margaret Thatcher is Prime Minister, and the decade is witness to huge technological, cultural and political change – welcome the World Wide Web, the first Apple Macinstosh and megaprojects like the Thames Barrier

The 1980s was a decade of upheaval. Telecommunications were revolutionised with the arrival of brick-sized mobile phones, and IBM, Amstrad, Sinclair and Commodore entered the home computer market to rival Apple's early dominance. It retaliated with the first Macintosh. Britain went to war over the Falklands, Iraq invaded Iran and the US Air Force unveiled its new Stealth bomber, the *Lockheed F-117a Nighthawk*, designed to be invisible to radar. NASA's space shuttle *Columbia* successfully made its maiden flight, although tragically, five years later, it exploded seconds after take-off, killing a crew of seven and focusing future attention more closely on risk and quality management.

Lessons in disaster management were also being learned from catastrophes such as the nuclear plant explosion in Chernobyl, the Lockerbie bombing, the sinking of the *Herald of Free Enterprise* car ferry near Zeebrugge and the famine in Ethiopia, which prompted the Live Aid concert. Meanwhile, British scientist Dr Joe

Farman announced there was a hole in the ozone layer over Antarctica. A gradual lifting of the Iron Curtain saw the rise of Lech Wałęsa's Solidarity movement in Poland and, as the decade came to a close, emotional and jubilant scenes flashed across the world as the Berlin Wall came down.

London megaprojects

At the start of the decade, the Queen opened London's Thames Barrier and the automatically run Docklands Light Railway came into service. The Thames Barrier project – one of the largest movable flood-defence structures in the world – was completed in 1982, creating a piece of infrastructure that encapsulated the elements of 'cathedral

thinking', during a time of strikes and 25% inflation. A Major Projects Authority report published in 1983 on the Thames Barrier found that in the first 18 months, progress was only 60% of that planned, largely caused by labour force disputes.

The barrier covers the entire width of the River Thames at Woolwich, with four main openings of 61m to permit navigation and six subsidiary gated openings. Difficult to imagine now, its design, planning and delivery was based on a physical model built in an old army shed in Didcot. A novel feature is the use of 10, 19m-high, 3,300-tonne rising sector gates in the navigational openings, which lie in recessed sills in the riverbed when not in use and normally allow unobstructed passage of river traffic through the barrier. Each gate is pivoted and supported between concrete piers, which contain operating machinery and control equipment. In a flood threat, the gates are swung up through 90 degrees to a vertical position and form a continuous barrier across the river.

Projects crossing traditional boundaries

While infrastructure projects remained the traditional backbone of project management, the 1980s was the decade that bore witness to the rise of project work across many sectors and industries, from software engineering to cultural and scientific projects. The 80s saw the birth of audacious projects to tackle disease worldwide. It was a frightening time for those touched by the HIV/AIDS pandemic, but it took until the mid-1990s for a project – the HIV antiretroviral therapy known as HAART – to become a new standard of care.

APM TIMELINE

1981
The first APM awards to reward best practice, professionalism and contribution to project management are held.

1984
Sir Monty Finniston, Chair of British Steel Corporation, becomes President of APM.

1985
APM's first Annual Dinner is held at the Waldorf in London. APM moves into its first office in High Wycombe.

1987
APM membership reaches 2,000.

1988
Project management and APM feature in the BBC TV series *Business Matters*. The project manager has finally made it into the national consciousness.

THE THAMES BARRIER

APM 50 PROJECTS FOR A BETTER FUTURE

The cost impact of a major flood in central London is estimated to be in the tens of billions of pounds. With Europe's main financial centre underwater, the effects would ripple far beyond these shores, too. After a storm surge in 1953 inundated areas surrounding the Thames Estuary, the UK Government began looking to bolster its defences. Eventually opening in 1984, the Thames Barrier spans 520m across the Thames near Woolwich. It has 10 steel gates that can be raised into position to protect against flooding caused by tidal surges. It takes 90 minutes for a full closure of the barrier, with each gate able to hold back loads of up to 9,000 tonnes. Originally scheduled to last until 2030, the life of the barrier has been extended by another 40 years – by which time it will have been operational for almost a century.

This was also a decade when the drive to finally wipe out polio gained momentum, with the formation of the Global Polio Eradication Initiative (GPEI) in 1988. A multi-partner initiative that includes the World Health Organization and US Centers for Disease Control and Prevention, this game-changing global project fosters collaboration between national governments, thousands of polio vaccinators, health workers and community organisers. Together, they reach more than 400 million

BBC CHILDREN IN NEED

APM 50 PROJECTS FOR A BETTER FUTURE

A yellow teddy bear with an injured right eye might seem an unlikely hero. But as mascot of BBC's Children in Need charity, Pudsey Bear has become a symbol for over £1bn of donations to help change the lives of disadvantaged children in the UK. The charity, founded in 1980, conducts an annual fundraising programme that culminates in a celebrity-fronted TV telethon, which smashes its own donation records year after year. The charity is currently supporting more than 2,500 local charities and projects that are helping children living in poverty, facing disability or illness, or experiencing distress, neglect or trauma. The first telethon in 1980 raised £1m. The 2021 telethon raised £39m.

Closer to home, the UK public became obsessed with the sea wreck *The Mary Rose*, when it was raised from the seabed after 437 years.

children every year in more than 40 countries, with over one billion doses of polio vaccines.

Closer to home, the UK public became obsessed with the sea wreck *The Mary Rose*, when it was raised from the seabed after 437 years, in a project that saw technical innovation and collaboration. On 11 October 1982, a crowd of spectators gathered in Portsmouth Harbour to watch Henry VIII's sunken flagship surface. The wreck had been rediscovered in 1971 by a joint team of Royal Navy divers and amateurs from the British Sub-Aqua Club, but the operation to raise it expanded significantly over the next decade, drawing in support from the Royal Engineers, the National Maritime Museum and even the BBC.

The project broke new ground in diving and conservation techniques, thanks to archaeologists, scientists and maritime salvage experts working together like never before. Five thousand individual dives were conducted as part of the project. A staggering 60 million people worldwide watched the wreck rise.

Project management innovation

For APM, the 1980s was a period of consolidation, change and growth as professional project management became increasingly recognised and required, and membership rose to more

THE WORLD WIDE WEB

APM 50 PROJECTS FOR A BETTER FUTURE
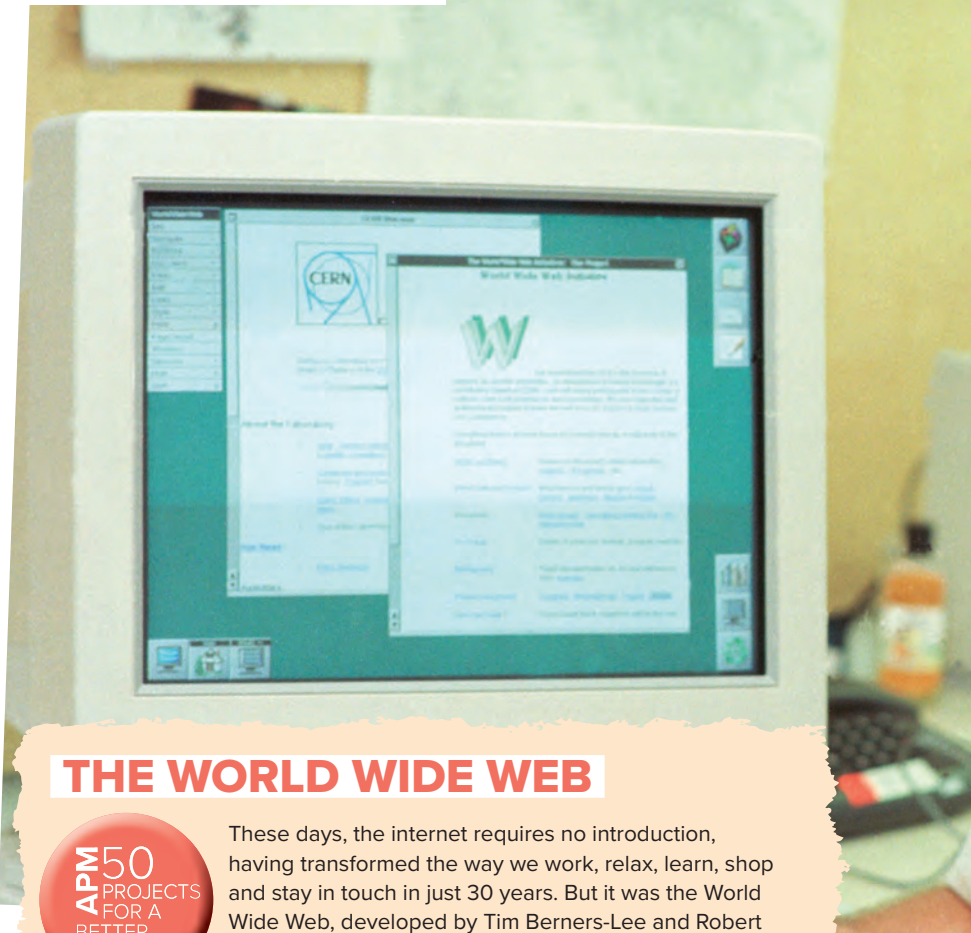
These days, the internet requires no introduction, having transformed the way we work, relax, learn, shop and stay in touch in just 30 years. But it was the World Wide Web, developed by Tim Berners-Lee and Robert Cailliau at CERN in 1989, that made it all possible. The Web established the idea of a global database of pages connected via the internet, navigable via a series of interconnected hyperlinks and built using a shared language, HTML. Initially intended to enable information sharing between academics around the world, it all started with a humble memo sent by Berners-Lee called 'Information Management: A Proposal'. The World Wide Web is now accessed by 4.95 billion people, with 500,000 new users going online for the first time every day. An estimated 50 billion web pages are live at any one time.

than 2,000. A coup was scored when Sir Monty Finniston, Chair of British Steel Corporation, became APM President in 1984. His objectives included increasing membership, establishing a full-time secretariat and accredited courses, and expanding activity beyond London – all of which were achieved. This was the decade where the SIGs and APM branches across the country really came into their own.

APM stalwart Arthur Tulip (who masterminded the SIG model), spent nearly 40 years working with Honeywell/ Bull designing and implementing modelling systems including project management ones. Part of his role was to monitor project management computer programs and software – he tested the early release of Microsoft Project while working at Honeywell. When the Central Computer and Telecommunications

method, not seen in other methods, was the idea of 'assuring progress' from three separate but linked perspectives.

Agile software development

Meanwhile, project management methodologies and techniques became influenced by new product development, particularly the Toyota model, which led to the greater use of stage reviews, and a growing importance placed on the project leader, sponsors and stakeholders. Just-in-time manufacturing processes were also becoming better known in the 1980s, laying the roots for the iterative delivery of projects in the future. Furthermore, it was in 1986 that Scrum was named

"APM and BSI looked to me to give a leaning, so wearing my BSI hat, I booked myself on a PRINCE course and got the response that Arthur Tulip was running it!"

as a project management style, initially intended to manage software development projects. In its paper, 'The New New Product Development Game' (*Harvard Business Review*, 1986), Takeuchi and Nonaka named Scrum as a project management style used as an agile software development model based on multiple small teams working in an intensive and interdependent manner.

Peter Morris, in 'A Brief History of Project Management' (*The Oxford Handbook of Project Management*), wrote that in the 1980s, "Another paradigm change was meanwhile at work moving project management towards a more holistic perspective: the funding of public sector projects by the private sector." Following some early UK trial projects, the Channel Tunnel was financed and built on this basis from 1987 to 1994, and it was a finance model that was to garner further favour in the 1990s.

As part of its professionalisation, project management needed to define the distinctive knowledge area that the project professional would be

COVERS FROM *PROJECT*'S PREDECESSOR, *THE BULLETIN*

December 1985
Possibly the most glamorous cover photo for *The Bulletin* in the 1980s, there is no explanation for what this Fiat Abarth is doing here. A jolly for the delegates of the October seminar, perhaps?

March 1986
The first-ever AGM for APM is flagged up on the cover, with weatherman Bill Giles down as the guest speaker. Note the lack of computers and the VHS (or is it a Betamax VCR – answers on a postcard, please).

April 1987
This computer-filled room is what the future of project management could look like. The lights look as though you could ask Scotty to 'beam you up'. APM invested in its first computer, an Amstrad, in the early 80s.

The 1980s was a period of consolidation, change and growth as professional project management became increasingly recognised and required, and membership rose to more than 2,000.

Agency launched PRojects IN Controlled Environments (PRINCE) in 1989, everyone wanted to know more about it. Tulip told APM that: "APM and BSI looked to me to give a leaning, so wearing my BSI hat, I booked myself on a PRINCE course and got the response that Arthur Tulip was running it!" PRINCE became the UK standard for all government information systems projects. A feature of the original

competent in. The initial 1983 PMI *Body of Knowledge* identified six knowledge elements: scope, time, cost, quality, human resources and communications; the 1987 edition added risk and contract/procurement. APM produced its own in 1991, which was a much broader document that incorporated a more holistic approach to projects, including objectives, strategy, technology, environment, people and more.

1990s

The economic recession bites deep, but era-defining projects like the Hubble Space Telescope, the Channel Tunnel and the Bilbao Guggenheim Museum are proving the transformative power of the profession

The decade didn't begin well. An economic chill set the scene for turbulent times as a deep recession began in 1990. The UK joined the European Exchange Rate Mechanism in a bid to stem rising inflation, only to be forced out after Black Wednesday, when the pound dropped dramatically. Unemployment rose to nearly three million, house prices plummeted and it was to be a tough three years before the economy began to show sustained growth. And yet, some truly audacious projects managed to succeed, like the Hubble Space Telescope, which has transformed our understanding of the universe. The big issues of the day included the technological revolution (this was the decade we started to send emails, and Google was founded), the environment and women's equality in the workplace.

Symbolic projects

The 1990s also brought to fruition a number of construction projects that helped transform the UK's standing in the world, including the Channel Tunnel, Canary Wharf, the new British Library and, in preparation for millennial celebrations, the British Airways Millennium Wheel (aka the London Eye) and the contentious Millennium Dome.

Canary Wharf on East London's Isle of Dogs was reimagined as one of the world's most iconic business, residential and leisure districts. Housing the European headquarters of many international banks, its imposing skyscrapers were an assertion of London's strength as a global financial centre and a powerful symbol of urban

This was the decade we started to send emails, and Google was founded.

regeneration. This spurred a wave of similar renewal projects across London, which continue to this day.

Another ambitious project, albeit of an artistic kind, was Antony Gormley's sculpture, *Angel of the North*, which was unveiled in 1998. It was a bold new monument that helped spur a kind of cultural rebirth and wider regeneration

for Gateshead, north-east England, and its surrounding region. Perhaps the UK's most iconic public art installation, the 20m-high steel angel is situated beside the A1 and is seen by more than one person every second. The location of the site was symbolic – it is set on top of a former colliery, representing Britain's transition out of the industrial age. "People are always asking, why an angel? The only response I can give is that no one has ever seen one and we need to keep imagining them," said Gormley. With a wingspan of 54m, the total cost of the project came to £800,000.

The 1997 opening of the Guggenheim Museum Bilbao also had an unexpectedly successful transformative effect on its region. The regenerative potency of Frank Gehry's masterpiece museum altered the language of urban development, giving rise to the phrase 'Guggenheim effect'. Delivered on time, within budget (the construction costs came in at €55m) and generating nearly €200m for the Basque region since its opening, the museum is rightly heralded as an example of project management to aspire to. Success on this scale may have seemed unlikely, with a visionary architect at the helm and a complex blend of local and provincial government and private sector partners.

APM TIMELINE

1991
APM's first *Body of Knowledge* is published.

1992
APM's first qualification, the Certificated Project Manager (CPM), is launched.

1996
APM changes its name to the Association for Project Management.

1997
APM celebrates its 25th anniversary.

1998
APM membership reaches 10,000.

HUBBLE SPACE TELESCOPE

HUBBLE SPACE TELESCOPE

"Hubble isn't just a satellite; it's about humanity's quest for knowledge."
John Grunsfeld, NASA Astronaut

APM 50 PROJECTS FOR A BETTER FUTURE

As the crowning achievement in NASA's Great Observatories programme, the Hubble Space Telescope (HST) has identified the exact age of the universe, demonstrated the role of black holes and dark matter in the formation of galaxies and discovered two previously unknown moons orbiting Pluto. However, the project was very nearly a damp squib. The HST was initially grounded following the 1986 *Challenger* disaster, and then, within weeks of its eventual launch in 1990, the main mirror was found to have been incorrectly ground by 0.002mm, warping the first images it captured of the furthest reaches of the universe. Manned missions were then undertaken to correct the issue.

Alamy; IR Stone/Shutterstock; David Graham86/ Shutterstock

However, political continuity over the course of the project and, in Gehry, an architect who listened to the client proved a winning combination.

At the cutting edge

Who would have thought one sheep could become a global sensation? But in 1996, Dolly became the first animal to be cloned from an adult cell – previous attempts at cloning had used embryonic cells. Dolly opened up a whole range of exciting possibilities in medicine, including the development of personalised stem-cell treatments. The cloning process was the product of experiments led by Professor Sir Ian Wilmut at the Roslin Institute, with a team made up of scientists, embryologists, surgeons, vets and farm staff, and backed by biotech firm PPL Therapeutics. Since Dolly, pigs, deer, horses, cattle and monkeys have all been cloned using similar techniques, and – controversially – humans have had their genes edited using related CRISPR-Cas9 technology.

In the early 1990s, the media became preoccupied by another technically advanced project, the Eurofighter Typhoon, but the world's most advanced fighter plane nearly didn't get off the ground. In 1983, the governments of

Who would have thought one sheep could become a global sensation? But in 1996, Dolly became the first animal to be cloned from an adult cell.

France, Germany, Italy, Spain and the UK launched the Future European Fighter Aircraft (FEFA) programme, collaborating with the likes of BAE, Messerschmitt and Rolls-Royce to design and build an agile fighter capable of responding rapidly to Soviet incursions.

German reunification, France's withdrawal from the FEFA programme and disagreements over everything from the choice of radar system to its name delayed the project, but the finished article, which first took to the skies in 1994, quickly established itself as a

cornerstone of the West's aerial defences and peace-keeping capabilities. "The Eurofighter project is a German project, an Italian project, a Spanish project and a British project, and that is how it should be," said Prime Minister David Cameron in 2012. At £17.6bn, the Typhoon is the UK's most expensive weapons system.

The arrival of APM's *Body of Knowledge* (APM BoK)

Peter Morris, an experienced project management practitioner, academic and full-time Director of Bovis during the early 90s, became a co-author with Tim Carter and Richard Pharro of the first APM BoK. "I discovered from the data that what makes projects go wrong were not the work breakdown structures or critical path or things like that, which normally constitute the bulk of project management textbooks and the PMI *PMBOK Guide*. It was how they were set up, their interaction with stakeholders, the relationship with sponsors' strategy, choice of technology, commercial strategy, selection of people, behaviours, leadership and so on," he told APM.

"PMI was getting a terrific resonance in the marketplace and charging ahead. It didn't take a genius to see that APM needed a certification process. The PMI *PMBOK Guide* only focused on the execution end of projects and that wasn't enough. I didn't feel we should write a body of knowledge that was just about the execution – managing projects successfully entails much more than that and, therefore, so should the body of knowledge. We needed to take a much more holistic view... In terms of establishing the profession, it wasn't just the right thing to do, it was essential," he reflected.

The first edition of the APM BoK was published in 1991, and was aimed at the professional manager of projects in any sector. It was quickly regarded as an international standard, was translated into several European languages and adopted by the International Project Management Association as the basis for its own 'competency baseline' certification process in the late 1990s.

THE CHANNEL TUNNEL

"In a year or two, the journey you have both made will be an everyday experience for millions of people. But today is unique and will be a treasured memory."
Sir Alastair Morton, Co-Chairman of Eurotunnel, speaking to the Queen and French President François Mitterrand in 1994

APM 50 PROJECTS FOR A BETTER FUTURE

At 23.5 miles, the Channel Tunnel is the longest undersea tunnel in the world. It is also one of the biggest engineering projects ever undertaken in the UK, employing more than 13,000 workers from England and France. Boring commenced in 1987 and, in 1994, the finished tunnel was unveiled by the Queen and President François Mitterrand. Since then, the equivalent of six times the UK population has crossed through it, and the programme has had a major economic benefit. More than a quarter of goods traded between the UK and Continental Europe go through the Channel Tunnel, representing a value of €138bn per year.

Earnest Tse/ Shutterstock

HONG KONG INTERNATIONAL AIRPORT

"The formation of the site was a complex engineering task, taken forward within demanding budgetary and time constraints against a background of political change... Collaboration between employer, engineer and contractor, and the development of effective working relationships at all levels, were key factors in achieving common objectives."

Douglas Oakervee, Project Director, and Y Yanagisawa, Chairman, joint venture supervisory board of the project

APM 50 PROJECTS FOR A BETTER FUTURE

Hong Kong International Airport (HKIA) opened in 1998 at a critical moment for the city and region, just one year following the transfer of sovereignty from the UK to China. Construction of the airport began in 1991, part of a programme that also included a new high-speed airport railway and a third cross-harbour tunnel to Kowloon. Built on a large artificial island formed by flattening and levelling two islands and reclaiming 9km^2 of the adjacent seabed, the site added nearly 1% to Hong Kong's total surface area. Since 2010, HKIA has been the world's busiest cargo airport. It also handles more than 72 million passengers every year, with 100 million expected by 2030.

Project management matures

During the 90s, mobile telecoms, broadband and the internet significantly increased project communications capabilities and project productivity, while modelling power improved through Excel and CAD. Peter Morris in 'A Brief History of Project Management' (*The Oxford Handbook of Project Management*) cites one "genuinely new

Project management became increasingly seen as a core competency, recognised within, and across, institutions as a career track in its own right.

and original development in scheduling" as critical chain, which emerged in the mid-1990s. "Key ideas include considering resource availability when deciding which is the real critical path; stripping contingencies from the activity level and managing them, as buffers, at the project level; and only working on one activity at a time, and doing so as fast as possible... Implementation of these ideas generally requires behavioural changes, and the motivational energy created can be real and substantial."

By the end of the 1990s, knowledge management and organisational learning had become hot topics for the profession. Project/programme management offices (PMOs) were

starting to be seen as important ways to share tacit project knowledge, hold best practice, organise training and support, record project portfolio status, becoming "the linchpin in building enterprise-wide project/programme management capability", wrote Morris. "From the 1990s, there was an unprecedented rise in demand for project managers, particularly in construction and IT. Project management became increasingly seen as a core competency, recognised within, and across, institutions as a career track in its own right. Demand outstripped supply." Now, what's not to like about that as we headed into the new millennium?

APM

2000's

As the dust settled on millennial celebrations, the profession took its place at the heart of innovative, game-changing projects across aerospace, engineering, culture, sports, science and e-commerce

The year 2000 represented a kind of mythical point in the popular imagination of the late 20th century, at which the high-tech future we were all eagerly anticipating would at last have arrived. A world where space travel would be commonplace, and we'd all enjoy hours of leisure time because robots would do all the work. It didn't all turn out as expected – the noughties was indeed a high-tech decade, but one that dawned with the (happily unfounded) Y2K bug panic before going on to produce the dotcom boom, the rise of e-commerce and – of course – the financial crash of 2008. And let's not forget 2001 was the year the Agile Manifesto was written, starting a revolution in the way tech projects would be managed.

The celebrations to welcome in the new millennium included landmark building projects like Tate Modern. The Tate snapped up a prime piece of central London real estate in 1994 – in this case an iconic but crumbling former power station – and commissioned Swiss architects Herzog & de Meuron to get to work on a £134m rebuild and restoration. To pull off the delicate and complex construction process in time for the millennium, main contractor Carillion innovated by splitting the building work into distinct packages, each to be carried out by specialist subcontractors. In its first year, Tate Modern drew twice as many visitors as expected and is now the third most visited art gallery in the world.

Project management comes of age

Work was – and is – thankfully, still very much a thing, because to most of us, a career is about much more than merely earning a living. The flipside is that robots are now viewed by many as a threat as much as a potential labour-saving boon. E-commerce now accounts for more than 30% of retail spending and has spawned some of the largest and most successful companies on the planet. But those old predictions weren't entirely wide of the mark. For one thing, the long wait for commercial space planes may soon be over: Richard Branson's Virgin Galactic project – founded in 2003 – finally made it into space in 2021, and the first paying customers will be taking their rocket-powered 50-mile-high ride later this year if the oft-delayed schedule doesn't slip any more.

APM's 30th anniversary in 2002 marked more than just a milestone date in its history; it reflected the coming of age of the profession and the association. As Stan Hornagold, then Head of Consultancy Hornagold & Hills, noted in that year's celebratory edition of the *APM Yearbook*: "No serious project

"The profession of project management is continuing to develop at a rapid rate and is keen to make ever-increasing progress."

APM TIMELINE

2000
New APM President Professor Tony Ridley instigates The Change Project to bring the association into the new millennium. By 2010, the subsequent reviews had created a modern, professional association.

2002
APM celebrates its 30th anniversary.

2004
Dr Martin Barnes, Tony Ridley's successor as President, issues the Barnes Challenge – for APM to become 'the model of a successful, modern professional organisation, pre-eminent in the fields of project and programme management'.

2005
As APM achieves a greater profile and recognition, its new branding is launched, featuring a symbolic bird, the ibis, that represents resilience and courage.

2007
Work begins on an application for APM to become a chartered body, with APM Chairman Mike Nichols as programme sponsor.

now takes place without a project manager and we are clearly identified as a separate profession. The profession of project management is continuing to develop at a rapid rate and is keen to make ever-increasing progress – a mature attitude and a sign that project management really has come of age."

The noughties was also the era when globalisation really got into its stride, and many of the key projects of the time were indeed about bringing people all over the world closer together, whether virtually through technology like the smartphone (Apple's iPhone debuted to rave reviews in 2007), culturally through sporting events like the Olympics or physically through projects like the Øresund Bridge and Terminal 5 at Heathrow Airport.

THE EDEN PROJECT

"If you want to attract the brightest and best to become project managers, you've got to make it clear that we're the enablers who are shaping the future of the world."
Eden Project Co-founder Tim Smit

APM 50 PROJECTS FOR A BETTER FUTURE

There are very few projects like the Eden Project. Built in a neglected china-clay pit outside the town of St Austell, Cornwall, the Eden Project's twin biomes rise out of the earth like some mysterious alien architecture. These domes are the world's biggest greenhouses, and since opening in 2001, now draw around a million people a year. Visitors come not just for the innovative architecture and rainforest flora, but also its education centres and events programme. As a symbol of regeneration – transforming a disused industrial site into a celebration of our interdependence with nature – the original Eden has kick-started a wave of sister projects across five continents.

From project to programme management

For the project profession, these global ambitions were reflected in one of the themes of the decade: the shift from project to programme management. Delivering individual projects was one thing, but coordinating a bunch of inter-related projects to deliver a phased programme of benefits over several years brought a new level of challenge both in terms of planning and execution.

Take the Olympics – building the venues for the 2008 event in Beijing

(the Bird's Nest stadium alone cost $420m) – was a major undertaking, but thousands of athletes also had to be accommodated, millions of visitors transported to and from the Games and a whole raft of associated cultural events and outreach initiatives delivered.

The project professionals of the 2008 Beijing Games achieved the rare distinction of being only 2% over budget – the lowest budget creep of any Games between 1960 and 2016, according to Bent Flyvbjerg at Oxford's Saïd Business School. In his 2020 paper 'Regression to the tail: why the Olympics blow up', he states: "Every Olympics since 1960 has run over budget at an average of 172% in real terms." But the Olympics effect lingers well after the closing ceremony, and short-term success can be tinged with longer-term issues. Pictures of the city's disused and neglected Olympic venues over the following years proved embarrassing to the Chinese authorities.

The organisers of the 2012 London Games – which officially got under way after the successful bid in 2005 – tried to learn this lesson about legacy, and focused not only on the prestige, but also on how the Games could kick-start the regeneration of a big chunk of the city's post-industrial East End. As Bill Morris, who was Director of Culture and Ceremonies for the London Games, told

Project: "The Olympics is a truly inspiring event that can act as a tremendous catalyst. There is a real opportunity for megaprojects like this to play a pivotal role in long-term development."

Advances in medicine also required the expertise of project professionals, not least the UK's HPV vaccination

The project professionals of the 2008 Beijing Games achieved the rare distinction of being only 2% over budget

programme. Human papillomavirus (HPV) is the name given to a common group of sexually transmitted viruses. Introduced in 2008 for girls aged 12 to 13, and extended to boys in 2019, the UK's HPV immunisation programme aims to reduce morbidity and mortality from cervical cancer and other cancers

caused by HPV by routinely offering vaccines to Year 8 schoolchildren. A study published in *The Lancet* in 2021, funded by Cancer Research UK, discovered an 87% reduction in cervical cancer since the introduction of the vaccination programme. To date, more than 10 million doses of HPV vaccines have been administered in the UK.

Welcome change afoot
The noughties was also the decade when industry began to take gender diversity seriously. The great crash of 2008 brought the financial systems of many developed countries to the brink of collapse, and cost the US Federal Reserve alone some $2tn between 2008 and 2010. Among many contributing factors, groupthink on boards and management teams that were too 'male, stale and pale' led first to the 2010 Higgs Review into women on boards and ultimately to the government-endorsed target that 30% of FTSE directors should be female by 2020.

The project world was no exception. Although APM's Specific Interest Group for Women in Project Management had been set up in the 1990s, the profession's reliance on STEM subjects more often studied by men than women meant that things were slow to change. But at least one subsequent female high-flyer cut her teeth in the noughties: Sue Kershaw, APMs first female president in 2019, was already making waves as a programme manager first at TfL and then at the at Olympic Delivery Authority where she was ultimately Deputy Director of Transport for the 2012 London Games.

Landmark lessons – and a bigger toolkit
Heathrow's Terminal 5 (T5) – which opened in March 2008 – was in many ways a landmark achievement, fraught with the difficulties of constructing a facility that was itself larger than most European airports, but within the confines of another even larger airport that had to remain fully operational the whole time. Boosting Heathrow's passenger handling capacity by 90%, T5 required a wholesale rethink of the

WIKIPEDIA

"Wikipedia only works in practice. In theory, it's a total disaster."
Sue Gardner, former Wikipedia Executive

APM 50 PROJECTS FOR A BETTER FUTURE

Hailed as the largest and most widely read reference work of all time, Wikipedia has both monopolised and democratised the way we access information in the internet age. Its founders, web entrepreneur Jimmy Wales and philosopher Larry Sanger, broke the mould by immediately turning over editorial control to amateurs around the world from inception in 2001. The online encyclopaedia now features 58 million articles across its 325 different language editions. Once much mocked for its inaccuracies and hidden biases, Wikipedia and its army of volunteer editors have worked hard to build coverage and shore up the site's reputation through iterative improvements.

THE ØRESUND BRIDGE

"The bridge is a success story both for rail and road, and it still has a lot of space and capacity. It is also a shining example of how Copenhagen and Malmö have been brought together"
Caroline Ullman-Hammer, CEO at the Öresunds Bridge Consortium

APM 50 PROJECTS FOR A BETTER FUTURE

A 16km rail and road link that connects Sweden and Denmark, the Øresund project comprises a bridge, a man-made island and a tunnel. Crossing the bridge, which connects the cities of Copenhagen and Malmö, takes a mere 10 minutes by car. Since opening in 2000, the bridge has spurred the creation of an 'Øresund Region', with a population of 3.7 million. The quick connectivity means people can live on one side of Øresund and work on the other. Business and industry have benefitted hugely, and Copenhagen/Malmö has become the Nordic centre for many international companies.

nature of the working relationships at the heart of the project, as T5's Construction Director Andrew Wolstenholme said in an interview a year before its completion. "Usually in this business the contract tells you what to do when things go wrong, but our contract tells you what to do to make things go right. The majority of it is about integrated teams and working well together, not dispute resolution."

But T5 also provided a cautionary tale of the impact of saturated media coverage in the 2000s. When the spotlight is on a big project, the risk does not always cease with handing over the keys to a shiny new facility on time and on budget. T5's early and very high-profile failures were described by MPs as a "national humiliation" and turned the new terminal from a success to a failure in the eyes of many

at the time. Caused by a combination of staffing and training problems and inadequately stress-tested technology, these issues themselves would turn out to be a signpost to the future of project management, where people, technology and influencing skills would need to sit alongside the planning and process expertise traditionally found in the successful project professional's toolkit.

By the end of the decade, APM had begun its pursuit of a Royal Charter, having become an association that had reshaped itself into a modern body. The focus, explained former APM Chairman Tom Taylor, was "to move forward into becoming an effective, modern organisation that could match any other professional body in terms of quality, efficiency and, ultimately, size".

PROJECT IN THE NOUGHTIES

April 2000
Project highlights women in the profession, producing a dedicated issue to helping 'the female of the species' forge ahead in the 'PM career race'. Let's not forget the project management of the Millennium Dome either.

May 2006
Alpha entrepreneur Richard Branson is dubbed the 'Space Man', with *Project* taking a look at his nascent space flight programme. We also pose the question: 'where would you be without your traditional values?'

May 2007
Sporting a new look, *Project* celebrates the grand unveiling of the new Wembley Stadium, and in a particularly prescient article (ahead of the global financial crash of the following year) explains how project management can help when disaster strikes.

July 2008
The Middle Eastern appetite for megaprojects in the 2000s was exemplified by Dubai, which was building some spectacularly ambitious constructions, including the tree-shaped Palm Jumeirah archipelago of islands.

2010s-2020s

From the London 2012 Olympic and Paralympic Games to the launch of the Mars Perseverance Rover and the James Webb Space Telescope, successful projects are showcasing what human endeavour can achieve

The 2010s were a decade replete with awesome projects. Take the London 2012 Olympic and Paralympic Games, which surpassed everyone's expectations and left a learning legacy with hugely important implications for the way megaprojects are managed. With a fixed deadline and the entire world watching, the UK's reputation hung in the balance after London won the bid the day before the terrorist bombings of July 2005 struck the city. It left the capital more determined than ever to make the Games a success.

The London Organising Committee and the Olympic Delivery Agency went on to transform an industrial site in East London into the Queen Elizabeth Olympic Park. The Games were a huge undertaking – and ultimately a huge success. The redevelopment of Stratford continues, with huge educational, arts and culture projects set to open over the coming years.

Big, hairy, audacious goals

You can't fault the 2010s for a lack of ambition. As the decade unfolded, we watched some truly incredible megaprojects come into being, from Renzo Piano's Shard in London to One World Trade Center in Manhattan. Shard Project Director Robert Deatker spoke to *Project* in 2012 about the challenges of erecting the Shard. He also spoke about the deliberately unassuming role of the project manager. "You should almost not even feel the project manager and, at the end, they should come out and say the project went smoothly, we resolved the issues, the client is happy, the contractor is happy and the team is happy. That is the sign of a successful project... The project manager should operate in the background and help knit it together." A decade on, the persona of the silent behind-the-scenes project professional seems outdated as the profession continues to gain sway.

The Shard has become a much-loved addition to the London skyline, but if you want a truly audacious project, then none can rival space exploration. The 2020s are witness to two such projects that epitomise what human exploration can achieve: the Mars Perseverance Rover and the launch of the James Webb Space Telescope, Hubble's successor.

Space exploration

Launched in July 2020, NASA's unmanned Perseverance Rover overcame the threat of budget cuts to collect unprecedented data about the surface of Mars. Drill samples and ground scans have taught scientists more about Mars's geological past and provided further evidence that water may once have been present.

Perseverance has also confirmed the presence of 'organic molecules', one of the building blocks of life, and a collaborative experiment between NASA, MIT and CalTech's Jet Propulsion Laboratory has explored whether it may be possible to synthesise oxygen, water and a form of propellant from substances found in the Martian atmosphere, paving the way for future manned missions. "The mission personifies the human ideal of persevering and will help us prepare for human exploration," said Steve Jurczyk, former Acting Administrator at NASA.

APM TIMELINE

2011
Launch of Registered Project Professional standard.

2015
APM wins best association at the Association Excellence Awards.

2017
APM receives its Royal Charter.

2018
271 people become the first ever Chartered Project Professionals.

2019
1,000th Chartered Project Professional, and APM publishes the 7th edition of its *APM Body of Knowledge*.

2021
Number of individual members passes 35,000.

2022
50th anniversary of APM.

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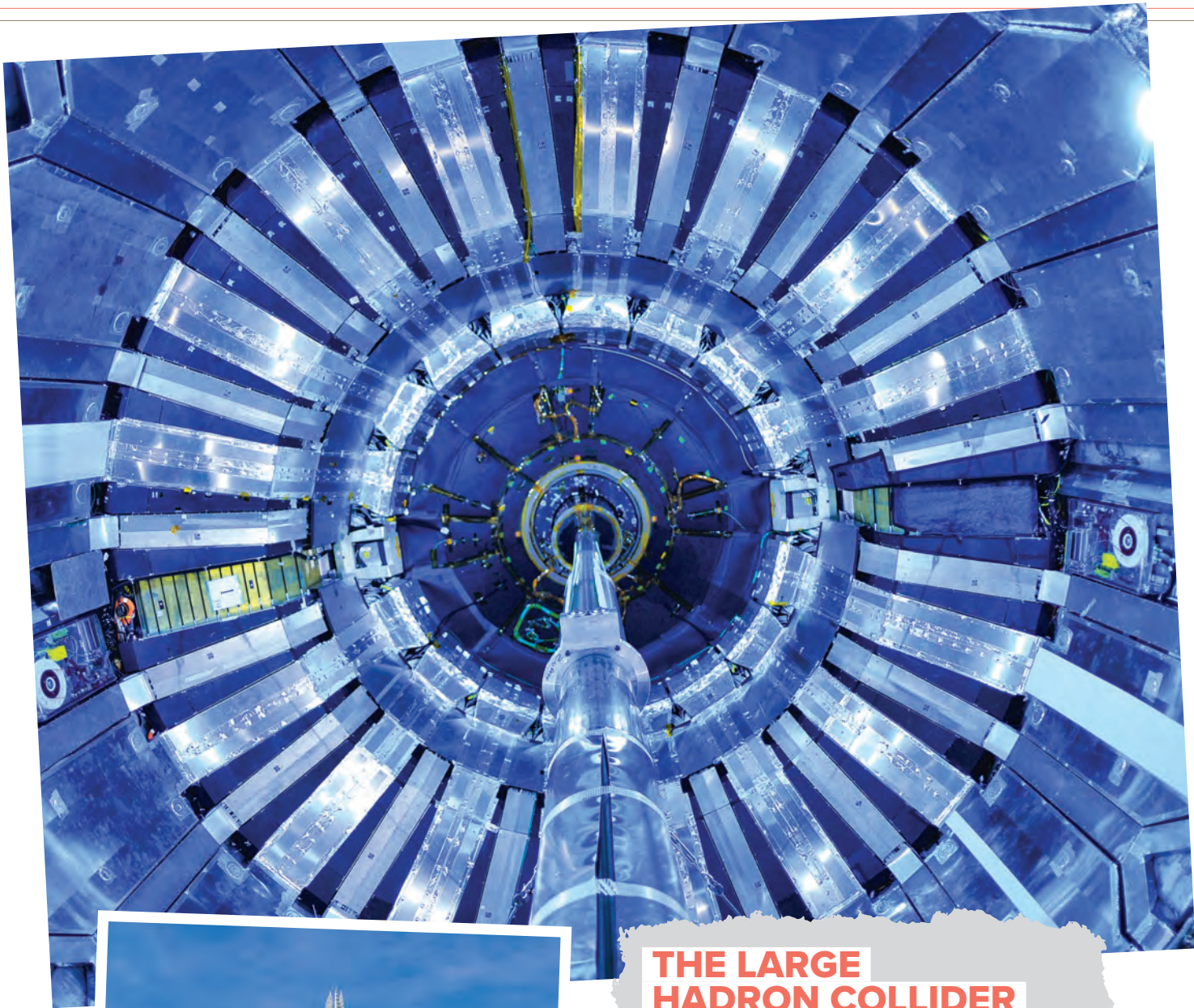
THE LARGE HADRON COLLIDER

APM 50 PROJECTS FOR A BETTER FUTURE

Deep beneath rolling hills on the outskirts of Geneva lies the 27km ring of superconducting magnets powering the world's largest and most powerful particle accelerator, the Large Hadron Collider (LHC) at CERN. Since 2010, physicists have been firing subatomic particles around the collider, crashing them into each other to learn more about their composition and behaviour. CERN was founded in the wake of World War II as a way to unite Europe's scientific community, and the LHC is now run by scientists from more than 100 countries. Despite technical setbacks during construction, the LHC has already reshaped our understanding of particle physics, having confirmed the existence of the Higgs boson. At $1bn per year, the LHC is the most expensive scientific experiment ever undertaken.

2010s-2020s

Through the pandemic

Meanwhile, the James Webb Space Telescope, launched on Christmas Day last year, is the largest space science telescope ever developed. Hubble's replacement gives humanity a new eye in the sky with infrared sensors that will peer into the furthest reaches of the cosmos to observe the universe's first galaxies, reveal the birth of stars and planets, and look for exoplanets with the potential for life.

"On a mission as large and complex as this, almost every moment is critical," Bill Ochs, NASA's Project Manager for the telescope told *Project* earlier this year. The biggest project management challenge so far, he said, was, "balancing all the testing and risk mitigation required for mission success versus budget and schedule. Also, maintaining progress during the first year of the COVID-19 pandemic."

Explaining his project management approach, Ochs said: "Always listen to the folks on your team – don't assume you are smarter than them – and from there you can make informed decisions at critical points. Also, you need to protect your technical team from the pressures coming from above when it comes to maintaining schedule. Risk mitigation, even at the cost of project schedule, is key to success."

For every successful project that happens, there are plenty that never

do. How about the 2012 Thames Hub project (aka Boris Island)? The £50bn plan would have represented the most ambitious UK project of the modern age, comprising an international estuary airport, a £20bn high-speed orbital rail line around London and a new £6bn Thames barrier. Critics labelled it a quixotic vanity project, and it was shelved in 2014, following a government independent commission.

The Royal Charter

In 2017, APM achieved its Royal Charter – a huge milestone in the evolution of the association, and of the profession. John McGlynn, APM Chair between 2016 and 2020, said: "For the first time, the charter gave the project profession parity with other more established professions… Things develop and change, and I think it's absolutely right that we've now got that recognition." McGlynn believed that this was the first step to helping project management reach its true potential. "Today, you

wouldn't have your bridge designed by someone who wasn't a chartered civil engineer and you wouldn't have your accounts signed off by someone who's not a chartered accountant. In the future, you won't have your project managed by someone who's not a chartered project professional," he said.

APM's former Chair and President, Tom Taylor, said: "What we've definitely seen in this decade is project management becoming a career of first choice. In the past, most people fell into project management, quite often from engineering. Now you can go to university and study project management, get a master's. And at school they don't bring homework home – they bring projects. So it's shifted

> **"Those within the profession get it already, they understand that project management is about people and not about processes."**

in culture. People can choose to be in project management."

But there are still challenges, not least raising the project professional from the behind-the-scenes fixer to a professional at the core – and top – of an organisation. "Those within the profession get it already, they understand that project management is about people and not about processes, because they live and breathe it every day. If you were to talk to leaders of organisations about other core functions, for example, finance, marketing and HR, they might not be an expert in any of them, but they understand and value them, and are able to grow those skills and those people in the organisation," says Professor Adam Boddison, APM's current Chief Executive, on a mission to elevate the profession.

Future direction

Project professionals are now expert team managers, with the skills and knowledge that organisations need as work across every sector becomes increasingly about projects. A by-product

THE HUMAN GENOME PROJECT

APM 50 PROJECTS FOR A BETTER FUTURE

Take three billion 'letters' and assemble them in the right order. That is a much-simplified description of the endeavour completed by global researchers between 1990 and 2003 known as the Human Genome Project. The project aimed to map the 'base pairs' – a type of code represented by the letters A, G, C and T – that make up human DNA. The huge collaboration between 20 universities completed its task two years ahead of schedule. The data generated by the project is publicly available for free, allowing scientists around the world to make use of it. Benefits include improved genetic testing and gene therapy treatments, and a deeper understanding of human evolution. The $2.7bn project revealed the number of human genes as 20,500.

THE COVID-19 VACCINE ROLLOUT

APM 50 PROJECTS FOR A BETTER FUTURE

As of April 2022, almost 80% of the UK population has received at least one dose of a COVID-19 vaccine – almost 53 million people. Few projects touch so many lives in such a short space of time, but the UK's vaccine rollout is no normal project. The Vaccine Taskforce was set up in April 2020 to secure access to promising COVID-19 vaccines as quickly as possible and strengthen the country's capability in vaccine development and manufacturing. It is a multi-departmental entity – a mix of civil servants, industry experts and contractors to ensure deep cross-sector expertise in vaccine development, regulation, manufacturing and project management. A higher-stakes project within a more pressurised context is difficult to imagine, but the taskforce was praised for the speed of its decision-making and focus on outcomes rather than process. "We needed to focus on outcomes rather than procedure and to do this at speed. The answer was to design bespoke governance and to build trust and confidence with the key decision-makers across all of government," Nick Elliott, former Director-General of the Vaccine Taskforce, told *Project*. It took just three weeks for the taskforce to get from trial results to distribution and deployment.

of the COVID-19 pandemic was to lift project management up the organisational ladder as project professionals helped society and business to pivot to meet the challenge.

Never has there been more talk of using both iterative and hybrid project techniques to marry the best of all methodologies to help deliver projects successfully. Ruth Murray-Webster, Co-editor of *APM Body of Knowledge 7th edition*, said that she had been keen to lay to rest a debate that she saw as a thorn in the side of the profession: waterfall versus agile. "There was a really unhelpful debate going on in the profession that made out waterfall to be bad and old-fashioned, and agile good and modern. And it's just nonsense,

because it's not either/or. The reality for most projects is hybrid, which is an element of waterfall, but then they have little iterative design cycles. It's normal."

Dealing with COVID-19 might have proven the capabilities we have to overcome a global pandemic through collaboration, but it will be climate change that will demand the project profession gets its hands on every possible tool in the toolbox. And, as Joanna Rowland, then Director General of the COVID-19 Response Unit at HMRC, told *Project* in 2020: "You can have the greatest strategy and the best policy and the best IT plan. But you're not going to improve anything or change anything without a project to get it done." Enough said.

MEMORABLE *PROJECT* COVERS

February 2012
London's Shard goes from an audacious vision for a 72-storey skyscraper designed by Renzo Piano to reality in 2012 after three years of construction.

March 2012
'Mind Over Matter' is the cover story, which reflects the growing interest in neuroscience in successful project management. It's a keen theme of the decade.

September 2012
The new One World Trade Center project brings hope to NYC following the deep trauma of 9/11. The building opened in November 2014, standing at 1,776ft high.

Summer 2020
The race is on to find a COVID-19 vaccine. *Project* follows the story and speaks to project professionals dealing with the pandemic at every level.

Never has there been more talk of using both iterative and hybrid project techniques to marry the best of all methodologies to help deliver projects successfully.
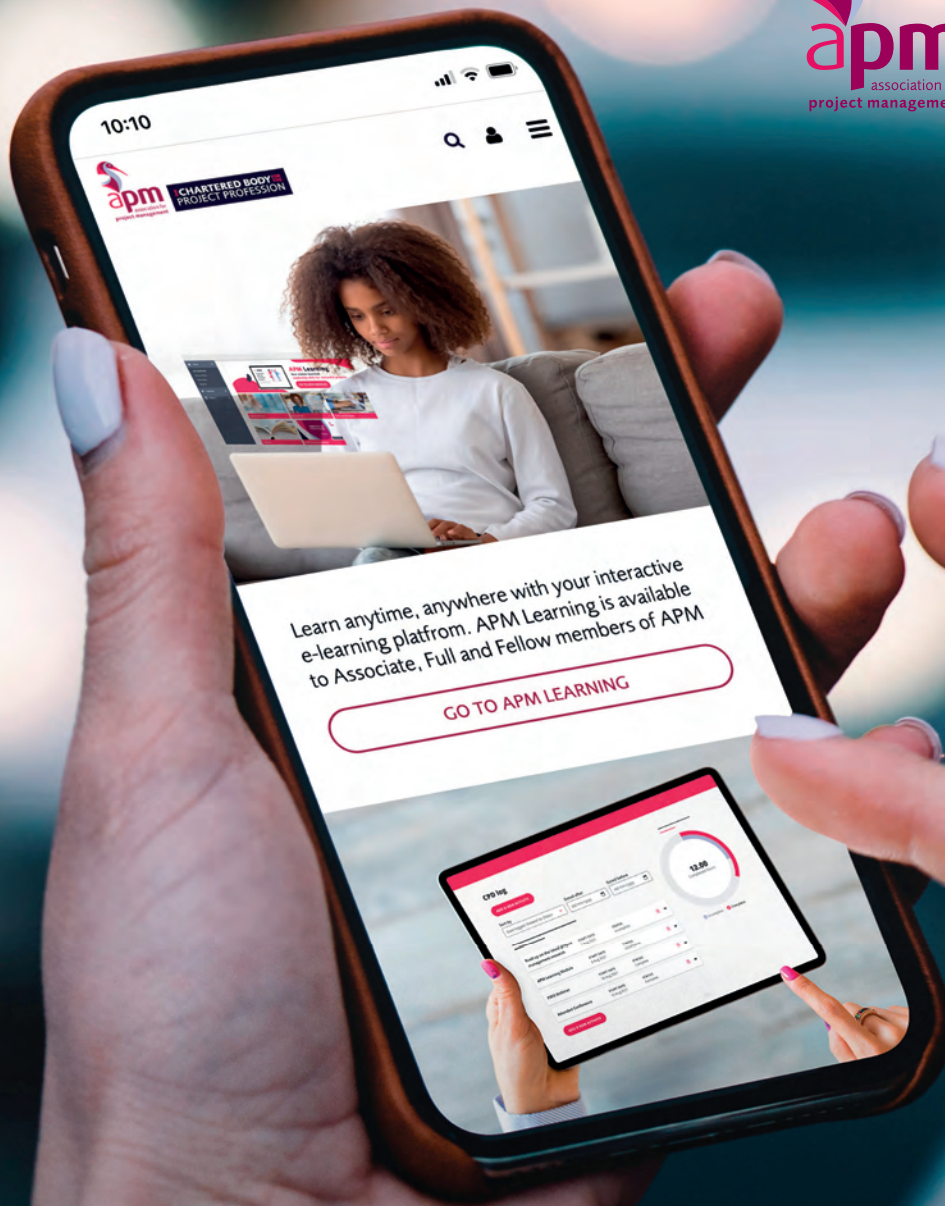
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HOW TO
BE A PROACTIVE PROJECT PEACEMAKER

ExtraordinaryPM Co-founder **Sarah Walton** shares her tips on becoming a brilliant mediator

Project managers need to have many skills in their toolbox; mediation is one that is often overlooked. Nobody wants to spend all their time trying to keep the peace between warring factions, but we do need to ensure that conflicting views have a voice and are listened to without being allowed to derail project progress. Rather than thinking about peacekeeping or mediation on a project, we prefer the concept of project managers being proactive peacemakers in every interaction because:

■ Projects are challenging places and inevitably there will be tension between team members, stakeholders and sponsors, since they will each be looking at the project through a different lens.

■ Organisations generally emphasise the importance of collaboration and providing a place of psychological safety, but this can lead to pressure not to challenge one another or ask awkward questions.

■ Most people instinctively avoid conflict, but good disagreement is core to making progress and being intentional in how we approach and manage these situations is important.

■ The language we use when describing arguments is combative and, as Ian Leslie points out in his book *Conflicted: Why Arguments Are Tearing Us Apart and How They Can Bring Us Together*, we don't have a word for non-hostile disagreement.

A proactive peacemaker creates a project environment that encourages non-hostile disagreement in order to deliver the best outcome. So, what can we do to create a safe space for innovation and problem-solving?

1 Get comfortable with the discomfort of conflict and control your response to it

Disagreement stimulates the same areas of our brain as physical threat; our minds are flooded with signals that tell us we are under attack. Understanding what is happening in our brains during conflict means we are better placed to manage the situation. One of the most useful techniques to employ is to be intentional about slowing down our breathing. An easy technique you can share with your team is to breathe in slowly to the count of three, hold for three, breathe out for another count of three and then hold for another three… and repeat.

2 Make sure your team has the confidence and courage to engage in healthy debate

They need to know that if they offer a contentious viewpoint, challenge an idea or disagree with someone, they will not be shot down in flames or have the interaction held against them. Start by ensuring that everyone believes

Taking time to understand the strengths, skills, personalities and diversity of thought and experience around the table will pay dividends when you need to be able to mediate a difficult situation.

the project is sufficiently important to be worth taking the personal risk of speaking up by developing a target statement. When the importance of the project is clearly articulated and the team feels engaged in this, then it is far easier for team members to express contentious viewpoints for the sake of the 'Big Why'. Next, demonstrate how you want your team to behave. If you offer differing viewpoints, welcome and accept challenge from others, demonstrate that you are not taking any dissension personally, and be very clear that you are happy to be wrong, others will follow your lead.

3 Value diversity and richness within the team

Create a safe place of mutual respect, appreciation, inclusion and trust where different perspectives are encouraged and valued. Don't forget that everyone approaches problems in different ways. Some of us (with extroversion tendencies) want to talk through the problem, whereas people who are more introverted need to think first and speak later. Ignoring quieter colleagues can be a disaster; projects have been known to fail because an essential but inconvenient nugget was ignored or never surfaced.

Throughout your project, keep building relationships and connections. Taking time to understand the strengths,

TOP TIPS FOR BEING A SUCCESSFUL PROACTIVE PEACEMAKER

1 **Do not be afraid of conflict. A project with no challenge is unlikely to produce the best solution and may be ignoring risks and issues; your job is to surface the issues and manage any conflict, not avoid it.**

2 **Listen to what is not being said as much as what is. By reframing comments and checking for understanding, you can create an environment where everyone feels that they can be heard. You can also use reframing to keep the debate objective, not personal.**

3 **Create a project ethos that encourages debate, but always arrives at decisions and tangible actions. Do not allow debates to drift or re-emerge.**

4 **Remain neutral so that you can facilitate the debate, agree a solution and articulate the rationale for the decision. If you are involved in the debate, it may feel more like an autocratic process, which means people are less likely to engage in the future.**

5 **Do not be afraid to park a decision. Even on the most time-critical projects it is unlikely that an extra 24 hours will cause the project to fail. If a topic is hotly debated, it may be better to defer a decision in order to collate some specific additional information. It also gives everyone in the room the chance to reflect on their position – this is particularly helpful for the introverts and logical thinkers who may not be able to articulate their arguments fully in the heat of a verbal debate.**

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skills, personalities and diversity of thought and experience around the table will pay dividends when you need to be able to mediate a difficult situation.

4 Stay curious and open-minded

Your role as proactive peacemaker is to dispel misunderstandings and make sure the issue and any areas of conflict are clear. The phrase 'let's put the dead moose on the table' refers to the need to get a tricky issue out into the open. Setting the problem on the table allows us to examine it fully and objectively so that we can ensure we are all seeing the same issue. Then we can explore solutions by:
- actively encouraging everyone to discuss as many different perspectives and viewpoints as possible;
- allowing time to explore all the options;
- setting a specific intention to try to break possible solutions; and
- encouraging everyone to replace the word 'but' with 'and' when responding to one another.

Once all the elements of the issue have been surfaced and possible solutions interrogated, it is often easier to agree a resolution. Even if you cannot steer your team to agreement, at least team members will feel their contribution was valued, in which case they are more likely to accept the outcome.

5 Remain open, honest, pragmatic and authentic

Realistically, there will be times on your project when you need to deliver difficult messages. In these situations, do not shy away from uncomfortable truths – the road of least resistance is rarely a successful path. Be prepared to acknowledge issues and areas where expectations may not be met and be confident in explaining why, always ensuring that any decisions have been made within the context of good governance and your project's agreed decision-making process.

Proactive project mediation is not a stand-alone activity; it is built by every interaction you have on your project. If you do have to mediate between two conflicting views – whether it is between team members or stakeholders – you will only have the authority to do so effectively if you have built respect that:
- you listen to the viewpoints of others;
- you are able to balance risks and costs; and
- the final decision will provide the best outcome for the project, where 'best' has already been predefined by the 'Big Why' for your project.

Sarah Walton ChPP MAPM is Co-founder with Marion Thomas of ExtraordinaryPM

TAKE RISK!

Richard Noble's achievements brought the land speed record back to Britain in 1983, and he hasn't stopped taking extraordinary risks on his subsequent land, sea and air projects. Here, this awe-inspiring APM Fellow argues why project professionals need to up the ante when taking risks

The number of times I have been approached by would-be project entrepreneurs seeking some wise advice is endless. My first question for them is: 'Have you got someone to project manage the programme for you?' Their usual first answer is: 'No, I was thinking of doing it myself.' My response? 'That may be your first very expensive mistake!'

There seems to be a common view that project management is very simple – you know where you want to get to, you think you know the intermediate steps, then it's just a matter of lining up the sequence, drawing up the Gantt chart, nailing the critical path and master budget – and charging ahead! If it really was that simple, there would be no need for APM.

Alarm

The reality of high-tech, high-risk projects

Frankly, project management is always hellishly difficult – there are always design and manufacture misunderstandings, invisible corporate politics, failed communication, excessive optimism, negotiation reversals, IT disruption, delivery slippage, cash-flow leaks and unexpected critical path delays from suppliers who prioritise their own programming. And this excludes government negotiations (in my experience, they will always confuse, let you down and be late). The finance people – when they make their minds up – tend to be the best of the lot.

Perhaps that's a jaundiced view of what we do, but in our projects, we practise a rather unique form of project

Richard Noble's Bloodhound project was to create a land speed record car capable of achieving 1,000mph. Far left: Scottish entrepreneur Noble in 1983.

choice: high-tech/high-risk, unique world record-breaking programmes that always have to start with zero funding. Conventional equity funding is understandably unlikely because of the blue-sky innovation and unlikely return on capital of these kinds of projects. So, the main funding comes from sponsorship successfully sourced because the projects tend to attract considerable levels of media attention, which of course migrates as a credit to the sponsors. Now, I forgot to mention the strategic importance of high risk – I'll come back to that later.

But our teams' successes have been inspirational. These included breaking the unlimited world land speed record at 633mph (and even more importantly achieving the project design speed, which is the speed target you set out to achieve when you initiate a project. When we started the Thrust 2 record programme in 1979, we set the peak design speed target at 650mph – in fact, we achieved the peak speed of 650.88mph).

We also: created a new all-metal light aircraft and its aeroengine from scratch and were flying it within 13 months of a no-cash start-up; fought our way through the labyrinthine certification process; established production; broke the sound barrier on land at Mach 1.02 (763mph), which has never been beaten in 24 years; worked with the JCB team and Ricardo to design and build the Dieselmax LSR car; and achieved a new and still unbroken world record for diesel-powered, wheel-driven challengers.

RICHARD NOBLE'S ADVICE ON TAKING MORE RISK

1 **To start building the culture change you need, begin by taking risk at home – perhaps with purchases or ingrained habits – and see where the consequences will lead you.**

2 **To really create a risk-taking organisation, reset the organisation as a flat, non-hierarchical company and delegate** both responsibility and appropriate authority. This will take a few months for everyone to understand and settle into, but it can result in real culture change and amazing results.

3 **Read the early works of psychologist Abraham Maslow (who created the hierarchy of needs model) and Elton T Reeves.**

Calamitous last-minute lurches

The problem with failures is that the project is most likely to fail when it's getting towards achievement and every financial thread is stretched to the point of transparency. It's as if you fight your way through the programme, battle through all the doubters and when you emerge into the sunlight with the project ready to go, key backers have second thoughts and run for cover. It's as if they never really believed the team would get there! That's when the losses are unacceptable. All of human nature is in these projects and we have to build that into our values and predictions.

Unhappily, we had this happen with the £30m Bloodhound 1,000mph car project when, within a year of high-speed testing, the UK Government decided not to pay against a ministerial offer. Our Chinese sponsor walked away and lost his first tranche but was kind enough to explain that this was not the project's fault. Two hundred man years of work was lost, all the sponsors' funding – and in South Africa, 1,000 man years of local work that went into the unique desert track preparation. Much later, the Secretary of State approved the deal, but it was too late to save the original project.

Despite the loss of the Bloodhound project, there was one enormously valuable national benefit. The Ministry of Defence was concerned about UK academic levels resulting in unsatisfactory recruitment into science and engineering careers, so they asked us to focus the programme on educational inspiration. Current education tended to revolve around learning by rote – resulting in learning the answers but an inability to recall the principles. We opened up the project, shared the technology challenge and the experience online

at exhibitions and in classrooms and, by 2017, we were engaging with more than 120,000 youngsters every year. It could well have been the largest STEM programme in the UK. All credit goes to the Ministry of Defence, which came up with the idea.

All this makes the point that the backers and the project management team have to work closely – they have to join in and share the experience. Like any marriage, it will go through tough times with serious concerns. Frankly, the tough relationship is absolutely essential to drive the discipline. Faced with difficulty, the importance is always to stick to the programme, validate every stage and keep up the all-important pace of development – and communicate.

A risk-averse project culture

Now we come to the importance of risk. The taking of risk sets your project apart from its competition – ask yourself why the Boeing and Airbus airliners all look the same and how it's difficult to differentiate between today's SUV car brands. We seem to have a highly developed, endemic, risk-averse culture – it seems to suggest that there is only one way to design and develop a product, so the competition has to copy. Then, of course, the initial producer has to keep on upgrading the original design to the point of product exhaustion.

I think that the very act of avoiding risk in a project increases the risk of project failure dramatically.

Faced with difficulty, the importance is always to stick to the programme, validate every stage and keep up the all-important pace of development – and communicate.

> I think that the very act of avoiding risk in a project increases the risk of project failure dramatically. Experience shows that successfully taking risk actually increases the project life substantially simply because your team is going where the competition fears to tread.

The Thrust2 in full afterburner mode on the second pass of the land speed record run at Black Rock Desert. Inset: The ARV Super2 aircraft, initiated without money or an engine. Below: Noble today

ON BEING A LEADER

"To understand risk, you have to welcome it, live with it, encourage it and accept its consequences every day. Acceptance of risk is the big differentiator. Failure to accept and live with daily risk leads to a very sterile climate in which innovation happens elsewhere and the economy suffers from overstaffing, delayed decisions, prolonged development and severely increased costs. And this is where leadership comes in. Leaders have to work harder and faster than anyone else in a team, and have a sacred duty to ensure that decisions are made very quickly so that the organisation can move ahead smartly with implementation. But above all, leaders have to delegate responsibility and authority wherever possible with the objectives of getting the organisation working really fast and effectively on a wide scale."

Experience shows that successfully taking risk actually increases the project life substantially simply because your team is going where the competition fears to tread. Think of the Jaguar E-Type in production for 14 years, the original Mini for 40 years, the VW Beetle in production for 65 years. Taking risk opens up the most incredible opportunities – it drives huge interest in the programme, and the new features themselves open up new avenues of experience, marketing and learning.

Compare the 1983 Thrust 2 car and its 35,000 jet HP conventional steering with the 1997 ThrustSSC car that had twin after-burning turbofan engines, 110,000 jet HP and rear-wheel steer. The innovation in design and testing gave us the world's first-ever supersonic land speed record. We would have failed if we hadn't made the change.

No luxury of failure

All well and good, but what happens to your project when it goes wrong? The usual medicine with a hierarchical government-type project is to fire the project director, refinance the programme and hope for better but delayed results. We have seen this with multiple extended defence projects. In our case, we can't afford the luxury of failure, so we run flat companies with clear team responsibilities and appropriate empowerment. There is a culture of open and fearless communication and no blame (blame always means there is poor communication). In effect, this means that if the project is going off-track, it is corrected well before there is expensive damage or lost time.

So, we are off on the next project right now. It is very high risk, has real values for the community and the technology does not exist. This is going to be another fascinating experience…
[We'll keep you posted – Ed]

Richard Noble's new book *Take Risk!* is published by Evro. Listen to the APM Podcast with Richard Noble at bit.ly/3wSf1dP

Alamy

TIME ›››› FOR *SPEED*!

Sophy Aldridge-Neil, Programme Manager at Network Rail, shares her experience of making project teams bolder, less risk-averse and more innovative to produce some phenomenal results

The Government wants the UK to have the most efficient, technologically advanced and sustainable construction sector in the world. In June 2020, it set up Project SPEED (Swift, Pragmatic and Efficient Enhancement Delivery) to review every part of the infrastructure project life cycle, and identify where improvements could be made. This reaches across all industries with pathfinder projects across health, housing and the transport sector.

Rail SPEED is the approach led by Network Rail and the Department for Transport to encourage bolder, less risk-averse behaviours, positive challenge and new ways of thinking about and undertaking projects to slash the time and cost of project delivery without compromising safety.

Thinking and acting a bit differently

Fundamentally, we are trying to shift our industry from a command and control culture towards a more innovative one-team approach. To date, we've identified more than £3bn and 633 months' worth of potential savings by empowering people to work more flexibly, challenge more and be less risk-averse, which is phenomenal. We're asking everyone to think differently – more boldly, less process-driven – and to kick-start this, we've created a supporting toolkit to apply key learnings and start those key conversations.

I first came across SPEED when I was asked to apply it as a pilot on my project at the time, Cambridge South Infrastructure Enhancements. I did so with great results, saving millions of pounds and several years off my project by thinking and acting a bit differently. I'm now trusted to develop and roll out the embedment plan for the Eastern region, working alongside senior leadership across the board.

WHAT IS MVP?

The minimum viable product (MVP) is the most pared-down proposition that can be delivered to meet the agreed outcomes specified by the client.

MVP IS NOT:
- ✗ **The minimum, cheapest option or product – it must be viable**
- ✗ **A process to replace requirements/ remits/made design decisions without formal change control**

MVP DOES NOT:
- ✗ **Cut scope without consideration of outcomes**
- ✗ **Ignore options that add benefits and/or social value**

MVP DOES:
- ✔ **Consider whole-life cost**
- ✔ **Set out options for funders**
- ✔ **Encourage the recognition of options and numerous trade-offs**

SOPHY'S TOP 10 TIPS ON STARTING A CHANGE PROGRAMME

1 Have a clear vision and end goal.

2 Map out what needs to be true – quick wins and longer-term actions.

3 Local leadership is key. Be prepared to pause or change the plan when necessary.

4 Share information regularly and empower people.

5 Welcome independent challenge, diversity of thought and openness.

6 Celebrate success and say thank you. People are your biggest asset.

7 Be resilient, persistent and relentless.

8 Build initiatives into business-as-usual processes ASAP.

9 Maintain momentum.

10 Nothing ventured, nothing gained. Give it a go.

I am naturally curious and creative, and not a massive fan of routine or convoluted process, so to me, it was quite fun to be given the opportunity to push the boundaries a little more. That doesn't mean it was easy – ultimately, you are reliant on others also doing their bit, and our industry is historically risk-averse and cautious of change; people are time-poor and conditioned to follow process. However, it's worth remembering that much of this has been driven by the genuine concern for safety and reducing risk of failure that has led to layers of process over time and costly mitigations.

Why now?

The railway industry is a spiderweb of different organisations, legislative and contractual commitments, customers and decision-makers. This makes change very difficult, often time-consuming, and there will always be trade-offs to consider. For example, a project could be vastly cheaper if it could have whatever access it liked (this needs permission first), but this would impact on what train services could run (which needs consultation) and ultimately disrupt the passenger. It's a question of priorities.

The reason for any change needs to be justified and the end goal clear. Seeking efficiencies has always been important, but more transformative measures are required when there is so much pressure on the public purse. In May 2021, Transport Secretary Grant Shapps shared that, "the taxpayer has plugged a hole of £12bn during the coronavirus to keep our railway afloat". That level of expenditure is no longer sustainable and it's right that the rail industry shows it can adapt and continue to be a strong, justifiable investment for the future using Rail SPEED. We have the backing and we're making it happen.

Key initiatives that made a difference

Network Rail is a devolved business and each area has tackled SPEED embedment differently, with local leaders and champions working out how best to message, innovate and drive things forward. They have been supported by central functions that coordinate organisation-wide initiatives across key themes.

Initiatives need to cover the full range of the life cycle to be effective. This means working with our clients to set prioritised outcome-based requirements and clear budgets upfront to our supply chain to innovate, and consider risks differently. In the Eastern region, interventions covered skill set, toolset and mindset – you need all three to be truly successful – and offered tangible changes:

1 **SPEED WEEK.** A dedicated week of briefings, case studies, guidance and drop-in sessions helped kick-start the change and build interest.

2 **KPIs FOR UNIT RATES.** Clear targets and key performance indicators were useful to track progress and easy to assimilate into reporting.

3 **ONE-TEAM EVENTS.** These drove collaboration across teams, encouraged challenge and innovation, and helped to build longer-lasting cultural change.

4 **ORGANISATIONAL CHANGE.** By removing duplication with the supply chain and adapting responsibilities to the best person for the job, we have secured long-term investment.

5 **MAINTAINING MOMENTUM.** We have kept innovating and recently developed Minimum Viable Product (see box, left) guidance and templates to help teams set out and manage cost drivers, and funders make decisions on trade-offs versus cost. This helps stop

RAIL SPEED EXPLAINED

PROJECT SPEED

PARTNERSHIP SHARED VALUES

BE FAIR, OPEN AND HONEST

DOING THE RIGHT THING

SUCCEEDING TOGETHER

COMMERCIAL EXCELLENCE

FOCUS ON CUSTOMERS

RESULTS DRIVEN

BE BOLD

Challenge and encourage others to challenge you

Do things better

Do things smarter

Learn, do, share

OUTCOMES FOCUSED
What needs to change to deliver the best outcome for passengers?

ACCOUNTABLE AND EMPOWERED
What can I do to help passengers more?

INTEGRITY AND TRUST
Can we work better together to improve the passenger experience?

SERVICE FOCUS
Support each other and the passenger experience

BE CURIOUS

Take more control

Empower and be empowered

Do the right thing for passengers

PRINCIPLES

PARTNERSHIP BEHAVIOURS

TRUSTWORTHY

CHALLENGING

INNOVATIVE

PRODUCTIVE

ENGAGING

ACCOUNTABLE

SUPPORTIVE

---

scope creep and unwarranted costs for 'nice-to-have' items without due consideration.

The biggest challenges so far

The hardest challenges are maintaining momentum; bringing people along with you at different stages of understanding and ability, particularly through organisational changes; and creating a long-lasting ingrained will to operate differently. The key to overcoming these is to find the balance between pushing and pulling; driving progress; and giving space and time to embed, which is much easier said than done.

Understandably, everyone is keen to see results quickly. I've learnt that it's vital to not over-monitor people as this stifles progress and willpower, but that for many, reporting and integrating SPEED into objectives drives action. Change can be scary, and people are worried about being blamed for not succeeding more than trying hard and not quite making it. This only changes when people feel supported and safe to try from the top, so we are trying hard to walk the talk and hold each other to account.

So far, my lessons learned are:
■ **Not everyone will get it.** Minds are harder to change than processes.
■ **Not everyone will do it.** Reward those who do.
■ **Not everything will work.** Don't blame those who tried.
■ **Plan. Do. Adapt. Do.** Keep going.

We still have a long way to go to embed SPEED thinking – we need help from the wider industry now and in the future. There is much opportunity to tap into, but it needs everyone to be brave and persistent enough to give it a go. Demonstrating SPEED behaviours is not just for our project teams, but for every one of our employees and our business partners. There is no wrong way to start, although asking 'but why?', and 'what if?' tends to work! I challenge everyone to be brave enough and motivated enough to try.

The Network Rail Eastern Region will be hosting an online SPEED event on 8 July 2022, which is open to anyone and will be shared via RIA and via Capital Delivery Eastern on LinkedIn (follow us to find out more)

THE FUTURE OF LIFE SCIENCE PROJECTS

Michael O'Connor, Senior Research Programme Director at US healthcare firm Medtronic's new spinal robotics arm Mazor, reflects on the legacy of the pandemic

S pring 2020 saw Michael O'Connor transporting "truckloads" of stuff home from his Minneapolis office: equipment, files, paperwork – all the typical clutter accumulated through years split between two entities: home and work. The COVID-19 pandemic had forced O'Connor and his team at Medtronic out of their Twin Cities headquarters and, like so many people used to an office environment, he realised life might never be so easily split between home and work again.

"My wife looked at all this stuff and said: 'Burn it'," O'Connor jokes from his woodland home office in rural Minnesota, two years on. "She was right, of course. I didn't need all the paperwork, so I went through all my files and got rid of most of it. Looking back, that was the first major shift in the way people were working," he says. Formerly Medtronic's Director of Strategy and Project Management in Corporate Science and Technology, O'Connor took over as Senior Research Programme Director, Programme Management, for the company's new spinal robotics arm, Mazor, in January this year.

With more than 35 years of experience in project management – the past 19 of those at Medtronic – O'Connor recognises an irreversible shift taking place in the life sciences industry, not least in the acceleration towards digitisation: "No sector has been impacted more by this crisis than healthcare and health technology," he says. "It forced us to say: 'There's a lot of technology at our fingertips; we don't have to be tied to a desk or a location'."

The outcome was that the working day itself became much more flexible – a "win-win for companies and a win-win for the employees", O'Connor believes. But the change is nonetheless a disruptive one for managers tasked with scheduling and overseeing time-sensitive projects. "What that flexibility looks like for each individual person or organisation is still to be determined," he says. "Even in our company we're still asking ourselves: what is the future of work?" What is striking, he says, is that "the role of project manager itself has changed during this pandemic – and maybe we haven't yet caught up with what that role really is or what it will be".

Flexibility and adapting project goals

The life sciences industry found itself at the forefront of the COVID-19 response, and project leaders felt a keen responsibility to respond to the emerging global health crisis directly. At Medtronic, leaders quickly arranged meetings for colleagues to brainstorm ideas. Here, the importance of recognising team strengths was important, O'Connor explains: concerns over a global shortage of personal protective equipment had already spread, but Medtronic was not best placed to assist in that particular market. The company did have experience in producing ventilators, however. A collective decision was made to shift resources away from the company's large-scale production of stents and towards inexpensive ventilators, and later, a 3D-printable design for medical face shields.

Focusing on a small number of achievable goals was imperative, O'Connor says. "In those first couple of months, people felt helpless and wanted to do everything: let's make face masks, let's make scuba gear that we could turn towards respirators... it was easy to get carried away in the innovation process with all the ideas that were put

Medtronic has clashed over patent lawsuits in the past – to create their COVID-19 ventilators.

Lessons learned

"It showed us we can collaborate and innovate on a much larger scale," O'Connor says of the lessons learned. "When people sat across the Zoom meeting from one another, [they realised] they're the same people with the same goals, just at a different organisation with a different title. That will open up more potential doors and avenues to do things in a different way going forward, and I think even now [Medtronic] is thinking about ways we could work together versus working separately."

Looking to the future, O'Connor believes another legacy from the pandemic could be a greater willingness for companies to share their research and workings more openly; Medtronic took the unusual step of making the source code for one of its ventilators open (that is, free to read and download online), which for a for-profit company with shareholders was "a big deal".

While he believes the move was a "gesture of goodwill" during unprecedented times that is unlikely to be repeated in the same way any time soon, it was a "step in the right direction" that could prompt a shift in industry attitudes towards data sharing in the longer term. "Leaders could see that it was good for the brand, good for productivity, good for people's minds. I think we could see that collaboration-innovation part of working opening up even more."

Empathy in the workplace

A key lesson for managers to take from the pandemic has been the dangers and disillusionment of presenteeism, O'Connor says: "We should know by now that work is really about the outcomes and not about expecting people to sit at a desk from eight until five. I think most project managers already think in that way, but I've heard my company talk more about outcomes over hours put in over the past few months."

Ultimately, leaders will have to be open-minded and willing to adapt much faster to changes in culture in the post-pandemic landscape, O'Connor believes, which will bring exciting opportunities: "The risk-reward set-up is different now. Leaders are willing for you to take a chance and try something different.

"You don't have to follow the same format as before, or even the same technology or time-frame set-up. As project managers we have to utilise this – embrace some of the new things and reach beyond our comfort levels," he says. "Work has definitely changed forever; I don't think there is going to be a 'new normal' – it's going to depend on the people and the organisation. That will take time to work out, and I think project managers are going to be at the forefront of it."

out there," he says. "Leadership pulled back the reins and said: 'Wait a second. Here's what we can do well, right now.'"

According to O'Connor, an important lesson learned for the business was recognising that it has talented people all over the organisation, and when there is a need or call to action, it can be flexible and move people to where they are needed. "In our case, we were able to take talented people and move them into a more complex environment to assure quality and success."

What are the implications for the way projects are managed? "I think the project plan changes the day it is completed. Nothing is really set and project managers need to be aware of many tasks, deliverables, stakeholders, etc, and be able to make many decisions each day to drive the project to success. It comes down to communication and being prepared for changes."

> **"We should know by now that work is really about the outcomes and not about expecting people to sit at a desk from eight to five. I think most project managers already think in that way."**

A new approach to competition

The disruptive nature of the pandemic sparked a number of firsts for the life sciences sector – for one thing, direct competitors became open to collaboration, often for the first time. "It changed the culture – reinforcing the notion that competitors aren't necessarily bad, and in the right venue we can collaborate to make things better for the patient," O'Connor says, a "huge and positive change".

He gives the example of how Medtronic worked with UnitedHealth Group and the University of Minnesota, as well as Boston Scientific – a direct competitor, with which

PROJECT ME

As APM celebrates its 50th anniversary, we asked project professionals what important lesson their experience has taught them about managing projects

Invest in my teams' concerns and needs

Marcos Gonzalez Fuentes, Strategic Adviser, Mexican National Audit Office

People are at the heart of projects, thus nurturing that heart is vital to creating project value. The management of projects is all about getting a group of people working together, yet human relationships are complex. I have learned to invest in my teams' concerns, needs and expectations. This has led to stakeholder satisfaction and created a bond within my teams. Often, when stakeholders feel unheard, not considered or avoided, contextual project dynamics such as power, conflict and egos may emerge and turn projects into a disaster. Sometimes, these contextual dynamics are inevitable. Although the technical aspects of a project are usually complex and uncertain, the human side is the cornerstone to achieve project outcomes. Mental health, gender equality and human rights need wider consideration in our evolving project environment.

Adaptability is the greatest trait

Dimitrios Felekis, Project Management Professional, BT Enterprise

Each project is a new adventure, a chance to ask: 'What shall I do now?' I have found that no matter how knowledgeable you are or what level of complex projects you have delivered (or even if you have the most detailed and well-made lessons log), the one thing that will always save the day is adaptability. To take your learnings and adapt them to solve a problem and deal with a situation. Not one situation is the same as another. Remember, a project is created to bring change. Adaptability is the greatest trait a project professional can bring to the table.

Use emotional intelligence

Donna Walker, Program Lead, Haringey Council

Emotional intelligence is key to building and sustaining relationships. This also helps with conflict management and pushing through blocks. Great influencing skills are key, keeping in regular contact with your sponsor and owning your mistakes.

Don't be a rigid leader

Sishosonke Dlamini, Senior Project Manager, Transnet Port Terminals, South Africa

Leadership needs to be adaptive and situational, not rigid. My leadership needs to be autocratic at times, sometimes laissez-faire and at other times democratic. So, in a newly formed team, I am generally autocratic; when the team is well established, I usually use laissez-faire or democratic; and when the project is nearly complete, I am autocratic because normally the team is laid-back towards the end of the project.

Be humble

Abigail Blumzon, Senior Project Manager, Bailey Partnership

As a Senior Project Manager in construction, I typically find myself leading large, dynamic and diverse teams which, on balance, know a lot more than me! I see my role as a leader being to bring out the best in my team. The realisation that I no longer had to be the expert was very satisfying. I've learned the importance of adding value by enabling things to happen, being the 'guardian of the bigger picture', being a sounding board and knowing who to call. I like to see myself as a clearing house of information, keeping the whole project in my head and helping people come together to solve problems.

People are everything

Natalie Talbot, Senior Consultant, i3Works

I've been in project management for just two years, but I've learned that people are everything. There are no methods, technical jargon or amount of studying that can outweigh the importance of understanding people and taking them on the journey with you. I consider stakeholder management – through being positive, empathetic and sharing my knowledge to build confidence – a fundamental part of my role.

DEAR SUSANNE

I've heard you speak about the differences between management and leadership and how project managers need to improve their emotional intelligence to become better leaders. What's the best way to do that?

Susanne Madsen is an internationally recognised Project Leadership Coach, Trainer and Consultant. She is the Author of *The Project Management Coaching Workbook* and *The Power of Project Leadership* (second edition now available). For more information, visit www.susannemadsen.com

Whenever I speak about the differences between management and leadership, I always emphasise that the differentiating factor isn't the level of cognitive ability or technical skill that someone has. It's to a much higher degree about their level of emotional intelligence, or EQ.

Someone who has great management abilities can be described as logical, rational and good at getting things. But although they may have great planning skills, which are definitely needed on a project, they aren't necessarily good at connecting with people at a deeper level or bringing the team with them. People who have good leadership capabilities, on the other hand, are good at understanding, motivating and influencing others. They are able to appropriately express how they feel, understand other people's emotions and build effective relationships. In other words, they have a high level of EQ.

Build your self-awareness

Developing your EQ is a fundamental step to improving your leadership skills. This is especially true if you have difficulties controlling your impulses, don't understand people's underlying feelings or find it hard to trust others.

The first step in building your EQ is to strengthen your self-awareness. The more aware you are of your thoughts, emotions and behaviours, the easier it will be for you to adapt them so they are appropriate for the situation you're in. You can increase your self-awareness by asking for honest feedback from your colleagues, clients and bosses. Ask them how they perceive you and what they believe you should stop, start and continue to do.

You can also build your self-knowledge by keeping a daily journal. At the end of each day, reflect on how the day unfolded and how you felt. How did you manage your emotions and what did you notice about other people's emotions? Also reflect on how you reacted to stressful situations. Did you become frustrated because of a setback, or did you get angry because something didn't happen the way you had planned it? There is no need to be overly judgemental or critical of yourself. The purpose is to become more aware of what's going on for you at a deeper level. With that awareness you can begin, little by little, to respond to situations differently. For instance, instead of suppressing your frustration to a team member who hasn't delivered what they promised, you become aware of how you truly feel and share your frustration in a constructive way.

Notice what is going on for other people

Another important capability for building your EQ is to notice what is going on for other people. If you don't pick up on how your stakeholders and team members are feeling, you won't be able to build trusting relationships. That's because you aren't able to truly see the situation from their point of view. The practice here is to really notice what the other person is saying and what they are not saying, instead of focusing on what you want to say. What is your team member or stakeholder thinking and feeling, and why might that be?

To master this skill of tuning in to others, you will need to slow down and take a genuine interest in people who work with you. On any project there is a myriad of tasks that need to get completed, and that can push you to become overly task oriented. What do you do in situations when you're in the middle of writing an email, and a team member approaches you with a question? Do you give them your full attention or do you multitask while giving them a half-hearted answer? Unless you are in the middle of a crisis situation, seek to be fully present and pay attention to the team member. Emotionally intelligent leaders put people first.

Do you have a question for Susanne? Email mail@susannemadsen.com

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READER OFFER

Enjoy a 25% discount on *The Power of Project Leadership*, second edition, when you order the book from Kogan Page at www.koganpage.com Quote code: PROJ25

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PUBLIC REGISTER OF ChPPs

The following individuals make up the latest cohort to achieve Chartered Project Professional status with APM. Congratulations to you all, from those based in the UK and the Netherlands to those in India and Australia! Full details of the criteria for achieving chartered status and the routes to get there can be found at **apm.org.uk/chartered-standard**, where you can also view the full Register of Chartered Project Professionals.

First name	Surname	Country
Andrew	Alder	UK
Richard	Aldred	UK
David	Arrow	UK
Ian	Barber	UK
Lynne	Barker	UK
Thomas	Barnardiston	UK
Sarah	Boddy	UK
Stuart	Boyd	UK
Donna	Bremner	UK
William	Brookes	UK
Janine	Broome	UK
Alastair	Camelford	UK
James	Carruthers	UK
Mark	Carter (Herts)	UK
Mark	Carter (Kent)	UK
Adrian	Caswell	UK
daniel	Cawley	UK
Gautam	Chakrabarty	IND
Paul	Clark	AUS
Rhian	Corbett-Young	UK
Oliver	Cowey	UK
Donald	Craig	USA
Dale	Crutcher	UK
Mark	Danford	UK
Graeme	Dickie	UK
Thomas	Douglas	UK
Martin	Drury	UK
Keith	D'Sa	CAN
Kristian	Eklund	UK
Ben	Elliott	UK
Russell	Ellwood	UK
Deborah	Fairweather	UK
Mark	Ferris	UK
Leigh	Fish de Buisseret	UK
Kenneth	Fua	MYS

Adrian	Gogay	UK
Eduardo	Gouveia	UK
Mark	Graham	UK
Martin Gerard	Hamilton	UK
Leigh	Hay	UK
Nicholas Sinan	Hibbert	UK
Alison	Hilton	UK
Roger	Hunter	UK
laura	Jackson	UK
Rory	Jee	UK
David	Jenkins	UK
Robert	Jones	UK
Nick	Kay	UK
Catherine	Kenna	AUS
Daniel	Lacey	SAU
Simon	Larcombe	UK
Lorraine	MacTaggart	UK
Neil	Malcolm	UK
Ryan	Marsden	UK
Megan	McGovern	UK
Daniel	Midgley	UK
Emil	Mohan	AUS
Julie	Morgan	UK
Steven	Morris	UK
Alex	Morton	UK
Alexander	Mshelbwala	UK
Richard	Mugford	UK
Steven	Murchie	UK
Luke	Murphy	UK
William	Murray	UK
Matt	Nicholson	UK
Jennifer	O'Brien	UK
Olushola	Omotinugbon	NGA
Frances	Palmer	UK
Gavin	Patterson	UK
Ben	Pearson-Clarke	UK

Sarah	Piscitelli	UK
Catherine	Poyner	UK
James	Pugh	UK
Christopher	Rimmer	UK
Carl	Roberts	UK
Kyle	Sajdak	USA
Adrian	Scott	UK
Stuart	Ship	UK
Adam	Simpson	UK
Michael	Singer	UK
Debbie	Skene	UK
Tyler	Skerton	UK
Adam	Sullivan	UK
Katrina	Thorpe	UK
Sebastian	Turner	UK
Vivianne	Walters	UK
Anthony	Whales	UK
Remko	Wijdeveld	NLD
David	Williams	UK
Myles	Woodward	UK
Phil	Young	UK
Stephen	Young	UK

BECOME AN AWARD-WINNING APPRENTICE

(AND DO YOUR BIT TO PROMOTE THE PROFESSION)

Charlotte Bethell, APM's Apprentice of the Year, works at Sellafield nuclear decommissioning site. She tells **Charles Orton-Jones** the secrets to her success

Charlotte Bethell completed her four-year project management programme at nuclear decommissioning site Sellafield in September, and is now working on the projects that will build the infrastructure to take the nuclear waste from its ponds and silos and make it safe for long-term storage.

"For me, the great thing about the apprenticeship programme at Sellafield is that you get to try so many different things, like project controls, risk and planning. Doing that while being able to continue at university and get a degree has been fantastic," says Bethell.

She's still only 23, but in theory her future children's children's children could follow her into the plant. "From a job-security perspective, it's brilliant!" she says of her career in nuclear. She's from Whitehaven and says, "I think it's uncommon to find a family in West Cumbria without at least one family member who's worked at Sellafield."

Bethell makes Sellafield sound an ideal place to work long term. She's a natural enthusiast: energetic, brimming with ideas and anecdotes, and extremely complimentary about her employer. Which isn't surprising given her start to working life.

An advocate at every level
She won Apprentice of the Year at APM's Festival of Education Research Awards 2022. Judges noted not only her professional strengths, but also her tireless efforts to promote STEM careers and recruitment into the nuclear

industry, for leading Sellafield's response to a national charity appeal, and numerous extracurricular activities. She's a mentor to apprentices. She sits on committees to improve working life at the plant. And she does all this with a quiet self-confidence. She has strong views on apprenticeships and why they are an undervalued option for teenagers. Her own experience is instructive.

"I attended a number of careers fairs when I was at school and college," she explains. "Sellafield wasn't somewhere I'd initially considered. I looked into what sort of apprenticeship schemes were on offer, but I'm not a very hands-on sort of person, so craft apprenticeships didn't appeal. Project management wasn't something I knew much about. A family friend of mine worked at Sellafield as a project manager, so I got in touch about work experience and did three days on the main site. It confirmed I did want to work in project management, as no two days are the same. We'd share a car to work and talk about what we were going to do in the day and never get to the end of the list as there was so much going on."

Academic honours
Bethell today is vocal about the need to get into schools early to explain what life as a project manager involves, and how an apprenticeship is a strong way to start. "The traditional route is to go to school or college, then university," she says. "But an apprenticeship means you can earn while you are still learning. You can get

a university degree while getting real life experience." Bethell began her degree in project management at the University of Cumbria while in her second year of apprenticeship at Sellafield. She received First Class Honours and was awarded the Ede & Ravenscroft prize for academic excellence. She also passed her APM Level D exam with an 88% mark. Her motivation to study was sky high, knowing she'd be using her skills immediately when she went back to her apprenticeship placement.

Sellafield also deserves plaudits for the way apprentices are taught. Bethell moved between multiple

roles: projects, construction, commissioning, pre-operations and risk. She worked on mission-critical operations, such as a huge public-private partnership contract, which was new at the time for Sellafield.

The quality of her experience moved her to promote apprenticeships via schemes such as the Nuclear Institute's Young Generation Event, and to mentor the current cohort of apprentices. "If I can help, I do," she says. "I visited one of our satellite offices recently and noticed a young girl behind me. I asked, 'Are you in project management?', she said 'Yes', so I explained I'd just finished the scheme and said, 'If you need any help then ask me', and from there we've stayed in touch."

Making up for lockdowns

Bethell stresses how important this is, as the current cohort will have spent much of the past two years in COVID-19 lockdowns, robbing them of normal human

"I don't want to say I'll absolutely definitely stay at Sellafield and never move out of West Cumbria. But working here, there are so many good opportunities. Do you want to leave that behind?"

interaction. "I can't imagine how difficult that would have been," she says. "I've got a fantastic relationship with the rest of my cohort. We will remain friends and contacts for years."

She is an example of how energy and talent can be focused by the right guidance at the start of a career. Her apprenticeship, combined with a degree and APM qualifications, have given her a flying start. She is now enrolled in Sellafield's APM-accredited project management career path, and says her aspiration is to become a chartered project manager with APM. She's also going to learn more about running the plant that will help the UK generate carbon-free energy. "I don't want to say I'll absolutely definitely stay at Sellafield and never move out of West Cumbria," she says. "But working here, there are so many good opportunities. Do you want to leave that behind?" For teenagers thinking about what career to embark on, hers is a pretty good example to follow.

CHARLOTTE BETHELL'S FIVE TOP TIPS FOR SUCCESS

1 Show commitment and get involved
It's important to say 'Yes' to any opportunities and new experiences. If there's a chance to attend events, then go. For me, my university course and apprenticeship were amazing, but there are so many other things to get involved in. For example, I got involved in Sellafield's Manifesto cultural workshop, which looks at how the values and guiding principles are embedded in our organisation. I am also involved in my current project's diversity and inclusion sessions, which look at how to raise awareness of issues and make improvements.

2 Be ready to challenge
Apprentices bring a fresh pair of eyes on the job. Make use of that. There's no reason why an apprentice can't challenge colleagues if they think there is a more suitable way of doing things. Also be prepared to ask questions – even stupid questions. This is particularly true if something doesn't seem quite right to you; you are well within your rights to speak up and say so. We've seen that at

Sellafield, when an apprentice has challenged something and made a worthwhile contribution. There is a preconception that apprentices are still learning on the job, but my view is they have an awful lot to say.

3 Get good at networking
It is so important to make connections and build a support network. There are lots of events to attend. At Sellafield there are open-invitation forums with guest speakers. These are a great way to network with new people, or rekindle relationships from previous placements. I personally find it really useful to build up a support network, so if I ever need to shout out for help, there are people I can rely on.

4 Always be thinking: 'What next?'
What drove me through my apprenticeship was a very defined path. I started with my Level D to complete, then my Trailblazer, then an end-point assessment, then I had university studies. I always had a goal in mind. When the apprenticeship finishes, you are
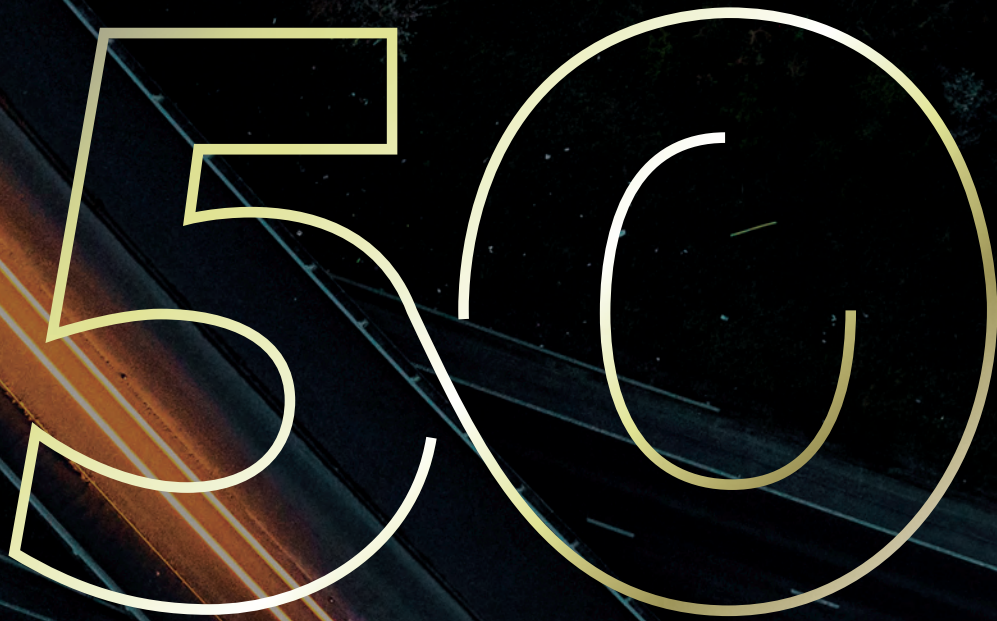
in the big wide world and suddenly it's up to you to determine how far you want to push yourself. So, ask: 'What next?' and set yourself SMART goals to pursue what you want. I look at my goals for the next six months, and also five to 10 years. Career paths are about thinking: 'What next?' and engaging in continuous improvement to get there.

5 Mentor, and be mentored
At Sellafield we were given a mentor as part of the project management capability. It's usually someone from a different part of the business, whom you haven't met before. It's really useful to sound off ideas with them, to ask questions. I think it's important to have a mentor you can turn to. Even just asking for feedback after a project, as you'll get useful information. Something I want to get involved in is reverse mentoring. There are numerous case studies of how good this can be. We had someone from our BAME community reverse mentoring an executive, and the mentee said the experience opened their eyes and made them a more rounded person.

50 projects for a better future

As part of our 50th anniversary we've identified 50 impactful projects from the last 50 years.

View the list now:
apm.org.uk/50projects

PROJECT: TO DIRECT A PARKRUN

Paul Bradley, Principal Consultant at PA Consulting and an APM Fellow, volunteers as a run director at his local parkrun in Woking, which is a free, weekly community event, based on a 5km distance

Having run (in a physical sense) my local parkrun 120-ish times, and being in my mid-50s trying to fight off the inevitable march of time and gravity on my body, I was very much in the camp of 'I have to run this every week'. Then came the ultimate ignominy for a runner: a back injury from tying my shoelaces! The doctor told me no running for eight weeks.

With a gap in my Saturday morning, I started volunteering as a marshal. It was good fun encouraging others; however, I soon realised that perhaps I had some professional skills that could be transferable to this context. I'm a project manager, after all – I can plan, organise, lead, communicate, learn, coach and build teams, so why not be a run director?

I read the official parkrun guidance, which states 'the run director has overall responsibility for event safety and oversees proceedings during the event and at the finish line'. A doddle – isn't that what we think when we start a new project?

Keeping an eye on the weather forecast

The weekend before my debut, I was handed the equipment for the following week: the defibrillator (a bit scary), finish tokens and the keys to the equipment shed.

The most important part of the initial planning is getting volunteers to sign up to the many roles. Some were proactive and forthcoming in wanting to help and sign themselves up early, but most roles were still empty. The key to any team building is understanding people's strengths and assigning them roles they are competent and confident to perform, while also giving others the

> **The key to any team building is understanding people's strengths and assigning them roles they are competent and confident to perform, while also giving others the chance to stretch themselves.**

chance to stretch themselves. Our volunteer roles range from marshalling duties (cheering on runners and making sure everyone is OK) to more technically focused ones (such as barcode scanning, using the new fancy app).

Included in the planning process is keeping an eye on the weather forecast. Our course is made up of mixed terrain – I need to worry about torrential rain making the course too muddy and severe wind making trees unsafe. Storm Eunice brought some significant challenges for us!

Volunteers make it work

Friday morning comes and we've only got a couple of marshals and a timekeeper signed up. I schedule a 'call to arms' email to encourage volunteers for specific roles.

I get to our local park early, as I don't want any surprises, and this time gives me contingency to adjust the course if needed. Check the radios, loudspeaker and temperamental microphone. Walk the course and lay out the signs, markers, cones and hazard warnings. Globally, parkrun shut down as COVID-19 struck in 2020. When it restarted later that year, we had to put in special protocols for social distancing and hygiene. We retained some aspects of these as they proved to be beneficial for reducing congestion. We have to retain an agile mindset when it comes to race management.

The first runners turn up 20 minutes before the start and I need to welcome and brief first-time runners to familiarise themselves with the course and local protocols. Marshals are placed at strategic spots on the course with radios in case runners need medical help (risk mitigation in action!). I make sure they are comfortable with using these

so I can be informed immediately if there are any issues (I'm the escalation point).

Volunteer roles include tail-walkers, who make sure no one is in trouble and ensure anyone who wishes to walk the course doesn't feel left out. We also regularly need guides for our visually impaired runners – they have to both run the course and make sure their runner is safe. Not all roles can be filled by volunteers, so I shoulder the burden of some of the ancillary roles, such as funnel manager, number checking, etc. The ability to multitask is a key attribute for a project manager.

Run, walk, hobble, stroll, chat

As any good project manager will know, the project initiation is critical and, in this case, the run director brief is the point when all 300-plus runners are welcomed, and the specifics of the course and protocols outlined. I have my notes ready: any new guidance that might need briefing (such as COVID-19 guidelines); looking after dogs on the course; guidance for children under 11; look out for other park users. Finally, we celebrate any achievements: 50th, 100th run milestones. Then, any questions? All that remains is the '3-2-1-go!' and they're off.

As run director, I must be alert and available to respond to any problems during the run. There is constant communication between me, the timekeepers, barcode scanners, finish token-givers and the marshals. I need the situational awareness to be able to react to situations in an agile fashion. Sound familiar? One of my primary concerns is the health and safety of runners, encompassing wasps' nests, slippery or icy paths, dodgy bridges and potentially those who may have overexerted themselves. This responsibility extends to the volunteers.

Clear up, close-down, coffee!

Everyone is over the line with no dramas. Now to turn my attention to close-down: walking the course (again) retrieving signs, poles, cones and markers, packing up the start and finish stations, locking it up for next week. My job is not finished: I am wrestling with the results processing.

It's time to consider lessons learned: what preparation steps worked well? What didn't? What are the handover concerns? The final task is to write and publish the run report on the website, Facebook and Twitter.

Marshals are placed at strategic spots on the course with radios in case runners need medical help (risk mitigation in action!).

I've now been run director six times, and I get a kick out of seeing people enjoy an event I have organised; this extends to helping other run directors when I'm physically running the race, now that my back is better. There's also been transference of skills I've developed as a run director into my professional roles. The ability to think in an agile manner and shape teams quickly while communicating clear goals to stakeholders is something I do every day as a project management consultant.

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The Godfather™

We often talk about the 'accidental project manager' – the civilian worker who, knowingly or not, is part of our tribe. Michael Corleone proves they can master the art. It's all about those Corleone competencies, writes Richard Young

It's 50 years since *The Godfather* was **released.** Francis Ford Coppola's masterpiece is the archetypal Mafia movie. Career-defining performances from Robert Duvall, James Caan and the already legendary Marlon Brando make it worthy of its iconic status. But here at *Project* Towers, it's not Don Vito's mumbling delivery or Sonny's explosive rage that makes the movie memorable. It's not even the notorious equine decapitation. No, what makes this movie truly special is Michael Corleone's journey to project management mastery.

His long-term project – and his fate as a programme manager – reveals itself in *The Godfather Part II*, Michael's ultimately doomed attempt to take the family legitimate. And that failure is crystallised in *The Godfather Part III*, set decades later. (Like a veteran programme manager desperate to take on a cushy consulting career, the reluctant Don wails, "Just when I thought I was out, they pull me back in."). So instead we'll take Michael from project innocent to PMO master in the original film – and see how effective an 'accidental project manager' can be, given the right motivation and advice...

Alamy

Project principles

Michael Corleone's note-perfect character is carved in the finest traditions of epic storytelling: the youngest son of a king, whose family tragedies thrust him unwillingly into the role of protagonist. Michael is just such a prince. We can't resist a pun, so although PRINCE2™ was not around when Coppola made *The Godfather* in 1971, we wondered: how does Michael's final project to 'settle all family business' stack up against the classic model? How does this Mafia prince's journey stack up against the core tenets of PRINCE2™?

6/10 Continued business justification

The business case is the family. It's a perpetual, clear and easily communicated goal. The real test of a strong business case, of course, is how much you can flex your project strategy and execution to cope with changing circumstances while retaining your core mission. Michael has a mixed record here. He pivots the project's strategy to one of moving the family to Las Vegas and (perhaps optimistically) away from crime. But he loses points for allowing his own obsession with definitive project deliverables (murder and revenge, essentially) to alienate two family members: wife Kay, dismayed at his rise to Godfather; and sister Connie, who's a tad upset at the execution of her husband. A reminder that sometimes a project leader has to compromise on elements of the mission (keeping your hands clean) to deliver the core outcomes (success for the family).

7/10 Learn from experience

The Mafia has a strong oral tradition. The lessons log might not be a written register, but the optimum tools and strategies to further the family project are well defined. There's hardly a scenario that crops up that isn't informed by past experience (see box). Michael gets great advice on how to handle an assassination weapon, for example, and his own story of Luca Brasi holding a gun to someone's head while Don Vito explains, "Either your signature goes on that contract or your brains" shows the lessons learned are unusually compelling in Mafia circles.

8/10 Defined roles and responsibilities

It's tempting to mark Michael down here because his own role changes so much during the film. But think about it: at each stage of his journey, his project role is extremely well defined. He starts out as a kind of shareholder – he loves his family but prefers to stay aloof. In that sense, his roles are separate from him as an individual. Then he ends up getting drawn in as a team member – making sure his father is safe in hospital after the assassination attempt. He's making low-level project decisions on the fly, but nothing strategic.

Soon he becomes a project manager himself to handle the killing of corrupt cop McCluskey. (He even sets his team a project stage gate: "If Clemenza can figure a way to have a weapon planted there for me, then I'll kill 'em both.") Finally, he ascends to project board,

When the initial strategy fails due to the film-maker's intransigence, the next stage is a clear adaptation: a horse's head in his bed.

personally directing his teams to execute the final tasks to complete 'Project Family'. PRINCE2™ allows for multiple roles for individuals (corporate and project lead, for example), so long as the roles don't interfere – and Michael delivers on that score, too. He never lets his corporate responsibilities muddle efficient task completion.

9/10 Manage by stages

An area where Michael adheres to the Corleone family's strong track record. Despite his initial protestations – "That's my family, Kay, that's not me" – he's a chip off the old block. Remember Don Vito being presented with the tricky project to secure a movie role for his godson Johnny Fontane? He tests Fontane's business case and weighs up the risks. Then he sends consiglieri Tom Hagen to negotiate with the director (a supplier, in project management parlance). When the initial strategy fails due to the film-maker's intransigence, the next stage is a clear adaptation: a horse's head in his bed. That does the trick.

Michael's multistage project also has very clear stage gates and risk

A good Godfather knows enough about project performance throughout the organisation to step in when required.

resolutions along the way. Eliminate the family's most obvious enemy. Identify the broader conspiracy to undermine its operations. Use the knowledge acquired to reveal internal opposition. Carefully coordinate multiple hits on these impediments to minimise blowback. Move to Vegas. Each stage sets the foundations for the next towards a clear and conclusive project end game. Brilliant.

8/10 Manage by exception

Organised crime is inherently cellular. The Capo di Tutti Capi (think programme director) can't possibly oversee every detail of every family project. But a good Godfather knows enough about project performance throughout the organisation to step in when required. If the project managers are updating their metrics dashboards and staying on top of Slack notifications (underbosses paying forward protection money and suppressing rival hoodlums), no problem. If someone steps out of line? Well, no one likes to see the boss paying a surprise visit. Michael's a strong project lead, though, and with a trusted team, he delegates well.

5/10 Focus on products

The definition and delivery of top-quality products is perhaps a weaker area for Michael. If his goal as a programme lead is to live up to the aspirations he had before he was drawn into managing family projects (being legit; not murdering people), and if we can call that a 'product', then he's failed. You can't even argue that the definition of the project is particularly good, since 'going legitimate' is pretty vague. Perhaps this is a common problem for accidental project managers – always thinking about business as usual rather than discrete deliverables…

Alamy

Don Vito Corleone's project masterclass

The tech, regulations and environment around projects change over time but there are lessons that experienced practitioners – and the industry body of knowledge – offer to help young project managers. Let's look at some of the advice Don Vito can pass on…

GUARD YOUR PEOPLE'S WELLBEING
"You look terrible. I want you to eat. I want you to rest a while. And in a month from now, this Hollywood big shot's gonna give you what you want." Don Vito is reassuring Johnny Fontane that he can fix his project – that's a great programme leader at work before we even think about how much he's focused on his godson's wellbeing. In any project, relaxed, confident people who know senior management have their back will always do better work.

BE DECISIVE; CONSIDER DOWNSTREAM RISKS
"Signor Sollozzo, my no [to the drugs racket] is final. I wish to congratulate you on your new business, and I know you'll do very well; and good luck to you – as long as your interests don't conflict with my interests." This is a pivotal moment when Don Vito places the Corleone family in opposition to the other Five Families. He's looking at the big picture – there are project dependencies and risk management issues at stake, and he knows being in the drugs trade will hurt his crucial political connections. But look at how he rejects this 'supplier' – no bridges burned, no blame. A class act.

BE THOROUGH – SWEAT THE BIG RISKS
"I hope you don't mind the way I keep going over this Barzini business. It's an old habit. I spent my life trying not to be careless." A great scene where the now-retired Godfather briefs his youngest son on how negotiations will go – warning that Michael is likely to be killed as the film nears its climax. We can sometimes get bored with a project risk register, but success is seldom guaranteed and the smart project manager rehearses and revisits critical stages of their plan so they're ready for anything.

6/10 Tailor to suit project environment

Michael's adaptation to the circumstances is pretty good. He develops his own project style very quickly when the family is at war, for example. We're dropping several marks, however, because the resolution of that adaptation – multiple hits at the end of the film – is so far away from the core project principles. In summary, it's clear that Michael Corleone shows many

attributes of a great project manager. He proves his worth as a team player prepared to get his hands dirty (literally). He takes on management duties calmly, respectful of the skills of his project team, and the organisation's culture and lessons learned. And he ensures real clarity of purpose and decisiveness as programme leader while letting his teams get on with the job. So, take a leaf out of his book: get out there and make your suppliers some offers they can't refuse.

New books, recommended favourites and podcasts to keep you entertained

John Pelton takes a look at strategic project management while Ellie Carswell is hooked on a pocket guide to projects

Strategic Project Organizing

Graham Miles Winch, Eunice Maytorena-Sanchez and Natalya Sergeeva (OUP)

The world of strategic project management is complex, challenging and saturated by competing and dissonant theory and case study. It is refreshing, therefore, to find an approach that provides a holistic framework for thinking through the project management challenges of today, but which also signposts the way forward for the fourth industrial age. For practitioners and experts alike, this book offers a complete overview of strategic project management – one that challenges established thinking and provides a lens for predicting the way projects may be delivered in the future.

The three domains model at the heart of the book is a well-formed description of strategic projecting and allows some of the key challenges that characterise strategic, or megaprojects, to be confronted and addressed. These include the tension between temporary and permanent organisations, the criticality of alignment around the mission and a sound narrative, the necessity of designing the organisation around the outcomes and a thorough treatment of governance that should be read by all practising project leaders. In highlighting aspects such as key interfaces as well as devoting a whole section to the needs of the people, arguably the quintessential element, the authors have brought new insights and a fresh perspective.

The STAR organisational design model and the coverage of teams provide an industry counterpoint to McChrystal's 'Team of Teams' approach. It also emphasises the centrality of networks to project organisations and hence links the 'systems of systems' approach back to the fundamentals of organisational design and leadership.

Those ardent proponents of programme methodology will find some fundamental tenets challenged by the narrative. Equally, there is scope for challenge back as the reader is left with the sense that stretching the concept of a project to the strategic level at times feels uncomfortable. There are some notable gaps, e.g. the wider implications of digitalisation and production engineering and the treatment of non-financial value: but for exponents of the art, this is an excellent text. In its internal consistency and its reach, it does indeed provide a new approach to strategic project organising and challenges the reader in a thought-provoking and encouraging way. It is a slim and readable volume that draws on a wide range of references and case studies which, together with the online resources, make this a very complete treatment of the subject.

★ ★ ★ ★ ★

Review by John Pelton MBE, Programme Director, Jacobs

Manage Projects Successfully: How to make things happen on time and on budget (Bloomsbury)

I really enjoyed this book, which is a perfect high-level pocket guide to project management, taking you through the fundamental elements of time, cost and quality, as well as knowing how to manage stakeholders, risk and the unexpected. It is structured in clear and easy-to-follow chapters. I found the assembly of text engaging, including the use of images, tick lists, top tips and common mistakes.

The book starts with some helpful definitions and then poses questions to the reader. I loved this as it allowed me to determine where I was in my own project management journey. The book not only talks through factual information and academic research relating to project management, but gives practical advice and exercises to improve your knowledge. I found the book to be very relatable and was pleased it was not specific to a sector or industry, but rather open to the project management profession as a whole.

'Building a Team' was my favourite chapter, which highlighted the importance of maximising diverse skill sets to build an effective team. It was broken down into sensible steps that a project manager could consider to be more efficient. Tables summarised previous research into the topic and strengthened the argument for building a strong team.

This book provides a holistic overview of the core elements involved in delivering a successful project, and makes great use of academic research and imagery. If I could change anything, I would add a glossary of key terms at the end and would consider using real-life project case studies to demonstrate best practice.

★ ★ ★ ★

Review by Ellie Carswell, Project Manager, Faithful+Gould and an APM Ambasssador

My Bedside Books

Dan Jennings MAPM, Head of PMO, Wavemaker UK

HARVARD BUSINESS REVIEW PROJECT MANAGEMENT HANDBOOK: HOW TO LAUNCH, LEAD, AND SPONSOR SUCCESSFUL PROJECTS
Antonio Nieto-Rodriguez (HBR Press)
Nieto-Rodriguez has a wonderful knack of simplifying project management and has written this for everyone – project manager or not. Set out in four parts, it's an engaging read, with great viewpoints on basics of project management, individual and organisational project competencies through to a better future through projects. I particularly enjoyed his look at some real-life projects using the lens of a tool he calls the Project Canvas.

CULTURE FIX: HOW TO CREATE A GREAT PLACE TO WORK
Colin D Ellis (Wiley)
I've benefitted hugely from Ellis's thinking over the years through great webinars, blogs, podcasts and white papers, and I always appreciate his views on project management (*The Project Book* is another brilliant read!). Here he focuses on the importance of culture to organisations and delivers a compelling playbook for building success. Smart, insightful, engaging, clear and, at times, funny – with actionable tips and plans to be used in businesses, teams and projects with real impact.

LIKE SOME FORGOTTEN DREAM – WHAT IF THE BEATLES HADN'T SPLIT UP?
Daniel Rachel (Cassell)
Imagine that The Beatles didn't split up in 1970. Instead, they recorded a farewell album – a lost masterpiece with songs like 'Jealous Guy', 'My Sweet Lord' and 'I'm the Greatest'! This book looks at missed opportunities to resolve the issues that led to their split and then presents a case for the songs on a would-be final album. A brilliant idea and a great project!

We're all ears – podcasts to listen to

Send your own recommendations to emma.devita@thinkpublishing.co.uk

THE APM PODCAST
The James Webb Space Telescope
Listen to Bill Ochs, NASA's Project Manager for Hubble's successor, which will peer into the furthest reaches of the cosmos to observe the universe's first galaxies, reveal the birth of stars and planets, and look for exoplanets with the potential for life. As you might expect, Bill is cool, calm and collected, but makes sure there is always room for humour and time away from the fray for his team.

WORKING IT
FT.com
Whether you're the boss or on your way up, this weekly podcast is about doing work differently. Host *Financial Times* writer Isabel Berwick presents expert analysis and watercooler chat about ahead-of-the-curve workplace trends, the big ideas shaping work today – and the old habits that need to be left behind. Recent episodes include discussions on whether to speak your mind in the office, and how to 'level-up' at work.

SQUIGGLY CAREERS
Amazing If
Squiggly Careers is a weekly podcast with interesting career advice. Hosted by the founders of Amazing If (Sarah Ellis and Helen Tupper), they cover all things work: from how to manage stress and overcome your confidence gremlins to micro-aggressions and discovering your strengths. Each episode is full of ideas, actions, hints and tips that you can put into practice straight away. Recent topics include how to have a high trust team and how to create (not wait for) challenges at work.

MY PROJECT JOURNEY: FROM PAST THROUGH PRESENT TO FUTURE

Eddie Obeng travels back to the 1980s and 1990s to consider his iconoclastic approach to projects

It's a wet morning in 2023 and you're comfortably seated in two chairs at once. Your five projects are so different. Some require day-to-day attention, others have stakeholders spread around the world, yet you think: 'Perfect'. You glance across your digital-twin virtual reality project office at the whiteboard of accountabilities and note happily that your name is absent. Now in your other seat in your local coffee shop, you take a sip of coffee.

Civil war breaks out

It's a dark afternoon in 1989 in Trondheim, Norway, and a bun fight has broken out at the international conference of project managers. Delegates argue noisily. "Must a project have a beginning, middle and end?" "Can a project exist if the 'what' and 'how' are undefined?" "Dr Obeng is an idiot!" "No, he has a breakthrough idea that brings reality to project management in a more rapidly changing world!"

My job is to live in the future. I'm always the misfit, iconoclast. I'd just presented a paper proposing that we classify projects as open or closed. Closed are traditional projects that respond well to a waterfall approach. Open projects are everything up to a problem without a defined solution.

It's 1985 and I'm on a Shell graduate course learning state-of-the-art project management. How to plan, then monitor progress through review to a close. "The goal," the instructor explained, was to "deliver quality at the planned cost, on time. Planning is paramount!" We planned a housebuild. Using a work breakdown structure, we found the critical path and presented it on a Gantt chart. Later, I found this works only when there is a dedicated workforce and the business situation stays unchanged.

What is it called if it has a beginning and a middle but no end?

It's 1992 and I've juggled phone calls all day from almost every industry. Yesterday, readers of *The Sunday Times* found an article on the back page from an obscure Ashridge educator (me) on how organisations could practically tackle complex change by breaking it into 'chunks', called projects.

The common challenge from all callers was in facing a business environment of change with a workforce

Professor Eddie Obeng HonFAPM is an Educator, TED Speaker and the Author of *Perfect Projects* and *All Change! The Project Leader's Secret Handbook*. You can join his masterclasses, courses and workshops on the QUBE #SuperReal campus: https://QUBE.cc

that had a day job to do. Change was internal – fraught with organisational politics – or external, with nervous clients who had to be handled carefully. Months later, my book, *All Change! The Project Leader's Secret Handbook*, further popularised projects. Everyone could understand that projects of different types (open or closed) need different methods. Managers loved it, but 'proper' project managers were aghast!

A world in which every project succeeds

Today, we accept that the soft aspects of projects are crucially important alongside the hard. Our methods have grown agile with a focus on benefits.

We've improved. The challenge got harder: more obnoxious stakeholders, innovate, go global, deliver in uncertainty. Success rates remain unchanged. What is to be done? We check progress versus plan or story by review. Our metrics focus on logistics not people, so we're easily derailed by behaviour. We certify knowledge of the science (tools), though assessing t he subtlety of project management 'art' is impossible.

Our new challenge is to create a world in which every project succeeds. My job is to live in the future, so I've already made a start (see box).

Challenge	Solution/'Eddie hack'
WFH/hybrid makes building a real-time project difficult; globally dispersed stakeholders/project team participation.	Create a digital-twin virtual reality office to work in together. Everyone on the same page and inclusive. I use QUBE.
Uncertainty prevents clients and stakeholders from making timely decisions.	Chunk up projects into smaller deliverables and co-create future maps. I use ISWON.
Problem definition and scope is poor and the business case is unsound.	Identify scope and benefits first. I use a GapLeap. Be flexible with the methodology you use, waterfall/agile.
Low motivation/large staff turnover; difficulty leading people at a distance; inappropriate corporate culture.	Make the future tangible and exciting. I use GlydePath to set performance, so people can clearly see how well they are performing.
Poor communication and over-reliance on software and data management that keeps people apart.	It's a mind shift – rely on people not software for communication. Share a belief you can deliver a perfect project. Explain how to look forward through the windscreen.

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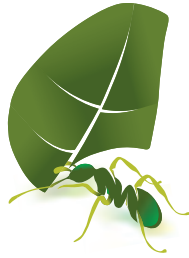
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