



Center for
Quick Response Manufacturing
UNIVERSITY OF WISCONSIN-MADISON

Presentations of Student Projects with Industry

An Exclusive Members-Only Event

May 2, 2024

- 2:30-2:35 Introduction & Welcome, Prof. Charlene Yauch, QRM Center Director
- 2:35-3:00 Electronic Theatre Controls (ETC), Middleton, WI
Lead Time Reduction for Production of Source 4 Series 3 LED Entertainment Fixtures
The team has worked on reducing the Manufacturing Critical-path Time (MCT) for production of the Source 4 Series 3 (S4S3) LED Entertainment Fixtures. This was done by creating an MCT map and identifying delays. An MPX model was also created to determine an appropriate painting batch size to avoid excess work in process.
- 3:00-3:25 Promega, Madison, WI
Leveraging ChatGPT to Streamline Custom Order Processing
Promega creates chemical reagent tool kits used in laboratory testing and research. The custom order department handles quoting and order fulfillment for special request items. The team evaluated how ChatGPT can be used to streamline the process by reducing time required for some tasks, thereby reducing overall process lead time.
- 3:25-3:50 TYRI, Stevens Point, WI
Reduction of Material Flow Delays on CLD1 and CLD2 Assembly Lines
TYRI Lights, an off-road LED and Halogen lighting manufacturer, has shortages of materials on its assembly lines, which results in longer lead times. Our project aimed to reduce delays on the LED assembly lines by 25%, particularly delays arising from material flow. The areas targeted included material picking, part storage on the shop floor, and inventory re-organization in the warehouse.
- 3:50-4:00 Break
- 4:00-4:25 Dental Crafters, Marshfield, WI
Lead Time Reduction for the Production of Removable Dental Products
Dental Crafters is transitioning to increasingly automated workflows with receipt of digital data from more customers. This project focused on the Removables cell (dentures and partials). The goal was to analyze the capacity needed to accommodate an increase in digital data from 10% to 50%, while reducing lead time by 40%. With the help of MPX software, the team recommended the number of machines and workers, as well as how much cross-training is needed.
- 4:25-4:50 Trek Bicycle Corporation, Waterloo, WI
Reduction of Lead Time for Trek Custom Bikes
The surge in demand for custom bicycles since 2020 has placed considerable strain on Trek. Consequently, lead times have extended, which has negatively affected customer satisfaction. The student team has mapped the current process from receipt of parts at the warehouse to completion and shipment of the finished bikes and will make recommendations for lead time reduction.
- 4:50-5:15 Geoprobe, Salina, KS
Design of a Hydraulic Hose Kit Cell
Geoprobe manufactures and services drilling rigs and tooling, and each rig requires dozens of hydraulic hoses that are currently outsourced, with lead times of 15 days for individual hoses and 45 days for hose kits. Since each rig is custom engineered, there may be design changes after hoses have been ordered, resulting in high scrap rates and extra lead time. This project aims to bring manufacturing of hydraulic hoses onsite through design of a hose kit cell, using an MPX model to ensure sufficient capacity and a maximum 1-week lead time.
- 5:15-5:30 Closing Comments & Networking

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No registration required