

WHITE PAPER

It's time to do better than 'better late than never'

Embracing sustainability: Making on-time, on-budget capital project delivery the new expectation, not the exception

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Executive summary:

In the coming years, society's climate goals will increase the number of energy-related capital projects and introduce greater complexity and larger scales. By 2030, annual spending on these projects is projected to rise from \$3 trillion to \$5 trillion. However, the transition to clean energy affects more than just energy-related ventures. Sustainability is crucial, demanding efficient execution to stay within schedules and budgets. Any waste of time, finances, or materials hampers sustainability.

To achieve sustainable capital projects, stakeholders must embrace strategies like agility, collaboration, and transparency. This alignment of interests minimizes risks, prevents delays, adheres to budgets, and ensures sustainable outcomes. In this article, we will explore the significant challenges faced in industrial capital projects, their impact on outcomes, and tactics to empower you in gaining a competitive advantage, enabling you to safely and consistently execute projects that are aligned with your business and sustainability objectives, all while remaining within budget and adhering to the predetermined timeline.

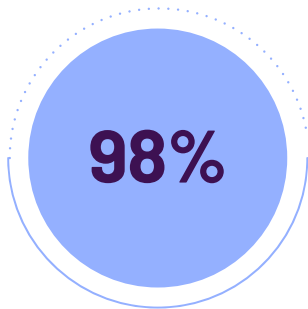
Introduction

Over the last twenty years, many industries have adopted sophisticated strategies that maximize the potential of their industrial data to execute projects faster and at lower costs. Unfortunately for heavy industries working on large capital projects, this paradigm has yet to shift. In a recent survey of senior project executives, **McKinsey found that, on average, capital projects overrun budgets and schedules by 30-45%**. That figure takes on additional emphasis in the context of the global push for sustainability. Budget and schedule overruns don't just translate to lower ROI; they also impede progress toward sustainability objectives.

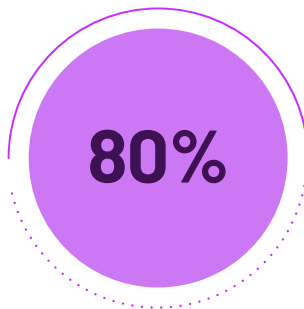
So, what's getting in the way of successful, sustainable project delivery? From flawed cost estimates, self-serving interactions, and misaligned risk distributions to

ever-rising project complexity and costs, there's really no shortage of challenges standing between project teams and delivery. Supply-chain disruptions, a legacy of the COVID-19 pandemic, only further complicate these challenges. Fortunately, the solutions to all these issues begin in the same place: enhancing collaboration and transparency. That's where advanced, unified project execution software becomes essential.

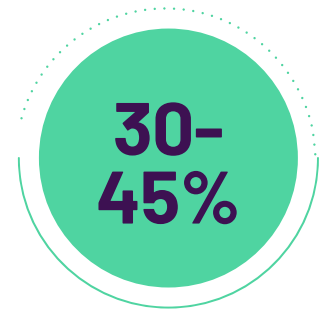
In this white paper, we will take a closer look at the most pressing problems standing between project teams and sustainable project delivery, and how specialized project execution software can help project owners and contractors navigate them—on time, on budget, and sustainably.



98% of CapEx projects are delivered late



80% of CapEx projects run over budget



The average CapEx project runs 30-45% over schedule and over budget

Back to reality: Anchoring project expectations in trusted data

Pain point: Accurate cost and project timeline estimates are crucial to the success of any capital project. They enable effective budgeting and resource allocation and they enable stakeholders to accurately gauge ROI. A flawed cost estimate, on the other hand, all but guarantees budget overruns, just as unrealistic deadlines all but guarantee project delays, either of which can quickly strain the relationship between contractor and project owner and contribute directly to missed sustainability objectives.

The solution: Bringing project expectations back in line with reality requires a more holistic approach to cost estimation, rooted in trusted, easily accessible data. AVEVA's solutions for effective project management incorporate data-driven insights from stakeholders and contractors into project expectations, which reduces the risk of overly optimistic, myopic estimations, and widens the window for successful, sustainable project delivery.

Striking the balance: Aligning best interests, and redistributing risk and reward

Pain point: Projects yield better outcomes when contractors and project owners work together effectively. Transparent collaboration helps project parties reduce wasted effort and materials for better, more sustainable results. That may seem obvious, and yet this is rarely how capital projects look today. More often, we see contracting models push project parties into self-serving interaction and adversarial stances. This lack of trust between project parties, in turn, increases the likelihood of project delays, budget overruns, and poorer-than-expected sustainability outcomes.

The solution: Specialized software designed for capital project execution places a strong emphasis on process governance and enforcement, which helps reduce risks associated with contracts and obligations. By providing decision-makers with better visibility and control over contract-related risks, these solutions promote trust between project parties, minimize the likelihood of disputes and deviations, and ensure more successful, less wasteful project outcomes.

Why the hesitation?

The data paints a clear picture. So, why is it that capital project owners often hesitate to adopt new capital project execution strategies that maximize the potential of their data? Many say they are reluctant to:

- Change long-established practices
- Trade out existing in-house solutions and lower-cost tools
- Share data through the cloud for security concerns
- Make new investments on their limited profit margins

While these misgivings may be easy to understand from a psychological perspective, none bear out from the perspective of project outcomes. The organizations that overcome these hesitations the quickest will reap the largest benefits.

Reigning it in: Avoiding overruns and delays

Pain point: In the current CapEx landscape, budget overruns and project delays are not the exception; they are the expectation. [McKinsey found that 98% of capital projects are delivered late, and 80% are delivered over budget.](#)

The solution: AVEVA's solutions for effective capital project management empower project teams with enhanced process governance and change management, ensuring that projects remain on track and are delivered on time and on budget. By unifying people and processes, specialized project execution software mitigates the risks associated with delays and cost overruns, promoting successful, sustainable project outcomes.

Achieving more, using less: Optimizing material use and costs

Pain point: Material costs make up about 28% of the cost of the average greenfield project, which means that any wastage in material acquisition will significantly impair both the financial results of a project and its sustainability outcomes.

The solution: Advanced enterprise resource management software goes beyond the generic capabilities of enterprise resource planning systems by providing comprehensive coverage of project-specific functionalities, such as project planning, resource allocation, material management, and progress tracking. With more efficient management of materials and resources, project teams can minimize material costs and improve overall project budgeting.



Eliminating bottlenecks: Enhancing decision-making with trusted information

Pain point: As the number of contractors on a large, complex project grows, so does the likelihood of information bottlenecks arising, which often lead to inefficiencies, missed opportunities for cost savings, and ultimately to project delays and missed sustainability goals.

The solution: Specialized software for capital project execution bridges the divide between project teams and decision-makers, which helps them work together to deliver successful outcomes even in complex scenarios. AVEVA's data-centric construction planning and execution approach improves access to accurate project information, facilitating better decision-making and smoother execution. By reducing inefficiencies and eliminating bottlenecks across the project lifecycle, AVEVA's solution enhances project efficiency to bolster productivity and sustainability.



Conclusion

Capital projects are inherently resource intensive. Heavy industries hold a significant role to help advance the world towards a net-zero future, and they also have a unique capacity and opportunity to make that future a reality.

Fortunately, the first steps to that reality are already clear. Pain point by pain point, we see the same essential lesson hold true: enhancing efficiency and reducing waste help CapEx project teams achieve both their financial and sustainability goals at the same time. To successfully and sustainably deliver the influx of capital projects on the horizon, owner-operators and EPCs will need to proceed along the same digital transformation path so many other industries have already begun to chart. By embracing collaboration, and unifying people and processes, specialized software for capital project execution optimizes efficiency, reduces risk and waste, saves costs, and delivers more sustainable outcomes.

About the author



Jesse Baez leads project execution for the engineering portfolio. Jesse's unique blend of technical and business acumen stems from his Engineering degree and MBA in Information Technology. He excels at driving successful marketing efforts that align with the company's strategy.

What can you do now to protect your ongoing projects and improve the outcomes of projects in the future?

[Download the guide](#) to CapEx risk management