

## PRECISION CASTPARTS CORP.

### PRODUCTION PLANNING FOR MANUFACTURING VELOCITY

**Student Team:**

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Permaswage (the “Company”) is a subsidiary of Precision Castparts Corporation (“PCC”). It is a global manufacturer of aerospace fluid fittings, and objectively, is the fluid fittings technology and industry leader to aerospace OEMs.

The recent acquisition of PCC by Berkshire Hathaway has refocused the Company to place greater emphasis on strategic, long-term growth and generate more cash. The Company is focused on achieving “best in class” customer satisfaction by improving production performance and on-time shipments. The Tauber Institute was engaged to create operational changes to reach these goals while reducing inventory to better manage working capital.

Using lean manufacturing principles, the Tauber team created an end-to-end value stream map of the Company’s most profitable and complex product family. This exercise uncovered key operational metrics, and allowed the team to gain a comprehensive understanding of the material and information flow while developing strong relationships with stakeholders. Bottleneck calculations confirmed observations from the factory floor, and the Tauber team quickly identified wastes at each process.

Little’s Law provided the team two levers to decrease lead times and increase manufacturing velocity: work in process inventory and throughput. Shorter lead times enable quicker delivery to customers, effectively improving on-time shipments and therefore satisfying customers. The Tauber team aimed to eliminate waste at the bottlenecks to not only increase throughput, but also reduce work in process inventory.

The Tauber team’s solution was to create a scheduling algorithm which batched production to reduce changeovers, prioritized and optimized the assignment of work to best utilize resources, and established a clear manufacturing cadence to communicate throughout the factory floor. Successful implementation of the scheduling algorithm included the development and installation of interactive virtual job boards and a CONWIP system which required many hours on the factory floor educating operators and supervisors to manage the new production planning process.

Post implementation performance will yield a one time savings of \$500,000 in reduced inventory levels and capital avoidance, and ongoing, will realize an additional \$130,000 of annual gross profit from savings in labor productivity. Continuing on this trajectory, Permaswage will better satisfy customer demands on a timely basis, and potentially unlock an additional \$8,000,000 in realizable revenue and \$2,000,000 of labor savings annually due to productivity gains driven by the Tauber team’s work.