
COMMUNITY
SUMMIT
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How Leatherman Streamlined Manufacturing Operations with PowerApps and D365

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Your speakers



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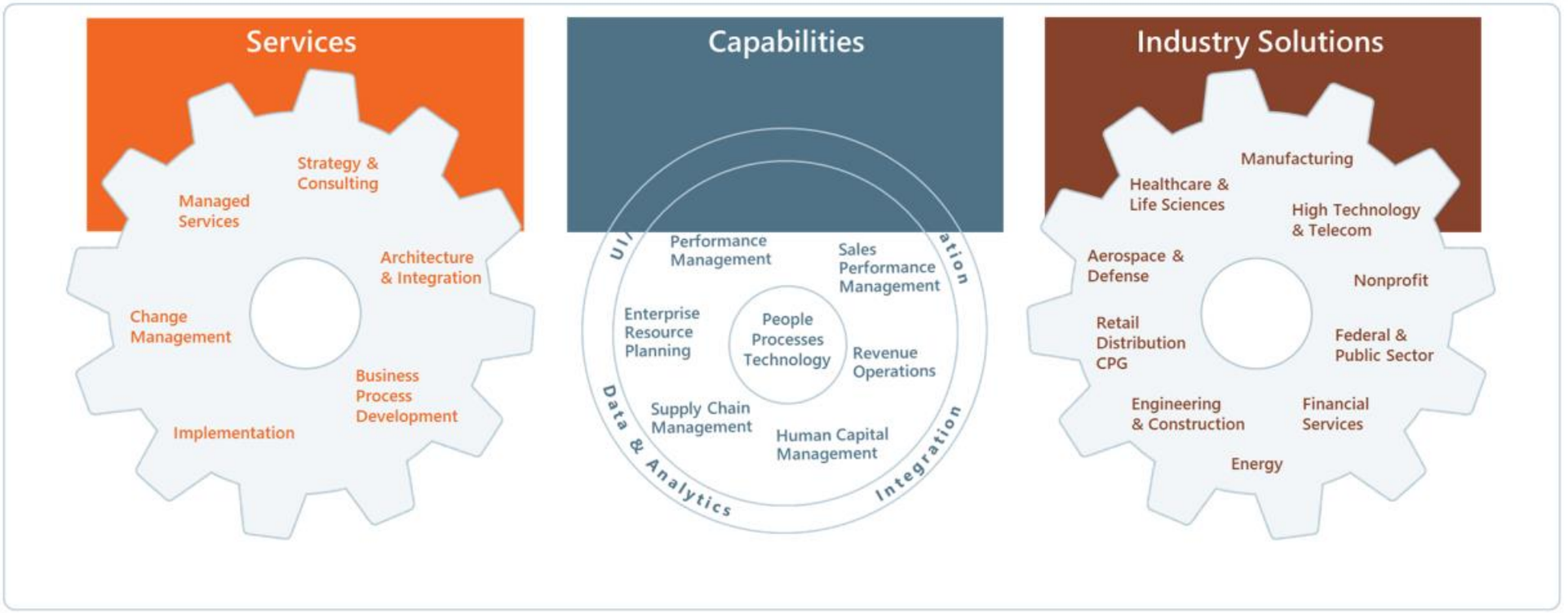
From our factory in Portland, Oregon, we're committed to bringing you the best multipurpose products to help you solve expected and unexpected problems in everyday life. Our journey started over 40 years ago with the world's first pliers-based multi-tool built by our founder, Tim Leatherman (yes, there really is a Mr. Leatherman!).

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Argano Overview

Integrating, automating, and optimizing our clients' operations



Microsoft ORACLE salesforce SAP

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Argano Dynamics 365 Successes

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Industries	Distribution	Manufacturing	Financial Services	Life Sciences	Retail/CPG
Customers	dcs DIRECT CUSTOMER SOLUTIONS, APACEPAK, TEAM HORNER Employee Owned, J.B. HUNT	Makita, JMP, LEATHERMAN, AXON, JL AUDIO, McWANE, Gibson	JANUS, JACKSON, 2-10 HOME BUYERS WARRANTY	curaleaf, dcs DIRECT CUSTOMER SOLUTIONS, ATARA BIO, RESILIENCE	City Mattress, CARDENAS, LEGENDARY FOODS, Columbia, FedEx, Copper State, Microsoft Store

Industries	Nonprofit	Professional Services
Customers	OXFAM, nea NATIONAL EDUCATION ASSOCIATION, RESCUE, Catholic Charities USA	GROUP Ō, mattamy HOMES

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Session Objectives

What will you learn today?

- How we used Power Platform to nearly eliminate D365 code modifications.
- How we created near real time metrics that can be used to manage processes as they occur.
- Learn about the built-in MES integration.

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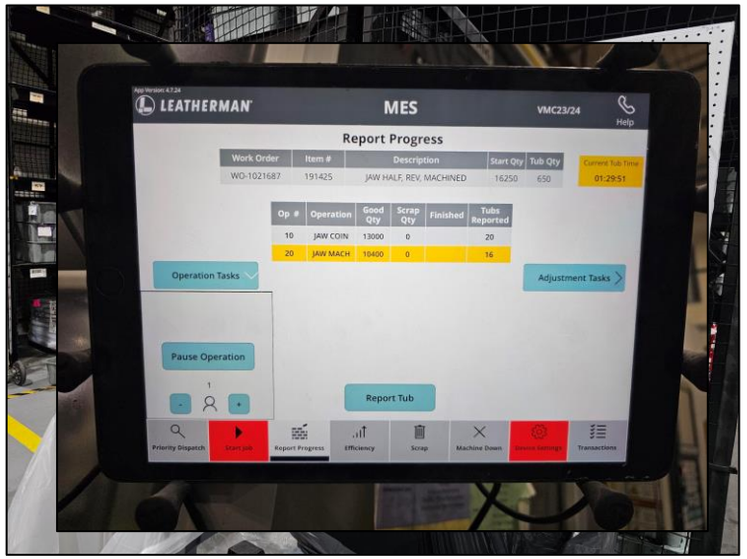
Session Agenda

- Explore Leatherman's transition from Lean/Kanban to traditional Production orders.
- Discuss the development of a user-friendly interface for the production floor:
  - Enables operators to prioritize orders and report production outcomes.
  - Creates real-time metrics visible to supervisors and associates.
- Examine the integration of the D365 MES with the Power Apps and Power Automate for seamless production reporting.
- Highlight the use of standard alerts within D365 to launch flows for printing labels, avoiding significant customizations.
- Discuss the benefits of real-time tracking of completed bin quantities:
  - Allows Leatherman to identify and address operations that are not on pace.
  - Enhances overall production efficiency.

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Leatherman's Transition

- Where we came from:
  - An inflexible kanban system with no priority, shortage, or capacity data.
- Where we are now:
  - A dynamic system linked to MPS plans, adaptable to BOM and route changes, providing real-time capacity data and critical shortage information, reducing overproduction. Leatherman's MES app offers real-time order status and progress updates





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Why a PowerApps MES?

- Desire to stay away from direct modifications within D365 where possible.
  - Standard Production Order execution did not support Leatherman's approach without significant modification
- Built in MES didn't support the Leatherman business processes
  - Production was previously done by Kanban cards which allows the material to flow through the plant in bins. We wanted a way to report production of a bin (scan a QR code with a serial number, item and quantity embedded) and know it was reported one time only.

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Architecture Design

- Robust Citizen Developer Community
- Many Apps Deployed Already
- User Friendly Interface
- D365 Downtime
- Speed of transactions with MES Interface

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Power Platform Components

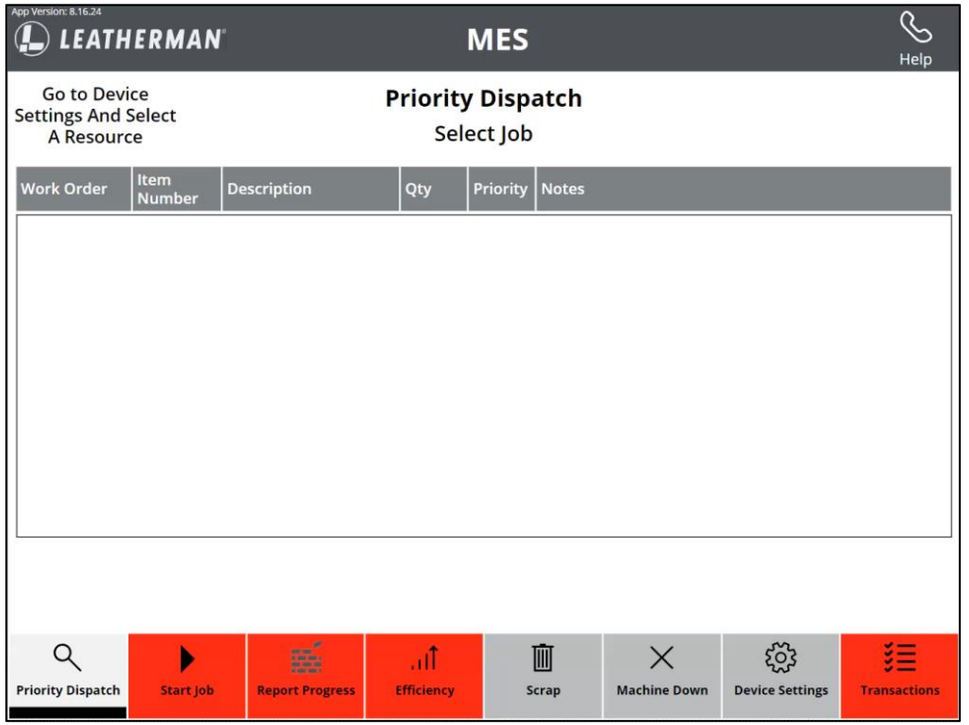
- D365 Business Events & Alerts
- Power Automation
- PowerApps
- Power BI
- Virtual Entities
- Data Entity Actions

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Power Apps

- Model Driven App
  - Virtual Entity Interface
  - Dataverse Data Interface
  - Configuration Maintenance
  - Master File Maintenance

- Canvas App
  - Write out Transactions
  - Better User Interface Experience

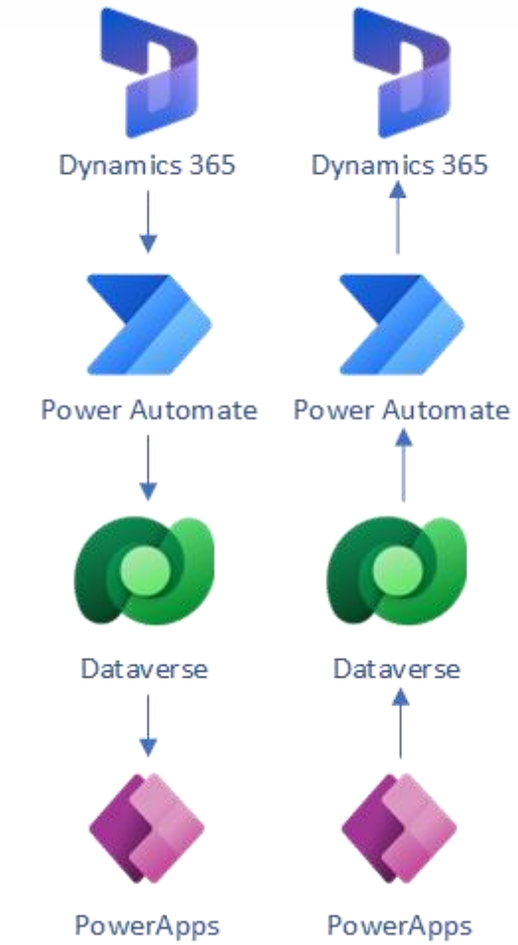


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Dataverse Design

- Push Data Down from D365
  - Production Orders
  - Production Order Operations
  - Production Order Resources/Resource Groups

- Asynchronous Updates through MES Interface
  - Print GS1 Labels
  - Report as Finished – Good/Rejected Quantities
  - Complete Production Orders



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Virtual Entities

- Pull Data Down to Dataverse
- Monitor Data Issues between D365 and Dataverse
- Ability to Interface to D365 Data to Support Canvas App Functionality

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Data Entity Actions

- Ability to Leverage D365 Printer Service for Label Printing from Power Automate
- Release of Production Orders
- Notification of MES Interface Issues

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MES Integration/ Report as Finished

Our Requirements:

- Ability to report a good quantity for the last operation of a route in an external MES and use an Advanced warehouse mobile device to perform the RAF.
- Ability to Report the RAF from within the MES and a license plate needs to be automatically generated.

Challenges:

- Report as finished is automatically checked for the last operation when reported/posted through the MES integration message.
- Currently there is no way to automatically create a license plate for the RAF when using the MES Integration functionality.

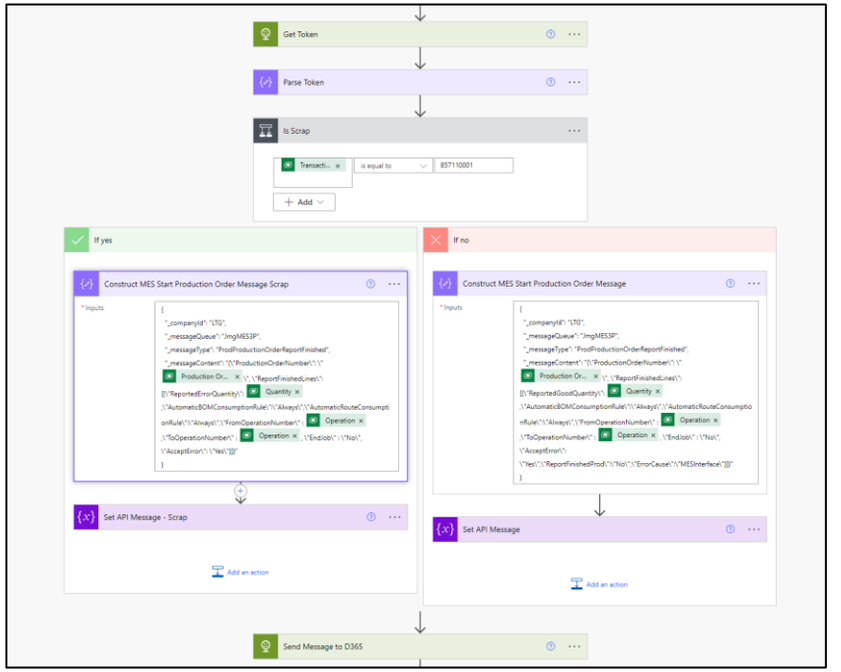
In both cases small modifications can be made to solve these issues.

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Power Automate

- Triggered by D365 Alerts/Business Events
  - Released Production Orders
  - Replenishment Work Closed
  - Production Order Status Changes

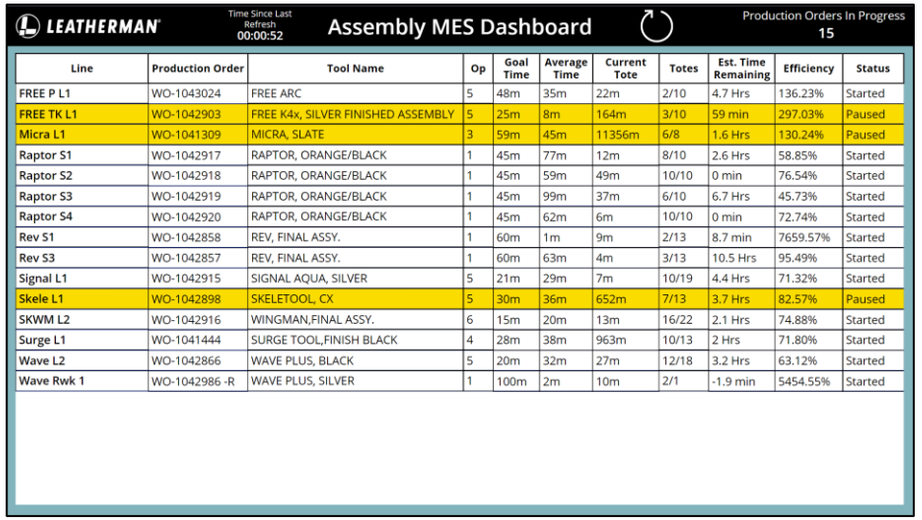
- Update Data back to D365 through MES Interface
- Generate ZPL label



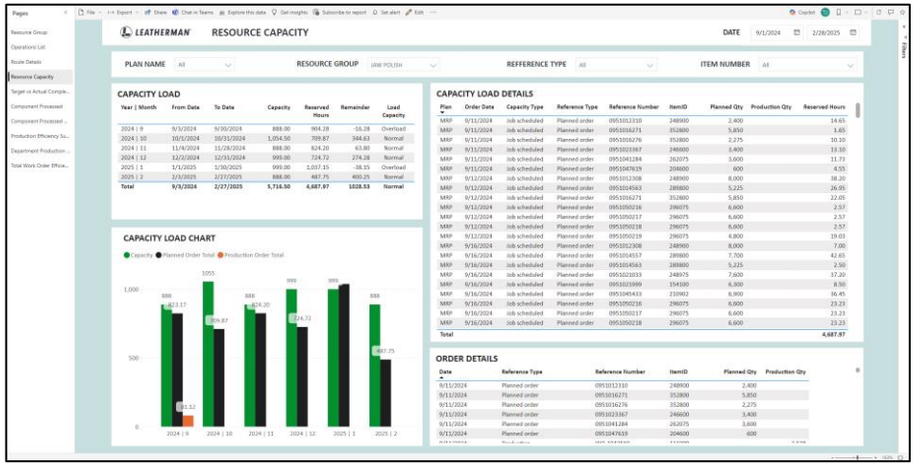
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Power BI

- Real-Time Dashboard
  - Expected Complete Time
  - Actual Complete Time
  - Tools Produced
- Audit Data between D365 and Dataverse
- Resource Capacity
- Subcontract Production Status



Line	Production Order	Tool Name	Op	Goal Time	Average Time	Current Tote	Totes	Est. Time Remaining	Efficiency	Status
FREE P L1	WO-1043024	FREE ARC	5	48m	35m	22m	2/10	4.7 Hrs	136.23%	Started
FREE TK L1	WO-1042903	FREE K4x, SILVER FINISHED ASSEMBLY	5	25m	8m	164m	3/10	59 min	297.03%	Paused
Micra L1	WO-1041309	MICRA, SLATE	3	59m	45m	11356m	6/8	1.6 Hrs	130.24%	Paused
Raptor S1	WO-1042917	RAPTOR, ORANGE/BLACK	1	45m	77m	12m	8/10	2.6 Hrs	58.85%	Started
Raptor S2	WO-1042918	RAPTOR, ORANGE/BLACK	1	45m	59m	49m	10/10	0 min	76.54%	Started
Raptor S3	WO-1042919	RAPTOR, ORANGE/BLACK	1	45m	99m	37m	6/10	6.7 Hrs	45.73%	Started
Raptor S4	WO-1042920	RAPTOR, ORANGE/BLACK	1	45m	62m	6m	10/10	0 min	72.74%	Started
Rev S1	WO-1042858	REV, FINAL ASSY.	1	60m	1m	9m	2/13	8.7 min	7659.57%	Started
Rev S3	WO-1042857	REV, FINAL ASSY.	1	60m	63m	4m	3/13	10.5 Hrs	95.49%	Started
Signal L1	WO-1042915	SIGNAL AQUA, SILVER	5	21m	29m	7m	10/19	4.4 Hrs	71.32%	Started
Skele L1	WO-1042898	SKELETOOL, CX	5	30m	36m	652m	7/13	3.7 Hrs	82.57%	Paused
SKWM L2	WO-1042916	WINGMAN,FINAL ASSY.	6	15m	20m	13m	16/22	2.1 Hrs	74.88%	Started
Surge L1	WO-1041444	SURGE TOOL,FINISH BLACK	4	28m	38m	963m	10/13	2 Hrs	71.80%	Started
Wave L2	WO-1042866	WAVE PLUS, BLACK	5	20m	32m	27m	12/18	3.2 Hrs	63.12%	Started
Wave Rwk 1	WO-1042986 -R	WAVE PLUS, SILVER	1	100m	2m	10m	2/1	-1.9 min	5454.55%	Started



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Demo

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Key take-aways and Q&A

- It’s a lot of work.
- A home-grown MES solution will give you design and functional freedom.
- The partnership of D365 and the Power Platform creates near real-time transactions.

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Suggested Resources

- Other related sessions at Summit:
  - 60 Power Platform Tips in 60 Minutes - Community Summit NA 2024
  - Model-Driven Apps Config Best Practices: Low Code but High Impact! - Community Summit NA 2024

- Helpful websites and Reference Materials:
  - Integrate with third-party manufacturing execution systems - Supply Chain Management | Dynamics 365 | Microsoft Learn
  - Work with extensions for finance and operations apps and Microsoft Power Platform | Microsoft Learn
  - Create components with Power Apps Component Framework | Microsoft Learn

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Thank you for Attending!

A Dynamics-First, 'For User, By User' Event



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