

Michael L. Goldberg

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Profile Comments

- Self directed professional with tenacity; possessing analytical capability, inventiveness and accessibility that results in pragmatic well-planned, collaborative and consensus driven, actions.
- Unusually broad set of skills working with increasing responsibility from basic tooling design and manufacturing engineering to Senior Consultant with National Institute of Science and Technology.
- I believe most companies can compete in the global manufacturing marketplace and I have the passion and skills to help them do it.

Areas of Expertise

- Mechanical/Electromechanical Design
- Plant and Facilities Layout
- Concurrent Engineering and dfX metrics
- Development of labor standards (MTM)
- Value Engineering/Cost Reduction
- Cost Estimates and Budget Responsibility
- Project Management
- Project Technical Lead
- Tooling, Mold and Automation Design
- Lean & Cellular Manufacturing Systems
- Process documentation and clean-up
- Process & Value Stream Mapping, Flow charting
- Machine Design and Implementation
- Capital Equipment Acquisition/Implementation
- Effective and Compassionate Change Agent
- Sales Engineering and Customer Liaison

Major Accomplishment

- Award winning product designs industries
- Colorado's first lights out FMS
- Reduced product costs 46%
 - Coordinated and implemented 8 major product releases in one year
- Many patents in multiple industries, 3 in last 2 yrs
- Turns from 7 to 50, reduce floor space >50%
- Major CAD, ECN & ERP software implementations

Professional Experience

MTMCo Inc., Golden CO	Consulting Engineer, Self-employed (For details download my MTMCo Brochure.)	10/90-Present
Emerson Electric CO Spgs CO	Sr. Manufacturing Engineer, Hand Tool Manufacturer	9/88 - 9/90
Ball Aerospace Boulder CO	Mgr. Continuation Eng., Electronics Manufacturing	5/86 – 8/88
GranGold Inc. Golden CO	Sr. Manufacturing Engineer, Machine and Tool Design	11/83 – 5/86
Wilkerson Inc. Englewood CO	Mgr. Mfg. Eng., Industrial Products Manufacturing	1/80 – 11/83

Education

- BSME Equivalent with 2 targeted Associates Degrees and additional study (5 yrs of college)
 - Multitude of industry and college level career specific courses on SPC, DOE, materials ...
 - Associate of Applied Science in Digital Circuit Design – ITT Technical Institute, 1974
 - Associate of Applied Science in Aviation Maintenance Engineering – Colorado Aero Tech, 1969
- Certified Manufacturing Engineer – and member of Society of Manufacturing Engineers
- Member of Surface Mount Technology Association
- Certified Food Preparation Systems Engineer – National Sanitation Foundation
- Taught “Manufacturing Best Practices” at Front Range Community College
- Well schooled in tools of 6-Sigma: Lean, SPC, VSM, ISO-9000, TQM, 5S, Kaizen and more

Community Involvement

Rotarian, Neighborhood Watch Coordinator, Volunteer Fireman, Politically Active, Historical Society

Selected Historical Achievements

- **Directed and Managed** engineering team completing 13 new product design releases in 2 years resulting in multiple patent applications. These products hit all aspects of the business uniformly meeting a new corporate vision to provide equipment that improved the work process, improved the work environment and that improved the work result. Several patent applications were submitted and with approval now pending. **Result:** Several products received industry awards and the company received general recognition as the industry trend setter enabling a company that was in financial chaos to obtain investor financing and go from \$4.2mm with \$450K loss to \$6.8mm and \$500 profit in 18 months.
- **Designed** many machines and products using concurrent engineering methods. From principal engineer to consultant provided manufacturing and design methodologies and the concepts of Design for Manufacturing / Assembly utilizing heuristic metrics and collaborative evaluation techniques. **Results:** Design modifications to the existing APM product lowered product cost 23% converting a lost leader to yield a 14% gross margin.
- **Redesigned** a Professional Screwdriver line that would not only be superior to anything else they had but would be esthetically distinguishing to mark and celebrate their 50th anniversary. The product had a new ergonomic handle, a high strength ductile blade shank with hex wrench flats and a super hard tool steel tip. To achieve the desired appearance, I replaced the plating and utilized technology new to the industry. **Result:** The end product had the longest lasting tip and corrosion resistance of any screwdriver made to date, met Sears' appearance and cost criteria, and received the "Sears Best Design Award" for the Sears "hand tool" category.
- **Evaluated** various equipment, processes, and methods to benchmark internal recommendations. Interviewed staff; reviewed, studied and documented existing shop equipment and practices; analyzed and evaluated systems; identified, diagnosed and troubleshoot problem operations. Researched and found best of breed solutions to a myriad of manufacturing needs. Provided report of problems, possible solutions options and budgets. **Result:** Based on this and their internal criteria, APM opted to build and move into a new plant. The manager to whom the report was delivered said, "It was the best single report I've ever received."
- **Solved** a tool longevity problem. We had 12 machines running 24/7, but yielding only 6.5 hours of production per 8-hour shift and consuming \$270,000 of tooling per year. Assembled a team of "stakeholders," taught them Design of Experiment Theory and used that approach to analyze the problem. Implemented a series of machine and tooling design improvements, as well as setup and process changes without disrupting production. **Result:** Upon project completion, tooling changes were down to one 5-minute exchange per 24-hour period with all setup done offline and production hours / shift increased to 7.75 hours. Saved Western Forge \$1.4mm annually.
- **Organized** cross functional team to evaluate cost reduction opportunities and facilitate the sale of the Electronic Systems Division SBU. As Manager of Continuation engineering, led the definition of production strategy to accomplish this. **Result:** Reduced floor-space from 98K sq. ft. to 28K sq. ft. Shortened throughput from 57 days to 7 days (>88%). Improved yields from 83% to >98%, reduced floor labor from 180 people to 83, and reduced product cost an average of 37%. The net effect of these changes was to take ESD operations from (\$650K) loss per year to \$600K.
- **Scheduled** all the engineering activities and coordinating their impact on ESD manufacturing. This included all R&D and manufacturing engineering activities and services. Planning, scheduling, coordinating and most importantly bi-directionally communicating information crucial to making these activities happen in a timely manner. **Result:** Radical reengineering was completed which afforded a 54% downsizing of this company and improved esprit de corps. Production and delivery schedules were maintained and the project was completed in the allotted time 15-month frame.
- **Saved** appreciable production costs facilitating client's effort on a new APM body maker machine that offered twice the capacity of the old model. R&D had figured out the design but could not hit the cost target. Provided "value engineering" to help meet goals. **Result:** The machine's cost was right on target and 50% of initial R&D projections. Even at only eight machines per year, production costs came in at 24% of the prototype's cost.