

## COMPETITIVE NICHE MANUFACTURING IN NEW MEXICO

**ABOUT MEZEL MODS.** Mezel Mods manufactures individual creative additions and replacement parts for pinball machinery. The family-owned company consists of two founders and one employee, and started as a home-based operation until space limitations prompted a move to a new facility in Rio Rancho, New Mexico. Unique to this firm among New Mexico manufacturers is its reliance on emergent 3D printing technology for its core manufacturing capability. Mezel Mods is capable of generating significant revenues from this technology platform. The company also represents the outflow of retrenched Intel employees who are choosing to stay in New Mexico and start their own companies after their Intel careers.

**THE CHALLENGE.** As a young start-up design and manufacturing firm, Mezel Mods was predictably experiencing a broad range of issues in production, quality, and overall manufacturing operations. The founders recognized their need for superior manufacturing systems, and sought help from the New Mexico Manufacturing Extension Partnership (NM MEP), a NIST MEP affiliate. NM MEP agreed to facilitate a Lean transformation for Mezel Mods to improve workflow, line balancing, inventory, quality, and profitability.

**MEP CENTER'S ROLE.** NM MEP kicked off the Lean transformation by developing a project charter for Mezel Mods, followed by a "walk the line" exercise to identify issues with the production flow. A Value Stream Mapping project, combined with extensive discussion with Mezel Mods employees, allowed the team to produce a list of issues identified from observation and mapping. Many of the problems were related to effective standardized work areas, point-of-use storage, elimination of defects, production signaling, production sequencing, and order fulfillment. After reviewing the current state on the manufacturing floor, the team created a matching list of visual techniques to address the issues at hand.

Using Visual Management, 5S workplace organization (Sort, Set in Order, Shine, Standardize, and Sustain), and line balancing techniques, NM MEP helped Mezel Mods improve its lead time, production volume, and quality, thereby reducing costs. The sequencing of production jobs on the 3D printer was perhaps the biggest challenge. The company needed to establish a unit of measure encompassing cost of production per minute. This issue required further evaluation in the subsequent months to gather better data on costs, production flow, and pricing.

**"New Mexico MEP engaged in our challenges deeply. NM MEP got into the trenches with us to do the hands-on application of concepts to improve efficiency. We made critical improvements that we could never have made on our own. The value is truly beyond measure to a small manufacturer."**

-Kristin Browning-Mezel, Co-Founder

## RESULTS



Shortened lead times by **7** days



Reduced sub-assembly steps by **50%**



Increased new product capacity by **21%** annually



Cost savings of **\$43,000**

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