

# SPACELABS HEALTHCARE

## Flex Line Implementation and Inventory Optimization

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**Spacelabs Healthcare** is a subsidiary of OSIE that manufactures and distributes patient monitoring, anesthesia delivery, and diagnostic cardiology medical equipment. Spacelabs has earned a reputation for medical monitoring innovation, servicing patients in over 120 countries. As part of their commitment to outstanding care for their patients, Spacelabs is also committed to the development of a lean culture.

Patients at Spacelabs' hospital partners expect prompt and reliable care. Consistent, innovative, and well-manufactured instruments and supplies, delivered with perfect quality and on time, are critical to the ongoing treatment of hospital patients. Spacelabs' lean journey starts at their Snoqualmie, WA facility where 100% of their distribution and manufacturing activities take place. The Tauber team contributed to Spacelabs' lean journey in three ways, leveraging the DMAIC format.

**Flex Line.** The team designed and implemented a flexible manufacturing line, allowing assembly of six products previously manufactured in separate, dedicated lines. The team gathered the Voice of the Customer from manufacturing associates and supervisors, created value stream maps, and performed statistical analysis on customer demand trends to implement the line. The line exhibited lean principles, handling quick changeovers of 250 parts, utilizing Kanban visual cues, and enhancing employee comfort through improved ergonomics. The new line reduced occupied floor space by 72% and reduced wasted movement by over 10%.

**Inventory Planning & Order Fulfillment.** The team recommended an inventory stocking plan to improve order fulfillment for supplies and accessories SKUs responsible for 20% of total revenue. The team developed statistical models to understand order patterns and created a simulation tool to check the stocking model, which yielded a service level over 97%. The team also used spaghetti diagrams and time studies to analyze the inventory locations, and developed a python program to identify high-impact items to be relocated to a central location. The initial phase of relocation was implemented, which reduced picker movement by 8%.

**Lean Assessment Tool.** The team developed a lean assessment tool that Spacelabs will use to define its current practice and measure future progress toward its world-class, lean operations goals. The assessment is based on key indicators of both general and company-specific lean principles. Operations management performed a self-assessment and specific projects focusing on visual management and communication were influenced by the outcome of the assessment and written into the management team's goals and objectives.

The implementations and recommendations completed by the Tauber team will provide Spacelabs with significant cost savings and generate momentum for the future as Spacelabs continues its lean journey.