

Packaging Wrapped in Tech

Achieve productive and progressive construction with Advanced Work Packaging, collaborative teams and integrated digital systems.

The construction industry has grouped its work into packages for decades. Teams would spend months planning, jotting down relevant project specs and bulleted lists of tools and materials in notebooks, all organized by work package. These notebooks, along with photocopies of site drawings, would then be handed over to crews to start construction.

As the construction industry gradually adopts and utilizes technology — integrating systems with engineering and procurement — the practice of work packaging is transformational.

The Construction Industry Institute breaks Advanced Work Packaging (AWP) into four distinct

packages: area, engineering, construction and installation. Work packages coordinate priorities for when to design, procure, build and commission a project.

Today, AWP goes beyond establishing a planned and executable project process from the upfront planning through detailed design, construction and commissioning. It allows teams to realize datacentric execution and virtual project delivery to help heighten safety, improve efficiency and reduce costs.

Before implementing a specific work package, teams must balance proven best practices with new technologies.



COLLABORATE, EARLY AND OFTEN

With traditional project planning, construction teams are left with limited time — often only days — to plan their field work, cutting back their opportunity to ask questions, review documents or request materials.

These types of delays are avoided when collaborative planning is done early and often.

In the initial project planning stages, design, engineering, procurement and construction teams sit down together to discuss overall scope. Construction personnel engaged in the design can affect the outcome and influence the planning process, creating safer and more effective operations as the installation comes online.

“This establishes a more methodical process,” says Leslie Duke, a regional office president at Burns & McDonnell. “And being methodical is a really good thing when you’re out in the field.”

COORDINATE PACKAGES

At the onset, teams should determine the appropriate workflow and begin breaking the work down into unique packages. These packages should then be sequenced by priority and project effectiveness to keep information, materials and system completion on schedule.

“It’s up to the project team to determine how granular work packages should be,” says Paul Burke, a construction project manager at Burns & McDonnell. “The goal at the end of the day is always to keep the team safe, produce quality work and be efficient.”

VISUALIZE THE WORK

With 5D technologies — which link 3D models with schedule constraints and cost-related information — teams can visualize the construction and receive real-time feedback into the physical and functional aspects of the design. Area conflicts are flagged, as are disconnects with materials and equipment. Such 5D technologies also give the team the opportunity to identify atypical work, such as elevated construction or congested work spaces, which require additional preparation.

The ability to improve project efficiencies means fewer hours spent working on the construction site. With fewer hours in the field, there is less risk to the workforce.

COMMUNICATE AT SCALE

From the early planning stages to the final steps of project turnover, the hundreds of workers engaged on a project need to be on the same page. Integrated systems and technologies provide clear, concise expectations and well-defined processes and procedures across disciplines. Software supporting AWP can streamline communications and break down silos.

Integrating technology and platforms across disciplines helps projects remain flexible. Iterative changes can be more easily made to work packages and plans can be adapted, all without hindering project progress or team coordination. ●



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IN COMPLETING LARGE-SCALE PROJECTS.**

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