

8 MUST-HAVES

FOR CONSTRUCTION ESTIMATING AND PROJECT CONTROLS SOFTWARE



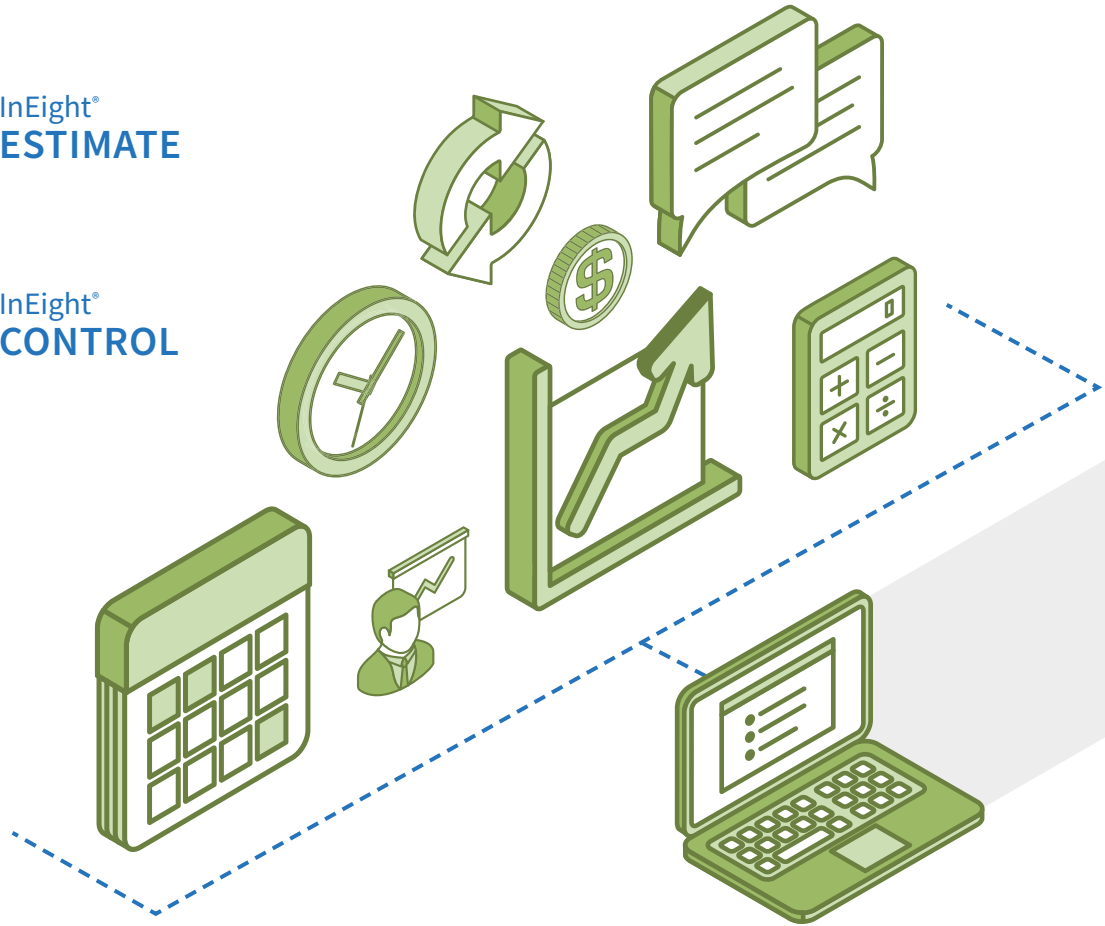
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INTRODUCTION

There are numerous functional capabilities comprising a complete system for estimating and project controls.

Some of these core capabilities are a matter of table stakes, however certain features have many different levels of functionality depending on the software you choose to implement. Understanding the differences between systems and identifying functionality critical to your business needs may ultimately be the difference between successful and unsuccessful projects. Outlined below are eight key benefits a complete construction project cost management system provides to construction and other capital projects.



8 MUST-HAVES

When purchasing construction estimating and project controls software, look for these must-have features essential to the construction and operations of large-scale capital projects.

1

Top-down vs. Bottom-up Estimating

Using this approach provides additional detail to support assumptions regarding costs, workforce productivity and schedule duration, and can be compared against the original conceptual estimate.

2

Historical Benchmarking

Every organization has historical data, however, it is typically loosely organized and not readily available to all team members.

3

Incorporating CPM Scheduling

Having a cost model tied to a schedule allows for a time-phased view of costs, revenue, resource requirements and cash flow analysis.

4

Estimate + Project Controls

With an integrated system for estimating and project controls in place, budgets can be created directly from cost estimates.

5

Change Management

As changes occur, incorporating approved changes into the working budget can be difficult to manage without a connected system.

6

Earned Value Management

Eliminate the guesswork that goes into calculating a project's earned value.

7

Forecasting

Another must-have feature when performing Earned Value Analysis is the ability to accurately predict your cost based on real-time information.

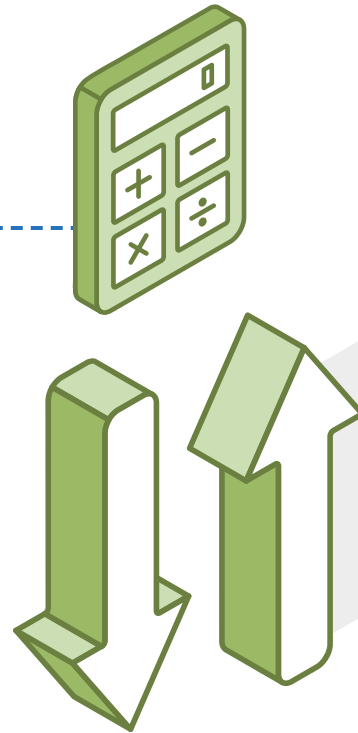
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Workflow and Audit Log

As teams work together to compile an estimate, how will you keep track of assignments and what is being changed?



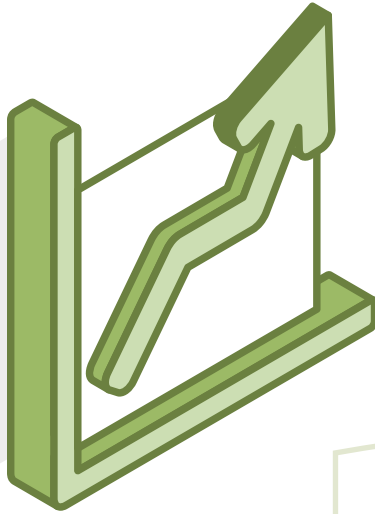
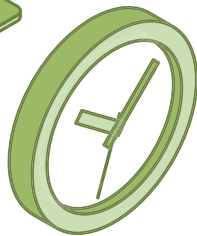
Does the system you're evaluating support both conceptual and detailed estimating practices?



TOP-DOWN VS. BOTTOM-UP ESTIMATING

Does the system you're evaluating support both conceptual and detailed estimating practices? Early-stage estimates are typically more conceptual, using information based on project history and benchmarks. Starting in the project definition phase, many of the key project details are still being determined, however you need a way to produce conceptual "top-down" estimates. As the project progresses

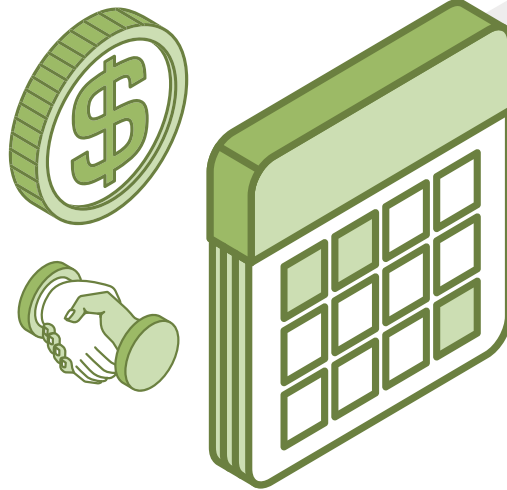
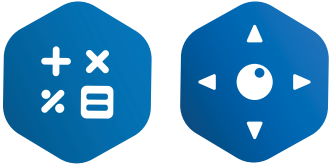
through design iterations, and more detail is made available, it's critical that your top-down estimate can easily transition into a detailed or "bottom-up" estimate. Using this approach provides additional detail to support assumptions regarding costs, workforce productivity and schedule duration, and can be compared against the original conceptual estimate.



HISTORICAL BENCHMARKING

effortlessly feed back actual costs, as well as productivity rates and quantities executed in the field.

Every organization has historical data, however, it is typically loosely organized and not readily available to all team members. Even if you are able to find past project data, the data may not be normalized. For instance, are the costs and effort of rebar installation included in the concrete past costs? By selecting an integrated project cost management system, you can **effortlessly feed back actual costs, as well as productivity rates and quantities executed in the field**, to provide validation for future cost estimates. Combined with the ability to filter data points based on geography, date, and project type provides valuable insight when performing similar work in the future.



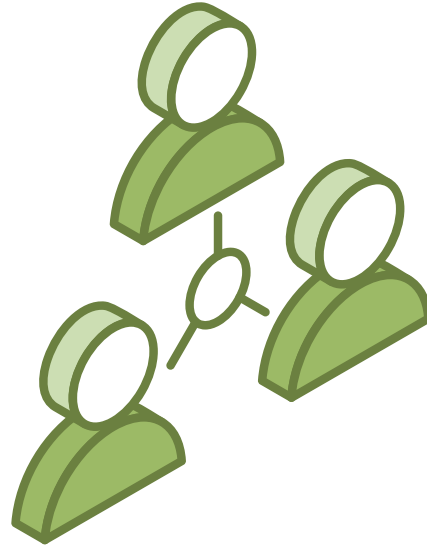
INCORPORATING CPM SCHEDULING

Cost and schedule are two sides of the same coin, in that one cannot change without affecting the other. Having a cost model tied to a schedule allows for a time-phased view of costs, revenue, resource requirements and cash flow analysis. Changes made to the estimate can update the schedule, and vice versa. **No longer do cost and scheduling teams have to work in isolation;** these two disciplines can now work together more efficiently to achieve a full 360-degree view of a project's costs, resource allocations and durations.

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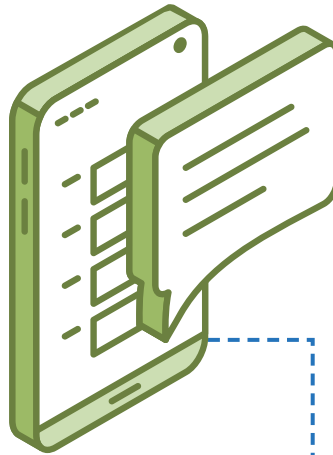


Assumptions made during the estimating phase of the project can be made readily available to field teams



ESTIMATE + PROJECT CONTROLS

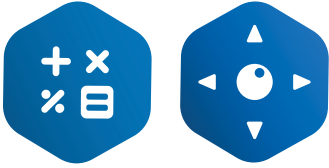
With an integrated system for estimating and project controls in place, budgets can be created directly from cost estimates and can be rolled up to whatever level makes the most sense for tracking field execution, without loss of data fidelity. The rich detail that comprises a cost estimate, for instance, the “weighting” of child items as they contribute to their parents, flows seamlessly into the field to facilitate progress tracking and reporting. **Assumptions made during the estimating phase of the project can be made readily available to field teams,** to reduce, and in many cases, eliminate inefficiencies due to lost data as it is summarized in one system for manual entry into another.



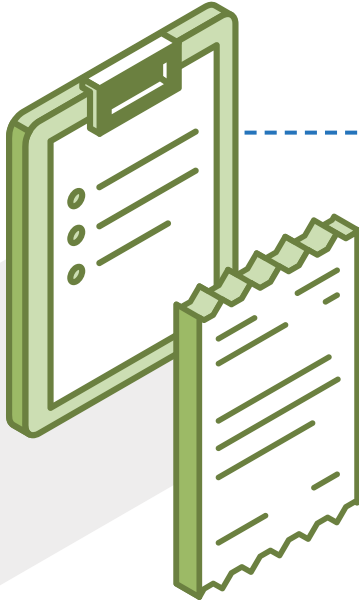
project team members can now compare forecasts to include or exclude pending changes.

CHANGE MANAGEMENT

Project changes are inevitable on every capital construction project. As changes occur, incorporating approved changes into the working budget can be difficult to manage without a connected system. Integrated project controls solutions give users the ability to status each potential change to easily see what is still pending approval, what has already been approved or rejected, and to modify the budget accordingly. Armed with complete visibility into pending and approved changes, **project team members can now compare forecasts to include or exclude pending changes.**

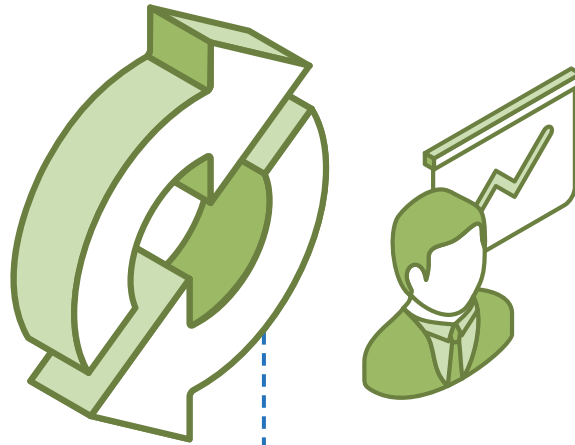
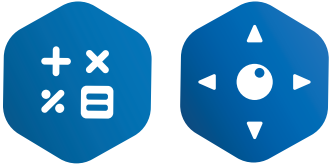


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EARNED VALUE MANAGEMENT

Eliminate the guesswork that goes into calculating a project's earned value. Best practices suggest that **leveraging a detailed Work Breakdown Structure, comprising all project costs, is critical for performing accurate Earned Value Management.** Further, each task should be quantified in order to produce an objective picture of progress. When an estimating system is integrated with field execution and earned value management applications, the rich detail driving the estimate becomes part of the execution work plan. This allows project teams in the field to pre-plan their daily work, and to gain visibility into cost and workforce hour gain/loss metrics prior to the beginning of a shift.



7 FORECASTING

accurately predict
your cost based
on real-time
information.

Another must-have feature when performing Earned Value Analysis is the ability to **accurately predict your cost based on real-time information**. With a system designed to follow Earned Value Management best practices, collecting daily quantities from the field will automatically drive forecasts and help project team members to identify trends that need course correction. Additionally, forecasts can be modeled based on collaboration, and project teams can update the project's "live" forecast. This allows for team members to perform what-if scenarios and collectively determine the best forecasting methods for the activities in question prior to sharing forecast data across the organization.



route notifications to the right project team members when their input is needed.



WORKFLOW AND AUDIT LOG

As teams work together to compile an estimate, how will you keep track of assignments and what is being changed? A critical component of a multi-user cost management system is the ability to automatically **route notifications to the right project team members when their input is needed**. Even more vital is the ability to view all changes being made in the system to keep everyone on the same page. A complete audit log will help organizations keep track of each user's input to the estimate, including when the change was made, what the old value was, what the new value is, and the impact on the estimate in terms of categorized costs and hours.

CONCLUSION

There are many systems available that provide capabilities for construction estimating and project controls.

In order to find the best system for your organization, you must have a clear understanding of your organizational requirements for a construction project cost management system.

From benchmark-driven estimating, cost and schedule integration, budgeting and forecasting, clearly defining how your next estimating and project controls system fits in your current environment is critical to future success. In addition to your organization's must-haves, be sure that the vendors you are evaluating have the industry experience necessary to implement a solution designed for the way you build capital projects.

For more information on InEight's estimating and project controls software, visit InEight.com.



INEIGHT® PROJECT COST MANAGEMENT

InEight project cost management solutions, InEight Estimate® and InEight Control®, are the most comprehensive construction estimating and project controls solutions available today. With industry-leading capabilities related to estimating, budgeting, forecasting and more, InEight's project cost management solutions provide unmatched breadth and depth of functionality for capital projects of any size. Additionally, InEight's intuitive interface, training programs and best-in-class services organization ensure teams are productive within days and optimized to support organizational best practices in just a few weeks.