



# Metalworks Digital Twin (MDT)

Real-Time Manufacturing Insight.  
Smarter Operators. Zero Downtime Surprises.

## What is MDT?

LeapFast's Metalworks Digital Twin (MDT) is a customized Digital Twin built to solve real manufacturing challenges—not theoretical ones. MDT turns your production line into a living, learning system that measures product quality in real time, predicts maintenance needs, and supports operators with immediate, data-driven guidance.

### Core outcomes:

- Better part quality during production
- Predictive maintenance based on real machine behavior
- Consistent decision-making—even from new operators
- Fewer disruptions, fewer surprises, more throughput



## Why MDT Outperforms Other Digital Twins

### A Digital Twin That Reflects Reality

A twin is only as valuable as it is *precise*. MDT blends:

- Conventional manufacturing expertise
- Machine feedback & operator knowledge
- Physics-based process understanding
- Machine Learning surrogate models

This ensures real-world nuances—those that matter most on the production floor—are captured, understood, and acted on.

### Real-Time, Actionable Intelligence

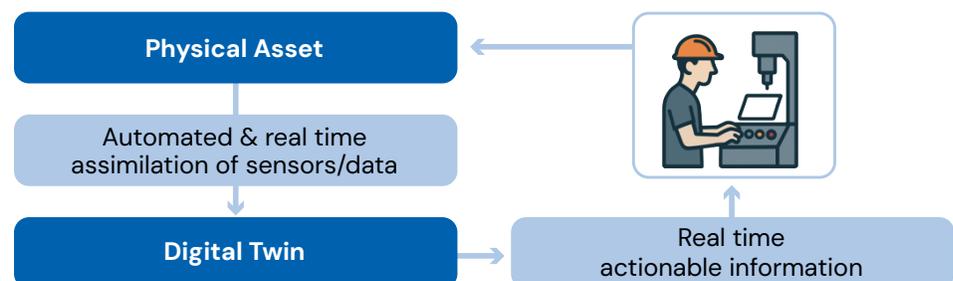
MDT uses process, simulation, and quality control data to generate instant insights operators can trust. Instead of reacting to issues after they happen, your team is empowered to prevent them.

**Even your newest operator can make your best operator's decisions.**

### Built for Fast Manufacturing Environments

As a lean manufacturer, LeapFast delivers Digital Twins quickly and efficiently.

Whether you're an experienced Digital Twin user solving a new challenge—or a manufacturer looking to leap ahead—MDT gives you an immediate competitive edge.





## Why Companies Trust LeapFast

### 20+ Years of Advanced Manufacturing Expertise

The LeapFast team brings decades of experience from **NASA** and **Pacific Northwest National Laboratory**, spanning:

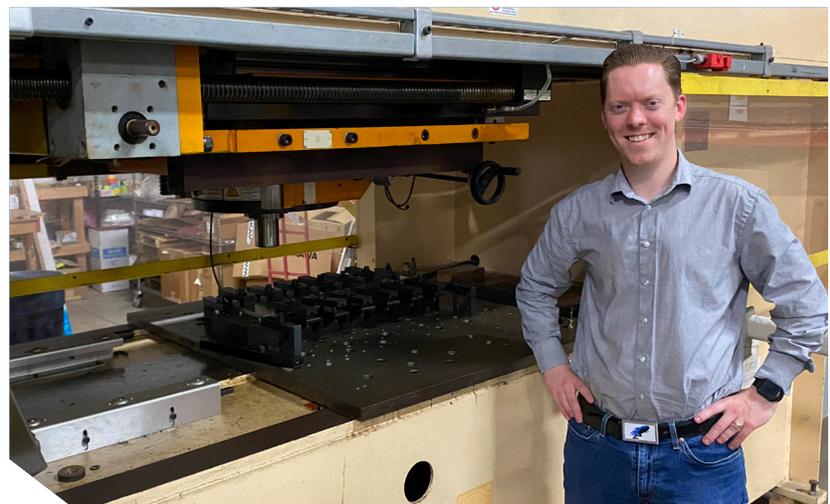
- Computational modeling
- Modular production tooling
- Process specification development
- Machine Learning for metal fabrication

Developing and deploying high-performance MDT solutions isn't new to us—it's what we've done our entire careers.

## Built in America's Manufacturing Heartland

LeapFast's Youngstown, Ohio facility builds and validates every MDT in-house. Rooted in serious manufacturing heritage, our software is engineered with one goal: **real-world production success.**

Companies like **Vallourec Star** rely on these capabilities to strengthen their operations. Your team can too.



## Let's Enhance Your Production Intelligence

252 W Boardman Street • Youngstown, OH 44503 || 330-242-6951 || [Zach@LeapFast.com](mailto:Zach@LeapFast.com)

[LeapFast.com](https://LeapFast.com)