From Design to Production: 6 River Systems Successfully Launches Collaborative Mobile Robot

6 River Systems warehouse fulfillment solution, Chuck, is an intelligent, collaborative mobile robot that uses powerful cloud-based software, machine learning, and AI to get smarter and more efficient as it works.

Solutions Provided:

- Streamlined transition from design to manufacturing
- Design for Manufacturing Analysis on initial design
- U.S.-based Engineering and Customer Support
- Distribution to assembler
- Die Cast Tooling

Executive Summary

Based in Waltham, Massachusetts, **6 River Systems** is a venture-backed company founded by former Kiva Systems (now Amazon Robotics) executives. The team has decades of automation, software and operations experience and has designed, built and deployed the world's largest warehouse automation solutions. 6 River needed a solution to launch their new mobile robot, Chuck, on a tight deadline.

Challenges

- **Time to Market:** The timeline for launching Chuck was a short 6 months, which included quoting to having a manufactured robot in hand.
- **Engineering Support:** 6 River had an initial robot design ready, but needed assistance making it manufacturable.
- **Limited Tooling Resources:** 6 River needed the maximum value for their tooling investment, as they didn't initially need a large quantity of robots manufactured.
- **Simplify Supply Chain Complexities:** 6 River sought a solution that covered design to distribution in one place.

East West

How East West Helped

6 River Systems was looking for an experienced manufacturing services partner who was comfortable working with them across components, sub-assemblies and finished goods in addition to helping them develop the best supply chain solution for their product. When 6 River came to East West, they had a preliminary design for their robot, Chuck. East West's engineering team performed a Design for Manufacturing Analysis on the drawing and proposed new design features, optimal material selections to speed the up the manufacturing process, machine fixtures and changes to make the end product measurable.

Once the design was ready for tooling, 6 River faced another challenge: limited tooling investment. To curb tooling costs, 6 River required fewer robots be produced initially. East West was able to offer a family of tools so 6 River could get all of their components manufactured by one vendor at the optimal investment for the amount of product they required.

Another potential obstacle arose when 6 River needed to make a design change to their robot after their original tools were made. East West worked with 6 River to modify their current tools and avoid having to replace all the tools that were originally made, without further delaying the project.

Weekly engineering meetings between the two teams, combined with strict quality control from East West, helped 6 River successfully bring its first product to market, meeting its own six-month deadline.

Results and Future Plans

East West delivered full-service support from design to manufacturing analysis on 6 River's initial design. East West then scaled manufacturing taking the idea of an innovative robot and making it manufacturable.

East West was able to reduce the replacement cost of tooling for 6 River Systems by 30% by modifying their current tools to meet the new design change, in addition to saving 6 River six weeks of lead time without replacing the tools.

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