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Upskilling and Reskilling Initiatives for the Future of Manufacturing

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Introduction

Dr. Stacy M. Seaworth Aerospace Operations Training Manager

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Woodward Inc.







My Company / Business Challenge

- Woodward Inc. Founded in 1870
- 40+ locations in 13 Countries
- 9,000 members globally
- \$2.9 billion in sales in 2023

Business problem:

• Train and Retain the top talent

To design and deliver energy control solutions our partners count on to power a clean future.

OUR PURPOSE

My Company / Business Challenge

Business challenge



Solution

- Covid layoffs depleted skilled machinist workforce
- Manufacturing pipeline in the region is insufficient to meet current needs
- Increased hiring of unskilled members
- Efficiently and effectively train new machinists
- Upskill current members
- Reduce training impact on production
- Retain best talent
- Internal and external training activities
- Partnerships with community colleges

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Solution / Program

- The program: "First 180 days" for a Multus (5 Axis Lathe) Operator
- Key program objectives: Efficiently develop productively independent Multus operators
- Key program elements:
 - Onboarding
 - Basic Machinist Training
 - OJT Checklist
 - Virtual Reality Training
- Key program considerations: Time, Cost, Effectiveness



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Program Detail

- Business impact:
 - Increased retention of members who participated in BMT
 - Reduced machine down time
 - Reduced load on production trainers
- Lessons learned:
 - Forcing function to complete training
 - VR content creation is complex, time consuming, costly, and requires input from a wide range of stakeholders

Basic Machinist Training (BMT)



8 Weeks (64 hrs)

- Paid Tuition & Member salary
- Overview of machinist skills
- 50% Classroom
- 50% Hands on

VR Training



5 Modules (75 Min)

- Overview
- Preventative Maintenance
- Set-up/Load/Run
- Offset Adjustment
- Stop/Start Midcycle



Lessons Learned/Next Steps: Basic Machinist Training

- Impact on business:
 - 64 hours of training with reduced impact to production
 - Support community partners
 - Provides a safe learning environment
 - Increases employee engagement & retention
 - Builds member confidence
 - Enhances problem solving skills
- Training Challenges
 - Community manufacturers unable to match Woodward program support
 - Qualified instructors at RVC

BMT Delivery

- Why we were successful
 - Surveys & focus groups with participants
 - Audits of RVC program
- What did we learn
 - Communication with stakeholders
 - Promotion of program
- Next steps

Advanced Content

- Continued refining BMT content & delivery
- Additional skills for specific machines



Lessons Learned/Next Steps: Virtual Reality Training

- Impact on business:
 - Prevention of 1x spindle crash = vendor cost
 - Increased learner engagement & retention
- Training Challenges
 - Approximately \$200k for 75 min of content
 - Headset integration on Woodward network is incomplete
- Why we were successful
 - Included trainers, current operators, and experts in the design phase

- What did we learn
 - Need to standardize operations across depts
 - Identify subject matter experts before launch
 - Pilot with more operators
 - Complete design steps parallel to contract process
- Next steps
 - Additional case uses
 - Determine best headset for expansion of program
 - IT integration on network

Additional Case Uses > Equipment Solutions > Network Integration



Summary / Conclusion



 Successful, sustainable training programs are only possible if organizations have a positive learning culture

- Positive learning cultures are the key to business success
 - Promote opportunities for development
 - Encourage open dialogue
 - Empower members / employees
 - Foster collaborative learning
 - Have supportive leaders
- Training: "Pay it now or PAY it later"

Thank You!

