

LAYOUT IMPROVEMENTS REDUCE OVERTIME

ABOUT NAUTIC STAR, LLC. NauticStar Boats, located in Amory, Mississippi, produces high-quality bay, deck, and offshore boats. All NauticStar boats feature 100 percent wood-free construction, with hulls and decks made of molded fiberglass. Each hull is molded and painted with a vinyl ester barrier coat, and each boat is water-tested before leaving the plant. The company has around 120 employees.

THE CHALLENGE. NauticStar was experiencing issues with high overtime, and production was struggling to meet its sales goals. The company engaged the Mississippi Manufacturers Association (MMA-MEP), a NIST MEP affiliate, at the Mississippi State University CAVS Extension, for assistance in improving the plant layout and process flow to produce a smoother manufacturing operation. After conducting a walk-through of the NauticStar facility, MMA-MEP identified numerous issues, including an excess of work-in-process (WIP), an unacceptable level of small parts stock outs, poor process flow, and bottlenecks in the offshore boat assembly. Under these conditions, sales were outpacing production, requiring additional overtime.

MEP CENTER'S ROLE. To resolve the company's flow issues, experts from MMA-MEP created an updated "as-is" layout of the facility. They took a count of the WIP and noted that the number of hulls under production was out of sync with the number of decks. MMA-MEP advised NauticStar to match the hulls and decks before bringing them into the assembly area to make the state of production more visible. To accomplish this, NauticStar cross-trained several employees to work on both the hulls and the decks, allowing them to balance the assembly line.

Next, MMA-MEP examined the bottlenecks and flow issues in the offshore boat assembly area. Part of the problem was that an aisle crossed through the offshore boat assembly line, frequently disrupting flow in assembly. With guidance from MMA-MEP, NauticStar found a new location for the aisle so that it would not cause the disruption. The company also redesigned the overhead crane system to improve flow and eliminate bottlenecks.

The improvements addressed each of the issues identified in the initial walk-through. NauticStar reduced overtime significantly and created more jobs at the plant. The engagement with MMA-MEP also challenged the company to implement additional measures. NauticStar made improvements to product quality and created more space in the plant for R&D and small parts assembly.

"Thanks to the work of the MMA-MEP Center at MSU-CAVS Extension, NauticStar has increased production and improved workflow, while decreasing overtime. We look forward to working with the MMA-MEP Center at MSU-CAVS Extension in the future."

-Phillip Faulkner, VP of Sales and Marketing

RESULTS



Reduced overtime by **75%** and WIP by **35%**



Reduced small parts stock out by **90%**



Increased offshore boat throughput by **60%** and overall throughput by **20%**



Added over **20** jobs

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