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What does the future hold?

JEANLUCICHARD/SHUTTERSTOCK

There's a focus on the future in this issue. Perhaps uncertainty is the new certainty? We thought we'd give you the heads-up on where things might be going for the profession - not based on vague predictions for the future, but rooted in real experience and concerns from project professionals right now.

So, read our 'Facing the future' feature to discover what you need to be doing more of to meet the sustainability and leadership opportunities coming your way. It's the latter subject that Professor Mike Bourne, Managing Editor of the soon-to-be-published APM Body of Knowledge 8th edition, spends his time thinking about at Cranfield University.

"You need good people with the right values, and you need to lead them well. Some of the best project controls are people - people whom you trust, who are doing the right things in the right places," he tells Project.

Our cover feature surveys the incredible rebuilding of the cathedral of Notre-Dame de Paris. Its doors once again swung open in December, just five years after the cathedral was ravaged by fire.

French President Emmanuel Macron called it the "building project of the century", and perhaps he was right (it's a bit early to say).

"Professionally, it stands out as a masterclass in project management excellence," APM's Vice President, Antonio Nieto-Rodriguez, tells *Project*. The determination and collaboration needed to resurrect the building has been coined the "Notre-Dame state of mind".

Read our feature to get a glimpse into what it took to pull this project off. One thing that struck me was the symbiotic partnership between ancient craft and materials and the use of cutting-edge tech. This "meticulous balance between preserving history and embracing innovation" is what impressed Nieto-Rodriguez the most about the project, too.

Which leaves me to talk about artificial intelligence. This issue, we give you an award-winning example of how it's being used in projects right now, as well as advice on how to experiment with it (the right way). There's plenty to get stuck into.

Emma De Vita is Editor of Project

We thought we'd give you the heads-up on where things might be going - not based on vague predictions for the future, but rooted in real experience



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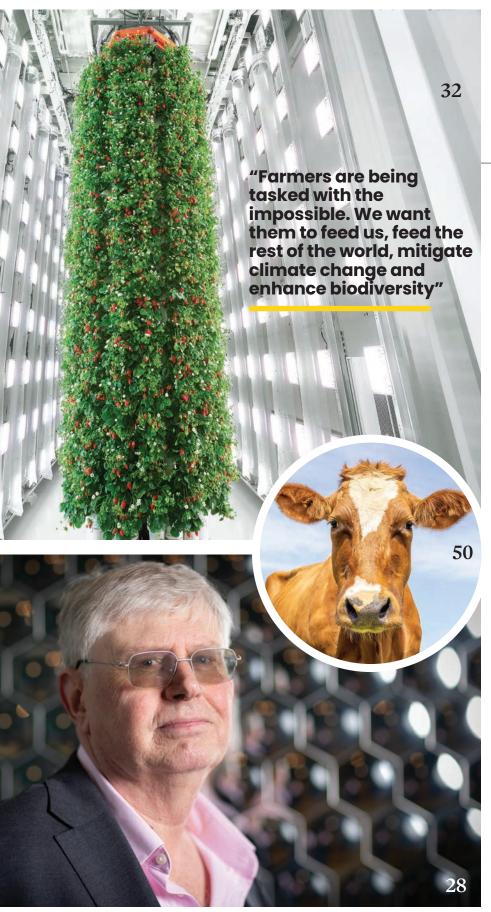
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An iconic London project

In London, the studios of architect Bjarke Ingels and designer Thomas Heatherwick will wrap up work on the new Google campus this year. The King's Cross headquarters is Google's first wholly owned and designed building outside the US.

Nicknamed London's
'landscraper', the building will
stretch to 330m in length, making
it longer than The Shard is tall.
The 11-storey building, combined

with Google's current building on Pancras Square, will form part of a King's Cross Campus. It also features a large roof with landscaped terraces, including a lawn, trees and wildflowers, and a 200m trim track, where Google employees will be able to exercise. There are also plans for beehives.

"The area is a fascinating collision of diverse building types and spaces and I can't help but love this mix of

massive railway stations, roads, canals and other infrastructure all layered up into the most connected point in London," said Heatherwick.

"Influenced by these surroundings, we have treated this new building for Google like a piece of infrastructure, too, made from a family of interchangeable elements that ensure that the building and its workspace will stay flexible for years to come."







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Perspectives

A fresh look at risk • Project controls • Effective communication • APM and IPMA • Adam Boddison

Al is changing projects right now

Daniel Armanios, BT Professor of Major Programme Management at Saïd Business School, and Zack Swafford, co-founder of Dart, a San Francisco-based project management start-up, discuss the impact of artificial intelligence





Q What have been the biggest recent developments in artificial intelligence (AI) and project management?

A Zack: In the past year, I've seen new tools that allow people to chat directly with their projects. So this means asking questions such as: are there any blockers? What's the critical path in this timeline? Those are the questions that project managers or other stakeholders might want to ask, but would need to go through a whole process to figure out. Those are the kinds of questions that, if you have your project management tool or your system in place to have all that data in good shape, then a random stakeholder would be able to just ask the question and get a chat-based answer, which is particularly nice for





non-technical folks or people who aren't steeped in the project world.

Q What AI success stories can you tell us about?

A Zack: One place is brainstorming, ideating - trying to come up with an initial plan. A lot of this happens in software projects where we might be thinking: what are the different ways we can tackle something? Here's a bunch of the user feedback

that we have, tonnes of documents about how users act and behave and now what we need are some solutions. I would always say: just put that into ChatGPT if your organisation allows that security-wise. Put all of that straight into the nearest large language model (LLM) and see what happens. Ask it: can you help me solve some of these problems? Can we ideate how to solve some of this?

Probably what you'll find is that some of the answers are good. A lot of them will lack the context and awareness of your organisation, your practices and what you actually need to do, but you'd be surprised sometimes how that's not totally necessary. But, in a lot of cases, you might need to iterate, provide more of that context and think about more

You can foment crises quite quickly. We're going to have to build rapidly our ability to better discern fake versus not fake

advanced tools that would allow you to include that context.

What benefits is AI bringing to projects right now?

A Daniel: The most immediate for me is the time benefits. If you use a variety of LLMs, each trained in different ways, like Claude, Gemini, Copilot or ChatGPT, you also can triangulate pretty quickly. I think the cost benefit is the mistakes you can avoid now because you're able to experiment far more widely.

What developments are coming?

A Daniel: One immediate thing is Al moving into the contracting and procurement space, so the notion of smart contracts. Imagine now, instead of human-to-human interaction on a project, it's machine-to-machine. Let's say that, in my project, I'm the PMO and have agreed with a supplier that I want 100 widgets. I have a sensor on the machine building the widgets that knows, the minute the widgets are built, to immediately enact the contract and deliver it. It's entirely self-governing. That's going to be interesting. So, you're going to see some interesting work in the procurement space with smart contracts.

On the downside of AI, the ability to discern between what is fake and what is real is becoming really hard. Imagine a world where someone creates a crisis by using audio from an influential figure in politics or from a corporation. You can foment crises quite quickly. We're going to have to build rapidly our ability to better discern fake versus not fake. And so looking at the regulatory space is going to be interesting.

Listen to APM Podcast's episode with Daniel and Zack wherever you get your podcasts



5 lessons learned

Mike Bourne

Professor of Business Performance and Director of the Project Leadership Programme at Cranfield University, and Managing Editor of the APM Body of Knowledge 8th edition

Be open to challenge. Judgement is a very important part of leadership. Good leaders are open to challenge, because they know that having their ideas questioned informs their judgement and ultimately leads to better decision-making.

Work on your 'inner face' of leadership. The inner face starts with knowing yourself. It takes confidence to face up to your own strengths and weaknesses, but it enables you to build a team with skills that complement and compensate for your own as required. If you don't know yourself, you can end up surrounded by a load of 'yes' men – and they usually are men, because women tend to object more.

Be trustworthy and **calming.** Leaders need people to follow them, and that requires trust from those they are leading. And leaders are usually also working for someone else, so need to be trusted by those above them.

Projecting a calming presence helps to build trust - you don't always have to be calm, but you should try to be calming.

Focus on moving forward. Time and energy are the only real resources you have at your disposal, so use them well. As a leader, you should spend most of your time looking forwards and outwards rather than backwards and inwards. But you should make sure that someone on your team is looking backwards and inwards, because if no one does it will have consequences.

Learn to embrace ambiguity. This is where a lot of project management fails something fundamental changes and, as a result, the way things have always been done doesn't work anymore. Leaders need to be able not only to recognise when that happens, but also to cope with the uncertainty it creates - to hold everything together while they work out what to do next.

The value of outcomes

Simon Addyman and Matthew Botelle explain the Programme Delivery Partner approach to major infrastructure programmes



Globally, major infrastructure

programmes are growing in scale and complexity, presenting ever more challenges for clients in creating value over the long term. Traditional contract forms and delivery methods have struggled to keep pace with the growing demands of clients, leading to delays, cost overruns and disputes. The Programme Delivery Partner (PDP) approach being developed by market leaders in programme management aims to meet these evolving client needs by focusing on the value of outcomes required by clients, which may include time, cost, quality and broader public or economic goals.

Basic principles

The applicability of PDP models and approaches in practical examples seems to be highly related to certain project characteristics, focused on six key criteria, listed below. Each criterion potentially results in consequential impacts, often in the most challenging delivery environments, with multi-stage requirements over a protracted period. The criteria are:

- 1 High financial value
- 2 Long duration

- 3 Technical complexity
- 4 High-risk profile
- **5** Key non-negotiable milestones
- **6** Specialised requirements

Similarly, successful implementations appear to have focused on principles of trust, transparency and collaboration. These principles are essential for establishing an effective programme management environment and require concerted effort from all involved parties. This approach emphasises the development of a shared culture, an aligned commercial model and an optimised organisational structure. Alignment of these dimensions seems crucial, as antagonistic arrangements can undermine the intent of the PDP approach and lead to a reversion to standard contract behaviours.

Further research and development

While it is clear there is growing requirement for PDP approaches and models to tackle the rising size, number and complexity of global projects and programmes, it also appears that traditional programme management and commercial frameworks often constrain the evolution of the PDP approach, and that there is a noticeable absence of an established body of knowledge to underpin these developments.

To address this issue, Parsons and University College London have agreed to engage in an exploratory study of knowledge co-creation through the method of engaged scholarship, which operates on four key premises:

- 1 Research and practice are distinct logics of knowledge.
- 2 Each party has partial knowledge.
- 3 Relationships are negotiated and mutually beneficial.
- 4 Findings are interpreted reflexively.

The method involves four main steps: problem formulation, theory building, research design and problem solving. This study will focus on step one, presenting a problem statement, based on an analysis of the current situation through academic and practitioner lenses. With our research project defined and well underway, we hope to share our detailed problem statement, together with any emerging themes and initial conclusions, later in 2025. Subject to satisfactory outcomes, we will then be focused on further steps towards developing a more robust methodology to PDP approaches, models and establishments from an organisational perspective.



Simon Addyman is Associate **Professor of Project Management** at the Bartlett School of Sustainable **Construction, University College** London, and Matthew Botelle is **EMEA Vice President, Programme** Management Consultancy, and **Rail Practice Lead at Parsons**

How is risk management changing in the age of AI?

Chris Blockley-Webb notes a shift in conversations about risk



Over the past year, I have seen a

shift in conversations around risk management. Two years ago, if you were to ask me what the major topics were, I would have replied: the environment, cybersecurity and geopolitics. But fast-forward 12 months and we now have two significant discussion points, one around risk culture and the second around artificial intelligence (AI).

Why does this matter? The answer lies in the detail of the culture.

The 2024 APM Risk Interest Network (RIN) Conference was about the human element in risk management and crisis management: how we (as humans) react to stress and situations we are not used to.

Closing speaker Dev Amratia, co-founder and CEO of nPlan, talked passionately about the use of Al and its application in data handling and risk management. One thing that really stood out was his closing comment. Concisely, the way Al works is by gathering data and then giving a précis. The real stand-out point was Amratia's observation that the output is only as good as the input (rubbish in, rubbish out).

The RIN Conference was specifically themed to coincide with the latest update to APM's Project Risk Analysis and Management Guide. The team behind the guide have not only updated it to incorporate the latest techniques, but we have also concentrated on the role of the risk manager and their interactions with the rest of the P3M community – our behaviours. We were able to bring together some of the most experienced practitioners, were able to bring together some of academics of guide one of focused yet. academics and leaders to make the guide one of the most pertinent and

A focus on maturity

This iteration of the guide does not go into detail about AI, and for good reason. When the initial drafts were being written, AI had not taken the giant strides it has done since. This is not a terrible thing; in fact, I would say that we have set up the narrative to concentrate on maturing our risk cultures and behaviours, and then we can confidently discuss the



We have set up the narrative to concentrate on maturing our risk cultures and behaviours

benefits and opportunities that using AI will bring.

I asked AI to answer the question: what does AI bring to risk management? The answer I got was:

"AI brings several significant benefits to risk management by improving the ability to predict, identify, assess, and mitigate risks across various industries. Here are some of the key contributions AI makes to risk management.

- 1 Predictive Analytics:
 - Risk forecasting
 - Anomaly detection
- 2 Real-time Monitoring:
 - Continuous surveillance
 - Automation of risk alerts

- 3 Enhanced Decision-Making:
 - Data-driven insights
 - Scenario modelling
- **4** Fraud Detection and Prevention:
 - Financial fraud detection
 - Cybersecurity threats
- 5 Risk Assessment and Mitigation:
 - Risk quantification
 - Optimizing mitigation strategies
- 6 Regulatory Compliance:
 - Automated compliance
 - RegTech (Regulatory) Technology)
- 7 Cost Efficiency.
 - Operational efficiency
 - Optimizing resource allocation
- 8 Improved Scenario Planning:
 - Risk scenario analysis
 - Stress testing
- **9** Automating Routine Risk.
 - Risk reporting automation
 - Document analysis
- 10 Enhancing Human Expertise:
 - Augmenting human decision-making

"Al revolutionises risk management by enabling faster, more accurate identification of risks, better decisionmaking, real-time monitoring, and more effective mitigation strategies. By leveraging AI, organisations can enhance their resilience, anticipate potential threats, and respond proactively to risks."

All that from a simple, or not so simple, question. I am looking forward to embracing AI in all its forms, and I hope you are too. But we always need to remember - rubbish in, rubbish out!

Chris Blockley-Webb is Associate

Director, Defence, at Turner & Townsend and co-author of **APM's Project Risk Analysis and** Management Guide 3rd edition, available at apm.org.uk/book-shop

I spend so much on project controls. Why do my projects fail?

Paul Kidston believes that project controls professionals need to be true leaders



A friend of mine was asked the above

question by a very senior leader. I suspect that the definition of success here would mean delivery on time and to the cost estimated before the project was approved. History (in the form of project surveys) consistently tells us that 70% of projects fail by these criteria. Worse than that, nothing ever seems to get better.

So why do we keep doing projects? It's because, without them, how would society ever advance? We keep doing projects because we need them – or the things that they deliver.

Better leadership and influencing skills needed

Project controls can ensure that projects are delivered as well as possible – that resources are well used, with as little waste as possible. The roles in controls begin with preparation and planning, then looking at performance and using insight to turn hindsight into foresight - measuring, thinking and delivering the best outcome. This is done by:

- making credible estimates, plans and schedules, recognising and emphasising uncertainty
- assessing progress, spending and productivity
- forecasting and interpreting what that might mean
- leading the resolution of the issues to make things better
- learning from the past to improve both oneself and the wider organisation.

The first three of these things are, I believe, done relatively well, within the limitations of circumstance and politics, by many, perhaps most, projects. Certainly, as a community, we do know how to do these things well. The areas in which we need to

improve are in leading and influencing the resolution of problems. The skills this requires include leadership, communication and problem-solving. Further, we need to work in a culture that is open to this, and we need to operate with a clear understanding of the ethics with which we operate.

Great communication is critical

Those in project controls need to be leaders. There are different leadership and communication styles; there are things we can learn about leadership and different approaches we can take. In order to become better project controllers, these are the areas which we need to focus on for our own self-development, the areas we



The areas in which we need to improve are in leading and influencing the resolution of problems

need to actively plan our own and our teams' development.

It seems obvious to say that project controls have responsibility to communicate well with other parts of the team, but how much thought is put into how this is achieved? It is particularly pertinent, as planning and analysis lends itself to introspective traits, not always best suited to wider communication. Thus, the need to

design how, when and what will be communicated.

Consideration needs to be given not just to delivering excellent tools, accurate forecasts and ready-made solutions, but also to designing our communication. A useful framework for considering the various levels of communication is VMOSA (vision, mission, objectives, strategies and actions), a series of statements, strategies and action plans that connect our vision for what we want to achieve with strategies and plans for doing so, not only to advertise our brilliance to the wider world (or project), but also to help give ourselves and our teams a sense of purpose.

Techniques and the behaviours

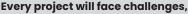
I was the lead author of Planning, Scheduling, Monitoring and Control, published by APM in 2015. Its aim was to explain the technical side of project controls in a way that could be understood by everyone, from a student to a senior manager or director. Reflecting on the success of that book, the authors felt that there was something missing, so the forthcoming Project Controls in the 21st Century addresses the issues raised in this article, as well as considerably updating the technical skills and techniques covered in the previous book.

Its central theme is that, to deliver great projects, teams need to understand and practise sound techniques - to be leaders, communicators, problem-solvers and cultural icons.

Paul Kidston is co-author of **Project Controls in the 21st** Century. Find out more at apm.org.uk/book-shop

How to communicate effectively in the age of social media

Amanda Coleman on handling project crises in a hyperconnected world



even if there has been detailed planning and management at the outset. Things do not always align as we would want. This is why risk management and crisis preparation are so important and need to be part of project development.

Losing the trust of people who are involved in developing a project or who will be on the receiving end of the change will make the introduction more problematic. The starting point needs to be to understand the risks connected to the project and to use them to prepare effective communication. The approach has to recognise the details: what do people feel now? How will the change impact on them? Who are those people who will be affected? Understanding those details will improve the communication.

People have to accept the outcome that is being sought, which means understanding why the project is underway. Any concerns need to be identified and heard to help improve the communication and to track any changes to those views. Communication is not just about saying things; it is critical to listen to feedback. Understand the concerns people have before the project gets underway and invest in communication from the consideration of establishing a project.

Monitor social media channels closely

In this hyperconnected world, if you don't listen to people, they will quickly make their views known through social media channels. As X (formerly Twitter) is losing its

position, TikTok is growing, Bluesky has appeared and channels such as Nextdoor and Glassdoor give people many opportunities to speak out and be heard.

Making effective connections to those linked to the project will help to minimise the potential for a social media challenge. But we should never lose sight of the

FIVE DOS AND DON'TS

DO

- **Prioritise effective** communication
- 2 Listen to views of key groups and individuals
- Gather feedback to inform communication
- 4 Be open, honest and transparent
- 5 Be human

DON'T

- **Hide problems**
- 2 Go quiet when challenged
- 3 Push on regardless of the views and feedback
- Gaslight or downplay how people feel
- Ignore the risks

role social media plays in driving conflict and increasing polarisation. Monitor social media channels and use the feedback to inform the communication and approach.

If things go wrong, own it

Whether a project is going well or not, it is vital to be open and honest about what it means and any challenges. This helps to build trust and confidence in the team driving the project management.

If things go wrong, own it. People will forgive a genuine error or something that has gone wrong, but they will not forgive attempts to cover up or hide issues. It is essential to recognise what people are seeing to maintain credibility. If you fail to acknowledge a problem, it means you either don't know about it, which casts doubt on your ability to implement the project, or you have seen it but don't care about the impact, which is a fatal flaw.

Accept and validate how people are feeling before working on how you can move things forward with open, honest and clear communication. Never appear to gaslight people by diminishing their concerns or how they feel. It is happening more and more and will be called out quickly.

Be empathetic

At the heart of all effective communication is a human approach with empathy and understanding. You may need or want to see the project embedded, but it needs to be done with people, rather than to them. The practicalities of introducing it are important, but so is how people feel about the project and what it means to them. Take a step away from the systems and processes and understand the real human impact and feelings about the situation and the project.

Reputations are built not just on what you say, but also on what you do. If the two are brought together in the communication approach, it can increase credibility.

Amanda Coleman is a reputation management expert; her book Strategic Reputation Management (Kogan Page) is out now

Partnering for a global future

APM's relationship with IPMA is changing from member association to partner. Alistair Godbold reflects on the reasons behind the change and considers what it could mean for the project profession



Many professionals, companies

and projects are operating and delivering internationally, working with partners from around the globe. Nowadays, many projects are international in what, where, why and how they deliver. Project practitioners and academics move around the world to practise and develop their profession. Many come to the UK to study project management. There is much to do to help and learn from this international community.

An international network

For the past 50 years, APM has contributed and learned in this international arena as a founding member of the International Project Management Association (IPMA).

IPMA consists of project management associations from over 70 countries. It exists to support project management associations, allowing them to network and share ideas and experiences. APM has been able to contribute and gain from IPMA as its largest and most mature project management member association. This has allowed APM to deliver on its international outlook and aspirations.

APM's membership of IPMA has been a long and successful one, with APM members taking up senior positions over the years, contributing to IPMA's progression and that of its member associations.

On a personal note, I have represented APM within IPMA for many years, collaborating with professionals from all over the world. Many of these have become friends who share a common bond, with the passion to raise the standards of project delivery. Each of these people contribute many hours of their own time, volunteering and using their

intellect and different perspectives for the benefit of all.

I have chaired advisory groups and contributed to projects on the governance of IPMA and the development of standards. I have spent many hours travelling to meetings all over the world and spent even more time on Zoom calls in the day, in the evening and at weekends with people in different countries and time zones, deciding



This change will give both parties the ability to continue their own development

who has to get up early or stay up late to join a meeting at a time convenient for others (the Australians usually make the most sacrifice!). It has been a tremendously enjoyable and rewarding role.

Separate but together

APM has now reached a level of maturity, size and capability where its mission to support the delivery of projects in this international context can best be delivered alongside IPMA, rather than within the structured community of its member associations. APM has developed qualifications and standards, books, awards, events and knowledge that

are suited to its maturity but are no longer aligned with IPMA.

It is for these reasons that APM has agreed with IPMA that it will move to operate as a partner (of IPMA and its other member associations) rather than as a core member. This will give both parties the ability to continue their own development and that of the profession, collaborating where it is beneficial in areas such as academia, research, providing speakers and ambassadors, taking part in Specific Interest Groups and operating independently where this is best.

Having spoken with friends and colleagues at APM and IPMA about this change, it is perhaps inevitable that people should question why it's happening now. APM sees it as the right thing to do. Becoming a partner of IPMA, rather than a member, will allow APM to more easily promote Chartered Project Professional status as a truly international standard and designation, raising the standards of the profession and enabling the successful delivery of projects.

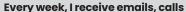
We can support APM members, their employers and their clients in their international work and ambitions. We can also support other project management member associations from around the world in a more flexible way for the benefit of all. Personally, I am looking forward to this new and exciting phase of collaboration, in which APM works with IPMA and the other member associations in these new relationships, continuing the development of the profession together.

Alistair Godbold is Vice President of APM and representative of APM within IPMA

Professor Adam Boddison OBE

Making changes that are vital for some, valuable for all

APM's Chief Executive discusses an ethos that helps us raise the bar



and social media messages from APM members. As Chief Executive, it's great to have this type of direct relationship with one of our key stakeholder groups. Sometimes, the correspondence is from people who want to share how an APM event has transformed their perspective on a particular issue or perhaps given them the encouragement they needed to take the next step in their career journey.

At other times, the correspondence relates to feedback about an area where APM could do things differently or better. In any case, all such correspondence is welcome and helpful as APM matures and develops its offerings.

Why diversity matters

Less frequently, I get correspondence asking why APM has taken a particular stance on an issue or why we have decided to focus our resources in a particular area. One such area is diversity, equity, inclusion and belonging (DEIB), which is a golden thread central to the APM strategy. While the vast majority of APM members believe that DEIB is an important area in which APM should be investing some of its resources, this is questioned by some people.

Typical questions I get asked include:

- How does APM advocating inclusivity help more projects to succeed?
- Is APM doing a disservice to its longest-standing members by focusing so much on diversity?
- Is APM investing too much of its resources into DEIB?

Each of these questions deserves a fuller and more considered

response than I have space for here, but there is a common theme that underpins these questions. There is a fundamental misconception that targeting resources towards DEIB has a detrimental impact on other areas. The truth is that, when APM gets the offer right for those who feel most alienated, it is a better offer for everyone.

Raising the bar

At APM, we talk about making changes that are 'vital for some, valuable for all'. In other words, we raise the bar of our standard offer in such a way that increasingly includes people and improves quality at the same time. Let me share a few examples.



There's a misconception that targeting resources towards DEIB has a detrimental impact on other areas

When it was first introduced, the Chartered Project Professional (ChPP) standard was seen to have insufficient flexibility to include people with more specialist or senior role types. Therefore, APM updated the standard to bring in increased flexibility. The improved balance between mandatory and elective

competences means that ChPP is now available to a much broader range of project professionals.

For example, we routinely have professionals working in project controls, risk or leadership achieving the chartered standard. But here's the thing: the changes didn't just help those in specialist roles, they also provided greater flexibility for all candidates, as they can now better tailor ChPP to their own specific role. Vital for some, valuable for all.

Another example is the APM Project Management Qualification (PMQ). We had an increasing number of applications from candidates to have a movement break during the online exam as a reasonable adjustment. Therefore, when we updated the PMQ, we introduced an optional movement break as standard for all candidates. After all, who doesn't want the option to have a movement break in the middle of an online exam? Vital for some, valuable for all.

Making events more inclusive

We had feedback from some people attending APM events that they experienced sensory overload and would welcome a low-arousal quiet space to be made available. So, we introduced this, as well as some separate workspaces for those who need to make work calls while attending an event. This was previously a barrier to some people attending events, but it is a change that makes the events better overall. Vital for some, valuable for all.

So, please do keep sharing your feedback with us. We do listen and we do keep evolving our offer to ensure that it is world class. It is our unwavering focus on DEIB that will ensure APM remains at the forefront of the profession for many years to come.



Help shape the future of project management

Join the community of proud project professionals making a difference to society by becoming a Chartered Project Professional (ChPP).

The Chartered Project Professional standard is a benchmark that recognises the achievement of a defined level of technical knowledge, professional practice and ethical behaviour. Whether you manage projects, programmes or portfolios, or are employed in a key control or enabling function, chartered status shows you've achieved the highest standard of expertise and have proven your exceptional project capabilities.

Start your journey today apm.org.uk/chpp



Facing the future

There are two challenges that the project profession must face head-on in the second half of this decade: the climate crisis and earning a place in the C-suite. Here's some food for thought on how to approach these opportunities. We've taken insights from APM's Project Summit at Windsor Castle in autumn 2024 – where senior project experts, leaders and C-suite executives shared ideas on the biggest challenges facing the profession – and recommendations from APM's Projecting for the Future: Harmonising energy and environment report to give you some inspiration on how to effect change



The challenges of net zero

The scale of the net-zero challenge for the project profession is massive, both nationally and internationally, and international competition for the best project managers and programme directors could reduce the supply of key skills in the UK even further.

Against this landscape of urgent and massive transformation, the present response of the project profession is, arguably, disappointing. Most of the attention has been on mitigation; that is, the reduction of the carbon and other environmental impacts of projects that would happen anyway.

Relatively little attention is paid to the various kinds of projects that are being carried out because of our aspirations for a net-zero future. Such projects can be considered 'vectors of change' towards a net-zero future, but the scale of the transition required means that it is unlikely to be achieved by traditional approaches to project, programme and portfolio management for the following reasons:

- Most transition projects are interventions in existing 'systems of systems' of great complexity. For example, the electrical system requires reconfiguration as a result of new sources of generation (wind and solar) and new demands (such as from heat pumps and electric vehicle charging), as well as a major upgrade of capacity.
- The experience from the development of offshore wind generation in the

The present response of the project profession is, arguably, disappointing

North Sea is that strong and capable project owners shifting from a project-by-project development approach is vital for attracting investors who typically equate projects with risk. Thus Ørsted, the largest offshore wind farm developer outside China, stated that it was "industrialising" the development process:

- The first offshore wind farms were established project by project, but, since the start of 2009, Ørsted has been working intensively to develop and install offshore wind farms in an assembly-line concept and to enhance efficiency in all stages of the offshore wind farm value chain.
- Ørsted's strategy for cost reductions is based on standardisation: Ørsted developing an offshore wind farm concept is based on a standardised design, standard components



Ideas to make projects and programmes more sustainable

- Do not accept the status quo. Look at how you can enable smarter ways of working.
- While it may not be feasible to train all existing staff on data use and literacy, project leaders must start to set up ways of working that will enable more digitally literate future generations to utilise data properly.
- Drive improvements in the supply chain. Reduce waste
- through use of recycled materials, or reuse where possible. Implement sustainable procurement policies. Work with clients to ensure they play their part in environmental due diligence and improving transportation/logistics.
- Consider 'productivity packaging' procurement models that can unlock greater capacity at a time of peak demand.
- Where appropriate, utilise design and build approaches that support efficiency and/or economies of scale, such as 'design one, build many'.
- On infrastructure projects, shift the focus away from simply 'building things' to creating social value. Engage with communities to understand what they want, alongside the basic 'what's needed' requirements.

YURI A/SHUTTERSTOCK

and standard construction. The concept reduced the price of offshore wind considerably. For an industry characterised by high investment levels, especially in the construction phase, the biggest potential for savings is in reducing construction costs and in centralising the design and procurement process.

 Central to this development is much greater modularity in turbine technology, which has wider benefits. It is clear that there are similar aspirations in the nuclear sector to industrialise development and move on from the notably dismal record in delivering new nuclear power stations - the clue is in the name: 'small modular reactor'.

There is no plan B

Nick Smallwood, CEO, **Infrastructure and Projects** Authority: "Climate change is a real issue. If project managers don't drive the focus on this, we're not going to improve. There is no plan B."

Martina Blake, UK Government **Advisor, European Space** Agency (ESA): "At ESA, as part of our circular economy concept, we are creating a sustainable ecosystem in Earth's orbit through on-orbit refurbishment, manufacturing and recycling. We want to reduce, reuse and repurpose as much as we can. The long-term objective is to move towards a circular economy in space by 2050, further cementing Europe's role as a leader in space sustainability."

Professor Martina Huemann, **UCL:** "Artificial intelligence and digital technology enable us. They are the means. Sustainable development is the end."



Taking project management to the C-suite

Three decades ago, 80% of the resources in an organisation were dedicated to operations and 20% to projects. Today, that ratio has flipped, according to Harvard Business Review. Despite this massive disruption, there is still a lack of understanding and a lack of recognition of the project profession at C-suite/senior executive level.

To what extent is project management recognised by the C-suite? There are a few factors that determine the relationship between project professionals and the C-suite. One of the main differences between project practitioners and people in leadership roles is accountability. This is to say that project practitioners, in the main, are seen to provide a service to leaders, but it will be a person in an executive role who will be held accountable. Often, those people are not project professionals. This has an impact on the relationships between people in these different roles.

Also, when it comes to the relative importance of the project profession, every sector has a 'main' or 'commanding' profession. Taking the healthcare sector as an example, in the NHS, physicians are seen as the 'main' profession (i.e., the one with the most visible impact). Project management is not the main profession; instead, it is a skill that some individuals foster. This is one of the things that defines the relationship between project professionals and senior leaders in that sector.

When there is an initiative that depends on having project professionals, such as a major transformation project, the relevance of the project profession increases. However, it will not supplant the commanding profession.



Tips on how a project professional can connect with the C-suite

- Understand the C-suite's priorities and objectives. If an organisation's priority is sustainability, for example, its project teams need to recognise and report against that. If not, credibility is lost with the C-suite.
- Help the C-suite understand how to effectively use project controls to help them govern. It is not uncommon for sponsors to work in non-project roles. Sometimes, they may not even have been a sponsor before. This can pose challenges to the project teams reporting into them. Educational support, such as mentoring, can be an effective way to bridge knowledge gaps.
- Bring accessible, understandable and decision-informing insight to the C-suite. It's important for project professionals to understand what matters to the C-suite in

terms of reporting, but knowledge-sharing works best when there is a common language. Not only that, but there is also a risk of 'death by data', where too much information is provided, harming the ability to make swift decisions. People in the C-suite often only want very select data to inform their decisions. Knowing what that is, and adapting to that context, supports relevance and credibility. Try to bring pace to decision-making by cutting down on bureaucracy and unnecessary information.

Leadership styles of the C-suite

Different executives lead in different ways. Dr Andrew Schuster, Managing Partner at Promoveo Group, has identified three leadership styles that are most closely associated with C-suite members who interact with project teams. Understanding these styles can play an important role in calibrating relationships between project teams and C-suite members:

Delegatory. This 'hands-off' approach involves assigning people or teams to a task and empowering them to make their own decisions and find their own solutions. This style creates opportunities for skills development and innovation, but can also lead to accountability issues if roles and responsibilities aren't clearly communicated.

Functional. This style is more 'hands-on' and is based around treating a project team as a business function. It results in a more direct and organisational leadership approach that involves the entire team in identifying project goals and procedures to achieve them.

Transformational. This is a more 'holistic' leadership style in the sense that it sees the transformation being delivered by a particular project within the context of wider organisational transformation. This style is focused on the journey from current state to desired future state. It requires a deep understanding of the organisation's goals and what is being done organisation-wide to achieve them.

"These styles all have pros and cons. There is no right or wrong. Some are more appropriate to the context. But they are different. That means the relationship [of leaders] with the profession is different, depending on their leadership style," says Schuster.

APM's Projecting for the Future: Harmonising energy and environment report and the autumn 2024 **Project Summit papers** can be downloaded at bit.ly/4jWJPko





The story of the rebuilding of the Parisian landmark after it was ravaged by fire in 2019 provides lessons in collaboration, determination and using 21st-century tech to keep ancient heritage alive, reports Emma De Vita

he reopening of the 862-year-old cathedral of Notre-Dame de Paris in December brought a smile to the faces of many project professionals around the world. After all, French President Emmanuel Macron declared it the "building project of the century". Although work on the rebuilding project will continue until 2026, after a fire devastated the Gothic French landmark in April 2019, the reopening festivities were a celebration of what human ingenuity, collaboration and determination can achieve. Many would say the Parisian landmark surpasses its former glory.

"It's inspiring to see global solidarity for such a meaningful project. It stands out as a masterclass in project management excellence," says Professor Antonio Nieto-Rodriguez, APM's Vice President. In comparison to other historic restoration projects, such as the decades-long rebuilding of Dresden's Frauenkirche or the still-ongoing restoration of Venice's San Marco Basilica, Notre-Dame's completion is a groundbreaking achievement, he believes.

He attributes the success of the Notre-Dame rebuilding to a few key elements: a strong purpose, precise stakeholder alignment and the seamless integration of ancient craftsmanship with

advanced technologies. "It is a reminder that great projects are about more than just deliverables - they're about uniting people under a shared vision, honouring the past and leveraging the best tools of the present to build something enduring. It's this blend of purpose and structure that makes it so remarkable," Nieto-Rodriguez explains.

Going up in smoke

Parisians were heartbroken when the cathedral's timbered roof and 19th-century spire went up in flames. Macron astonished everyone when, the following day, he announced that the cathedral would be rebuilt within five years - in time for the Paris 2024 Olympics. The naysayers shook their heads at such an audacious deadline, saying decades rather than years would be more realistic. The cathedral, after all, took two centuries to build. But, in the end, the project overran by just five months, despite the hiatus caused by the COVID-19 pandemic. "The pandemic disrupted timelines, but the team adjusted workflows and schedules, demonstrating resilience and flexibility," explains

So, what went right? Unlike the building of a new nuclear reactor, a railway or a bridge, the resurrection of Notre-Dame had widespread public support despite no one knowing what it would look like or how it would be paid for. While the general public broadly wanted to put the cathedral back to the way it was, President Macron favoured a modernist reinterpretation. In the end, he followed the recommendations of architects who worked for France's cultural and historic agencies to faithfully recreate what had been there before, using traditional materials and techniques.

Everyone fell in behind this common vision (whether enthusiastically or reluctantly), but it was this commitment to open discussion, a shared purpose and a clear deadline that galvanised everyone and created a determ momentum to make the project The passing of special legis which sought to speed up the everyone and created a determination and momentum to make the project a success.

The passing of special legislation,

reconstruction process, just a month after the fire was also a massive, albeit controversial, boost to the delivery of the project on time. It granted the French government the power to override regulations on planning, environmental and heritage protection, and public tenders to get the works done. It also created a public body, Rebâtir Notre-Dame de Paris (RND), to oversee and execute the work within the five-year timeframe that it was contracted to meet.

A Notre-Dame state of mind

Strong sponsorship from Macron and French Minister of Culture Franck Riester kept the project visible and political support strong, while General Jean-Louis Georgelin, France's former Chief of Defence Staff, was tasked with leading RND. A man whose mantra was "move forward without procrastinating", he created a military-style chain of command and referred to the project as the "battle for France". Under him, the rebuilding "became a formidable machine", wrote Agnès Poirier, author of Notre-Dame: The Soul of France. "We understand what Notre-Dame represents for us all and there is no reason why we should fail in

Clockwise from left: French President **Emmanuel Macron addresses the** nation following the catastrophe; the fire blazes in April 2019; scaffolding rises around the spire; Macron alongside Chief Architect Philippe Villeneuve; General Jean-Louis Georgelin on-site with Macron

our mission. We will do it! Vive la France!" he told a group of workers on the project.

Chief Architect Philippe Villeneuve brought together master craftsmen, engineers, historians and technologists. Their collaborative efforts bridged the gap between tradition and innovation, ensuring both historical authenticity and modern functionality. Project management commentator Ricardo Vargas called the reopening of the cathedral within five years "an incredible, unified stakeholder management innovation, finding innovative ways of solving problems and setting such an aggressive timeline". Nieto-Rodriguez agrees: "Collaborative expertise is critical - projects benefit immensely when professionals from diverse disciplines come together."

The project united a broad spectrum of stakeholders: the French government,

Nieto-Rodriguez.





an estimated €850m received in donations. Two French families behind luxury business brands pledged €300m between them. There was a lot to pay for. Major restoration work has included the lead roof and wooden framework of the nave, transepts and choir, the 19th-century spire,

the north tower's wooden belfry structure and the collapsed stone vaults. The interior was left coated with a fine layer of lead, which would need removal.

local residents, the Catholic Church, UNESCO, international donors and millions of tourists. Transparent and frequent communication through social media, news outlets and public forums kept these groups engaged and supportive. "The power of storytelling and stakeholder engagement cannot be underestimated. The transparency and public involvement in the Notre-Dame restoration fostered goodwill and global support, which were key to its success," says Nieto-Rodriguez.

A five-phase plan stabilising the structure, clearing debris, conducting detailed assessments, reconstructing key elements and preparing for the reopening was laid out and followed. This methodical approach ensured steady progress and efficient resource use, even amid challenges like the pandemic.

The money problem was also quickly solved, such was the global interest, with

Marrying the old with the new

Surprisingly, Villeneuve called the fire a "blessing in disguise". Before it, the cathedral was due to embark on a €150m multi-year renovation project to address some serious disrepair. "We'd basically given up on restoring the interiors, given that it would just touch off a spiral of spending, and were slowly addressing only the most critical parts of the exterior," he told the Financial Times. "But with the donations, we were able to undertake a comprehensive restoration programme. I never imagined for a second that we would go this far."

Two thousand workers and artists from 250 companies, including carpenters, stonemasons, master glassmakers, painting restorers and other technicians, were involved in the restoration, which painstakingly followed the cathedral's original design, materials and construction techniques. The restored interior of the cathedral speaks for itself. The cleaned stonework is a pale, creamy colour, as it would have appeared in medieval times.

Original building techniques were followed by modern-day artisans using traditional materials. For example, the original beams that supported the roof were milled from massive individual oak trees, sourced from the same forests where the original 1,300 trees were hewn nearly nine centuries ago. By March 2024, the entire roof frame of the 13th-century oak beam structure had been identically reconstructed by 21st-century carpenters trained in the traditional technique of working freshly harvested 'green wood' by hand with bespoke axes.

At the same time, cutting-edge technology - including drones, augmented reality, 3D scanning and building information modelling (BIM) - was used to create a digital twin for the precise planning of the works. The most detailed 3D scan ever done on a historical building was produced. "Imagine how you build a 3D scan with people doing the work with their hands, using techniques that are hundreds of years old," marvels Vargas. "It's something we should be very proud of - that innovation and tradition were able to coexist in such a massive project."

Autodesk was one tech company that applied its 3D digital modelling, digital twin and BIM skills. It partnered with Art Graphique & Patrimoine, which specialises in laser scanning and the digitisation of historic monuments. Working together and using existing scans with new laser surveys, the partners provided the 3D model for

"It's something we should be very proud of – that innovation and tradition were able to coexist in such a massive project"

free to RND, which then shared it with construction stakeholders.

The remains of Notre-Dame were entirely digitalised by researchers at the French National Centre for Scientific Research. The idea was to create "some sort of Google Earth of the cathedral" by bringing together all past and future knowledge about the building on a collaborative platform. Rather than a "simple replica in computer-generated images, it's more a question of building a database of new data and knowledge", the researchers explained.

Nieto-Rodriguez was impressed most by this "meticulous balance between preserving history and embracing innovation. The project brilliantly combined the best of both worlds. Artisans used traditional methods to restore elements like intricate carvings and stained glass, while advanced technologies such as 3D laser scanning and digital twins ensured precision and

reduced risks. They got it right by fostering interdisciplinary collaboration." The 3D modelling and digital twins allowed for better risk management, although not every challenge could be mitigated.

Critical challenges overcome

Take, for example, the unexpected death in a hiking accident of project leader Georgelin in 2023. He was immediately replaced by his deputy, Philippe Jost. "This was a major emotional and operational setback. One of the biggest challenges a project can face is to lose the leadership. So the team was very resilient and adaptable," said Vargas on his 5 Minutes Podcast.

The project faced other significant challenges, all of which were met with remarkable solutions, says Nieto-Rodriguez. "One crucial challenge was structural instability after the fire, which threatened the cathedral's integrity. This was addressed using advanced scanning technologies to stabilise and reinforce the building before restoration began." It took two years to stabilise the structure to prevent the full collapse of the building. This involved the removal of 40,000 pieces of calcified scattolding.
That required the use of specialist access





Clockwise from top left: Philippe Jost, who became project leader in 2023; the pale stonework of the restored interior; Philippe Villeneuve's Notre-Dame tattoo; artisan carpenters using traditional axes; restoration work on a chandelier; a wall-painting restorer at work

equipment consisting of three huge 90m mobile elevating work platforms. These were the only machines that could reach the centre of the damaged scaffolding by climbing more than 50m and then reaching 30m out and 15m-20m down into the structure to remove hundreds of tonnes of scaffolding, assisted by mobile cranes and a tower crane. "They did parallel work streams outside the church to make sure that they reduced the critical path of the project," Vargas explains.

Another project challenge was sourcing the right materials, such as oak for the spire, explains Nieto-Rodriguez. "The team navigated this by planning meticulously and adhering to strict environmental and historical guidelines. Balancing modern standards with historical accuracy was a constant challenge, but the collaboration between engineers and historians ensured both were achieved," he says.





Notre-Dame's six unique lessons

Professor Antonio Nieto-Rodriguez gives his takeaways from the successful rebuilding of the Parisian landmark for leaders tackling complex, high-stakes projects

Adaptability is crucial. The COVID-19 pandemic tested the team's ability to adapt in the face of unprecedented disruption. By reorganising workflows and leveraging downtime for planning, they recovered lost time and maintained project momentum. Flexibility in project management is not optional; it's a necessity in an unpredictable world.



The integration of a high-tech fire prevention system into the fabric of the building is an aesthetic and technical success. It features advanced thermal cameras, smoke detectors and a revolutionary water-misting system that releases water droplets that will extinguish flames while minimising damage to fragile stone and wood. "The mist saturates the air, reducing oxygen levels to smother fires without harming the wood or stone," Villeneuve has explained. "These are the most advanced fire-safety systems in any French cathedral. We had to learn from what happened. We owe it to the future."

A well-deserved celebration

The successful combination of old and new, and the balancing of so many competing interests, is what made the project such a success, Vargas says. "This makes me, of course, extremely proud. I was not the project manager. I was not engaged in this project, but just being in the field is such an amazing thing. It's such an amazing example of how you can make things happen. If you have the desire and the drive, you can make this happen in the best possible way. So now it's time to celebrate the fate of our human ingenuity, with tradition and the same technology, and at the same time,

"We had to learn from what happened. We owe it to the future"

the best project management skills to build something like that in five years."

Macron told those workers gathered for the reopening ceremony: "The blaze at Notre-Dame was a national wound, and you have been its remedy, through determination, through work, through commitment. You have transformed ashes into art." In 2023, Jost praised the reconstruction team's "Notre-Dame state of mind"

And as Nieto-Rodriguez puts it: "The rebuilding of Notre-Dame is more than a restoration project; it's a symbol of resilience, collaboration and the enduring value of cultural heritage. It reminds us that successful projects are about honouring the past while embracing the tools of the future. It's a case study for project professionals in balancing constraints, leveraging technology and uniting diverse expertise to achieve extraordinary outcomes. Notre-Dame teaches us that we can create something truly transformative when purpose, planning and innovation align."

Emotion drives engagement. The deep emotional connection to Notre-Dame galvanised global support, with donations pouring in from over 150 countries. Leaders should recognise the power of emotional narratives to inspire stakeholders, foster unity and drive resource mobilisation.

Marry tradition and innovation. Combining centuries-old craftsmanship with cutting-edge technologies like artificial intelligence and augmented reality was a hallmark of this project. Embracing a dual mindset - honouring legacy while

leveraging innovation - can unlock solutions.

Reframe crisis as opportunity. Rather than being paralysed by the fire's devastation, the project team and its leaders used it as a rallying cry for unity and action. Modern leaders should learn to turn setbacks into catalysts for progress, inspiring teams to overcome adversity with purpose.

Predictive planning for resilience. The five-phase predictive plan helped the project stay on track, even amid significant disruption.

Leaders can take inspiration from this approach by creating structured but flexible roadmaps that allow teams to navigate uncertainty without losing sight of long-term objectives.

Anecdotes of resilience and ingenuity. One of the most inspiring moments of the project involved the restoration of Notre-Dame's famous rose windows. Initially feared to have been lost in the fire, the stainedalass masterpieces were carefully removed, cleaned and reinstalled, a testament to both craftsmanship and engineering excellence.



Professor Mike Bourne

Andrew Saunders speaks to the Managing Editor of the eighth edition of the APM Body of Knowledge about what it takes to lead projects in 2025

Someone who is a real expert in their field is often said to

have 'written the book' on it. In Professor Mike Bourne's case, the subject is project management, and the book he is helping edit is the eighth edition of the APM Body of Knowledge (APM BoK), due to be published in April.

Officially described as the "foundational resource" for APM members, the new APM BoK runs to some 350 pages and is a key reference work for both practising project professionals and those studying for APM qualifications. It is, as Bourne admits, "not quite a textbook" for project management, but it is a definitive work nevertheless. "It covers everything from project management, leadership and change management through to some pretty serious techniques. It's a compendium of the areas of knowledge that people running projects need to have," he says.

Bourne is Professor of Business Performance at Cranfield University, where he leads the Project Leadership Programme for senior civil servants. He is also Director of the Centre for Business

The Big Interview

Performance. Bourne says that a good deal has changed in the five years since the seventh edition of the APM BoK came out. This has required significant expansion to the scope of the work. "There is a chapter on AI [artificial intelligence] in there now, because I think AI could be a huge benefit to projects. A lot of what you do [as a project manager] is pulling together disparate pieces of information in order to form a view, and AI really can help with that," he says.

There is also new material on systems thinking (a discipline that seeks to understand systems holistically, rather than by breaking them down into their component parts) to reflect the increasingly complicated and multi-disciplinary nature of many modern projects. "If you are trying to make sense of large, complex systems where everything seems to be interconnected, a systems thinking view of the world can help you anticipate some of the change you might experience," he says.

As an example, Bourne cites a recent

project leadership workshop involving a group of public servants tasked with building more prisons to cope with the expanding prison population. "Systems thinking would be asking why people end up in prison in the first place and trying to work across departments to understand the link between things like education and mental health."

But despite the ever-accelerating pace of technological change, one of the most significant areas of expansion in the APM BoK is concerned with the human factor. "There is a lot more project leadership in there than there was, and that is very deliberate. Look at all the huge changes we've had - COVID-19, the war in Ukraine. A lot of projects these days don't stay on the rails because the world changes faster than the project can deliver. It's about dealing with a

"AI will change some jobs. In lower-level jobs around project controls, the admin is going to come out"

VUCA [volatile, uncertain, complex and ambiguous] world."

Success in such a world requires not only the traditional virtues of project management, such as scheduling and budgets, but also a greater emphasis on active and ongoing project leadership to make sure that what is actually being delivered remains relevant to changing needs and requirements.

"Much of project management is about process. There is a lot of process in the APM Body of Knowledge, things like

CV: PROF MIKE BOURNE

2024 Managing Editor, *APM Body* of Knowledge 8th edition 2015 – Director, Project Leadership Programme, Cranfield University 2006- Professor of Business Performance, Cranfield University 2004 - Director, Centre for Business Performance, Cranfield University **2000** Joined Cranfield University 1995-2000 Industrial Research Fellow, University of Cambridge; PhD, performance measurement 1993-1994 Commercial Director, WT Atkin 1990-1993 Managing Director, Kayplan Windows 1983 MBA, Aston University 1982 IT projects, Unilever 1979 BSc & BCom, engineering production and economics, University of Birmingham 1979 Management trainee,

scope creep and cost control. But when the world really changes, like it did in the pandemic, cost controls go out of the window and you have to start again by asking, 'What is it that we really want to do?' That's really about judgement, which is where leadership comes in."

Serck Group

The rise of AI will also change the balance of skills required by project managers in the future. "AI will change some jobs. In lower-level jobs around project controls, the admin is going to come out, which is what AI should do."

At the more senior level, however, the challenge will be how to manage AI as

well as people. Partly, that means helping overcome fears around the technology so that people work with it, rather than fight against it. "No one wants to be working for a computer, but you do want the computer to help you," he says. "We had a presentation by Amazon recently. What was interesting was that they were not using AI to answer customer questions directly, but to help the person who does by offering them suggestions."

One must also be realistic about the limitations and foibles of AI, some of which are surprisingly human. There have already been instances from the legal profession where AI has created 'fake law', making up fictitious precedents, some of which have made it as far as the courtroom before being discovered. Similar risks are likely to emerge within the project profession, he warns. "Is the data you are getting out of your AI system relevant, and do you really believe it? That's really tricky - project leaders are really going to have to keep their eyes on the ball."

The question of how seriously - or otherwise - project management is taken in the boardroom has been a hot topic in recent years. Bourne says that while the situation is improving, the level of "project mindedness" still varies enormously. "There are organisations where project management is [taken seriously] companies like BAE Systems, which says everything it does is a project, and Shell, which does huge projects all over the world and has some good rules like, if you are doing something new, don't do it at scale, trial it first. But there are still an awful lot of organisations where [project management] is not understood at all."

Although he has been at Cranfield

for nearly 25 years, Bourne's own career has been more varied than that length of tenure might suggest. Having studied production engineering at the University of Birmingham, his first job was as a management trainee for Serck Group. Subsequent roles spanned a wide range of disciplines, including IT, general management and even HR. A PhD in performance management from Cambridge in the 1990s led him to Cranfield, where the opportunity to work with top-flight organisations means that every day is still a school day, despite all



"When you are getting a project off the ground, people really want you to nail the cost down... That's not reality"

his experience. "We've had some brilliant clients, and the work with government in particular is absolutely fascinating - the quality of the work and with are both outstanding."

Why do so many major projects
(many of them government sponsored) quality of the work and the people I work

still go wrong? Sometimes it is down to the nature of the projects themselves - levels of complexity and risk that are either poorly understood or played down in order to secure funding or buy-in. "When you are getting a project off the ground, people really want you to nail the cost down, for example, with absolute certainty. That's not reality," he says.

But in the case of government projects in particular, politics adds an extra layer of challenge, namely "politicians and others interfering with a project, making decisions about going in another direction without understanding the consequences".

Straying into top-level politics may be beyond the remit of even the most

"Sometimes, when you start out, you don't know what you are trying to deliver, and sometimes you don't know how to deliver it"

ardent project professionals, but good project leaders still need to be attuned to political risks and manage their impact, Bourne says. Take the ill-starred UK national ID card programme of the early noughties, championed by the then Labour government. The project's leaders always appreciated that a change of government could torpedo the £4.5bn project and planned accordingly, says Bourne. So, when it was duly cancelled in 2010 by the newly formed coalition government, the scheme was able to be closed down quickly and its core technology transferred to the digital passport scheme - which did ultimately come to fruition and is in use today.

It's the need for this sort of

10-moves-ahead thinking – more usually associated with chess grand masters than project managers – that makes government project work so interesting, says Bourne. Indeed, his proudest professional achievement is the Project Leadership Programme and the 2,000 senior civil servants who have graduated from it in the past decade or so. "We're building a cohort of people who are changing the culture of projects in government," he says.

As our interview draws to an end, Bourne gives me two big overall messages for project professionals. The first is that people are as important as process - indeed, they are the process to some degree. "You need good people with the right values, and you need to lead them well. Some of the best project controls are people - people whom you trust, who are doing the right things in the right places."

The second is to realise the limits of certainty. "People tend to think that projects are certain - they are not. Sometimes, when you start out, you don't know what you are trying to deliver, and sometimes you don't know how to deliver it. Letting go of the idea of certainty and embracing ambiguity, that's got to be where the profession goes."

FROM FARM TO FORK

Food is the most important industry on the planet.
But its very nature makes applying structured project management incredibly difficult – right at a time when the need to integrate new ideas is at its most acute, finds Richard Young

Vertical indoor farming, using sensors and AI for monitoring and optimisation, is one proposed solution in a world where arable land is shrinking. Right: Celebrity farmer Jeremy Clarkson





ay what you like about Jeremy Clarkson, but the Amazon series showcasing his trials and tribulations as a newbie Cotswold farmer has done a huge amount to highlight contemporary stresses in agriculture. Poor profitability, the challenge of incorporating new technology, the sheer unpredictability (of weather and consumers), the power of supermarkets (and the planning regime) - and that's before we even get to the viability of family farms, inheritance tax and the almighty mess of post-Brexit subsidies.

Many of the problems are global. According to the UN's Food and Agriculture Organization, more than 30% of the food produced globally each year is not consumed due to food loss and food waste. Every part of the supply chain - growing, harvesting, sorting, grading, processing, transportation, wholesale and retail - has its issues.

And according to a 2023 literature study sponsored by the International Fund for Agricultural Development, 'Exploring the Project Manager and Project Management in Agricultural Operations', in formal discussions of the sector, "there is no mention of the role of the project manager and very little of the use of methodologies, showing

a low level of maturity in terms of project management".

As one wholesaler put it in a report on profitability in the industry, a combination of a lack of formal project management, farms that are too small to maintain a management function and the sheer variability of conditions throughout the supply chain makes the situation incredibly hard to resolve. But there is innovation happening, and project management is crucial to it.

Worlds collide

It's not easy. "Farmers are being tasked with the impossible," says Diana Donovan, a Senior Consultant at PA Consulting. "We want them to feed us, feed the rest of the world, mitigate climate change and enhance biodiversity. They face a huge amount of regulation plus, for most of them, any serious risk they take on a new project could destroy their business."

New techniques, technologies and even strains of crops can be project managed in isolation on pilot farms, with the appropriate recompense in the event of project failure. Donovan's background has included helping to genetically engineer plants designed for resilience, nutrient content and efficient processing - projects that have traditionally been

> developed in these controlled ways (although, she adds, she did also work on growing crops in the International Space Station and conducting feasibility studies for lunar agriculture - read more on page 58).

"Drones and sensors have transformed precision farming," says Donovan, by way of example. But, for an individual farmer. they need to be tried and tested - and appropriate to local conditions so the change on their land is effectively an incremental shift in

business-as-usual. Even when the project has been well run in pilot, things can go wrong. "Not every farm is capable of supporting these kinds of change. Even something as simple as spotty 5G coverage can make it impossible to deploy new ideas."

In Donovan's current agri-projects – typically working with the R&D departments of large food businesses – stakeholder engagement is critical to project success. "Anything we do has to eventually trickle down to farms in India or Indonesia, so we have to start by finding out how they do things – and their willingness to adapt their approaches," she says. "Some will be resistant to change. But that's where the use of pilot farms and, actually, word of mouth from the impact they can see in pioneers can make a huge difference."

Beyond the fields

In UK farming, even the biggest companies, those most capable of undertaking innovation projects, have a tiny market share – and little ability to sustain margins and invest. Hugo Lynch, sustainability lead at Abel & Cole, points out that much of the agricultural industry works at maximum capacity, trying to eke out a living. "That makes new product development hard," he says. "There's little headroom for change. In a lot of cases, it's up to food retail to encourage new practices and to build a shared philosophy."

Downstream of the farm gate, then, the picture is very different. Food wholesale and retail are far more concentrated, and that creates room – and incentives – for projects that might shake things up.

Ocado Technology's Project Director Pete Lock says making significant gains in the efficiency and convenience of the supply chain offers a massive competitive advantage. "We call it 'changing the way the world shops' and we've already cut out swathes of waste that exists in other food supply chains," he explains. "For example, unlike most supermarkets, we don't have regional distribution centres that then supply stores. We have a customer fulfilment centre that farms supply to, and that's the final picking location before shipping directly to the

home. That's a much greener approach."

The keys to this project - as with Donovan's - are stakeholders and systems. For Donovan, it's about the attitudes of farmers in India or Indonesia. For Ocado, it's about real-time data from the supply chain (farms and food manufacturers) and consumers (placing orders) to optimise procurement, storage and delivery. "It means our purge level – what we have to discard - is incredibly low compared to supermarkets," says Lock.

"The main trigger for projects at Ocado is whether they can help deliver the most efficient systems, end-to-end," he stresses. "It's about removing friction, and that can include things like improving the range available to customers, or the UX, as well

as routing efficiency for deliveries." Ocado pioneered projects to use robotic picking – while the traditional supermarket model makes those levels of automation much more difficult to achieve.

"Grocery has very fine margins, and that drives projects to improve efficiency," adds Lock. "But at the same time, the quality of your picks has to hold up." That's harder with the many food products that need gentle handling. "So, projects have to deliver on a quality threshold first, then we target time saved – which is important, given shelf-life – accuracy and cost-effectiveness."

Projects in one part of Ocado's grocery business can drive benefits across its supply chain. Faster turnaround benefits customers – because food deliveries are fresher – but also reduces storage requirements within distribution. "And our projects also drive change in areas such as packaging,"

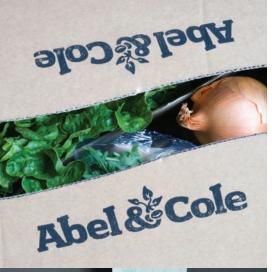


According to the UN, more than 30% of food produced globally each year is not consumed due to food loss and food waste

explains Lock. "Most retailers and suppliers have to think about shelf 'look', but online that's not so important. That's driving projects elsewhere in the supply chain around standardisation and removing unnecessary packaging."

Into the new

Is that kind of radical project, with widespread impact, impossible in farming itself? Not necessarily. San Francisco-based Zack Swafford is the co-founder of Dart, which is developing artificial intelligence (AI)





based project management tools (read more on page 47). After an AI master's at Stanford, his passion for project management emerged when he was Software Engineering Manager at Plenty - a company developing revolutionary approaches to indoor farming.

Swafford was an early hire for a business that started out with projects around hydroponic growing in shipping containers. "They were really a proof-of-concept - the output might supply a small restaurant with greens, for example," he explains. "But right from the outset it was clear that using sensors to monitor plants - and AI to optimise nutrition, light and watering - was pretty important."

As Plenty's facilities have scaled up, the project management focus has shifted. "The considerations when you're building a warehouse-scale vertical farm are very similar to a factory," says Swafford. "It's about optimising space, process,

"For most farmers, any serious risk they take on a new project could destroy their business"

workflows, worker and automated interventions - that's bread-and-butter project management in manufacturing. You think of plants as living things, but in many ways it's just like building a car on a production line. You're looking at a series of inputs, delivered in a strict process, with quality control and constant monitoring."

Agricultural science is still key to Plenty's growth – it has an office in Laramie, Wyoming, where there's a major 'ag science' research centre. "For the research folks running trials there, project management disciplines help ensure they're getting the right data and shifting the inputs to optimise taste and yield - and understanding what growing conditions drive them," says Swafford.

Joined-up thinking

Plenty's projects are designed to start a revolution - growing berries close to markets to minimise food miles and make output more predictable. That might seem a million miles from the organic principles of retailer Abel & Cole, but their projects have a lot in common.

Like Ocado, Abel & Cole's key stakeholders are food producers at one end and consumers at the other - which means projects have to consider both. And like Lock, Lynch stresses that "projects have to create efficiencies somewhere in the business".

"Waste is inevitable in the food industry; you'll always have spoilage," he says. "The key is minimisation. We have connections with charities to deal with surpluses, and then we back-haul waste as animal feed into the supply chain." Projects that can address the (wasteful) linear economics - where it's cheaper to ignore waste - in favour of circular approaches are particularly favoured. Abel & Cole was founded in the 1980s with both sustainability and farmer profitability in mind - and they both remain project drivers today.

One way to serve both is to engineer projects that make the connections throughout the food supply chain really clear. (That's also baked into Abel & Cole's DNA as 'provenance'.) Lynch is working on a project around refillable milk containers, which was driven by consumer desire for less waste packaging and relies on dairies that are able to process empties and return them to the inventory. Linking the different drivers is key to making these projects happen.

No room for error

Above everything sits the paramount importance of food. It makes lessons learned even more important than usual. "You have to consider ways to measure what you've changed, what the project's impact has been, and you can't just do that in one review," says Donovan. "There are seasonal changes and shifting weather patterns; plants and animals can react in unpredictable ways given very small circumstantial changes. You must consider the long term."

But project management in all parts of the food supply chain, and perhaps especially where it's been most elusive – in farming – could play a huge role in meeting the food industry's wider aims. It won't be easy. The 2023 paper makes no bones about it: "The institution of project management methodology involves cultural changes, skills acquisition and technical and managerial tools. These support the resolution of complex problems such as sustainable land management, climate change, rural resilience and the management of typical agribusiness stakeholders." (That sounds like the sort of language Clarkson would hate.)

Learning from the joined-up approaches of downstream organisations such as Ocado and Abel & Cole, or innovators such as Plenty, could be hugely valuable in farming. The variables can be scary – as Donovan says, rolling out a project to radically change the output of one crop also affects more than just your own operations. Get your radical project wrong – even for a year or two, and especially if you've rolled it out at scale – and people start to go hungry or get poorer. Those are stakes many project managers rarely have to consider.



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The world of video gaming has always had project management at its heart. With Grand Theft Auto VI launching this year, what can we learn from this wildly successful industry? Dave Waller reports



his autumn, get ready for chaos in the streets. Rogues will be stealing cars, blowing up houses and audaciously robbing safes. Expect trespassing, vandalism, joy riding, random manslaughter and violent assaults on police officers. Yes, after years of hype and anticipation, the latest instalment in the Grand Theft Auto (GTA) video game series is due for release. And with a global army of loyal fans, ample notoriety and innovative game play in the back seat, GTA 6 is set to land in the zeitgeist like a grenade lobbed casually from a speeding car.

The previous instalment in the franchise has made close to US\$10bn since its launch back in 2013. Now, some industry pundits expect GTA 6 to clear US\$1bn in sales - in its first 24 hours alone. And as this is the video game world, there are more jaw-dropping stats. According to a leak from GTA developer Rockstar Games, the budget for the latest instalment sits at US\$2bn. By comparison, the most expensive movie ever made, Star Wars: The Force Awakens, cost a 'mere' US\$533.2m.

No time for button bashing

The gaming sector as a whole has exploded, driven in part by the popularity of e-sports (live competitive gaming), free-to-play releases offering in-game purchases and licensing partnerships. Yet games are also a hugely uncertain commodity to produce. Creativity can clash hard with these commercial imperatives - and as games have become ever bigger and more complex, some studios have been found lacking.

"The games industry hasn't treated project management as seriously as it should have"





Take Ubisoft, home to the Assassin's Creed franchise and an established giant of the sector. Over the past five years, its stock has lost almost 84% of its value. The group is now reported to be planning to reduce its workforce by as much as 40% (with the loss of around 8,000 jobs). Among Ubisoft's problems? Poor project management, which has a knock-on effect on the gaming experience. In 2019, Ghost Recon: Breakpoint emerged riddled with

bugs, technical issues and poor game mechanics. Ubisoft has been criticised for failing to learn from such mistakes and for continuing to postpone or rush releases, seemingly favouring quantity over quality.

Other studios can blame poor project management for their similar fates. Smoking Car Productions developed The Last Express for release in 1997, but development was so fraught that the game would have had to become one





UMBERS

\$2bn

budget to develop the upcoming Grand Theft Auto VI (compared with \$533.2m for Star Wars: The Force Awakens, the most expensive movie ever made)

\$10bn

in sales since 2013 for the series' fifth instalment

\$100

estimated retail cost



of the top sellers of all time just to break even. Nearly 30 years on, as sprawling blockbuster games like GTA 6 have become so much more difficult

and expensive to produce, project management has become even more important for ensuring those costs and timelines don't escalate.

"The games industry hasn't treated project management as seriously as it should have," says Gabriel Vanegas Kobets, a Moscow-based project manager whose experience spans construction, real estate and games. "And there aren't enough project professionals within the industry. So, the studios are trying to improve skills internally, as well as trying to hire people from other industries."

In 2024, Vanegas Kobets project managed and released an indie game,

"Someone said they're going to spend two days 'rigging'. Excuse me, what's rigging?"

Crush Link TD. This indie effort was a far cry from the games developed by giants like Rockstar and Ubisoft - he led a team of 11 from a student project into the professional game sphere – but his experience reveals a key challenge that faces any project manager who does end up working for the big studios: the need to understand all the different pipelines involved in the development of a single game.

"We had sound designers, visual artists, a 3D artist and modeller, plus a Unity developer coding the game," he says. "It was a big challenge to understand how the pipeline of each flow worked. And each niche has its own vocabulary you need to learn. Someone said they're going to spend two days 'rigging'. Excuse me, what's rigging? How long is enough for rigging? How long is too long? That happens with every team member at every step. It's an obstacle."

Pro or noob?

So, how does project management work in a major games studio? That's a hard code to crack. Games are a cloak-and-dagger world, famously protected by non-disclosure agreements - with studios clearly risking potentially fatal losses if rivals manage to unearth



their production secrets. But, in 2022, Rick Heeren, a project manager and scrum master in the Netherlands, published a master's thesis

that managed to get under the bonnet of project management in these games giants, based on anonymous interviews with studio professionals.

Heeren found a couple of drivers that influence the choice of project management approach in games development that will be common to many other projects: business value and managing stakeholder expectations. But there was a third factor that may be more unique: facilitating creativity.

"This is far more extensive and prevalent in games than in other sectors, and it's what makes managing game projects so different," says Heeren. "It's also the reason there are hundreds of different approaches to project management in games.

"In a field like IT, you have certain standards, such as the SAFE framework. But, while most game studios will tell you they're working according to scrum, you quickly find out they've taken the principles and changed them a lot. And because these companies don't really talk to each other about their way of working, there is no consensus across the games industry."

Facilitating that creativity demands long pre-production on games to iterate as many ideas and features as possible, in an agile manner, before committing further manpower and resources. The key here is the public testing that games undergo. As the development process often can't move forward until a game has been deemed worthy by its test audience, those processes can be held up, with a higher risk of projects going over budget.

"The game is dependent on people's perception," says Heeren. "You have to dedicate time for people to prototype and try out different things, to see where the fun is. Sure, you can time-box that to mitigate going over budget. But what if your user feedback says it's still not fun at all? You can't move on. You have to keep

prototyping and keep changing stuff until it is. There's no certainty."

One thing that is certain is that GTA 6 will dominate the cultural landscape when it finally drops this autumn. Other studios will be holding their games back until the carnage has cleared.

And if recent trends are anything to go by, the impact is sure to spread to other forms of culture. E-sports is already shaking up how traditional sports are broadcast (see box). Meanwhile, blockbuster games are having an undeniable influence on narrative-based entertainment. The Last of Us, the smash Netflix zombie series, scooped several Emmys and Golden Globes when it made the transition from games to TV. Assassin's Creed and Super Mario Bros have successfully travelled the same road.

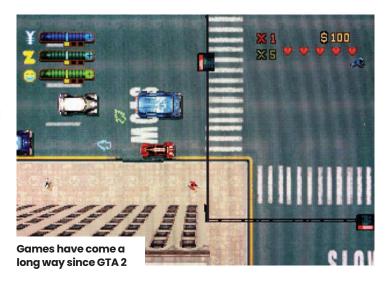
Time to level up

And just as the games industry is showing other cultural heavyweights the way forward, its project managers have plenty to show their peers in other industries, too. At a time when widespread uncertainty and crushing budgetary pressure apply across the board, companies of all kinds would do well to borrow the iterative, agile approach that games take in pre-production - experimenting and failing before committing, staying close to end users and being ready to return to the drawing board if things go south.

Project managers in games also have to learn to manage the expectations of team members who've become deeply attached to creative ideas that end up being shelved – as well as morale and motivation during potentially long development periods, where the relevance of the specific work the team is doing is easily lost in the scale of the project.

Yet, as the Ubisoft example shows, even the big studios can't necessarily

"Game development pipelines will be adjusted according to the new possibilities that AI brings"



bank on tried-and-tested methods these days. For example, it may soon be harder to sell those blockbuster games. While the exact release details of GTA 6 remain unknown, commentators online have spread rumours that it will have to retail for as high as US\$100 (the standard for most major – or AAA – games since 2020 has been US\$70). When do games simply become too expensive? Many gamers are already trending towards smaller games that require a lesser time commitment and cost far less, too.

And there's another feature that project managers in gaming are facing: the continued rise of artificial intelligence (AI), which means changing pipelines and potentially working with smaller teams.

"In old open-world games like The Elder Scrolls III, everything, from mountains and jungles to cities, was built

by developers," says Vanegas Kobets. "Today, there are special applications that use AI to do it all for you. All those game development pipelines will be adjusted according to the new possibilities that AI brings."

Beyond the games sector, some project managers may view AI as an end-of-level baddie to be feared and battled. For others, it will surely serve as an indispensable 'power up', helping on their project management quest. And there's one more lesson to

take from the game before we put the controller down: if an industry as uncertain as gaming can generate such compelling revenues, then surely the project hurdles you're currently puzzling away at can indeed be vanquished.





In 2018, the University of Staffordshire became the first UK university to offer a degree in e-sports: the field of competitive video gaming, where professionals and teams face off in everything from Fortnite to League of Legends. It's another massive business: according to a report by Market.us, the global market was predicted to reach a valuation of nearly US\$2.4bn by the end of last year - and nearly US\$11bn by 2032.

Thousands of fans now turn up to live gaming events to cheer on their favourite teams and players; others prefer to stay home and stream the contests online. Indeed, in the years that Staffordshire spent iterating its provision, e-sports evolved in another critical way: it became a key driver for multi-camera live broadcast technology. Innovations developed to stream games events are frequently adopted at the football World Cup and major tournaments in golf and tennis.

The team at Staffordshire embarked on a project to unlock the real e-sports opportunity: creating a cutting-edge, high-end broadcast facility.

"E-sports learning is as vocational as it gets," says Richard Mortimer, Technical Services Manager at the University of Staffordshire. "Having been exposed to the latest broadcast technology, students can switch seamlessly to crew more traditional events. They could become an Event-Based Vision Sensor operator at the next World Cup, creating replays, graphics and highlights for the matches, and earning an absolute fortune."

Mortimer recalls how, to build the facility, his team chose to turn the typical project management approach on its head and lead with the technology, not the building. The university's broadcast technology partner, Digital Garage, became the key contractor, able to tailor the spaces specifically to its new solutions. And subcontracting other



elements left more money to invest in the technology.

Mortimer's key task was to establish trust and buy-in. This wasn't necessarily straightforward: the desired equipment would cost up to £70,000 per piece. "There was trepidation from some areas," says Mortimer. "Initially, people viewed these very expensive boxes as boys with their toys. Everyone had to take a leap of faith that the project would be judged on its technology."

The new facility opened at the end of April 2024 and is set to be worth £2.7m to the university. It features a live arena for competitive gameplay, with its own high-end casting station for in-game commentary and extra analysis. "I've been at the university for over 20 years, and this is the first time we've had a genuinely commercially viable set of facilities," says Mortimer. "We're now a Kairos Academy, where Panasonic can train individuals on its production technology. Digital Garage is using our facilities for training too.

"We are equipping students for industry. Unfortunately, student recruitment for the next 12 months is expected to fall across the whole sector. So, this kind of commercial activity is very important too."

AN AI APPROACH TO PROJECTS

PRAISED FOR ITS INNOVATION, THE INTELLIGENT PROJECT PREDICTION INITIATIVE - A COLLABORATION BETWEEN MIGSO-PCUBED, GREYFLY.AI AND DHL - WON TWO APM AWARDS IN 2024. DAVE WALLER DELVES INTO WHAT MADE THE CUTTING-EDGE PROJECT SUCH A SUCCESS

James Martin-Young, Head of Digital and Data at MIGSO-PCUBED, is relatively new to the world of artificial intelligence (AI) – 18 months at the time of writing - but he's already convinced of its vast potential for revolutionising project efficiency and effectiveness.

"There's so much opportunity for AI to enhance the profession, it's difficult to know where to start," he says. "First, AI can enhance the use of data to predict outcomes. Second, generative AI and large language models will ultimately enable us to automate many lower-value tasks. This will enable project professionals to focus on higher-value thinking

and may revolutionise how projects engage with their stakeholders and the organisations around them."

Closing the gap between plan and delivery

Martin-Young's Al journey began in 2023, when DHL Supply Chain (UK) decided it was time to rethink its approach to project management, as it was struggling to deliver its projects on time and to budget. The logistics firm asked MIGSO-PCUBED to form and lead a team of data and project specialists tasked with finding ways to reduce the gap between DHL's plans and final delivery.

In 2024, the project went on to scoop both the APM Technology Project of the Year Award and the APM Innovation in Project Management Award – and it was able to demonstrate the potential value of AI to the project profession along the way.

The tool of choice: the Intelligent Project Prediction (IPP) platform, which uses advanced analytics and machine learning to identify underlying drivers of a project's success, predict its outcomes and improve strategic risk management

accelerate performance

at risk and highlight areas for improvement, you can reduce the risk of schedule and budget

James Martin-Young





over-runs," says Martin-Young. "Meanwhile, driving more mature project data gives project teams the insights to make better calls.

"We definitely see this becoming part of the digital PMO [project management office, providing a prediction service back to project executives, so they can use those insights to accelerate project performance across the portfolio. It can also help them harness wider data points that deliver project success - for example, bringing in greater data around benefits realisation and sustainability."

The DHL project involved building a single integrated team that shared common goals and processes. PCUBED's delivery manager and experienced data, technical and change experts worked alongside representatives from DHL's PMO and project wings. PCUBED also partnered with AI and project portfolio management specialist greyfly.ai.

Data and people challenges

Their first task was to share their knowledge and experience of Al's project portfolio management

"It can help project executives harness wider data points that deliver project success"

capabilities and to build a common framework.

There were challenges. The first lay in the quality of the available data, which was initially too low to drive the necessary Al machine learning or algorithm

"We had a brilliant sponsor who was able to help guide other senior stakeholders through the ambiguity"

training. The second was more traditional, and arguably more difficult to overcome: buy-in at DHL would be critical, yet many there were sceptical of Al's ability to be accurate in forecasting project outcomes and identifying drivers.

"Owners of an existing process, who may have 30 years of delivery experience, were being asked to change," says Martin-Young, "not because of a specific issue, but because an Al platform was saying it would be beneficial. We needed to convince them that their project may be at risk and that they simply weren't able to see the patterns."

Martin-Young is quick to point out that, despite initial hesitancy, DHL "was ultimately one of the key reasons the project succeeded".

"We had a brilliant sponsor who was able to help guide other senior stakeholders through the ambiguity and help us shape what was required to satisfy their needs," he says. The project was also helped by deploying a "brilliant" Al change management framework, developed by the PCUBED team to help accelerate the adoption.

Overcoming resistance

Firm but gentle communication helped to overcome any lingering resistance. Martin-Young's team made sure they were transparent about the changes, how the conclusions were reached and, critically, how they could help DHL to harness this potentially powerful data.

The project delivery team also held regular meetings with core representatives of the wider DHL project management community to ensure they understood the approach and its rationale, and to

HOW TO BUILD AI INTO YOUR PROJECTS

Greyfly.ai partnered with PCUBED to support DHL's work with the Intelligent Project Prediction platform. Here, Lloyd Skinner, greyfly.ai's CEO and founder, shares five key lessons of Al adoption highlighted by the project.



DATA QUALITY IS EVERYTHING

If you want reliable AI predictions, you need to put data quality at the heart of the solution. At the start of the DHL project, data quality had to be improved. Driving those improvements took relentless focus and collaboration with project executives and the PMO.

CHANGE
MANAGEMENT
IS CRITICAL FOR
AI ADOPTION
Al introduces a new data-led
way of working, and with
that comes scepticism.
We learned that AI
adoption isn't just about
the tool; it's about helping
people trust the outputs.
Directed communication,

transparency and tailored

solution design were key

to embedding insights into

decision-making processes.

training reinforced by

secure that critical buy-in. They did the same with many of DHL's senior leaders, including representatives of its delivery, finance, operations and IT teams. These meetings were held at a regular cadence to ensure a wider understanding both of specific progress and the broader potential benefits of AI.

Impressive results

In terms of delivery, the team followed a core six-step life cycle

"Owners of an existing process, who may have 30 years of experience, were being asked to change" that included focusing on data discovery; building and configuring the infrastructure; handover and review; and offering support.

This was followed by activities to understand the new insights, identify appropriate interventions and finally deploy them.

Those initial interventions were shaped by assessments of the project's existing standards of data and focused on supplying the Al model exclusively with data that was high quality. When it was fully trained and providing quality project predictions, they concentrated on aligning delivery to budgets and reducing cost and time over-runs.

The project lasted 18 months and was completed in January 2024. While no minimum requirements or specific outcomes



"Taking opportunities when they come has always stood me in good stead, and this is no different"

had been specified for the project, it doesn't take computer hyper-intelligence to process the benefits. The level of data assessed as "poor quality" dropped from 78% to just 9%. Forecasting of a project's overspend reached 95% at This information helped the reduce the proportion of post exceeding budgetary target average budgetary overspend dropped from 74% to 33%. overspend reached 95% accuracy. This information helped the team reduce the proportion of projects exceeding budgetary targets from 33% to a mere 6%. Meanwhile, the average budgetary overspend

There were other knock-on improvements. Reports got better, as did the clarity of communication. Decision-making became more confident and focused. And, as continuous improvement is baked into the process - with the outcomes of focused interventions, and the value of the change feedback loop, monitored on an ongoing basis – the culture within DHL became more open to further Al initiatives.

Getting a buzz

"Taking opportunities when they come has always stood me in good stead, and this is no different," says Martin-Young. "I'm loving being at the forefront of this wave, even if sometimes I have to influence others to join me on the journey.

We really have made a difference, and I'm proud to have played a small part. I believe the next phase of the IPP project at DHL will continue to push the boundaries of what AI can do to improve project outcomes. We're on to a step change in the way data is used in the project profession."

The APM judges praised IPP as "technically innovative and impressive" and a "fascinating project and a view to the future of project management's use of Al in performance prediction". As for being named Technology Project of the Year, Martin-Young says, "The recognition is great, especially among such stiff competition. I'm just pleased that the hard work put in by everyone around the table has been recognised as a success."





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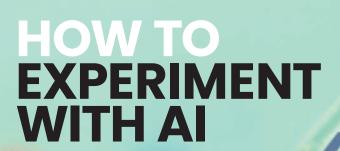
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PEERTOPEER



IT'S NOT TOO LATE TO GET YOUR TEETH INTO ARTIFICIAL **INTELLIGENCE, BUT TAKE A** THOUGHTFUL APPROACH AND YOU'LL LEARN WHAT **WORKS BEST FOR YOU,** WRITES ZACK SWAFFORD

t this point, all of us have probably heard something about the latest advances in artificial intelligence (AI) and its newest incarnations like ChatGPT. In tech circles, we say that the latest wave of AI began in 2012 and was kicked into overdrive at the end of 2022 with the launch of ChatGPT and the subsequent launch of other large language models (LLMs) like Microsoft Copilot, Claude and Gemini.

Although AI technologies have been academically interesting for more than 50 years and have been succession been successin been succession been succession been succession been succession been successfully applied to solve real problems in business

really LLMs that I am most excited about and believe hold the most promise. I studied AI at Stanford University just a few years before LLMs came into vogue and I'm sad to say that a lot of my knowledge feels obsolete because the field is moving so fast. So, I'll focus on LLMs here because they are the newest AI technology and, more importantly, hold the most promise for project management.

Where should you start?

Now, we get to how to experiment with AI. The short answer is that you should just do it. It doesn't matter exactly how you begin your journey into using an

important new tool, or how you first start to wrap your mind around a paradigm shift. What matters is that you start the journey somewhere and that you iterate and keep trying as time goes on.

That said, for project professionals, the best place to get started is with ChatGPT (which, I'm told, people much hipper than I sometimes just call 'chat'; this can be used as a noun or as a verb, instead of 'google', for example). Experimenting with Claude, Microsoft Copilot or Gemini is also great, but if you're going to try just one, ChatGPT is the place to start. It is the most

popular and generally the most advanced. If your organisation or situation allows you to, you can upload documents or images of all kinds to ChatGPT; otherwise, you can just ask generic questions or describe your situation without giving details.

When using a search engine like Google, your goal is often to make your query as generic as possible to match other queries. When using an LLM, your goal should be to provide as much specific information or context as possible. As a concrete example, I have a snippet that I always copy and paste into ChatGPT before writing the rest of my chat: "I am working on a SaaS app called Dart, which does project management using Al." Then, I write the rest of my question, which can range from general to very strategic.

Here are some common queries and use patterns that I've compiled from talking with hundreds of project managers about how they

- Brainstorm some solutions to a particular problem my users or customers are having.
- Summarise this product feedback.
- Write a spec for this project based on these user stories.
- Break down this project spec into manageable chunks.
- Prioritise, organise, group or categorise this work.
- Advise me on how to

Al's emergence bears more resemblance to the rise of the internet or industrial revolution

communicate with and manage this stakeholder, including with role play.

 Anticipate objections to this proposal so I can be prepared when they come up.

View it as an investment in your skill set

As you can see, there are many ways to use an LLM and they span the entire project life cycle. Many of these might require you to copy and paste or rewrite details from other places into the chat, but don't stress too much about formatting. If you've never seriously tried using an LLM before to help with your standard work functions, this might seem a bit weird, but think of trying this out as an investment in skills that will become necessary over years to come. When you get a result that you want to share with others, think of the AI output as a first draft and be sure to proofread it for inaccuracies.

If you get a result from ChatGPT and find yourself thinking, 'Well, this is a good generic answer, but it is not very relevant to my particular situation because it is missing context from my organisation', this is common but

also easily solvable. Simply find a way to give the LLM more context. Consider what resources you would give an employee joining your team who was similarly still getting up to speed. You can talk them through where they went wrong or, if possible, provide some documentation so that you don't have to spell all of it out.

Any of this is possible with an LLM. Provide your onboarding documentation (for your organisation or project) and the LLM will have context to the extent that it is written down. If documentation is lacking or you prefer verbal communication, you still have an option: try ChatGPT voice or video chat and just talk it out.

Time to go deeper?

Once you have spent some time getting acquainted with the power of LLMs, there are a few ways to go deeper and use more 'tailor-fit' tools. One option is to use features built into your LLM of choice to help it retain context about you. In ChatGPT, you can make a custom GPT; in Claude, you can make a project; and other tools have similar features. The underlying idea is to save context so that the Al can access what it needs to know and you don't have to remind it of details about your work every time you start a new conversation.

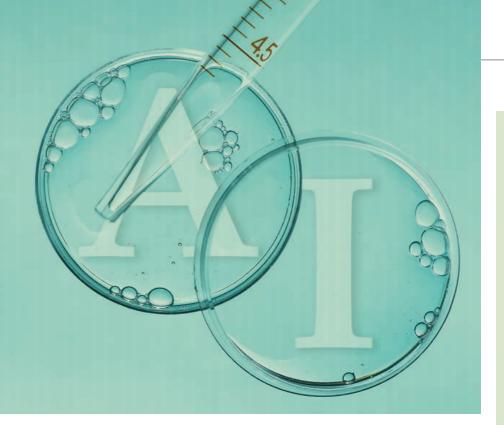
One way I have seen this employed successfully by project managers I've worked with is to provide all of the documentation about a given project, or portfolio of projects, and then directly converse with the now fully context-aware LLM. Knowing your project portfolio will obviously improve the LLM's answers to both detail-based questions ('For this next milestone, what is the most likely thing to slip?') and higher-level ones ('How can I ensure the success of this project?'), because it draws from historical source information.

In addition to the new tools we've discussed, it's entirely possible that the project management software that your

Why experimenting with AI is worth your time

LLMs are not like overhyped technologies of the past decade. They can already save you time on writing plans, de-risk your projects by anticipating problems, pick up on patterns in your customer data and more – and they are getting more powerful by the day. Let me make what might seem like a dramatic comparison: Al's emergence bears more resemblance to the rise of the internet or the industrial revolution.

Unlike virtual reality, these historical paradigm shifts (eventually) touched project management in very profound ways. When something as important as the internet comes along, we will all be dragged along with it eventually. Career and business advancement accrue to those at the cutting edge.



organisation already uses has some built-in AI functionality. Tools like Jira, Asana and others have moved gradually in the direction of adding more LLM-enabled features. If you use Excel to plan projects (I'm sorry about that), you can use Copilot there and, in general, it is worth checking any tool for built-in AI capabilities. Personally, I have not been as impressed with these add-on offerings compared to tailor-fit tools or just directly using ChatGPT, but they will probably keep getting better. If Al is at all like previous technological revolutions, new tools and products will spring up and the pre-existing ones will struggle to keep pace because they are not native to the new paradigm.

Leaders need hands-on experience too

If you are a leader in your business, you may see some of the tactical tips above and notice that they do not map neatly onto your day-to-day workflows. However, you're not off the hook from staying up-to-date on what LLMs can do in general and for your business in particular. You can't lead your organisation through a revolution like the advent of the internet just like the duverness. It is by reading one article about it.

Do what you can to foster experimentation and innovation in this area

What you need instead is hands-on experience, using AI to build an intuition for the kinds of things it is and isn't good for, so that you can hire, delegate and plan around how the paradigm shift will change your work. In addition, do what you can to foster experimentation and innovation in this area. Provide employees with the means to experiment and the platform to share their findings with their peers. A hallmark of the most future-proof organisations that we've worked with is a system for widely sharing results of successful Al experimentation. Be prepared for LLMs to fundamentally change project management!

There are a lot of interesting upcoming tools, such as more autonomous programs called agents, that will keep the field moving forward quickly. These are very powerful technologies that will save you time and help you do better work, and I encourage you to start using them as soon as you can. Good luck!

What about security?

I do not advise you to paste your organisation's secrets into any thirdparty application without authorisation. Depending on how secret your work is, how much context is required and how well documented that context is, it is frequently possible and safe to provide an LLM with all the context needed. If that's not possible by default, there are still a variety of options.

One is just to chat about generic topics - those which you would be comfortable discussing with a project professional at a different organisation. You might not be able to discuss specifics, because there are too many details, including confidential ones, to bring them up to speed on. But you could still generically talk through snags having to do with stakeholder management, the best way to present your findings and ideas, how to handle different types of requests, new ways to accelerate a project when you have run out of ideas, etc.

Another way to address LLM security is at a high level. It is now possible to get enterprise contracts that give you all of the same guarantees as your most trusted work applications, and which stipulate the AI will not use your data to train. If you or your organisation sort this out properly, giving ChatGPT your files is just as secure as using a new cloud service provider to store or move those files.

Zack Swafford is a founder of Dart, a project management software tool powered by AI. You can hear Zack discussing the latest developments in AI on a recent episode of APM Podcast.



Shell's second dairy-to-renewable

natural gas (RNG) project, Bovarius, is part of a programme to build a new, sustainable and circular business. RNG has a lower life-cycle carbon intensity than traditional natural gas, and its life cycle creates a circular economy while reducing harmful emissions in dairy farm operations. The Bovarius project was completed ahead of schedule, under budget and with excellent safety, while exceeding production plans. The team's efforts helped the project exceed its goals and demonstrated that innovation and collaboration are key to developing the business models, and to producing the fuels, of the future.

A team of Shell project and engineering professionals have been working diligently to make the energy transition a reality. In 2017, Shell began a journey to bring low-carbon RNG to the marketplace. To supply this product, the North American RNG business development team and Bovarius project team had to develop new relationships with local farmers, associations and governments in rural areas. Many opportunities were evaluated to build new, or modify existing, assets to produce RNG, and the business development team saw an opportunity to take of programme approach. RNG, and the business development team saw an opportunity to take a

The 910 Programme was thus created and contains, to date, three greenfield dairy-to-RNG projects in the US that have received final investment decision approvals. Each seeks to convert dairy manure to RNG. Each RNG plant consists of digesters and gas upgrading equipment and is located next to an existing dairy. The 910 Programme developed projects with similar design and input from the same developer partner, and each RNG plant is co-located with some of the largest milk-producing US dairies.

Bovarius is the second project in the 910 Programme and is located in Idaho's Magic Valley. The dairy that supplies Bovarius is home to 31,000 cows and produces nearly 320,000kg of milk per day. Manure from 17,000 milking cows is collected by the dairy and pumped into the RNG plant instead of being pumped into open-air lagoons. It is then mixed in two large concrete digester tanks. Each tank is 50m x 100m x 6.7m, holding nearly 19 million litres of manure – equivalent to 15 Olympic swimming pools.

As the micro-organisms in the manure continue to break down the waste, gas is produced and captured. The gas is cleaned up to remove sulphur and CO₂, which results in biomethane that is compressed and sold into a natural gas pipeline. The solid by-product from the digester is then returned to the dairy for partial moisture removal and is used as fibre to bed the cows. Liquid effluent is then further centrifuged and is stored by the dairy for land application as fertiliser in the irrigation process.

Bovarius has the capacity to deliver 375,000 MMBtu (million British

Manure from 17,000 milking cows is collected and pumped into the RNG plant instead of open-air lagoons

thermal units) of RNG per year. The RNG produced displaces diesel fuel in heavy haul trucks (around nine million litres per year), and the process to create it avoids about 4,000 metric tonnes of methane emissions annually from the dairy operations. In addition to reducing the greenhouse gas emissions from the dairy farm, the project will also benefit the local community with improved air quality.

Energy transition challenges

Bovarius faced many challenges throughout the project life cycle. Nearly all construction contractors and subcontractors were new to Shell. Working relationships, commercial terms, process knowledge and safety expectations were new to almost all contractors.

While other RNG facilities exist, some design elements, technology components and scale complexity are novel in the industry. Collaborating closely with key package vendors was critical to successful delivery and improved vendor performance. Close working relationships resulted in faster receipt of key data, effective management of late changes and leveraging spare parts across the 910 Programme to address problems during commissioning and start-up.

The project team also learned that suppliers in North America were new to the RNG space or new to RNG application, ultimately leading to many late design changes or defects revealed in the field during construction. The team experienced issues in design integration, minimal vendor start-up experience and lack of understanding of process safety risk and transient operational modes. The owner's team had to build strong partnerships with suppliers and third-party operators to successfully plan and start up.

Innovation/lessons learned

Despite the challenges and novelty faced in the RNG industry, project management fundamentals stayed

the same. The project team worked diligently to apply these principles. Project staffing was structured to maximise learning and knowledge transfer. RNG projects were staffed individually at the management level to manage aggressive engineering and construction schedules that had many overlaps in timeline from one project to another. This was successfully balanced with maintaining key roles across the programme so that improvements were implemented effectively and quickly. The key programme owners' roles included engineering manager, construction manager, contracts and procurement manager and discipline engineer.

Diversity, equity and inclusion were built into the project leadership team. Leaders with diverse cultural, educational and work backgrounds were brought together to execute this project. To help grow a 'one team' culture across the project, leadership started with shared values to ensure all working on the project could bring their ideas, perspectives and experience to the group. This collaborative culture worked by listening, discussing, reaching agreement and then moving forward.

Bovarius also benefited from diversity of thought and experiences from working in a new industry. Our dairy partner and our RNG operator partner brought different approaches and solutions that would not have been considered otherwise. One example is using alternative materials and equipment suppliers that were suitable for non-hazardous agricultural services. Our partners challenged the team to not over-specify to conservative oil and gas standards for lower-risk portions of the process.

The Shell project leaders also worked with contractors to establish a strong focus on safety and care for people. Most of the construction contractors had typically worked on agriculture-related projects and weren't used to the

owner's team demonstrating a commitment to safety and care for workers. The project team utilised a variety of recognition programmes with the construction and commissioning crews: crew of the month, performance awards, safety milestone celebrations, craft representation in site safety committee, climate-controlled bathrooms and lunch area. and presence of site HSSE and Shell leadership.

Going for gold

An innovative step in project management methodologies was creating gold medal targets (GMTs), or stretch goals, with an associated GMT team to drive project performance across all internal groups. The GMT team included decision-makers in key facets of the project - RNG business manager, facilities manager, operations readiness lead and project manager. This team had a daily meeting cadence and clear division of responsibilities, created a clear escalation path for all project personnel, and reported to all Shell stakeholders at agreed, appropriate frequencies. The channel for quick escalation and decision-making was

RNG projects were staffed individually at the management level to manage aggressive schedules

critical to the success of the project. The GMTs were successful during commissioning and start-up (CSU), a time with many interfaces between teams, because they aligned the team on clear, common goals.

Beyond traditional construction and CSU meetings, the one-team mindset was bolstered by utilising scrum teams. Use of daily scrum meetings encouraged timely escalations with prioritised decision-making and resolutions. One example of using scrum to

adapt quickly was when, after having construction challenges with the concrete digesters on Project 1 in the 910 Programme, the digester design was reviewed and changes to rebar spacing and concrete thickness were implemented via scrum meetings. This effort resulted in an easier and safer construction plan for Bovarius.

With Bovarius being part of a new business for Shell, in a new region, the lessons learned were plentiful. Across the 910 Programme, the project managers, project engineers and engineering managers found innovative ways to meet project challenges, including weekly lessons learned discussions on the issues giving them current problems. This allowed real-time learnings to be shared, unfiltered and with full context from the people working through those issues. This enabled Bovarius to get ahead of risk and issues as they materialised on Project 1.

Outcomes and benefits

Bovarius produces low-carbon RNG, which contributes to Shell's Powering Progress strategy to provide more energy with fewer emissions. In addition to providing a fuel emitting only biogenic CO₂ when combusted, the production process of RNG also helps avoid emissions of methane, which is a strong greenhouse gas with a 28 times higher impact on global warming than CO₂, that would otherwise be released from the dairy manure storage system. The project provides economic value both to the local community and to Shell while building renewables experience and expertise.

For our dairy partners, greenhouse gas emissions are greatly reduced over the long term. Additionally, all of this has been achieved while focusing on safety. The project's safety culture has brought improved safety awareness to our dairy partner, construction contractors and third-party operators.



The project avoided the use of 38 million litres of fresh water for leak testing digesters by using dairy 'waste' water instead

Two large concrete digester tanks being constructed as part of the Bovarius project

Bovarius can be a model to the agricultural industry and to our contractors, showing that work can be accomplished safely. Per the US Bureau of Labor Statistics, the average recordable incident rate on dairy farms is 4.1 per 200,000 work hours. Bovarius delivered 474,000 safe work hours with zero recordable injuries - all while working with new suppliers, new contractors and new third-party operators in a new location and facing many challenges.

Bovarius was executed with sustainability in mind. For example, the project avoided the use of 38 million litres of fresh water for leak testing digesters by using dairy 'waste' water instead. It also delivered circular, environmentally friendly by-products such as fibre bedding for the cows and liquid fertiliser that is applied to local crop fields. The site is in a semi-arid climate that requires high fresh-water use to maintain the animals and irrigate crops, so water conservation was important to the community.

Among the Shell team, skills and knowledge growth has been rapid. The team gained experience in greenfield projects in a new region for Shell, with new contractor bases, local utility companies, new commercial partners (and

co-location on their property, making stakeholder management even more crucial) and with technology new to Shell. The team gained exposure to many facets of external stakeholder and regulatory engagements compared to traditional megaprojects, where this work would be specialised.

Team members also gained experience of successfully executing energy transition projects, where adaptability, a learner mindset and the ability to leverage and implement learnings quickly are critical to success. The Bovarius team also honed their skills in rigorously evaluating and documenting critical decisions through Shell's Decision Quality framework.

Bovarius's strong delivery is a product of the learnings and teamwork across the programme. From learnings to leveraging key decisions, the team acted as a programme management office when one was not set up.



Jenn Yao is Facilities **Engineering** Team Lead, Low Carbon Solutions, at Shell

The project's success is also tied to replicating design between Bovarius and Project 3. Equipment parts that weren't working could be borrowed from Project 3 to stay on track for CSU. Learnings from Project 1 ensured that CSU plans for Bovarius were credible and were adiusted as needed. Bovarius was the first RNG project to meet its production promise. The production ramp-up has met or exceeded the agreed business plan, which emphasises the great strides made in credibly building a new business and delivering a successful, high-quality, operational facility.

The successful completion of Bovarius has further attested to Shell that its employees can learn quickly and deliver strong performance in the low carbon solutions space. The Bovarius team implemented innovative approaches and mindsets to overcome each challenge. Success is reflected in Bovarius's 'first gas' milestone being achieved ahead of schedule and under budget, while exceeding production promises for the first time in the business – all while delivering the entire project from start to finish with zero injuries.

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IT'S ICONIC

DAVE WALLER FINDS OUT HOW A 2024 APM AWARD WINNER PUNCHES ABOVE ITS WEIGHT

Think of the construction industry

and you may picture vast entities like Balfour Beatty and Kier Group, using their ample muscle and machinery to get things built and expand their sprawling portfolios. Iconic Project Management, winner of the 2024 APM Small to Medium Enterprise of the Year Award, shows that it's perfectly possible to stand alongside the big guns in this competitive sector, steel toe to steel toe, despite having far fewer boots on the ground.

In fact, the Iconic team, which offers construction project management services to a range of commercial clients, numbers only seven.

Living up to their word

"The overwhelming majority of our work comes from personal recommendation," says Lizzie Hewitt, who co-founded Iconic in 2018 with her husband Darren. "We always do what we say we're going to do, and we don't make promises we can't keep," she explains. "We go as far as guaranteeing to deliver construction projects on time, on budget and on brief."

The foundations of the business appear even more solid when you add in the fact that they're determined to always pay suppliers on time, to treat clients with respect and to remain transparent in everything they do.

In the last 12 months, Iconic has completed client-side project management roles for two major works: the £17m runway extension at Southampton Airport and the £11m Castle Bailey Quad development for the University of Oxford. Both are now operational.

It's not all about the projects

Iconic puts great thought into how it treats its people, with a focus on developing and supporting project managers. The aim is for those managers to spend only 80% of their time delivering projects, freeing 20% for personal and professional development, managing direct reports and working on innovation.

"We always do what we say we're going to do, and we don't make promises we can't keep"



Line managers are encouraged to identify people's interests and talents beyond their day jobs and find ways to apply them. Hewitt gives the example of an apprentice project manager who likes graphic design. She now handles Iconic's visuals. "I make it my business to spend time with every employee, learning what's important to them and working to make sure company goals and personal interests are in harmony," says Hewitt. "We're determined not to lose this family atmosphere as



Year trophy at the APM Project Management Awards 2024

'Thinking days'

One element that caught the eye of the APM Project Management Awards judges was Iconic's innovative 'thinking days', which came about as a way to help a team member who'd become burnt out from the long hours and pressure of a major project. Given a day to go running in the mountains, he came back rejuvenated.

Everyone now gets a thinking day once per quarter. The rules: you can't spend it at home or in the office, you're not allowed to answer the phone or read emails and chores are forbidden. So far, team members have used the opportunity to go walking in the countryside, take a spa day and watch cricket.

It was on a thinking day that Lizzie came up with the idea for MiPM, Iconic's free online database of construction and project management knowledge - further evidence of a company punching above its weight.

"We wanted to help small businesses get their construction projects completed on time, on budget and to the right

quality," says Hewitt. "On my thinking day, it occurred to me that a pay-as-you-go service might be an affordable way to offer guidance to those clients."

Hewitt explains how creating the resources for MiPM is an ongoing, low-cost background project, a chance for people to collaborate with colleagues beyond their usual teams and for apprentices to supplement their learning by working on live content. Externally, it's a low-risk way to cement Iconic's position as experts in the field.



"It's fantastic to be recognised"

Apprenticeships are key, too, a way to give local people the chance to pursue a career in project management. Iconic offers a five-year Level 6 degree apprenticeship through the University College of Estate Management, which combines formal study, on-the-job learning and mentoring by experienced project managers.

Of course, this isn't purely altruistic. After taking on its first apprentice, the Iconic team quickly realised they were "a real asset to the business" and that apprentices could make a valuable contribution to projects.

As for how it felt to be celebrated at APM's Project Management Awards, it seems fitting to hand that over to one of Iconic's apprentices. "I've seen first-hand how exceptional the team I work with is," says Rachel Hounsell-Roberts, Assistant Project Manager at Iconic, "not only in leading projects, but also in fostering our professional growth. It's fantastic to be part of a team recognised by APM for its innovation and excellence."

"We go as far as guaranteeing to deliver construction projects on time, on budget and on brief"

TAKING OFF AT SOUTHAMPTON AIRPORT

Iconic Project Management was chosen to manage the Southampton Airport runway extension project, which involved constructing a 164m starter extension to the airport's runway. This included upgrading the airfield with LED airfield ground lighting, reconfiguring aircraft stands and diverting a pressurised foul main. The project aimed to enable Code C aircraft to operate fully laden, expanding Southampton's connectivity to a wider range of European destinations.

"Our role was to act as the client-side project manager, overseeing the project from late design stages through planning, construction, completion and handover," explains Mike Weeks, Construction Project Manager at Iconic.

The planning and pre-construction phases coincided with the challenges of the COVID-19 pandemic, which significantly impacted the aviation industry, the airport and the project itself, he explains. This period also saw exceptionally high inflation. Weeks also explains that the project faced significant delays due to extended planning reviews and approvals. As part of the enabling works, it

The planning and pre-construction phases coincided with the challenges of the COVID-19 pandemic



was necessary to relocate a section of critical Southern Water foul main infrastructure. The airport's proximity to a Site of Special Scientific Interest and a Special Area of Conservation further heightened the need for meticulous planning and environmental compliance.

Construction, carried out primarily during night shifts, took place between February and August 2023. "The project was completed safely, within scope, on budget and with no disruption to day-to-day airport operations," says Weeks. Key lessons learned included the importance of perseverance and optimism during challenges such as COVID-19 and planning delays, rigorous preparation for the construction phase, and fostering collaboration. "Working closely with consultants and contractors in an open and transparent environment was critical to the project's success," says Weeks.

The opportunity to inject some innovation into the project was taken by Weeks. For example, a community app was developed to allow real-time communication between residents and the project team, meaning the community could raise issues and get a guick response. Judged a success, the app has been proposed for use on future projects.

Weeks also had the project team volunteer at a local youth outdoor learning centre and primary school. These community volunteering events were used for team building, bringing client, design team and contractor together to have fun while benefitting the local community.



A SUSTAINABLE ADDITION TO THE UNIVERSITY OF OXFORD

The University of Oxford has a target to move all its students out of private rented accommodation and into halls of residence within their colleges. To this end, St Peter's College had embarked on an ambitious £11m capital building project to provide its students with cutting-edge accommodation at Castle Bailey Quad. The college had recently made strategic property acquisitions to secure its future growth, including the 2018 acquisition of Castle Hill House on New Road, which was formerly the home of the Conservative Club.

The proposal for the site included the demolition of Castle Hill House and the erection of a new student accommodation building, explains Darren Hewitt, Director of Project Management and co-founder of Iconic Project Management, who oversaw the Castle Bailey Quad project. This building includes 54 new study bedrooms (including accessible facilities), a 'Set' or warden's flat, two fellow's rooms (offices), college maintenance facilities, as well as the associated support facilities.

The primary driver for the project was to create a connection between the new development and the existing campus, which it has achieved through a new ground-level connection across Bulwarks Lane, as well as by maintaining the quality and character of the The design of the new accommodation buildings is targeted at minimising energy consumption



current landscaping with the creation of a new quad at the heart of the development. The accommodation is arranged into a ground floor 'podium' storey predominantly containing the support functions, connecting to two distinct residential buildings arranged around the podium quad above.

"Materially the buildings reference the surrounding context: high-quality hand-made bricks in grey and sand colour reflect the tone and colour of the adjacent Canal House," Hewitt explains. This is accented with cast stone features to building entrances and patterned brickwork, with terracotta ceramic cladding to the upper storey echoing the tiled roofs of the surrounding buildings.

The project, Hewitt explains, is targeting the environmental standard Passivhaus Institute Low Energy Building. Passivhaus buildings are characterised by minimal energy consumption, which is achieved by significantly improving the building fabric in terms of thermal insulation and air tightness, minimising energy loss to such a level that minimal space heating is required.

Construction was successfully completed in late 2023 and the first students moved into the accommodation in early January 2024.

HOW TO FLY HIGH

(AND LEARN TO GROW FOOD IN SPACE)

SHORTLISTED FOR APM'S 2024 EMERGING PROJECT PROFESSIONAL OF THE YEAR AWARD, DIANA DONOVAN, A SENIOR CONSULTANT AT PA CONSULTING, TALKS AGRICULTURE, SPACE TRAVEL AND THE VALUE OF ACTIVE LISTENING WITH CHARLES ORTON-JONES

What are the best vegetables to

grow on the moon? "Tomatoes!" says Diana Donovan, Senior Consultant at PA Consulting and space expert. "They are quite sturdy, colourful and nutritious. A lot of researchers are looking into the potential for tomatoes in space," she explains. It's a wonderfully arcane area of expertise. Donovan speaks with authority. She worked as an intern at the European Astronaut Centre in Cologne, where she created the first experiment in which crops produced fruit in lab conditions mimicking space.

The research is vital for space travel. "Food is a big problem for astronauts," she says. "It's dehydrated, vacuum-packed stuff. It's not very appetising. They live like guinea pigs in space. When we ask them what they miss about life on Earth, they mention gardening and weeding and things that remind them of home. They need to exercise for two hours a day, so gardening is great for them. They don't consider it work. It's a pastime for them," she says.

Space facts to make your eyes bulge

Donovan rattles off other gems about life beyond Earth. "Did you know your eyes expand in space, due to the pressure? They bulge." The European Astronaut Centre conducted tests, getting volunteers to spend three months in bed, tilted, to simulate the effects of gravity. And then there's space mould – another sphere of interest for Donovan: "The space station is a close atmosphere, so you get

quite a bit of mould growing in there. But the radiation in space tends to kill it. So, the Centre looks at the role of radiation in controlling mould growth."

It's also true, apparently, that men suffer more than women from this radiation. "I worked on a review of the impact of radiation on astronauts. It's to do with the grey matter in the brain. It gets impacted more in men. We need to create new protocols for astronauts."

This space chat is a diversion from our main topic - the work that won Donovan a place on the shortlist for APM's 2024 Emerging Project Professional of the Year Award – but her sharp, eclectic intelligence shines through no matter the topic.

Untangling a labyrinthine UK food strategy

Her current role is agriculture specialist at PA Consulting. She helps the government's Agri-Food Chain Directorate, which sits within the Department for Environment. Food and Rural Affairs (Defra), track performance. The logistics verge on rocket science. "There are around 40 policies in the food strategy," she explains. "These include anything which affects food, such as greenhouse gases, health and education. And there are at least 80 stakeholders. It is our job to help stakeholders understand what's going on and what they need to do to achieve their goals," she explains.

In layman's terms, the food strategy is a labyrinthine tangle, and it's Donovan's job to help everyone figure out what is going on.



CV: Diana Donovan

They bulge"

Current role

- 2024 Senior Consultant, PA Consulting
- Education
- **2015-2019** MSc biology, Royal Holloway, University of London
- **2018** Business sustainability management (online course), University of Cambridge

Background

• "Welsh, but I grew up in Zambia."



"We work with the Department for Education, which is not part of Defra, and we work with the Department for Levelling Up, Housing and Communities, also not part of Defra," she says. "There have been so many ministerial changes in recent years. Policies are de-prioritised. A point of contact may suddenly mention that something isn't happening anymore. We check in with each contact at least once a month to stay up-to-date."

Using all the tools in the box
To handle the job, Donovan
deploys well-known project

management tools, including a RAID (risks, assumptions, issues and dependencies) log. "This became my best friend!" she says. "There are so many people involved in our work, so every week we send out a report. We ask people to flag issues. We flag up assumptions, such as where we have missing data and so we have used average numbers. It's a great way to share information. I don't think there's a case of sharing too much. The key is to summarise the main risks. If people want to read the details on the 100 to 200 risks mentioned, they can, but the summary makes it easy for them."

Then there's a RACI (responsible. accountable, consulted and informed) matrix. "This is useful when prioritising. You ask: who is signing work off? Whom do we need to check in with? Who is part of the steering group? Who wants to stay informed and who wants to be taken out of the loop? We also factor in how often people want to be contacted and in what format." With 80 stakeholders, the complexity of this work is staggering.

Gold, silver or bronze?

A hallmark of Donovan's work is to offer stakeholders options.



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She never just flags a problem. She provides solutions. "When we identify a risk, we also suggest a mitigation," she says. Actually, she goes one better. "I give options. We have gold, which means you look at everything in depth and you try to do everything under the sun. There is silver, where you focus on the key things. And bronze, where you prioritise things, recognising constraints on time and finances."

As a result of her mastery of inter-departmental communication, Donovan was tasked with writing the stakeholder engagement and communication plan for Defra. This tracks sustainable agricultural practices, covering soil health, biodiversity and low-carbon practices. By monitoring environmental impact indicators, the project supports policies aimed at reducing carbon footprints, conserving natural resources and promoting biodiversity. It's full of helpful ideas, such as increasing virtual communication between stakeholders to reduce the

"There are so many people involved, so every week we send out a report. We ask people to flag issues"

environmental impact of travel. "We began with a massive mapping exercise," she says. "We spent three weeks figuring out who is who, who needs engaging with and what the priorities are. I'd recommend it for anyone working on a really big project."

With an MSc in biology from Royal Holloway and a qualification in sustainable business from the University of Cambridge, Donovan can talk in detail with scientists, policy with civil servants and crops with agronomists. And who better to win the confidence of farmers than someone who can grow vegetables in the zero-gravity realm of the cosmic expanse?

DIANA'S TOP TIPS

Active listening is essential

Always listen to what people are telling you. It's a huge deal. When people talk to you, engage and ask questions. You are allowed to! I think there's a worry with young people especially that they are expected to know everything. Of course you aren't. So, pay attention and ask questions. This builds rapport. If you remember something tiny you were told three months ago, such as when someone is getting married, you build a connection with them. I go further and take notes. When you show people you are actively listening,

Always be yourself Is this obvious? Not always! In our

they truly

appreciate it.

industry, there is a tendency to feel we must act in a certain way. We constrain our own personality. My advice is to be who you are. We are all human. So, if you are bubbly, be bubbly. If you are a quirky scientist, be a quirky scientist. People will relate to you more if they know they are dealing with your authentic self. The one caution is if

you are naturally abrasive or blunt. You can warn people about how you are or tone it down. Overall, it makes life a lot easier if you

are yourself.

Work-life balance

It is important to know how to balance work and life. I used to follow the eight by eight by eight rule: eight hours of sleep, eight hours of work and eight hours of leisure. There are times in consulting and project management when that goes out the window, but it's a useful goal. If there are periods when you have

to work late and at weekends, it's important when that ends to book time off for yourself to balance it out with other activities. I also like to make sure I have something to look forward to that I really enjoy. There's no such thing as the perfect balance, but having a life outside work is really important.

Keep reading

I am an avid reader. Even if I've had a late night at work, I will still find time to read. My work is rooted in numbers and

> data, so to unwind I love fiction. It's escapism.

I hear people say they don't have time. But people can spend four hours a day looking at their phone. Take an hour out of that to read. I also enjoy non-fiction. I'm reading Empire of Pain

by Patrick Radden Keefe, which is about the opioid crisis in America. And I enjoyed *Invisible* Women by Caroline Criado-Perez, which is about how the female experience is overlooked in many areas of life. My next read will be Education by Tara Westover.

5 Don't worry if others know more

One of the biggest challenges when I moved from academia to industry was an expectation that I would know everything. We all have a fear about coming across as though we don't know what we are saying. So don't hold back. Ask questions. Admit when you don't know something. Don't be shy. This also works together with being an active listener. People will be so helpful when they realise you are eager to learn and pay attention to the advice they give. Why not make the most of that?

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 Norway to Brazil 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.



Name	Country
Karen Adams	UK
Jessica Addison	UK
Baghir Akhundov	AZE
Sesan Akinbile-Oladeinde	NGA
Alnouman Al Mandhari	OMN
Mohammed Al Taleb	UAE
Arron Alderson	UK
Kwasi Alleyne	TTO
Kashif Altaf	AUS
Jeremy Antao	AUS
Scott Ballingall	UK
Callum Batey	UK
Gary Belben	UK
Michael Bell	UK
Fjolle Bunjaku	UK
Jean Francois Thierry Cath	eya UK
Thomas Cochrane	UK
Alex Cole	UK
Callum Crawford	UK UK
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Callum Crawford Craig Dadd	UK UK
Callum Crawford Craig Dadd Kyle Dickerson	UK UK UK
Callum Crawford Craig Dadd Kyle Dickerson Stevie Downer	UK UK UK UK
Callum Crawford Craig Dadd Kyle Dickerson Stevie Downer Nathan Drew	UK UK UK UK
Callum Crawford Craig Dadd Kyle Dickerson Stevie Downer Nathan Drew Robert Ellison	UK UK UK UK UK
Callum Crawford Craig Dadd Kyle Dickerson Stevie Downer Nathan Drew Robert Ellison Riad El-Wardani	UK UK UK UK UK UK NOR
Callum Crawford Craig Dadd Kyle Dickerson Stevie Downer Nathan Drew Robert Ellison Riad El-Wardani Laura Ewen	UK UK UK UK UK UK UK UK UK
Callum Crawford Craig Dadd Kyle Dickerson Stevie Downer Nathan Drew Robert Ellison Riad El-Wardani Laura Ewen Oladipo Falade	UK
Callum Crawford Craig Dadd Kyle Dickerson Stevie Downer Nathan Drew Robert Ellison Riad El-Wardani Laura Ewen Oladipo Falade David Fergusson-Batte	UK UK UK UK UK UK UK UK UK NOR UK UK
Callum Crawford Craig Dadd Kyle Dickerson Stevie Downer Nathan Drew Robert Ellison Riad El-Wardani Laura Ewen Oladipo Falade David Fergusson-Batte Joseph Finch	UK UK UK UK UK UK UK NOR UK UK UK
Callum Crawford Craig Dadd Kyle Dickerson Stevie Downer Nathan Drew Robert Ellison Riad El-Wardani Laura Ewen Oladipo Falade David Fergusson-Batte Joseph Finch William Fretton	UK UK UK UK UK UK UK UK NOR UK UK UK UK
Callum Crawford Craig Dadd Kyle Dickerson Stevie Downer Nathan Drew Robert Ellison Riad El-Wardani Laura Ewen Oladipo Falade David Fergusson-Batte Joseph Finch William Fretton Daniel Gaichi	UK UK UK UK UK UK UK NOR UK UK UK UK UK UK UK
Callum Crawford Craig Dadd Kyle Dickerson Stevie Downer Nathan Drew Robert Ellison Riad El-Wardani Laura Ewen Oladipo Falade David Fergusson-Batte Joseph Finch William Fretton Daniel Gaichi Sarah Gardner	UK UK UK UK UK UK UK NOR UK UK UK UK UK UK

Name	Country
Anthony Howarth	UK
Matt Howe	UK
Obioma Iwuchukwu	US
Mike Jeeves	UK
Rachel Jeffreys	UK
Adam Johnson	UK
Christopher Kay	UK
Darren Keighley	AUS
Sarah Keogh	UK
Stephen Kerr	UK
Naima Khan	UK
Younus Khan	UK
Howard King	UK
Claire Kitt	UK
Monika Kojak	UK
George Chung Liong Kok	SGP
Kris Kondol	UK
Edwige Lindsey	UK
Paul Lowndes	UK
Andrew MacIver	UK
Garrick Malone	US
Tom Maloney	UK
Marcel Mbene	UK
Catriona McAllister	UK
Paul McCreery	UK
Stephen McGregor	UK
Jayne Mills	UK
Joseph Mills	UK
Dom Mistry	UK
Maddyson Moore	UK
Jenna Moran	UK
Jack Muirhead	UK
VinodKumar Nair	UK
Behrad Nikjoo	UK

Lewis Nixon

Name	Country
Christopher Oakes	UK
Chigbo Okwuosah	CAN
Fuad Omar	AZE
Emma Packenham	UK
Maxine Prydderch	UK
Andrea Quattrin	UK
Peter Ratcliffe	UK
Obul Reddy	IND
Greg Reed	UK
Simon Richards	UK
Cassandra Rieg	UK
Christopher Riseley	AUS
Cristina Rodriguez	UK
Lisa Root	UK
Paul Russell	UK
Craig Sewell	UK
John Shaw	UK
Alexandros Sianoudis	UK
Ryan Solarczyk	UK
Elisha Tafirenyika	UK
Shelley Thomson	UK
Laurence Thornton	UK
Ivan Vukomanovic	UK
Robbie Warwick	UK
Cheney White	UK
Wolfgang Wienken	DEU
Jane Williams	UK
Ben Wood	UK
Neophytos Yiannakou	CYP
Mohamed Zayed	EGY
Wayne Zrada	UK

DEAR SUSANNE

I'm fortunate to lead a team of highly ambitious and passionate project managers. However, my concern is that most of them work around the clock. How can I help them stay healthy and avoid burnout?

I applaud you for your concern

and your willingness to support your team. Burnout is a growing issue that requires serious attention. And although you aren't in control of how many hours people choose to work, there are several things you can do to address the topic mindfully.

What is the cultural context?

As a first step, I encourage you to look beyond your immediate team and observe the wider company culture. What is the norm as it relates to working hours, response times to emails and requests for work to get done? Is it expected that people are always available to respond to queries, meet a deadline or fight a fire? Is it only those who visibly work hard who get promoted?

Whereas you can influence the culture in your own team, it's hard to create a way of working that goes against the flow of the wider organisation. That's not to say you should sit back and do nothing. If you feel the company culture is contributing to people burning out, raise it with someone you trust in the senior team. Remember that no one likes to hear about issues, so come prepared with examples and possible solutions that could result in a positive change.

What kind of role model are you?

Let's turn our gaze to your own role as a leader and the example you set for your team. Are you a good role model or do you inadvertently put too much pressure on the team? You can only truly expect

your team to rein in their hours if you set a good example and show them how it's done. That includes working in an organised way, avoiding unnecessary meetings and saying no when you have reached capacity.

I once coached a senior manager who switched off his work phone between 7pm and 7am and told his team to do the same. He had previously collapsed at work due to extreme stress and had since learnt the lessons. After his collapse, he started paying more attention to friends, family and hobbies during his time off, and he learnt to use mindfulness to disconnect from his racing thoughts. Not only was he able to take on much bigger projects without stressing about it, but he was also a great example for others in the team.

Create a dialogue and be supportive

I encourage you to have an honest conversation about stress and work/life balance with each person in your team. Let them know that you're concerned and that you don't expect them to be online 24/7. Ask them how they feel and see if you can understand the root cause of their unhealthy working hours. Do they have too much on their plate? Is it a time management issue? Are they a perfectionist who has difficulties delegating? Or are they simply eager to prove themselves and get ahead of the competition?

Listen to their answers with an open mind and show understanding. Based on what they say, you may be able to



Susanne Madsen is an internationally recognised project leadership coach, trainer, consultant and author. Her latest book, How to Do the Inner Work (TCK Publishing), is out now. For more information, visit www.susannemadsen.com

help them think through how they can better structure their work, delegate and focus on their most important priorities.

How about a team huddle?

You can also organise a short weekly get-together where each project manager shares how they feel and what they struggle with. Sharing our concerns is in itself a stress relief and can make it much easier for others to provide support. I know of one team who get together for a team huddle at the end of each week. They use the time to simply share and offload their stresses and now refer to the meeting as the weekly team cuddle.

Susanne appeared on a recent episode of APM Podcast. Listen for free on Apple Podcasts, Spotify and many more platforms.

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

READER OFFER

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

PROJECT ME

WE ASK PROJECT PROFESSIONALS FOR THEIR TIPS ON HOW TO BE A GREAT ONLINE NETWORKER

Always follow up

Ellie Luk, Assistant Project Manager, Gleeds

As a former marketing and customer management consultant, I would say that going online to meet people might sound terrifying to some of us, but it is possible to meet your tribe. Trust me. But first, a little background – there are lots of social media platforms out there and each has its own nuance: ways of communicating, tone of voice, subject matter. So it really isn't one-type-fits-all.

- Facebook: your friends and family hang out here, showing off family snaps and holidays. Easy.
- Instagram: originally a scrapbook/hobby hangout, a place where you can show off your cakes, arts and crafts – but beware of influencers shouting about interiors and holidays!
- Snapchat: where the kids hang out; certainly too cool for me.
- TikTok: oh boy, videos on any subject you like.
- LinkedIn: the professionals hang out here. Upload your CV, share

vour awards and achievements and join in forum discussions.

How do we meet people in the professional world online? What steps do we need to take to reach out to someone? Believe it or not, it all starts with meeting people in real life. I know you weren't expecting me to say that, but as a recent career changer who depended on LinkedIn to make the leap across the industry divide, it boiled down to face-to-face interaction.

When you meet someone in real life, you make eye contact, your energy fills the space between you, they hear your voice, you make them smile, you start a conversation – back-and-forth dialogue between two or more people. But compare that to meeting someone online. Take a guess: which attributes are missing? Exactly.

The first step is meeting someone at a networking event or somewhere relevant to your job. You talk in real life and one of you whispers the magic sentence: 'Would you like to connect with me on LinkedIn?' Out come the phones and, hey presto, you're now buddies.

The second step is to send a follow-up message - not too soon,

not too late. Twenty-four hours is a nice window. 'It was lovely to meet you at the event.' Start a two-way conversation. Always ask a question that they can reply to.

This really is the magic formula to online networking; it's as simple as that. If we learned anything in lockdown, it was that we missed human interaction and being part of a community. Once you meet people in real life, you can build a lasting online relationship.





Network in person first

Tamsin Alli-Balogun, Associate Director, AtkinsRéalis

Networking in person is a great starting point for networking online. Attend an event, take a photo that captures the atmosphere and share one or two of the main messages in an online post, along with your own opinion or perspective. It's a great way to showcase the topics you're interested in without being too cringey – which is what often puts people off! If you're not yet ready to share your own posts, it's good to search for posts by other people who attended the same event, connect with them and add a comment with your reflections.

Don't overpost or oversell

Precious Nwagboso, Senior Project Controls Engineer, **Turner & Townsend**

Being a great online networker requires authenticity, consistency and strategic engagement. Here are my smart strategies for building meaningful connections:

What works:

- Optimise your profile: craft a bio that is clear and professional and highlights your expertise.
- Build genuine connections: personalise connection requests and show genuine interest in others' work.
- Engage with purpose: contribute thoughtfully to discussions by commenting on and liking posts and sharing insights.

What to avoid:

- Overposting or overselling: excessive self-promotion can alienate your audience.
- Being generic: avoid sending vague, impersonal connection requests.
- Ignoring engagement: failing to respond to comments or messages is a missed opportunity to build relationships.

Pro tips:

- Leverage hashtags: use relevant hashtags to increase visibility and connect with targeted audiences.
- Share success stories: highlighting your achievements and lessons learned helps build trust and credibility.
- Join groups or forums: engage in industry-specific groups to share insights and grow your network.



Perfect for introverts

Julia Starzyk, founder, Star Projects

If you're a fellow introvert and recovering socially awkward person, you might find online networking a perfect compromise for your business development. Here are the three best tips I have implemented in my strategy:

- The beauty of online spaces is that no one is anonymous. In real life, you can show up, leave and no one will know who you are. Online, people will find out who you are. They will snoop/check you out. Make sure the information that they find is what you want them to find.
- Make your profile specific to only you. Years ago, I gave myself a yellow background in my profile picture. Somehow, this became my trademark.
- Remember that there is a person on the other side of the screen. If you wanted to grab your own attention online, what would you do? Do that.



If you don't have anything nice to say, don't post it

Vikram Marwaha, P&O ERP Project Controls Lead, BP

As someone who has recently begun to look to build his network and increase his social media profile, I have been learning as I go along. Networking on social media is different to networking in person and has different challenges.

What I have tried to do is show people who I am, as sometimes perception can be different to reality. My key tips are as follows:

- Ensure your profile is up-to-date.
- Build a presence: look to post at least once a week.
- Comment on posts: this creates conversation and provides visibility to a wider audience.
- When meeting people, ask if you can connect.
- Join relevant groups with like-minded people.
- Reach out to people whom you want to connect with.
- If you don't have anything nice to post, don't post it!

PROJECT: TO KEEP **BUS HERITAGE ALIVE**

STEVEN BOOTH EMBRACES HIS INNER GEEK TO GREAT EFFECT FOR THE GLASGOW VINTAGE VEHICLE TRUST (WITH A LITTLE HELP FROM KEN BRUCE)

I got involved with the Glasgow

Vintage Vehicle Trust (GVVT) because I'm a bus enthusiast and love all things to do with buses. I have been the Chair of GVVT for nearly seven years, a role that requires the full gamut of project professional skills. My application of them has helped professionalise GVVT by running it more along business and project lines.

Why GVVT matters

GVVT is a small charity, run by volunteers. It is based at Bridgeton Bus Garage in the East End of the city, where it keeps a collection of 130 commercial vehicles, mostly buses. The garage was built by Glasgow Corporation in the 1960s to house some of its bus fleet, so the building itself has its own transport heritage.

Bus travel and activities associated with it are vital parts of our social heritage in Glasgow and elsewhere. At GVVT, we unashamedly play the nostalgia card. The vehicles in the collection evoke memories of bus trips to school or work or to visit relatives. People remember the bus service they were on, the colours of the vehicles or other sights and sounds.

GVVT also sees itself as an educator for all ages, but especially for the young, many of whom have no first-hand experience of public transport. So, as well as events at our garage, the buses can often be found visiting schools and nursery groups.

One unique way GVVT contributes to the local community is through its social inclusion programme, Back on the Road,

which works with those in recovery from substance abuse, which is particularly important given the numbers of drug and alcohol-related deaths in Scotland are among the highest in Europe.

How to buy a bus garage

GVVT had been leasing the garage from City Property, an arm's-length organisation of Glasgow City Council, for many years. The lease was coming to an end and the draft terms of a new agreement were unaffordable. GVVT decided it needed to buy the garage to secure its future and sustain and develop its activities. We set out a business plan to do this where I acted as the lead author.

I headed up a team to handle all aspects of the purchase and was accountable to the Board of

I was able to use the garage purchase as a project for my Chartered **Project Professional** application

Trustees for its delivery. As Chair, I also provided leadership and direction. The project faced a period of uncertainty: GVVT was not in control of the outcome, the landlord was. Commercial rates on a new lease would be unaffordable. We would have had to find alternative accommodation, likely breaking up the vehicle collection in the process.

The level of risk associated with the situation, and the prospect of

a small charity taking on such a large building, was very significant. There was no way of determining how negotiations would go. The landlord had no intention of selling the building and had proven very difficult to engage with initially.

GVVT was required to secure funding to complete the purchase, and it wasn't clear whether a lender would be prepared to provide this or not. Early signs weren't good. Fortunately, a specialist arm of NatWest called Social and Community Capital provided a sizeable loan. Finally, the COVID-19 pandemic hit and its impact had to be determined to allow a revised baseline to be set.

A broad remit

I was responsible for: defining and executing the strategy to buy the building; carrying out stakeholder identification, building the engagement plan for them and owning key relationships; developing and implementing a funding strategy, including negotiating with potential funders; carrying out affordability assessments; and scenario testing and working with the legal team to negotiate the purchase.

A challenging part of the project was the wide variety of stakeholders involved, all with different perspectives, roles to play and often with competing interests. These included trustees, members, vehicle owners, building sub-tenants, council officials, elected representatives at local and national level, City Property, potential funders, visitors to our events, legal teams, local



and trade press and other heritage organisations.

A springboard for future development

Happily, Bridgeton Bus Garage is now fully owned by GVVT. Since the purchase completed, GVVT has gone from strength to strength. Visitor numbers to our events have increased, as have our passenger numbers. As this has gone on, the membership of GVVT has grown, which in turn has grown the volunteer base.

Supported by more promotion and publicity, and undertaking more events and community activities, the visibility of GVVT has greatly increased. This, in turn, has grown our opportunities to collaborate. We now have a patron, the legendary broadcaster and DJ Ken Bruce. He is helping us raise our profile and reach new audiences. Another notable person is Sir Brian Souter, one of the founders of Stagecoach. GVVT shares his passion for encouraging engagement with young people. Due to his support, we now have a

state-of-the-art bus simulator at the garage for would-be drivers.

The Back on the Road programme has also reached new heights. For the first time in over 15 years, it is fully funded by grant-awarding bodies and not GVVT. In terms of where we will go next, a business case is in development that will cover how GVVT can create a visitor centre alongside its operational garage. Between now and then, it will continue to develop what it currently does and broaden its reach.

What has involvement in **GVVT given me?**

I've learned that soft project management works best at GVVT, not overwhelming people with Gantt charts, spreadsheets and metrics. Use these tools in the background to help do the work, but ensure information coming from them is more digestible for general consumption. A people focus is also vital in all activities. Much effort is needed to cajole and encourage volunteers. At

other times, you need to harness their enthusiasm.

In a practical way, volunteering with GVVT helps with my continuing professional development. Lots of the work I do for GVVT helps satisfy this requirement. I was also able to use the garage purchase as a project for my Chartered Project Professional application.

I have found this leadership role and application of my skills as a project professional very rewarding and often much more wide-ranging in scope than I experience in my actual career. You can see the immediate impact of your actions in small voluntary organisations. You can deliver benefits and exert influence in a way that is less likely in a corporate environment. To me, that's fulfilling, satisfying and often fun. I'd highly recommend it. If you're thinking about volunteering, then stop thinking and just do it!

Steven Booth ChPP MAPM

is Chair of the Glasgow **Vintage Vehicle Trust and Project Manager at Babcock International Group**

OFF WHERE PROJECT **MANAGEMENT MEETS POPULAR CULTURE**

THE 1982 SCI-FI CLASSIC TRON PITTED HUMAN AGAINST AI FOR THE FATE OF THE WORLD. 'SOUND FAMILIAR IN 2025?' ASKS RICHARD YOUNG

In November 2022, OpenAI released the groundbreaking ChatGPT 3.5 large language model (LLM), trained on billions of documents harvested from the internet. It made 2023 the year of artificial intelligence (AI) although, by the end of 2024, the shine had come off. AI can sound plausibly human and creepily omniscient, but it is prone to errors. For the naysayers, AI became less a dangerous dragon to be slain before it destroys humanity and more like an emperor with no clothes.

But we're just at the dawn of AI, and the current iterations bring big risks. A system that seems like it's all-powerful and can be extremely believable, while making basic mistakes, could lead us down some worrying paths. So, we might do well to take a leaf out of the book of Kevin Flynn (Jeff Bridges) in the 1982 sci-fi classic Tron, in which an AI designed to help humans be more efficient turns out to have designs on global supremacy.

Tron pioneered CGI and, despite its slightly fantastical premise (that even basic computer programs have personalities), spawned a hit 2010 sequel, *Tron: Legacy* – mostly notable for a superbly camp performance

from Michael Sheen and a banging Daft Punk soundtrack. (The next instalment, Tron: Ares, is slated for release in October.)

'Program' management

But back to 1982. First, a quick recap (including spoilers). Ace games programmer Flynn has been ousted from his own software business ENCOM by unscrupulous partner

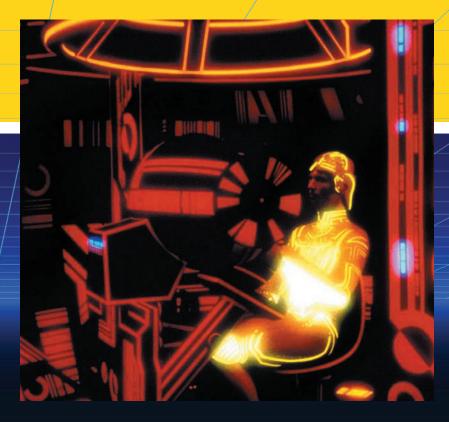


Running a project that faces institutional opposition can be draining... the status quo might seem impossible to shift

Ed Dillinger (David Warner), who claimed credit for Flynn's work. Seeking proof of this crime, Flynn hacks into the ENCOM system. But he's thwarted by the mysterious Master Control Program (MCP), which has been stealing data and other programs to infiltrate global IT systems with the aim of taking over the world, all in the name of efficiency (sound familiar yet?).

The MCP has also frozen out ENCOM employees Alan (Bruce Boxleitner), whose powerful program, Tron, has been taken over by the MCP, and Lora (Cindy Morgan). The three break into ENCOM in search of answers. But, as he's hacking a terminal, the MCP zaps Flynn with a digitising laser, transplanting him into the computer itself. He discovers the AI is telling programs that their human 'users' don't exist and forcing holdouts to play deadly games.

Flynn, our project manager, has clear goals – expose Dillinger's plagiarism and end the MCP's dictatorship of the system. Once he's in the digital realm, he reveals both a deeper project purpose (freeing the enslaved programs) and a series of stage gates: win the "derezzing" games, escape capture, defeat the layers of



security around the I/O tower and gain access for the Tron program to reconnect with the outside world and bring down the MCP.

This sets up a conflict between a human project manager - with those clear aims and working in as agile a way as possible within well-defined parameters - and a more powerful, but also more rigid, business-as-usual (BAU) establishment with much greater resources. While our own battles with AI are still (hopefully) a while away, that 'institution v project' fight might be a familiar scenario for many IRL project managers. So, what lessons do we learn?

LESSON 1 Beat them at their own game

Flynn's digital captors throw him into the deadly games, little realising that he wrote most of them himself. Not only does he win the games (which, at a time when Space Invaders and Asteroids were still arcade mainstays, were incredible to watch), but he also uses the iconic Light Cycles from one game to fashion an escape for himself and Tron.

For many project managers, BAU folks can be something of a blocker.

Knowing what you're dealing with and surprising them with situational awareness is a huge plus

Often, they feel they have unique insights into the way things work that a 'mere' project person can never truly understand. The best way round this is often to be more informed than they think you are – like Flynn, to beat them at their own game. After all, the chances are, you've seen most things 'like this' before and can deploy that knowledge to great effect. Knowing what you're dealing with and surprising them with your situational awareness is a huge plus.

LESSON 2 Relationships (can) beat systems

Flynn befriends two programs, Tron and Ram (who 'dies' - well, you have to create jeopardy somehow). They help him understand not just how the status quo works, but also the best ways of deploying his own knowledge as a programmer to effect change.

He might be the outsider, but he's got the potential to be a radical change agent with their help.

A vital skill for project managers is helping others see the need for change and letting them help us work towards it by reassuring us that our abilities are effective. Remember, running a project that faces institutional opposition can be emotionally draining - and, at worst, the status quo might seem impossible to shift. Building trust with key individuals in the organisation - in your own project team, but also among the wider stakeholder groups – allows you to chip away at the edifice and provides a critical boost to morale.

LESSON 3 Keep trying – you never know

Flynn and Tron hitch a ride on a 'Solar Sailer' to get to the main I/O tower, where they can communicate with Alan and Lora in the real world. But it's destroyed by Sark. It looks like Tron might have been derezzed, and it's only by hacking the MCP's own command ship that Flynn manages to survive. We can put Flynn's perseverance and resolution down to the validity of his project purpose - and it pays off when it turns out that Tron actually survived; the ultimate goal of defeating the MCP is still possible.

With sentiments like 'that's never been done before' or 'we don't do things like that round here', the barriers a project manager faces can be deeply discouraging, whether it's a tricky technical solution, a recalcitrant customer group or a newly apparent set of regulations. Sometimes a project feels like it's just never going to get any momentum. But while the sponsor's got your back, anything is possible.

LESSON 4 Commit

Flynn arrives at the CPU to find the MCP trying to absorb loads of programs, levelling up to take over

But whatever project decisions your analysis leads you to, the crucial thing is to commit

the world. Tron seizes the opportunity to make his move on Sark and overwhelms the baddie. But the MCP sees what's happening and tries to transfer power to the evil program to tip the balance. Flynn sees what's happening and, trusting his ability to manipulate the system, leaps in the way of the power beam, disrupting the plan and allowing Tron to complete the project, destroying the MCP.

Plenty of projects require hard decisions and risk-taking. The smart project manager gathers as much data on the risks as possible, not always to minimise them, but to know which to take. Even with downsides, the rewards might make it worth the risk. But whatever project decisions your analysis leads you to, the crucial thing is to commit. Only by committing decisively does Flynn save the day and many project teams are often in a position to take risks that effect change which the BAU types simply can't.

LESSON 5 Al isn't the (whole) answer

If we treat the MCP as AI in our world, does Tron have a message for how we might handle it? Flynn and his project team end up winning by being unpredictable – applying their own knowledge, but in ways that confound the programmatic approach of the system.

That's an important message in 2025. The best AI implementations won't sell you the idea of their product doing everything for you. More importantly, they also tend to



"The only winning move is not to play"

There's one other project management lesson in *Tron*. Once he's returned to the real world and Dillinger's fraud has been exposed, Flynn is promoted to CEO at ENCOM and becomes the big boss. Is this really what we want from a career in project management? To become the top dog of business-as-usual?

Judging by the back story of 2010's Tron: Legacy, Flynn tires of the boardroom and spends more time in the virtual world, developing new programs with the aim of creating the perfect computer system. Now there's a bit of psychology for you: a project manager who creates an idealised, impossible-to-complete project to keep himself from getting bored.

It's also an example of the Peter Principle – people are promoted to the level of their own incompetence. We might amend this to 'the level of their own disinterest', as evidenced by the fact that ace programmer (and project manager) Flynn ends up rejecting the CEO role.

Are real-world tech **CEOs just super**nerds who can't stop tinkering with the operating system?

Does that tell us something about the real-world tech-titan CEOs in the 2020s – the ones who are shaping the AI world that *Tron* satirised? Are they just super-nerds who can't stop tinkering with the operating system (which turns out to be civilisation itself), even when they get to be boardroom billionaires? Might we all be better off if they'd kept on running great projects directed by someone else?

In another 80s tech thriller, War Games, the AI ends up telling Matthew Broderick, "Interesting game - the only winning move is not to play." Conclusion? Never get promoted to CEO – find a more interesting project.

emphasise the need to design any AI-augmented process with a human in the loop. People are unpredictable in ways that both create value (especially faced with knotty project problems) and confuse rigid systems (which, for all their seeming creativity, is still what an LLM is).

Tron reminds us that the best results come from human thinking augmented by technology. And in any face-off between a pure-play AI solution (the MCP) and one with that human/digital combo (Flynn/Tron), there's only going to be one winner.



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AI SPECIAL: **NEW BOOKS TO KEEP YOU ENTERTAINED**

THERE'S AN ARTIFICIAL INTELLIGENCE (AI) THEME THIS ISSUE. WE REVIEW SUPREMACY, WHILE DANIEL ARMANIOS PICKS THREE BOOKS TO NAVIGATE AN AI-ENABLED WORLD

Supremacy: AI, ChatGPT and the race that will change the world

Parmy Olson (Macmillan)



In Supremacy, we find a richly detailed account of how artificial intelligence (AI) became the new battleground for corporate power. Author Parmy Olson captures both the human

drama and the wider implications of this contest for control - it seems only a matter of time before a Hollywood movie is made.

Her clear, precise writing proves especially valuable when explaining complex ideas. She manages to unpack how AI systems work - particularly the breakthrough of transformer technology - without losing the general reader or oversimplifying the science.

What stands out most powerfully is her portrayal of Google's paralysis in the face of change. The company's reluctance to push forward with its own revolutionary AI technology reads like a modern corporate tragedy. Olson resists easy judgements, instead carefully unpicking the tangle of fears, competing interests and institutional habits that led to such fateful hesitation.

The book introduces us to the main players – Elon Musk, Sam Altman, Demis Hassabis – but doesn't let their oversized personalities dominate the story. Instead, Olson shows how these figures operate within larger systems of money, innovation and power. She's particularly good at explaining how practical limitations, like the shortage of specialised computer chips (GPUs), reveal deeper questions about who gets to control these powerful new technologies.

If Supremacy occasionally echoes Silicon Valley's tendency towards grand storytelling, this feels less like uncritical acceptance and more like a faithful recording of how the tech industry sees itself. Throughout, Olson maintains a careful balance between telling the inside story and stepping back to analyse what it all means.

The book's main limitation is, paradoxically, also its greatest strength: it's written in the midst of events that are still unfolding. While this means we can't yet see how everything turns out, it gives the writing an immediate, vital quality that captures what it feels like to live through such rapid technological change.

For anyone trying to understand the corporate politics driving AI's development, Supremacy offers a valuable

guide to the territory. Olson has created something that speaks to both the specific moment we're in and the timeless patterns of human ambition and innovation that shape such transformative periods in our history. The result is both clear-eyed journalism and thoughtful analysis, illuminating not just the technical details but the very human story of power, progress and possibility at the heart of AI's development.

As someone deeply engaged with these themes through my work with the Project Data Analytics Task Force and Project Flux newsletter, I find Olson's work particularly resonant. The newsletter aims to decode these complex developments for project leaders and professionals.

Review by James Garner, Senior Director at Gleeds and Chair of the Project Data Analytics Task Force. Subscribe to the Project Flux newsletter for free at projectflux. beehiiv.com/subscribe



The Art of Uncertainty: How to navigate chance, ignorance, risk and luck David Spiegelhalter (Pelican Books)



Professor Sir David Spiegelhalter has long been a professional hero of mine, ever since he became Professor for the Public Understanding of Risk at the University

of Cambridge. I felt that Sir David and I were kindred spirits, sharing similar professional monikers: he became known as Professor Risk, while I was the Risk Doctor. More importantly, we were (and are) both committed to making the complex subject of risk comprehensible and useful to non-specialists.

This motivation lies behind Sir David's latest book, which uses practical examples from daily life to explain such mysteries as the central limit theorem, Monte Carlo

methods and Bayesian analysis. It is a measure of his genius that his illustrations include the chances of buying a box of six double-yolk eggs, how to predict the results of a football match and assessing the relative benefits and harms of COVID-19 vaccination. He combines

this with discussion of the existence of God, the unlikeliness of human existence and the chance of the world ending catastrophically anytime soon.

As a risk specialist, I find this all fascinating, and the book is certainly an entertaining read, written in Sir David's trademark accessible and easy style. But there are some aspects that potential readers might find slightly off-putting. The first is the sheer length, which at 487 pages is rather daunting, although it's all good stuff. The second is the way risk is defined, or not, with the introduction stating, "Risk can mean almost anything you want it to." And finally, although much of the book talks about probability, the closing section includes the somewhat startling statement that "probabilities... don't actually exist". In fact, this is really a book about uncertainty in all its forms, where we might encounter it and how we can best deal with it.

When considering whether to add this book to your bookshelf, project practitioners should be aware that the word 'project' doesn't appear in the index. Despite this, the general principles are relevant to all projects, which we know are inherently uncertain. These words from Sir David will resonate with anyone involved with projects: "We have to confront the fact that we don't know what we don't know, that our understanding is always inadequate, and that we should genuinely acknowledge our uncertainty. But this basic humility need not stop us from considering plausible futures, making decisions, and getting on with our lives."

Review by Dr Havid Hillson HonFAPM



My bedside books: Al special

Daniel Armanios, BT Professor and Chair of Programme Management, Saïd Business School







Prediction Machines: The simple economics of artificial intelligence - Ajay Agrawal, Joshua Gans and Avi Goldfarb Competing in the Age of AI -Marco lantisi and Karim R Lakhani Co-intelligence: Living and working with AI – Ethan Mollick

e need to think more systematically about how we deploy AI in project management, as opposed to using it on an ad hoc, task-by-task basis. These three books indicate what that journey could look like. Prediction Machines argues that, at the individual level, AI is increasingly taking over prediction (i.e., inferring new information based on existing information) and humans are increasingly focusing on judgement (i.e., ascertaining the value from a decision).

Competing in the Age of Al argues that, at the organisational and project level, AI is increasingly taking over the operating model (i.e., the ability to deliver promised value), and those managing and leading projects and their organisations are increasingly focusing on the business model, or the business case as we would say in the project world (i.e., the value promised to sponsors and stakeholders from the project).

In separating prediction from judgement and the operating model from the business case, whereby AI does the former and projects, people and organisations do the latter, the question then is how to manage the interface

between the two. How do I make judgements if I do not understand how AI is making predictions? How do I construct the case when I do not understand how AI will deliver the anticipated value?

Ethan Mollick, meanwhile, argues that managing this interface is done through active experimentation, especially given how rapidly AI is advancing. There are two key ways in which you can experiment at this interface between the algorithmic, the human and the project. The first is what he calls a "centaur", whereby you sequence the work such that the human takes one aspect of the task and passes it on to the algorithm and vice versa; a clear line between human and machine is drawn

The second is akin to what he calls a "cyborg", where tasks are so interwoven between the human and the algorithm that there is no clear demarcation between the two. Which approach will work for you (centaur or cyborg) will depend on the nature of the task, the task uncertainty for the human and the task uncertainty for the algorithm, among other factors. This can only be deciphered through learning by doing.

Overall, these three books collectively foreshadow a future of AI in project management. As Al increasingly takes on prediction and operating models, project professionals will increasingly be steered towards the more complex and subjective aspects of judgement and the business case.

While clearly questions of whether this is the right demarcation for projects remain, this nonetheless emphasises that classic project issues around interface management are more crucial than ever for project professionals.

Paint the future in bold colours

EDDIE OBENG EXPLAINS HOW TO MAKE POSITIVE **CHANGE IN A GREY WORLD**

I went bald early. I blame a project I worked on at Shell. I'd heard on the grapevine that a senior manager wanted to torpedo it. Each night for months, I half slept, sawing thinning locks back and forth on the headboard, until the meeting where he got the chance to take a shot.

Now I know better, I'd have rushed to meet the first sign of danger, wielding the FixItNow people engagement tool that instructs you to identify the danger and fix it now if you can - if you can't, then contain it so it can't spread. Always monitor for early warnings of disaster and have a plan B up your sleeve! Meet the manager at once to learn their concerns. The result? No sleepless nights and a full head of hair.

The business of worry

These days, everyone knows to use FixItNow to pre-liminate specific risks. But as a leader, do you find stakeholders defer crucial decisions saying, 'Our organisation has adopted a wait-and-see approach'? You may have noticed your team are more focused on personal matters than business. They may comment, 'Listening to the news, I'm afraid for the future and can't stop worrying.'

Where is this misery and malaise coming from? In our new world, digital transformation means you can easily discover in real time what's happening for free on the internet. That broke the business model of the commercial news industry and forced it to pivot from news gathering to 'eyeball capture'. You'll have read stories too juicy to keep to yourself, so you repeat them, terrifying your friends. Why? Because billions of pounds are spent to keep your attention so you can be sold third-party messages. The bad news is that the most effective way to capture your attention is through emotional content that is frightening, salacious or fills you with moral indignation.

I went bald from a single, specific risk. 'Eyeball capture' strategies create unspecific worry. Untethered, worry

floats freely from one person to another. It accumulates as a long list. It amplifies normal life and work concerns. Government antics and geopolitics seem overwhelmingly inescapable, scaring executives away from decisions and action.

How to tame your worries

No wonder that the future looks like a grey, depressing, miserable country, peopled by dreadful folk. You wouldn't choose that country for your next holiday. So, what does a leader do? First, organise yourself for creative productivity, then align your organisation to want to step confidently into the future - an exciting, boldly coloured one. You'll also need a WorriBox:

- Grab your diary. Find a box. Get a pad of sticky notes.
- For each worry running round in your head, give it a title and write it down.
- 3 Add a description to each title. Your descriptions will be vague that's normal.
- **4** Quantify the worry. Is it a five-minute, 10-minute, half-hour or two-hour worry? Mark the time on the notes.
- 5 Important! Schedule each worry into your diary with appropriate 'worrying time'.
- 6 Place the notes in the box.

Get back to work. If a worry pops into your mind, just remind yourself, 'Not now. It's in my diary for Tuesday 2:05pm to 2:20pm.' Then, continue undistracted and enjoy a boost of positivity and energy.

Painting a more colourful future

Everyone knows that the way to get people moving is to have a vision and to articulate it. Some people know that that is not enough - you have to role-play or simulate it so everyone, even the sceptics, can hear it and live it (but ignore them for now).

What only a few people know is that such techniques only work when the future is familiar, and not in a world



Professor Eddie Obeng HonFAPM is an educator, TED speaker and

author. Join his masterclasses, courses and workshops on the QUBE #SuperReal campus at QUBE.cc

of free-floating anxiety. Before you start on the vision, you must create a positive relationship with the future.

I learnt to easily get through chores I hate doing by 'doing them for Future Eddie'. I'd picture Future Eddie in a warm glow of joy. Painting Future Eddie in my mind anchors my present in the future so I can haul myself forward. It turns off the scepticism of my subconscious. To create a more colourful future:

- Get people to remind themselves of past successes, big and small.
- Ask them how the present and future versions of their stakeholders felt.
- Get them to talk about how much better the future was than it would have been had they done nothing.
- Conclude by agreeing that, as soon as they could colour the future in bold colours, the effort became worth it for the prize.
- 5 Colour the future in bold colours to blot out the grey that exists today by talking about how the actions they take in the project make the future more attractive.
- Now take a look at your vision, knowing it's worthwhile, and just haul on that anchor to pull yourselves forward.

Don't go bald. Colour the future in bold colours to blot out the grey that exists today and plan how much you will enjoy it.

READER OFFER

A special APM edition of Eddie's book All Change! is available to APM members for the discounted price of £30. Get your copy at eddieobeng.com/ apm-allchange



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