

2023 OPERATIONAL EFFICIENCIES REPORT

BEST PRACTICES IN OPERATIONS,
CONTINUOUS IMPROVEMENT AND MORE

JULY 2023 | PREPARED BY AMBA



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SECTION 1: TRENDS AND TAKEAWAYS

In addressing operational efficiencies, survey respondents and conference attendees were first asked the following question:

In what ways have you reduced time in the following processes:

- Quote Turnaround Time for New Molds Design Time (from awarding a P.O. to release to the floor)
- Machine Programming
- Cutting of Steel Lead Time in Mold Assembly

When identifying trends in time reduction from respondent data, **automation** and **machining strategies** (specifically machine monitoring and unattended machining) - emerged as the primary areas of focus for AMBA members.

Other areas of focus referenced by multiple respondents are featured below.

Automation

Machining Strategies

Programming Strategies

Design Process

Tool Paths/Templates

Standardization

MEMBER CHALLENGE

Design time has been a struggle and, if anything, this process has gotten worse for us, not better. We struggle in getting good, clean data on design tooling from many of our customers, so our design process gets dragged out by a number of revisions to data that need to happen before designs can finish. In instances where we DO get clean data, the design goes very quickly and smoothly, mostly due to standardized mold design guidelines we've created over the years to help simplify and streamline our design process.

SECTION 1: ALL RESPONSES

Quote Turnaround Time for New Molds

- Creating databases for hot runner/ mold bases (helps avoid waiting on outside vendors for quotes)
- ERP for quotes and routings from our routing steps
- Implementation and usage growth of a CRM
- Implementation of MRP/ERP has reduced quote turnaround time and improved cost-estimate accuracy
- Mantle metal 3D printer to automate the production of 85% of a mold insert - reduces risk, reduces lead time and makes quoting easier
- More efficient quoting and design phase
- More fully understanding work being quoted and the fit compared to company goals
- MRP and quoting process
- New software (JobBoss) has led to reduced quoting time
- Prescreening - only quote molds that fit the shop
- Quote turnaround is 2-3 days for new molds - (non-budgetary). If budgetary, one day.
- Quote/Tooling Proposal Form - has select able fields for common (85%+) answers. Also provide requester with generic RFQ form if they don't have/use one and qualify additional design resources
- Quoting - 360° team quote reviews
- Quoting based on single cavity and creating a scaling factor for the multiple cavitation requests
- Reduced quote time and design time by developing internal automated software
- Reduced quote turnaround time by utilizing different calculators (whether online or from textbooks) to justify internal "gut feelings"
- To reduce time in quote turnaround time for new molds - tracked quote turnaround time and set a standard metric for 3-day quote turnaround; cross-trained more individuals to share the responsibility and track when the RFQ's are received; standardized the quote process
- Updating quote input in Access
- Utilize a quote worksheet with standard costs

Design Time (from awarding a P.O. to release to the floor)

- Best-in-class CAD modeling software (with outside consulting / best practice audit of its use)
- Hired an in-mold designer
- Improved design catalogs and templates to reduce design time
- Improved design time by eliminating most detail drawings
- Interaction with designer and CNC programmers to design better manufacturing practices
- Investment in design automation
- Regarding design time, currently grooming outside designers to help manage design capacity
- Standardizing designs as much as possible
- Utilized mold flow simulations to address risks
- Working with Cimatron to create templates for design as well as cutterpaths - has made a big impact on the design and machine programming time

SECTION 2

MEASURING PERFORMANCE AND CUSTOMER QUALITY

SECTION 2: TRENDS AND TAKEAWAYS

In addition to supplying strategies to reduce time in specific processes, respondents and conference attendees also were asked the following:

What metrics do you utilize to do the following:

- Drive Improved Performance
- Assess Customer Quality

When identifying metrics tracked to drive improved performance and assess customer quality, **job profitability** was by far the most frequently referenced metric referenced.

Other areas of focus identified by multiple respondents are featured below.

Job Profitability

Fits Company Strengths,
Values and Capabilities

On-Time Delivery

High-Demand Markets

Value-Added Margin

Machine Utilization

MEMBER CHALLENGE

We are not currently using any machine monitoring to prove performance improvement. When something new is tried, it is a gut reaction to better/worse than before...and the information is shared with only certain team members. Customer quality has to be judged over several projects. Current ERP system does not have the capability to graphically display profitability or return on investment versus other customers...Or if it does, those who set up the system took that knowledge with them to retirement or other opportunities.