# 3. [ADVANCED WORK PACKAGING EXECUTION PLANNING GUIDE FOR PROJECTS AND ORGANIZATIONS (FR-390)](https://www.construction-institute.org/awp-execution-planning-guide-for-projects-and-organizations)

**Report Summary:** This study guides practitioners as they work to adopt or mature their AWP program to gain the benefits from successful implementation. This work contributes to the AWP body of knowledge by providing the following:

* Guidance to owners and early implementers.
* Guidance to project stakeholders for AWP execution per discipline.
* Enterprise-level considerations for AWP implementation.
* Supporting evidence of AWP benefits with regard to early planning and execution, and changes during engineering observed through an industry survey.

This work consists of seven self-contained modules:

1. Enterprise Guide
2. AWP Review and Owner’s Guide
3. Preliminary Planning and Design
4. Detailed Engineering
5. Construction Execution
6. Commissioning and Startup
7. Procurement

**Key Takeaways:**

## (1) Advanced Work Packaging (AWP) Review and Owner’s Guide

## (Project Phase: Feasibility through Commissioning and Start-up)

* Align engineering, procurement, and construction (EPC) processes early in the project to support seamless advanced work packaging (AWP) and enhance project coordination​.
* Define clear construction work packaging (CWP) and installation work packaging (IWP) to ensure constraint-free work fronts for efficient field execution​.
* Implement a robust Path of Construction during the planning stage to maintain a logical work sequence throughout the project’s lifecycle​.
* Establish constraint management processes to proactively address and mitigate potential issues before they impact the construction schedule​.
* Include AWP requirements in contracts and involve all stakeholders in early planning to foster alignment and accountability across project phases​.

## (2) Handbook A: Preliminary Planning and Design

## (Project Phase: Feasibility through Detailed Scope)

* Define the project scope, contracting, and procurement strategies to establish clear project boundaries and objectives​​.
* Align EPC and start-up sequences to streamline workflow and avoid misalignment​​.
* Develop a work breakdown structure (WBS) to support coherent work packages across disciplines​​.
* Identify and incorporate early constraints, such as permitting and logistics, to mitigate potential project delays​.
* Conduct Path of Construction planning to ensure effective sequencing and coordination of work packages​.

## (3) Handbook B: Detailed Engineering

## (Project Phase: Detailed Design and Procurement)

* Integrate engineering schedules with AWP deliverables to align with the Path of Construction and to reduce delays​​.
* Formalize 3D model organization by CWP to support seamless EWP and IWP creation​.
* Identify engineering deliverable dependencies to synchronize engineering with procurement and to avoid schedule conflicts​.
* Assign responsibility for tracking engineering progress based on CWP milestones​​.
* Standardize data formats to ensure compatibility and to ease the information transfer between the engineering and construction teams​.

## (4) Handbook C: Construction Execution, Testing, and Completions

## (Project Phase: Construction)

* Develop constraint-free IWP by coordinating EPC activities to ensure that all resources are available before fieldwork starts.
* Track IWP progress and manage closeout to maintain alignment with the construction schedule​.
* Engage a Workface Planning lead to oversee IWP preparation and manage resource allocation effectively​.
* Utilize 3D and 4D visualization tools to enhance work package planning and progress tracking​​​.
* Collect lessons learned from each completed IWP to refine and improve the AWP implementation process​​.

## (5) Handbook D: Commissioning and Start-up

## (Project Phase: Commissioning and Start-up)

* Define boundaries for safe work practices (SWP) and the work scope to ensure safe and efficient commissioning.
* Identify and manage SWP constraints to streamline the transition from construction to start-up​​.
* Track completion of prior IWP to confirm readiness before issuing SWP​.
* Automate SWP tracking using digital tools for better visibility and control over the commissioning progress​​​​.
* Develop a commissioning and startup (CSU) punch list and track closure to prepare systems for operational start-up​​.

## (6) Handbook E: Procurement and Supply Chain Process

## (Project Phase: Commissioning and Start-up through Construction)

* Define procurement timelines for long-lead items that are aligned with the Path of Construction to support critical project stages​.
* Establish Procurement Work Packages (PWPs) if necessary to facilitate material alignment with construction priorities​.
* Track vendor data and shipment schedules by CWP and IWP for visibility of material readiness on-site​​.
* Integrate procurement systems with project management tools to streamline tracking and constraint management across the EWP, CWP, and IWP processes.
* Synchronize the procurement and construction schedules to ensure the timely delivery of materials without delays to fieldwork​​.

## (7) Enterprise Guide

## (Project Phase: Feasibility through Commissioning and Start-up)

* Secure top leadership support to drive AWP adoption across projects, and ensure organizational alignment to AWP adoption by identifying challenges, such as alignment with existing processes, to streamline enterprise-wide implementation.
* Establish an AWP program with clear knowledge transfer mechanisms to standardize practices across all projects.
* Implement mandatory AWP training to facilitate consistent knowledge and skills across project teams​.
* Develop centralized data system metrics and track project progress, thereby enabling continuous improvement and accountability.