# 9. [MODERNIZING THE SUPPLY CHAIN AND INCREASING THE VALUE OF AWP (FR-363)](https://www.construction-institute.org/modernizing-the-supply-chain-and-increasing-the-value-of-awp)

**Report Summary:** An ideal materials management system will be able to communicate between IT systems and integrate the digital threads of all the materials needed for the project. The principal recommendations from this study are as follows:

* Improve the quality of orders to suppliers, which is a major industry opportunity and low-hanging fruit, by (1) reviewing and improving requests for quotations (RFQs) and the order process, (2) ensuring that RFQs and purchase orders are clear in scope and that priorities and information (data required) are delineated, and (3) considering the use of RFID technology when preparing RFQs.
* Involve suppliers early in the project, ideally in the front-end engineering design (FEED) stage, to better leverage their capabilities and ensure timely deliveries.
* Improve information systems to ensure the smooth exchange of information across the supply chain, thereby supporting better and more timely decisions.

**Key Takeaways:**

## (1) Improving the quality of orders to suppliers could be a major industry opportunity and low-hanging fruit.

## (Project Phase: Detailed Scope through Construction)

* Clarify the scope and requirements: Standardize order details, specifications, and drawings to prevent misinterpretations.
* Prioritize deliveries: Establish required-at-site dates and priorities to minimize disruptions.
* Improve communication: Establish a single contact, streamline Requests for Information, and use digital tracking.
* Standardize data exchange: Implement structured procurement data formats and digital integration.
* Engage suppliers early: Involve suppliers during the early project phases to optimize procurement and explore alternatives.

## (2) Involving suppliers early in the project better leverages their capabilities and ensures timely delivery.

## (Project Phase: Detailed Scope through Construction)

* Engage suppliers early: Include suppliers in front-end engineering design (FEED) to optimize procurement and design decisions.
* Define supplier roles: Clarify expectations, deliverables, and collaboration points during the project planning phase.
* Leverage supplier expertise: Consult suppliers about material alternatives, fabrication methods, and logistics solutions.
* Improve information flow: Proactively share project schedules, priorities, and design updates with suppliers.
* Establish early contracts: Use framework agreements to secure supplier commitment and ensure production readiness.

## (3) Improving information systems assures the smooth exchange of information across the supply chain and supports better and more timely decision-making.

## (Project Phase: Detailed Scope through Construction)

* Integrate digital platforms: Use centralized supply chain systems for real-time data sharing and tracking.
* Standardize data formats: Implement consistent procurement and logistics structures for seamless data exchange.
* Enhance visibility: Provide suppliers with clear, real-time project schedules and priority updates.
* Automate processes: Utilize radio frequency identification (RFID), barcoding, and artificial intelligence (AI) for material tracking and inventory management.
* Assign coordinators: Establish a Digital Supply Chain Coordinator to manage data flow and system interoperability.

## (4) Recommendations for advanced work packaging (AWP) processes ([FR-363](https://www.construction-institute.org/modernizing-the-supply-chain-and-increasing-the-value-of-awp), pp. 44-65).

## (Project Phase: Detailed Scope through Construction)

* Define supply chain processes: Establish procurement work packages (PWPs) to align procurement with AWP execution.
* Enhance supplier integration: Involve suppliers early in AWP planning to improve coordination and material readiness.
* Optimize material tracking: Implement digital tools for the real-time visibility of materials across work packages.
* Improve communication workflow: Streamline data exchanges among the engineering, procurement, and construction teams.
* Assign digital coordinators: Establish a Digital Supply Chain Coordinator to manage AWP data integration and tracking.

## (5) Desired capabilities of an ideal supply chain system ([FR-363](https://www.construction-institute.org/modernizing-the-supply-chain-and-increasing-the-value-of-awp), pp. 70-78).

## (Project Phase: Detailed Scope through Construction)

An ideal supply chain system does the following:

* Enables real-time tracking: Implements RFID, barcoding, and the Internet of Things for material visibility across the supply chain.
* Integrates data systems: Connects procurement, logistics, and project management platforms for seamless information flow.
* Standardizes data formats: Uses consistent data structures to ensure compatibility across stakeholders.
* Automates procurement workflow: Leverages AI and analytics for demand forecasting and order optimization.
* Enhances collaboration: Provides shared digital platforms for suppliers, contractors, and owners to improve coordination.

## (6) Role of the Digital Supply Chain Coordinator ([FR-363](https://www.construction-institute.org/modernizing-the-supply-chain-and-increasing-the-value-of-awp), pp. 78-79).

## (Project Phase: Detailed Scope through Construction)

The Digital Supply Chain Coordinator does the following:

* Manages data integration: Ensures seamless information exchange among the procurement, logistics, and construction systems.
* Monitors material tracking: Oversees RFID, barcoding, and digital tools for real-time supply chain visibility.
* Standardizes data formats: Implements consistent structures for procurement, inventory, and logistics data.
* Optimizes communication: Facilitates real-time updates among the suppliers, contractors, and project teams.
* Enhances decision-making: Uses analytics to improve procurement planning and mitigate supply chain risks.