OCTAVE

EBOOK

The business case for Enterprise Project Performance

Drivers, benefits and competitive advantages of pushing beyond the project status quo

Contents

Introduction

Capital projects shift fast. Workforce changes, rapid industry expansion and advancing technologies now converge and raise the stakes for engineering and construction organizations. Project complexity puts new pressure on organizations to hit expected performance levels. Some companies will step into this new era ready. Others will fall behind if they ignore what's coming next.

Industries built on large capital projects, such as engineering and construction, often resist new processes and technologies. Yet in today's competitive environment, organizations must embrace change. Organizations that want to thrive must replace comfort with progress and tune their operations for sharper performance.

To navigate the industry's transformation and enable their own digital evolution, organizations need near real-time accurate information. They need greater standardization and better predictability to enable teams to take timely corrective action and shape better outcomes that meet business objectives.

Most organizations still rely on internally developed tools, siloed commercial software and spreadsheets that fragment information. These disconnected systems block high performance and weaken alignment across project teams. They also limit leaders' confidence to make clear, informed decisions.

So how do organizations convert this hindrance into a competitive advantage? How do project teams leverage massive amounts of project data to deliver clarity and improved results? How do executives keep everyone aligned and working toward shared goals in a consistent way? How do decision makers influence performance with confidence?

They adopt a single environment that supports the full lifecycle of projects and brings all contributors into one shared system for faster and more effective work. They adopt an **Enterprise Project Performance (EPP) strategy**.

What is Enterprise Project Performance?

Enterprise Project Performance reframes project delivery as a business-wide engine for outcomes. Organizations adopt an EPP mindset to focus on the performance of every project across portfolios, analyzing how each one drives strategic results.

An EPP software platform supports this shift by integrating processes across the full lifecycle of projects. It brings portfolio, project and contract management into one environment and integrates the sub-processes that keep them moving. This approach improves efficiency, predictability and control across all projects, programs and portfolios for all stakeholders.

The result: **organizations maximize project success.**

Business outcomes of Enterprise Project Performance

The right EPP platform gives organizations clear visibility into their financial, human and equipment resources. With this visibility, enterprises measure the performance of their projects with accuracy while allowing project teams to effectively communicate and manage risks and changes. At the same time, EPP equips leaders to choose projects that support their organizational strategy. This approach helps companies, avoid costly mistakes early in the capital planning process.

EPP increases service providers and contractors' margins and maximizes project owners' investment returns by providing:

- Cost and schedule predictability that leads to significant cost reductions
- Company-wide visibility into all project and opportunity data to promote transparency needed to drive proactive behaviors
- Efficient data management and analysis that enables more timely, reliable decision making
- Standardization and control over all project processes, regardless of the size and type of project

How Enterprise Project Performance works

Many organizations that plan and execute major programs or capital projects rely on numerous disparate systems and spreadsheets with almost no automated integration. This splintered setup fragments information, slows teams and and prevents standardization.

Modern projects grow in scale and complexity with higher risks and tighter margins. Organizations cannot afford errors or delays. In the new era of capital projects, teams that still operate across multiple, disjointed platforms fall behind competitors that already advanced their digital transformation. **Disjointed systems create redundant, manual and error-prone processes that drain efficiency and reduce accuracy. These breakdowns increase cost and schedule overruns.** Companies need a single, connected system that unifies project data sources.

The projects ecosystem needs a solution similar to an ERP, or Enterprise Resource Planning software. ERP platforms break down silos between business units and provide a single view of an enterprise's financial and operational performance.

An EPP system brings that same unified visibility to projects. It gives organizations one view of all projects in an enterprise. Many companies embraced centralized ERP systems decades ago, yet they still run mission critical projects in Excel. Teams deserve the same intelligence for project performance and financial impact.

An EPP system works in concert with its ERP system. Together they exchange vital data and form an integrated hub for managing projects and programs from start to end.

"Organizations are 20% less likely to deliver projects successfully without a single source for performance data."

Project Controls Survey Report,
LOGIKAL Project Intelligence

Maximizing returns and margins on project investments

EPP facilitates the following components of capital-productivity excellence, as identified by McKinsey & Company:

Aligning capital strategy and allocation

EPP helps enterprises align their capital strategy with corporate strategy. Teams evaluate each project through the value it creates for the business and make capital decisions with clarity. EPP also helps enterprises track their capital spending with precision, so leaders allocate capital effectively across businesses.

Portfolio optimization

EPP gives management teams the insight to compare the value of one project over another. Teams run business case evaluations, weigh tradeoffs, reduce risk and test portfolios through scenario analysis. Contractors follow a similar process when they evaluate opportunities to bid and select the work that best strengthens their portfolio.

Streamlining project concept and design

World-class enterprises streamline their project concept and design by selecting complementary projects and optimizing for cost and value. They ask sharp questions, such as which projects they can replace with more cost-effective alternatives, which projects they can adjust to cut capital spending and how each project compares to past efforts. EPP arms organizations with the information needed to make decisions with confidence.

Applying flexible project governance and stage-gate process

EPP gives companies the flexibility to use tailored portfolio management methods and workflows depending on the size and complexity of the project. Smaller projects might have fewer stage gates, while larger more complex projects might include more stakeholders, stage gates and evaluation criteria.

Establishing organizational enablers even for small projects

Organizational enablers involve the structures, processes and communications that drive projects to the intended outcomes. EPP interconnects people, processes and tools so teams adhere to governance and apply best practices with consistency. The software sets one source of data and includes built-in approvals that create full auditability. Different projects require different levels of rigor and procedure. A strong EPP environment gives teams the flexibility to assign the right methods, codes, thresholds and governance to each project while still enabling organization-wide reporting.

Current industry realities that make Enterprise Project Performance a necessity

Few industries match the complexity and pressure that come with delivering capital projects. Construction leaders confront new demands and obstacles, both internal and external. These demands arise from the increasing size and scope of projects, rising engineering complexity and a growing volume of interdependencies. Challenges continue to mount as most companies lack countermeasures.

Several harsh realities now shape the capital projects industry.

Over budget and behind schedule

Seasoned project managers know the score. Most projects and mega projects run over budget and fall behind schedule. In fact, research from Ernst & Young shows that completion costs land almost 60% higher than initial cost estimates. Few reasons include:

- Inability to manage design and scope changes, identify and control risk, control supplier/contractor performance.
- Optimism bias, poor initial estimates, inaccurate forecasting.
- Lack of effective communication and collaboration across teams.
- Low transparency limits accountability and fosters unproductive behaviors.

“Less than 6% of projects deliver planned financial returns.”

Construction Industry Institute

Increasing governance and compliance needs

Construction ranks among the world's most complex and fragmented business ecosystems, with many disconnected people, processes and tools. This fragmentation drags down productivity and increases the need for stronger governance and control.

A global construction survey asked companies of different sizes whether their investments in project governance and controls reduce project costs. Large corporations valued at $5 billion or more reported only lukewarm confidence in those investments (see figure 1). Their responses signal a clear pattern, suggesting that continued investments in siloed project systems fail to strengthen underlying processes and behaviors will continue to fall short of expectations.

The industry now stands in front of a significant opportunity. Technology that connects and streamlines the fragmented elements of the construction ecosystem can reset performance and unlock meaningful gains.

Have investments in project governance and controls reduced project controls?

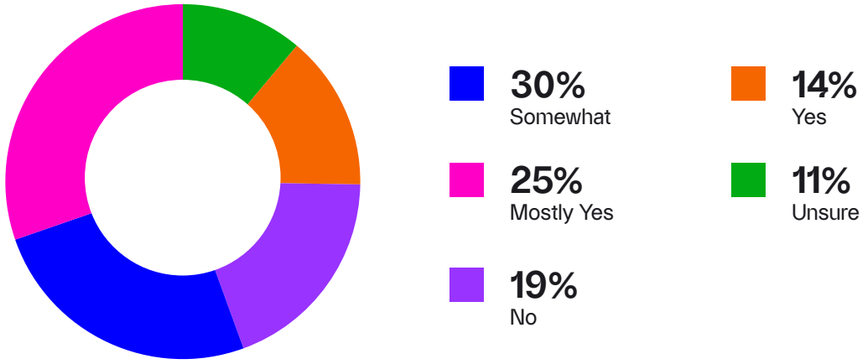

Figure 1. Source: Global Construction Survey, KPMG.

Mapping the construction technology ecosystem

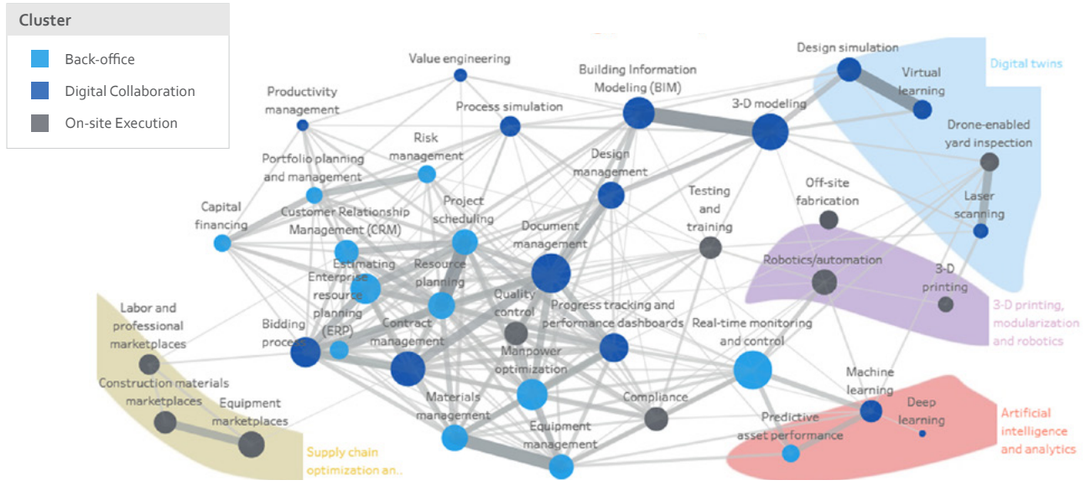

Figure 2. Source: Seizing opportunity in today's construction technology ecosystem; McKinsey & Company.

Forecasted industry growth

Whether the capital projects industry feels ready or not, global construction is expanding. The volume of projects continues to rise and the expectations placed on the industry climb even faster. Contractors and owners face more risk, higher competition for resources, greater complexity and growing barriers that stand between them and successful delivery.

Exactly how much growth is expected? For the near future, global construction is set to rise to almost $13 trillion by 2022.

But further out, the numbers are even more staggering. According to the Global Construction 2030 report, by 2030:

- Growth in global construction will increase by 85%.
- Spending will rise to $21.2 trillion on capital projects.
- Construction will account for 14.7% of the global GDP.

Even further out:

- Through 2035, the world needs to invest $3.7 trillion per year in economic infrastructure alone (transportation, power, water, telecoms) to keep pace with projected growth.
- Over the next 20 years, the world will need to invest a total of $94 trillion on infrastructure.

Although this explosive growth will undoubtedly be overwhelming to the industry, companies who adapt properly will be able to lead the industry for the foreseeable future. Those who don't will struggle to survive.

"By 2030, construction will account for 14.7% of global GDP."

Global Construction 2030 Report

Capital projects industry primed for digital disruption

The capital projects industry has moved slower than other sectors in adopting new technologies. R&D expenditures have also lagged.

However, increasingly powerful and accessible technologies could reverse that trend. Robust cloud-based tools, advanced finance platforms, analytics capabilities and increasing AI advances now create real momentum for a long overdue transformation.

New construction tech will reshape the entire lifecycle process of capital projects. Teams will strengthen digital design, streamline preconstruction, sharpen execution and gain clearer insight throughout operations and management. Upcoming technologies will include:

- Innovations in mobile collaboration technology.
- Big-data analytics and IoT (the internet of things).
- 5D BIM (building information modeling).
- Geolocation technology and higher-definition surveying.
- Advanced tech that makes future-proofing more possible in design and construction.
- AI enabled work processes.

Disruption often catches industries off guard. Organizations that anticipate these shifts and embrace new technologies early will gain significant competitive advantages.

Skilled labor shortage

The industry faces dramatic growth while its skilled labor pool shrinks. Baby boomers exit the construction industry due to retirement. This exodus widens a productivity and knowledge gap. Research reveals the scale of the challenge:

- Baby boomers comprise 40% of the construction workforce.
- Baby boomers comprise 54% of construction management.
- 10,000 baby boomers are retiring per day in the United States alone, and construction productivity is declining because of it.

As millions of new construction jobs open worldwide, enterprises must capture the knowledge of experienced workers so upcoming generations can build on it. Tools need to be easy to adopt and simple to use.

The industry faces challenges, yet organizations that adopt an EPP platform will equip their teams to navigate the evolving landscape successfully. Many organizations will gain a competitive edge by adding new layers of key performance indicators (KPIs) to tune performance.

Enterprise Project Performance KPIs

Project executives often rely on financials as the primary KPIs to measure a capital project's performance. Financial indicators only capture short-term goals and fail to show the deeper drivers of success.

Without the right KPIs, leaders lose visibility into the processes that need improvement and fail to replicate the processes that deliver strong results. Enterprises need the right mix of key performance indicators to remain competitive and achieve favorable short-term financial performance.

Essential KPIs that clarify performance include measures of efficiency, predictability and control maintained by all parties involved in a capital project. EPP technology gives enterprises the ability to add and measure these critical KPIs with consistency.

Efficiency

EPP technology helps an organization implement and measure efficiency improvements by tracking KPIs such as:

- Reductions in the time needed to perform tasks, in the time booked for project management, in the number of report reviews and revisions and in delays to monthly report production.
- Increases in resource involvement across multiple projects, in the frequency of tasks delivered on time and in the use of common tools and processes.
- Improvements in response times to workflow actions, as well as in report-cycle time frames.

The capital projects industry contains counterproductive actions and repeatable tasks that drain productivity. EPP helps teams reduce these inefficiencies in two ways:

- **Enables teams to spend less time on unprofitable tasks**
  Research shows project professionals spend up to 60% of their time on non-optimal activities like conflict resolution, searching for project information and reworking errors. EPP technology can help organizations identify, measure and reduce the time spent on these low value activities. The younger workforce has little patience for cumbersome systems, EPP also strengthens talent development and retention.
- **Automates repeatable tasks**
  Redundant manual tasks and processes consume time across teams. EPP technology integrates the portfolio, project and contract data sources to automate the transfer of the data and eliminate manual work.

Automation includes the extraction, transformation and loading of critical data from general ledger, procurement, timesheets, scheduling and estimating. Automation increases accuracy by eliminating human error.

Predictability

Executives dislike surprises. Productivity and credibility plummet when estimates miss the mark. Although faulty predictions have long plagued the industry, leaders now operate in a landscape with no tolerance for poor predictability.

An EPP enables enterprises to implement and measure predictability improvements. Important predictability KPIs include:

- Increases in the number of projects completed on time.
- Increases in the timeliness and accuracy of forecasts.
- Reductions in late forecast changes.
- Reductions in variations between budget baseline and final actuals.
- Reductions in resource waste with improved schedule accuracy.
- Reductions in the number of budget iterations prior to sanction, as well as in number of cancelled projects.

Such improvements contribute to significant gains in cost and schedule accuracy of even the largest mega projects. Capital project enterprises that hit predictable outcomes outperform the competition .

Predictability depends on three pillars: people, processes and technology. These pillars cover all components needed to keep capital projects on track and are measured through successful implementation of:

- **Portfolio management**, including concept estimating and benchmarking, project development stage gate workflows, opportunity scoring and more.
- **Project and contract management**, including iterative planning and estimating
- **Project and contract controls**, such as secure end-to-end transparency and timely reporting and communications.
- **Performance management**, including time-phased performance baselines, the "living forecast" and multi-method forecasting.
- **Predictability measurement**, such as predictability indices and incentives based on predictability.

Accuracy alone no longer defines predictability. Timing also matters. Companies that make accurate predictions earlier gain more time to adjust their plans and relocate resources. Late accuracy offers far less advantage because teams lack the time to take corrective action.

Ability to influence total cost over the project lifecycle

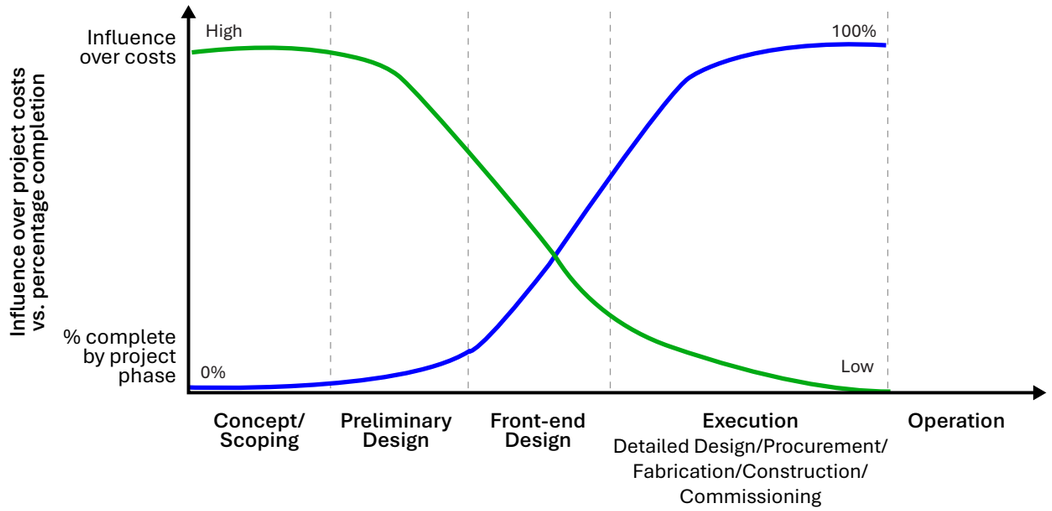

Figure 3. Source: Construction Industry Institute

Control

EPP technology enables a company to implement and measure control KPIs that:

- Measure, forecast and improve the performance of every project in a portfolio
- Integrate all project data, including cost, change, risk, productivity and performance, into a single version of the truth.
- Analyze real-time analytics at any data level.
- Gain consistency in project delivery through promoting and enforcing standards.

Control KPIs also address an industry-wide issue: **unanswered Requests for Information.**

Requests for Information (RFIs) often sit unanswered for more than a week and many receive no response at all.

EPP technology enables construction companies to measure and improve their RFI response times. Faster responses prevent delays, strengthen daily productivity and support quicker escalation and resolution of issues.

EPP also provides the transparency and communication capabilities that help teams reduce miscommunication and cut incidences of rework. According to the Navigant Construction Forum, the total cost of rework can be up to 11% of the original contract value.

Efficiency, predictability and control cannot be measured using siloed tools. An EPP platform delivers the ability to evaluate these performance indicators, improve them and gain the financial benefits that result.

"Early predictability adds value by enabling the proper response to surprises and changes. Project managers who can foresee impending cost and schedule deviations can mitigate the causes by assigning the right people, implementing the right processes and encouraging the right behaviors."

Construction Industry Institute

Financial impact of Enterprise Project Performance

An EPP platform serves as a central, standardized system for construction and capital project companies to improve the performance of every project.

With higher levels of efficiency, predictability and control, an enterprise can reduce project costs, opportunity costs and related IT and PMO costs.

Reduce project costs by 5% to 10%

Through the effective planning and control made possible by an EPP platform, a capital project company can reduce its project costs dramatically. Such cost reduction results from:

- The ability to forecast more accurately.
- Identifying, controlling and mitigating risk effectively.
- Addressing potential problems proactively and early.

"ROI through good project controls targets 5-10% savings in CAPEX spend."

Delivering with Confidence, Deloitte

Business Case Driver	Value (% of remaining CAPEX spend)	Value (£ based on £5bn program)
Reduction in project management and controls headcount through improvement in project controls efficiency	0.5 - 1.5%	£25m - 75m
Reduction in capex out-turn through better decision making, improve controls, and a reduction in the amount of contingency used	4.0 - 7.5%	£200m - 375m
Reduction in cost of capital, through better understanding of borrowing requirements and timing	0.5 - 1.0%	£25m - 50m
TOTAL Impact	**5 - 10%**	**£250m - 500m**

Figure 4. Source: Delivering with confidence: Transforming capital project delivery through world class project controls, Deloitte

Reduce Opportunity Costs by 10% to 30%

An EPP platform helps organizations reduce opportunity costs by giving leaders clear insight into business benefits of each capital project. When project leaders understand the full value of every effort, they select the right projects and allocate resources accordingly.

Knowledge of every project's benefits also helps a company measure project success like never before. It further enables the organization to fill in many project-knowledge gaps and create effective strategies for all future projects.

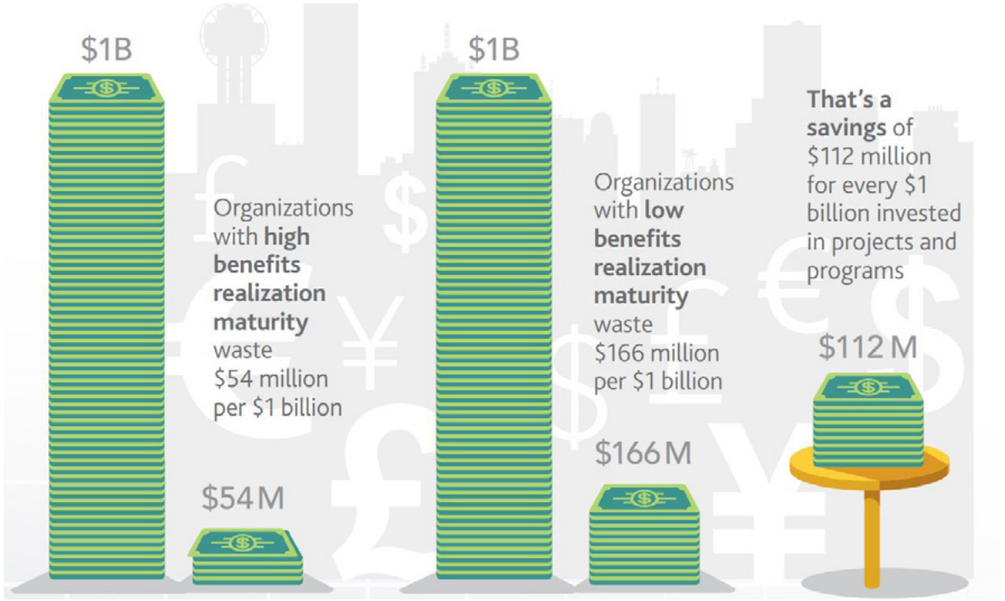

Figure 5. Source: The Strategic Impact of Projects, Project Management Institute

"Identifying project benefits lets the organizations gain focus and assign resources to the best projects. It's the way organizations increase their value."

The Strategic Impact of Projects, PMI

Reduce related IT and PMO costs by 20% to 40%

EPP helps organizations cut costs through achieving IT efficiencies and system convergence.

Traditional, disjointed systems create complexity and limit automation and AI technologies. These limitations drive waste and inflate cost.

EPP simplifies system architecture and reduces overhead. EPP systems help deliver a 20% to 40% cost reduction by consolidating an organization's disparate systems and siloed tools. EPP also helps organizations cut PMO costs by automating reporting processes and eliminating manual activities. These efficiencies allow organizations to leverage resources across more projects and increase overall productivity.

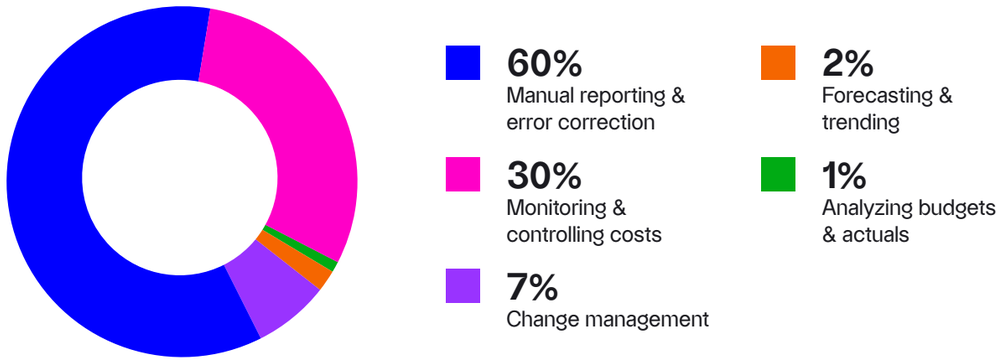

Figure 6. Low value activities at 60% before implementing EPP.

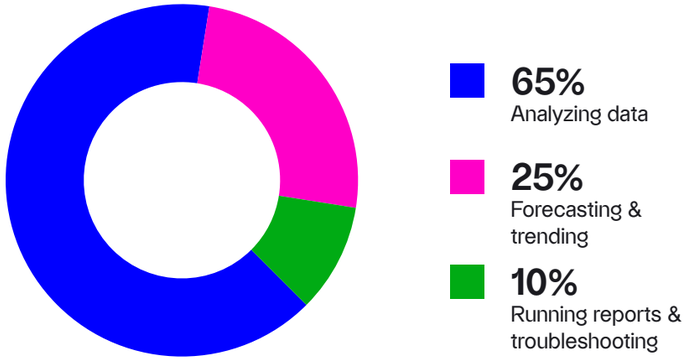

Figure 7. Expected time distribution with EPP

Technology for the new era

EPP is on track to create a wave of change that propels organizations forward in the new era of engineering and construction. By strengthening efficiency, predictability and project control, enterprises with EPP technology gain the clarity and agility to navigate the industry's fast-changing conditions.

Any entity in the capital projects industry can unlock new business value at every stage of the project lifecycle by adopting the right technology.

Where do you begin?

Leading global companies trust Octave Sequence Enterprise (formerly EcoSys) as their Enterprise Project Performance system of choice. Such organizations include many of today's top engineering, procurement and construction firms, owner operators, program and project management firms, government agencies and general contractors.

Success in the capital projects environment no longer belongs to the "strongest" players. The enterprises that think faster, operate with efficiency and predict outcomes early will lead the industry. For those interested in adopting the latest technology, act now.

Talk to an expert about how an EPP strategy can benefit your organization.

Contact us

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About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property, and assets– for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency, and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.