KPMG

Effective Project Controls. Confidence in Delivery.

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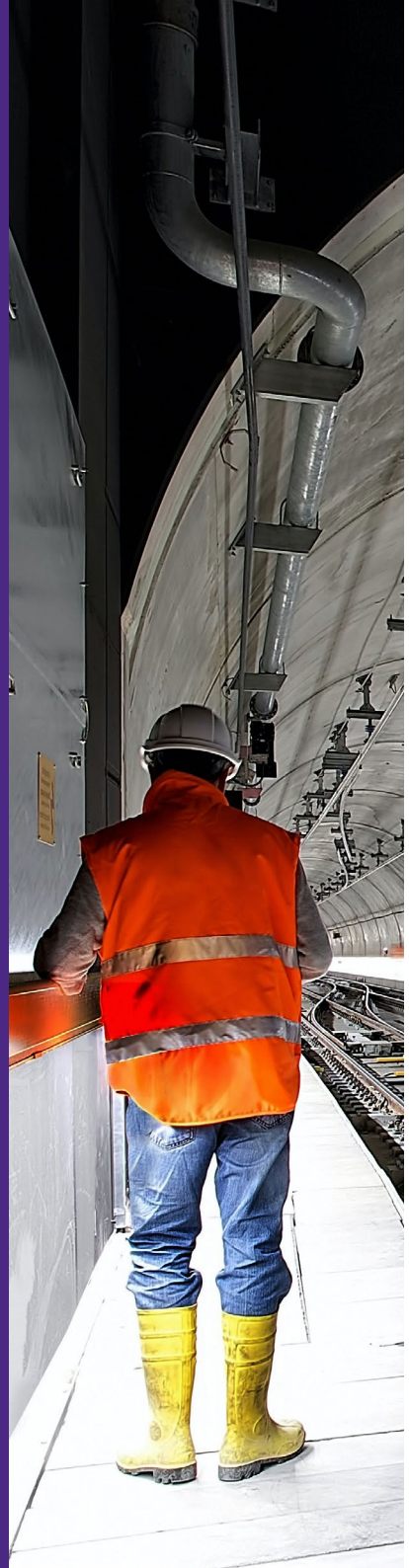
Contents

> Organisations who utilise effective project control skills have **75.5%** chance of increase in profitability compared to organisations that do not."



1. Major projects waste money

All over the world, public and private sector organisations are running major projects to achieve their goals. 95% of governments' policies are delivered through major projects[1]. So it's a huge area. McKinsey estimate a need for infrastructure investment of $57 trillion, or $3.2 trillion per year from 2013 to 2030[2]. $3.2 trillion is enough to pay for the entire NHS for 21 years.

It's big business with a lot of money involved, so it's critical that investors realise their planned return on investment (ROI). But in practice, they rarely do.

According to research across 20 countries, 90% of capital projects run over budget[3]. This isn't a local problem either – 63% of all World Bank-funded projects have encountered overruns[4]. Between 40-45% of projects aren't delivered on time and within budget[5].

> **95%** of governments' policies are delivered through major projects

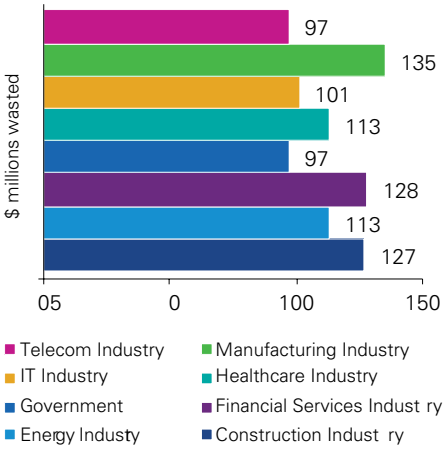
High profile examples include:

- Berlin's New Brandenburg Airport: 41% over budget and 9 years late[6]
- Denver International Airport: 194% over budget and 1.3 years late[7]
- Scottish Parliament: £400m over budget and 3 years late[8]
- Crossrail: £4bn over budget and currently 3 years late[9]

This leads to a huge amount of waste. An average of $114m for every $1bn spent is wasted due to poor project performance. This figure is even higher in the UK, with $130m wasted for every $1bn spent. It's not limited to a single industry, plaguing construction ($127m wasted for every $1bn spent), energy industry ($113m/$1bn spent), healthcare ($113m/$1bn spent) and even the typically cost-conscious government sector ($97m/$1bn)[10].

But there's an answer to cut all this waste: stronger project controls, applied consistently.

$ millions wasted across industries per $1 billion spent on projects



1 National Audit Office, 2013
2 McKinsey, 2013
3 Flyvbjerg, 2003
4 Adam and Lindahi, 2017
5 PMI, 2018
6 O'Neil, 2019
7 Szyliowicz and Goetz, 1995
8 Flyvbjerg 2017; O'Neil, 2019
9 Infrastructure Intelligence, 2020
10 PMI, 2020

2. Using project controls will stop the waste

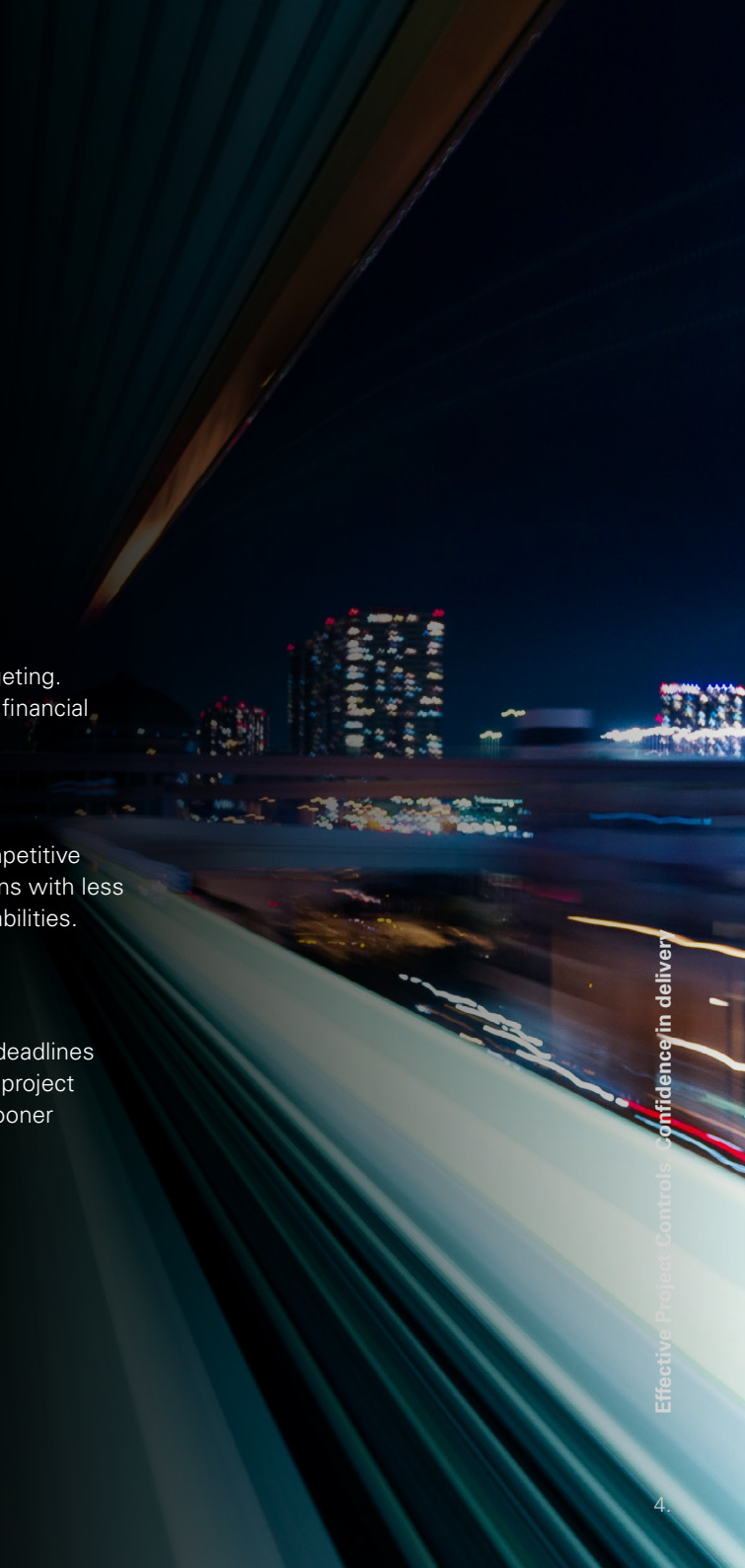
Project controls prevent major projects from failing and increase the chances that they'll finish on time, and within budget.

The route to success is to apply management and technical processes and measures (i.e. project controls) to identify, manage and mitigate the risks to your project. Research shows that organisations who use project control skills are 75.5% more likely to be profitable than those that don't[11].

Effective project controls keep your projects on track, saving you money and ensuring your desired ROI. But, this is easier said than done. Establishing and following effective controls is a multifaceted, sometimes complex process. It's often not done consistently within organisations, and there are few common industry standards. But, when you deploy effective controls consistently, the following benefits can be yours:

> Research shows that organisations who use project control skills are **75.5%** more likely to be profitable than those that don't[11].

1. No more waste! Improved project margins.
2. Easier, more accurate budgeting. Better visibility of projects' financial performance and progress
3. Early issue mitigation. Competitive advantage over organisations with less mature project control capabilities.
4. Certainty you'll meet your deadlines and get the benefits of the project (and start achieving ROI) sooner



11 Pollack and Aldler, 2016

3. There are barriers to effective project controls

Implementing effective project controls requires a multi-layered approach covering people, tools, and systems. There are three main barriers to effective implementation[12]:

1 Lacking the right mindset

Many factors that cause projects to underperform are linked to an organisation's behaviours and culture[13]. Even the best project professionals and senior management will struggle in organisations that don't take project controls seriously. Research highlights that 69% of organisations highly value project management but only 22% use standardised project management practices throughout their organisation14. And without senior management buy-in and leadership commitment, organisations often implement controls half-heartedly, with limited investment and training. This is a huge barrier to success. Leadership commitment, setting the right culture and tone from the top, is more likely to contribute to a project's success than any other factor[15].

69% of organisations highly value project management but only 22% use standardised project management practices throughout their organisation

2 Poor skillset

Poor reporting is a common problem during project delivery. Project teams and management do not always factually report information[16]. Research shows that project managers produce biased reports 60% of the time and the bias is more than twice as likely to be optimistic than pessimistic[17]. This can be unwitting optimism caused by insufficiently objective and robust analysis, but can also be an attempt to mask issues, where managers hope they can get a failing project back on track before senior staff realise there are problems.

Inadequate or poor communication is the primary cause of 29% of project failures[18], so having accurate, objective data and information in the right places at the right time is critical. And when it comes to issues, honesty is definitely the best policy.

Research shows that project managers produce biased reports **60%** of the time and the bias is more than twice as likely to be optimistic than pessimistic

3 Wrong toolset

Not having the right tools and processes is another huge barrier to effective project controls. Even if an organisation has embraced project controls, if they're poorly designed, they won't work.

It's just as important to have controls that are proportionate to a project's risks. Excessive or overdesigned controls, processes and systems become burdensome for users, so they often stop following them – potentially a huge risk if users start underestimating the importance of project controls more generally.

Users also need high quality training and better knowledge of project controls. A lot of people still think controls are just about Gantt charts and don't understand how to correctly deploy tools and techniques like earned value analysis, critical path method, progress analysis, s-curves etc.[19]

12 Olawale 2020 & 2021
13 Munizaga and Olawale, 2021
14 PMI, 2020
15 Young and Poon, 2013
16 Olawale and Sun, 2010 & 2015
17 Snow et al. 2007
18 PMI, 2018
19 Olawale, 2020

4. Overcoming the barriers

These three barriers are not insurmountable. By communicating the case for change, ensuring leaders are committed and putting in place a well-designed and intelligent controls regime, you can overcome them. Here are five things you can do:[20]

1 Improve your culture

Organisations often make project controls the sole responsibility of a single function – whether that's a project management office, project controls, commercial, or even finance. But for project controls to be effective, everyone has to feel like they're their responsibility. You must develop a culture that emphasises that project controls aren't managed by a single function but by all areas of an organisation. This needs different project stakeholders to coordinate and cooperate, based on a shared understanding of why controls matter.

> You must develop a culture that emphasises that project controls aren't managed by a single function but by all areas of an organisation

2 Simplify controls

Project control processes, procedures and systems should be simple, clear, and easy to implement. Poorly designed controls can sap time – especially if you're collecting more data than you ever use – leading to a perception that they aren't worth it. But by designing intelligent, proportionate controls, you can find the balance between the time spent operating the control and the value it adds. Get this right and staff will be more than willing to adopt controls – seeing them not as extra work, but as part of healthy project management.

> Project control processes, procedures and systems should be simple, clear, and easy to implement

20 Olawale, 2021

3 Clearly define processes

Quite often project controls are too focused on highly configured, complex IT systems, and not focused enough on core processes and practices. Systemisation of project control processes is still extremely important – in fact, we see it as one of the keys to good project management – but you mustn't disregard the processes and practices that generate the information and data your systems use. Effective project controls can and should be IT-enabled, but always based on clearly defined core processes.

> You mustn't disregard the processes and practices that generate the information and data your systems use

4 Integration of Time and Cost

We all know time is money, but the relationship between cost and time in major projects cannot be overstated. Many reasons for cost increases relate to schedule and vice versa, and cost and scheduling share a lot of common data in their controlling processes[23]. But despite this, organisations often don't integrate cost and time controls in practice[22]. For project controls to be effective, you have to integrate cost and time from the start.

> Organisations often don't integrate cost and time controls in practice[22]

5 Train your people

Project controls have to be right for your people, as well as your strategic objectives. People are crucial to make sure controls operate smoothly, but only 45% of organisations have a formal process for developing their project management competency[21]. If you're serious about delivering projects effectively, on time and on budget, you have to train your people on how to implement your controls.

> only 45% of organisations have a formal process for developing their project management competency[21].

21 Jung and Woo, 2004
22 Olawale and Sun, 2013 & 2015
23 PMI, 2018

5. Transforming your controls with our help

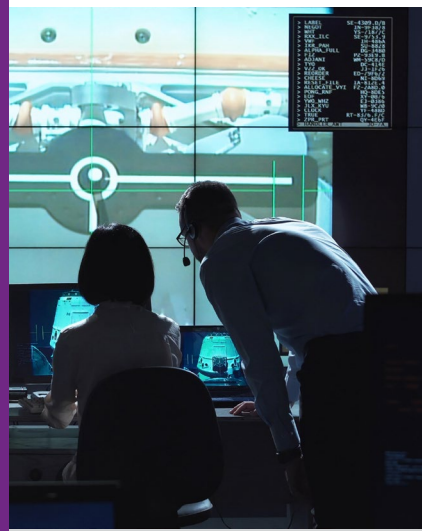
We help organisations reduce waste, improve ROI and build confidence that their major projects will be completed on time and on budget, thanks to a stronger controls environment.

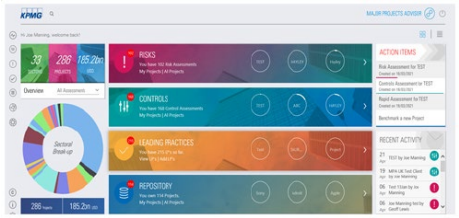
We can help you reach an intelligent, effective project controls environment. We start by understanding your organisation's current maturity by running a baseline controls assessment to unearth the barriers specific to your organisation. These could be issues with your mindset (establishing the right project controls culture), skillset (your people's knowledge and competency) or toolset (standard control processes and procedures).

We then use our digital controls assessment tool to compare your baseline controls with a global benchmark database and a library of leading practice. We identify where your controls don't follow leading practice and give you an analysis of the gaps.

The next step is working jointly as a partner to enhance your controls, plug the gaps and improve the maturity of your control environment (and ultimately confidence that you can deliver your projects).

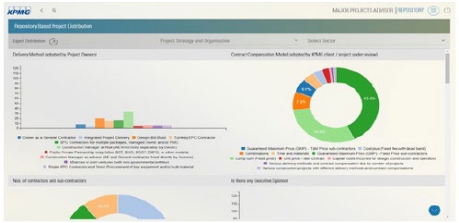
At every stage, we coach your people and share our knowledge. So as leading practice for controls evolves, you can be confident your teams will know how to update your controls to match it. You can make the changes that matter today and tomorrow too.



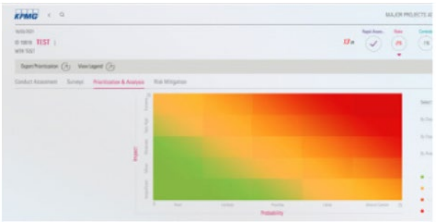


Quick reference dashboard

Benchmarking ratings and practices across projects



Analytics on project repository
(Includes over 300 global projects)



Risk prioritisation and automated heat map generation

We're all about improvement and transformation, not just measurement. This means we carefully examine your behaviour and culture around controls. We will help you understand the reasons for undesirable behaviours around project controls, and provide advice for targeted improvement actions.

The digital controls assessment tool

Our project controls framework covers 7 core contral processes, ~50 control sub-processes (shown to the right) and over 200 assessment criteria. We tailor these for the complexity and size of your project and portfolio.

The framework is based on our experience of designing, reviewing, and advising on project controls over many decades. It's designed to handle the practical realities of running an organisation.

KPMG project Controls Framwork: Core and sub processes

Within these major and sub-categories, the controls framework includes 196 specific assessment areas that we tailor to your needs

Cost and Financial Management
- Budgeting
- Payment processing and administration
- Project cost reporting and accounting
- Estimating / forecasting and contingency management
- Cash flow reporting
- Value engineering
- Project variance and historical trend analysis

Project Controls and Risk Management
- Change order management
- Risk management
- Design standards and specifications
- Regulatory compliance
- Quality control and inspection
- Environment, health, safety, security
- Project management self-assessment
- Customer satisfaction and lessons learnt

Schedule Management
- Schedule planning and development
- Schedule updating
- Schedule change management
- Schedule integration

Sustainability
- Sustainability strategy and organisation
- Sustainability planning and communication
- Sustainability procurement management
- Sustainable materials management
- Sustainability reporting and metrics
- Sustainable design
- Sustainable quality control and inspection
- Sustainable monitoring and inspection

Procurement Management
- Procurement planning
- Sourcing strategy
- Contracting strategy
- Contract negotiation
- Contract administration
- Materials management
- Contract closeout

Strategy, Organisation and Administration
- Project planning
- Roles and responsibilities
- Policies and procedures
- Communication planning
- Project infrastructure and systems
- Document control and records management

Culture
- Clarity
- Role Modelling
- Enabling Environment
- Commitment
- Openness
- Transparency
- Comfort to report misconduct
- Enforcement

Our methodology

Our approach to enhancing controls has three phases:

1 Review

We complete a rapid, detailed assessment of your current controls environment and performance, identifying symptoms of controls issues. You get a baseline assessment controls report.

2 Recommend

We analyse the gap between your current controls environment and where you want it to be. You get practical, prioritised recommendations to improve your controls environment, culture and performance.

3 Transform

Our major projects advisory specialists embed in your teams, designing and implementing new and revised processes and procedures together. You get a transformed culture and a more effective controls environment.

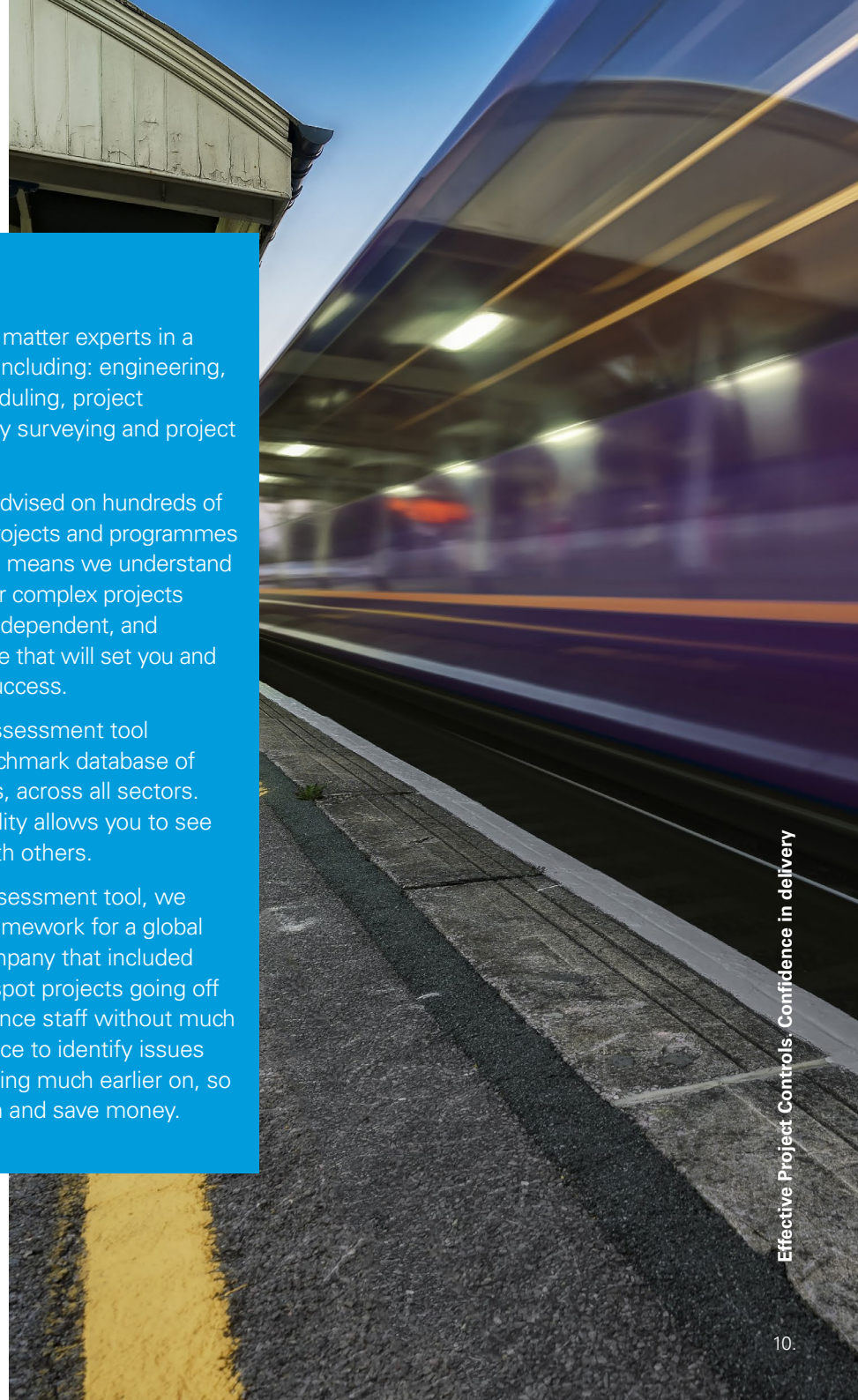
Why KPMG

Our team are subject matter experts in a huge range of areas, including: engineering, project controls, scheduling, project management, quantity surveying and project accounting.

We've delivered and advised on hundreds of major infrastructure projects and programmes all over the world. This means we understand what it takes to deliver complex projects and can bring fresh, independent, and multidisciplinary advice that will set you and your projects up for success.

Our digital controls assessment tool contains a global benchmark database of controls assessments, across all sectors. This unique functionality allows you to see how you compare with others.

Using our controls assessment tool, we designed a control framework for a global natural resources company that included leading indicators to spot projects going off track. This helped finance staff without much construction experience to identify issues throughout the reporting much earlier on, so they could take action and save money.



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