

WHOLISTIC COMPANY IMPACTS ACHIEVED THROUGH FRONT LINE SUPERVISOR APPRENTICESHIP

ABOUT MARKFORGED. Markforged, based in Waltham, Massachusetts, serves the aerospace, automotive, consumer packaged goods, education and research, electronics, energy, federal and defense, industrial equipment, medical, and product development sectors. Markforged's key product is the Digital Forge. The Digital Forge is the world's most reliable, intelligent, and easy-to-use additive manufacturing platform. Cloud-based, AI-powered, and always improving, it seamlessly connects software, 3D printers, and materials, empowering engineers and designers to quickly move from design to fully functional industrial parts.

THE CHALLENGE. As a young company, Markforged is still developing their formal training program. With the company having just grown to three shifts, there were also several new leads that were new to that role. A director at that time knew of MassMEP, part of the MEP National Network™; he contacted MassMEP and learned about the Front Line Supervisor Apprenticeship training that MassMEP offers. The apprenticeship consists of three modules: Leadership Skills, Manufacturing Principles, and Problem Solving. It is run as a consortium of several companies sending one or two trainees, thus minimizing the number off the floor at the same time.

MEP CENTER'S ROLE. Markforged determined it was a good solution to their situation. They have found that it is a good fit for new operators and operators that have been at the company, but this is their first manufacturing job, as well as those interested in moving up. Another key benefit results from participants doing a final project based on a problem or issue that their company is experiencing. The participant must prepare a presentation and then deliver it to their company supervisor, strengthening public speaking skills, which can be a great asset. Markforged sees that the apprenticeship improves retention and so also saves time and money on recruiting and training. There can be a 6-12 month gap in productivity between having a role open, recruiting, onboarding, training and being fully up to speed. Being able to develop staff from within greatly reduces that lost productivity as well as save external recruiter fees. Four participants have graduated, five are about to graduate, and they plan to send more in the future.

"In the manufacturing plant it's usually pretty clear who your rock star operators are. You hear them asking the right questions, helping their peers and see their passion to learn how things are made. These employees often fly through the ranks and jump at any opportunity that's given to them. Then comes the next question that not all companies are prepared for, 'What's next?'

MassMEP's Frontline Supervisor Apprenticeship is the answer to that question. By introducing their students to lean principles, the value of continuous improvement and how to manage change effectively MassMEP creates a culture of problem solving with your teams. We see this at Markforged by our shift leads communicating losses in uptime and then leading the discussion with engineering to implement countermeasures."

-Frankie Benjaminsen, Production Supervisor

RESULTS



\$96,000 in cost savings



Fosters lean and continuous improvement throughout the company



Improved machine startup & soak time result in ~\$14,000 extra saleable goods/month



New investment resulted in 2.5 hours productivity gain/day

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