

## SUPPLY CHAIN DIVISION BRIEF

### The Challenge

Every vessel begins long before construction starts. Before the first steel plate is cut, thousands of materials, components, specialized systems, and manufactured parts must be sourced, produced, transported, and delivered to the shipyard. Behind every successful vessel is a team of supply chain professionals working to ensure the right materials arrive at the right place, at the right time, allowing construction to continue safely, efficiently, and on schedule.

Your team has been commissioned to serve as the Supply Chain Project Team responsible for supporting the construction of a next-generation vessel.

Modern shipbuilding depends on a complex global network of suppliers, manufacturers, transportation providers, ports, warehouses, and logistics professionals. Even a single disruption, whether caused by severe weather, labor shortages, transportation delays, supplier issues, geopolitical events, or cybersecurity incidents, can impact schedules, increase costs, and delay vessel delivery.

Throughout the challenge, your team will develop a Supply Chain Management Plan that supports vessel construction while balancing cost, schedule, risk, and operational efficiency. During competition day, changing conditions will challenge your team's ability to evaluate impacts, adapt strategies, and keep construction moving forward.

### About This Brief

This Division Brief introduces this year's challenge and provides the information teams need to begin exploring, planning, and preparing for the challenge. It outlines the challenge purpose, overall objectives, and high-level expectations for the division.

A detailed Division Guide will be released separately and will serve, along with this brief, as the primary reference throughout the challenge season. The guide will include team expectations, checkpoints, documentation requirements, technical requirements, procedures, judging information, and other details needed to prepare for competition day.

### Real World Connection

Supply chain professionals play a vital role throughout every stage of the maritime industry. Before a vessel can be built, materials and components must be sourced, purchased, manufactured, transported, stored, and delivered to the shipyard.

Professionals coordinate thousands of suppliers and transportation providers while balancing project schedules, budgets, inventory levels, manufacturing capacity, and operational risk. Every decision influences the success of the overall project.

In Hampton Roads, supply chain professionals support shipyards, ports, logistics companies, manufacturers, defense contractors, transportation providers, and warehouses that collectively build, repair, and sustain vessels supporting national defense, global commerce, offshore energy, and scientific research.

Successful vessel construction depends not only on engineering and skilled trades, but also on the professionals who ensure materials and information flow efficiently throughout the entire project.



## **Your Challenge**

Your team has been selected to develop and manage the supply chain supporting the construction of a next-generation vessel.

Using information provided, your team will analyze supplier networks, transportation systems, production schedules, inventories, and project budgets to develop a comprehensive Supply Chain Management Plan that supports successful vessel construction.

During competition day, your team will receive a series of operational updates introducing changing conditions that affect suppliers, transportation networks, manufacturing operations, workforce availability, and project schedules. Your team must evaluate the impacts of each update, determine appropriate mitigation strategies, and justify recommendations that keep construction progressing toward successful completion.

Success will depend not only on responding to disruptions, but on developing a resilient strategy capable of adapting to changing global conditions while maintaining project objectives.

## **Things to Consider**

**Supply Chain Visibility:** Successful supply chains begin with understanding how materials move throughout the project. Consider where components originate, how they are transported, and how disruptions in one area can influence activities across the entire network.

**Systems Thinking:** Every supplier, transportation route, warehouse, manufacturer, and production activity is connected. Consider how decisions made in one part of the supply chain affect project costs, schedules, inventories, and vessel construction.

**Risk Assessment:** Disruptions are inevitable. Evaluate potential risks, determine their impact on the project, and prioritize issues that pose the greatest threat to successful vessel delivery.

**Supplier & Transportation Strategy:** Reliable suppliers and transportation networks are essential to project success. Consider alternate sourcing options, transportation methods, inventory strategies, and contingency plans that improve resilience.

**Cost, Schedule & Performance:** Every recommendation influences project outcomes. Balance financial impacts, delivery schedules, operational performance, and long-term project success when developing your strategy.

**Adaptability & Continuous Improvement:** Supply chains evolve throughout every project. Successful teams continually evaluate new information, learn from changing conditions, and improve their strategies as operational updates occur.

**Communication:** Supply chain professionals communicate with suppliers, transportation providers, manufacturers, project managers, and customers every day. Develop clear, professional recommendations that explain both your reasoning and the expected impacts of your decisions.

The maritime industry continues to transform through digital technologies, predictive analytics, automation, artificial intelligence, advanced manufacturing, and increasingly connected global supply networks. While your recommendations should reflect sound supply chain practices, you are encouraged to explore innovative strategies that improve efficiency, resilience, and project performance.



The Digital Ship Challenge organizers would like to stress that the majority of work on all phases of the project is to be designed and constructed by the students.

### Judging Overview

Teams will be evaluated on multiple aspects of strategic planning, systems thinking, professional communication, and supply chain decision-making.

Evaluation will include:

- Digital Notebook
- Team Checkpoints
- Team Poster and Presentation
- Live Operational Simulation

### Challenge Requirements

Teams will research, develop, and manage a supply chain supporting the construction of a next-generation vessel.

Each team must:

- Develop a comprehensive Supply Chain Management Plan
- Analyze supplier networks and transportation systems
- Evaluate project risks and operational impacts
- Develop and justify mitigation strategies
- Respond to live operational updates
- Document decisions and continuous improvements
- Present recommendations using professional reasoning
- Comply with all competition rules and submission requirements

Additional project information, operational datasets, competition procedures, and simulation details are provided in the Supply Chain Division Guide.

### Intent to Participate

Schools planning to participate in the 2027 Digital Ship Challenge should submit an intent to participate by September 11, 2026. This form is not your official team registration. Teachers will simply indicate the divisions they plan to enter and the anticipated number of teams. Team names and student information will be collected at a later date.

Complete the intent to participate form here: <https://forms.office.com/r/RHVKYCEREB>

