

LEVELING UP YOUR CONSTRUCTION PERFORMANCE WITH AWP

Change doesn't come easily to any industry so heavily invested in "the way things have always been done."

One area where this can manifest in the construction industry is in project completion rates. Historically, projects delivered on-time and on-budget have been the exception rather than the rule. And that seems to be holding true. According to this year's [InEight construction industry survey](#), contractors reported that 65% of their projects were completed behind schedule and 62% went over budget.

There is clearly room for improvement. But for those numbers to improve, the way work is done has to improve first. This is where we come back to the concept of change. In this instance, it's a change in how projects are planned and executed. This is what [advanced work packaging \(AWP\)](#) is uniquely suited to address.

AWP introduces the logic of strong pre-planning into capital projects, notorious for their overlapping timelines, long project duration and highly detailed deliverables. What sets it apart, however, is its construction-driven approach to project planning; that is, what it *really* takes to create a structure. Work becomes more focused and therefore more productive. And this is where its impact on construction performance stands out.

AWP improves schedule performance

Think of AWP as a process that organizes hundreds or thousands of mini projects, known as installation work packages (IWP), sequentially along a project life cycle. Each has its own strategy for construction and a corresponding set of resource deliverables, streamlining workflow and making the construction process more predictable. For example, each IWP is organized and scheduled to have all its own specific resources present at the designated area when the task is scheduled to begin. So, all tools, equipment and materials will have been ordered, delivered and waiting for site crews to begin work.

These details are outlined in the overall project's [Path of Construction \(PoC\)](#), itself a deliverable mutually created by the engineering, construction and procurement teams. From a timing perspective, the PoC delivers more control over constraints — that fall into one of several categories including design, economic, technical and legal — all of which should be identified before the project has broken ground. The hyper-focused nature of the AWP planning process greatly reduces the amount and severity of constraints that often derail project progress. Timing is everything with the PoC: hammering it out at the very beginning is a key ingredient in making AWP so effective as a best practice.

AWP enhances cost efficiency

What do procurement, IWP timelines and quality have in common? They're some of the areas where AWP can regulate and rein in costs.

With the fine-tuned breakdown of materials assigned to each IWP, the guesswork is taken out of the ordering process for the procurement team. AWP's pragmatic approach tackles procurement-related constraints from two angles: it limits overspending on excess inventory from overestimated material quantities, while simultaneously curbing last-minute overspending to make up for material shortages when prices may be higher and extra fees incurred for rush delivery. Bottom line: because the right materials are procured at the right time, there's no waiting for delayed orders (remember, time is money) and there is less spending wasted on unnecessary inventory.

The defined start and stop for site crews within each IWP has a two-fold benefit. One, there's less chance of rushing through work — and introducing defects and safety risks — because those timelines are based on how long it realistically takes to perform a particular task. And two, the defined timelines, in combination with the just-in-time materials procurement and delivery, removes the risk of incurring extra labor costs for idle time and overtime.

Tighter control over scheduling and spending dovetails into more control over the quality of the work product. The impact on cost savings comes from the resulting reduction in the extent and number of potential change orders that can chip away at the budget.

AWP helps mitigate the occurrence of project-impacting modifications

The best way to reduce the impact of change orders is to keep them from happening in the first place. So many costs on a construction project are driven by scope changes during the course of the job. The key to eliminating these changes? Create a clear understanding among all parties involved in the construction process of what needs to be done and how it should be done — *before* any work begins. That's precisely what AWP does.

This is where having engineering, construction and procurement teams at the design table makes such a difference because it encourages collaborative discussion and evaluation of design alternatives and material options to consider. The goal? To collectively land on the best agreed-upon choices for the project that meets the owner's requirements. That means fewer unnecessary change orders and corresponding cost- and time-consuming rework. This last point has further implications to consider; reducing the potential for rework can improve your odds of not being on the receiving end of a liquidated damages claim or a withholding of contract retainage.

Rely on SPI and CPI metrics to monitor AWP's impact

How do you know your [AWP method is working](#)? Track your [earned value management \(EVM\) metrics](#), specifically schedule performance index ([SPI](#)) and cost performance index ([CPI](#)), to monitor and validate ongoing performance. Take a look at your historical data from past projects. It should give clues as to what delay-causing constraints and [risk factors](#) to take into account as you're assembling the IWPs. In what ways did those factors affect your metrics? What was the real impact on the schedule and on costs? Did the metrics deviate far outside their operating range? If so, what steps can you take to remove the appropriate factors, so they're not included in future IWPs? Even with natural fluctuation, SPI and CPI should remain relatively stable. Of course, metrics collected from current projects can then be used to inform how IWPs are created for subsequent builds.

AWP as an effective approach to planning the best construction performance

Advanced work packaging is a practical and effective approach to reducing time and cost constraints, as well as improving productivity. As the construction industry works to respond more creatively and practically to the demands of accelerating project delivery, AWP is on track to become more commonplace. The concept remains in its early adoption phase, but it has already proven itself in practice. Sure, it'll require a bit of a shift in how to organize projects, but we're here to help. We're happy to [walk you through a demo of InEight construction planning](#) so you can see for yourself how AWP can improve your capital projects' performance.