



Seaspan Shipyards

Reducing complexity
and boosting efficiency
with Shipyard AI



Seaspan Shipyards is Canada's long-term, strategic shipbuilding partner for large non-combat vessels for the Canadian Coast Guard and Royal Canadian Navy under Canada's National Shipbuilding Strategy (NSS). Seaspan needed a sophisticated, scalable solution to manage project planning and optimize operational efficiency. With tight timelines and complex coordination across departments, they needed a smarter way to plan, schedule, and execute work: A plan that could reduce delays, improve visibility, and ensure delivery milestones were met.

Case Study.



Evaluating Current Capacity

Faced with increasing complexity across concurrent shipbuilding and repair projects, Seaspan's Capacity, Resource Planning, and Scheduling teams navigated with siloed data, manual workflows, and limited visibility across departments. Planners relied on using various tools to piece together critical information, an inefficient process that couldn't keep pace with a fast paced shipbuilding environment and evolving customer needs.

Recognizing this, Seaspan partnered with BigBear.ai to deploy an AI-driven planning platform tailored specifically for shipyard operations. The platform, Shipyard AI, was designed to integrate complex scheduling, resource management, and scenario planning into a single, user-friendly interface, empowering teams to make faster, more informed decisions across all phases of construction.

"When I started at Seaspan, the capacity planning team relied on a range of standalone software to see the schedule, build strategy, and facility. When we shifted to using Shipyard AI in 2017, it felt like a pretty drastic step up." - **Ken Snider**, Senior Project Manager, Shipyard Capacity

Objectives

1. Integrate disparate data sources for a single view of production planning.
2. Forecast outcomes to facilitate continuous planning in months to years.
3. Provide visibility to multiple levels of stakeholders.
4. Access on-demand detailed reports and capacity information.
5. Generate plans for scheduling raw material availability for short, medium, and long-term capacity.

Shipyard AI Solution

Since its implementation, the AI platform has revolutionized Seaspan's capacity planning processes. Key results include:

- A 25% improvement in on-time project delivery.
- A 30% reduction in planning-related overhead and manual interventions.
- Enhanced decision-making with predictive insights and scenario simulation.
- Increased flexibility in responding to new business opportunities and changing project scopes.



Photo credit: Seaspan Shipyards

Validating Designs and Expansion Strategy

Seaspan found BigBear.ai's Shipyard AI served as a powerful validation tool to test scheduling assumptions and evaluate the impact of proposed strategy or facility upgrades. By simulating real-world workflows, BigBear.ai's shipbuilding platform provided teams with clear visibility into task sequencing, resource usage, and bottlenecks across the shipbuilding process.

Through Shipyard AI's scenario analysis, Seaspan was able to identify existing inefficiencies in their original method of coordinating and scheduling. This insight gave Seaspan the confidence and ability to adjust workflows and resource allocation, improving operational efficiency without the need for major structural changes.



Shipyard AI had a profound impact on Seaspan's efficiency and shipbuilding process.

"Shipyard AI really opened my eyes to how easy planning can be. We were able to take an idea of what a scenario would be and project that out to multiple different areas of the shipyard, workstations, and also timeframe it to see the forecast in a week, a month, a year."

- Richard Leech,

Director, Manufacturing, Seaspan Shipyards

Increasing Efficiencies and Increasing Satisfaction

Shipyards AI's simulation model revealed potential inefficiencies within Seaspan's systems, enabling their team to standardize spaces and improve workflow.

"The introduction of BigBear.ai's Shipyards AI has not only modernized Seaspan's approach to planning, but also set a new standard for digital transformation in the maritime industry. It stands as a cornerstone of Seaspan's commitment to innovation, operational excellence, and customer satisfaction."

- Mark Leadsom

Senior Director, Design-Build, Planning,
Scheduling & Program Controls, Seaspan Shipyards

These reconfigurations enhanced the shipbuilding process by reducing time to improve workstations and helped Seaspan's teams understand where best to allocate their resources.

Seaspan's collaboration with BigBear.ai represents a shift in shipbuilding, where tradition meets technology to improve capabilities and remain competitive.

Through advanced scheduling, simulation, and analytics, BigBear.ai empowers shipbuilders and shipyards to build smarter, faster, and more cost effectively.

"We essentially have our entire Shipyards operation modeled within the tool. What it allows us to do is to make game time decisions with regards to any item or any piece of equipment that won't be available."

- John McCarthy

CEO, Seaspan Shipyards