



3M Chemical Operations

Driving Operational Excellence & Sustainability

Through Leadership and Innovation



Operational Excellence is not complicated. It is hard - but not complicated.

The formula hasn't changed. Disciplined, high-performing operations come from strong leadership, grounded in core principles, and technology that magnifies those principles, not replaces them.

Restoring the Fundamentals That Built Great Manufacturing

How we Lost Focus

Over time, we drifted from basics through seemingly constant organizational change, bandwidth challenges, short-term crisis management, regulatory pressure, critical talent turnover, and relentless efficiency pressure.

Standards Slipped

- Work systems grew bloated and inefficient
- Meetings multiplied without clear valuation
- Metrics became the goal instead of guides

Technology Misused

- Technology became a distraction rather than a tool
- Started managing complexity instead of preventing it
- Lost sharpness in core fundamentals

Return to Basics

It's a return to the fundamentals that have always worked—powered by the innovations that make them even stronger.

Why Back-to-Basics is the Most Future-Focused Strategy We Have

The struggle is

real...

Journey to Zero ✓

Minimize
COPQ

95%+
OTIF

YOY 2% Net
Productivity

<75 DIO

The most advanced companies are becoming more, not less, committed to fundamentals—because they've realized that fundamentals are the operating system on which innovation depends.

Basic Performance Has Always Come Down to Two Levers

Lever 1: Principle-Based Leadership

Leadership creates, clarity, connectivity, and consistency. They spend time in the operation building systems that scale ideal behaviors.

- Have high IQ, EQ, and PQ*
- Spend time in the operation
- Build systems with high standards
- Develop people and the organization for long-term success

Lever 2: Advanced Technology

Technology is a multiplier, but only when fundamentals are working – principles first, technology second.

- AI can't fix a weak management system
- Automation can't compensate for poorly defined standards
- Analytics can't improve a process that leaders won't go to the floor to understand

**The Secret Superpower of High Functioning Leaders: How Process Intelligence (PQ) Creates Unstoppable Teams and Unbeatable Results*
by Shane Yount and Rob Kornblum | Oct 24, 2025

Leadership: The Non-Negotiable Foundation (IQ/EQ/PQ)

INSIGHT #1

IDEAL RESULTS
REQUIRE IDEAL
BEHAVIOR

Results are the aim of every organization. Great leaders understand the relationship between results and behavior and create an environment where ideal behaviors are evident in every associate.

INSIGHT #2

PURPOSE AND
SYSTEMS DRIVE
BEHAVIORS

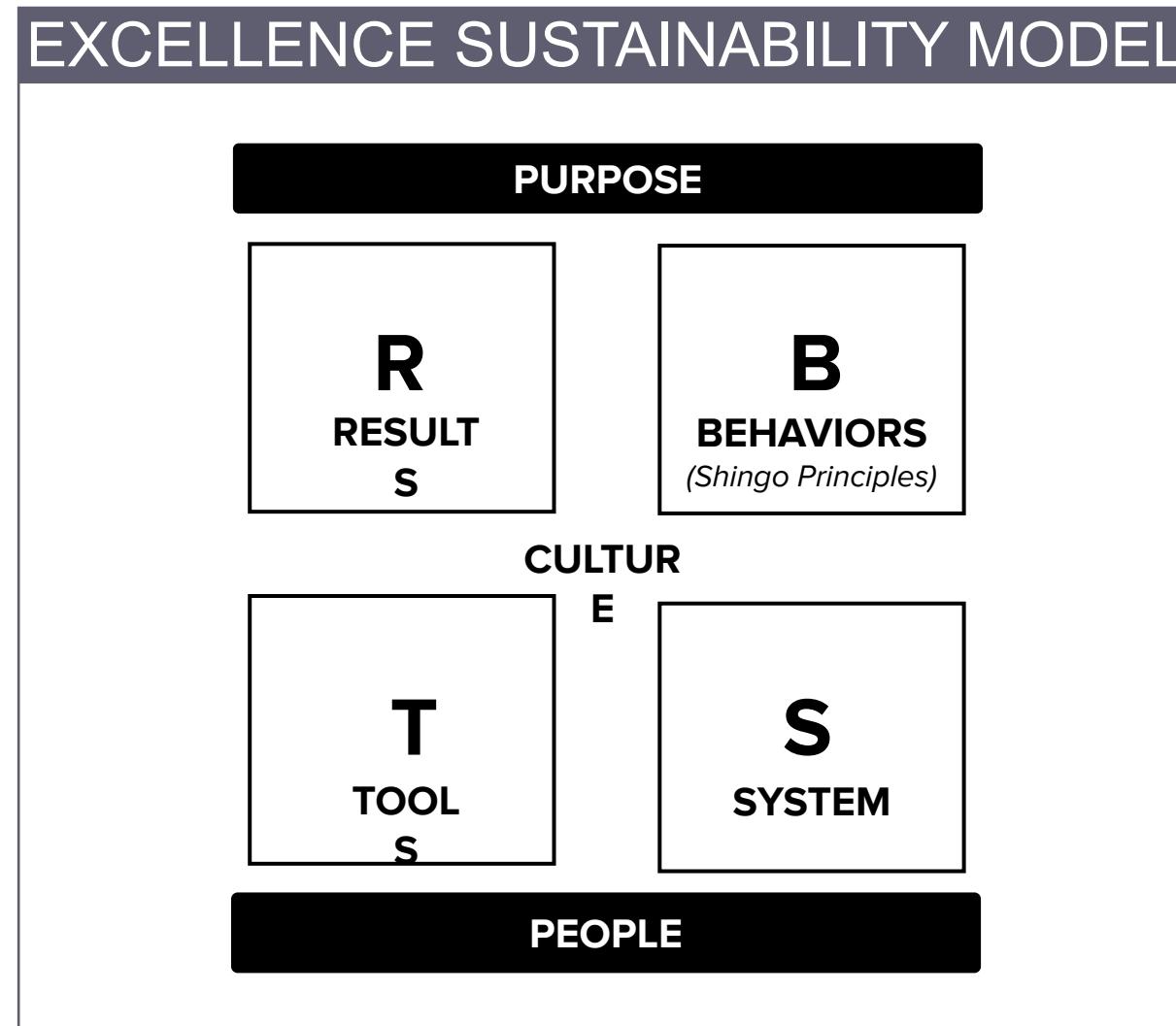
Our purpose, why we are performing the work, and our systems, how we work, must be designed and managed to drive the ideal behavior required to achieve ideal business results.

INSIGHT #3

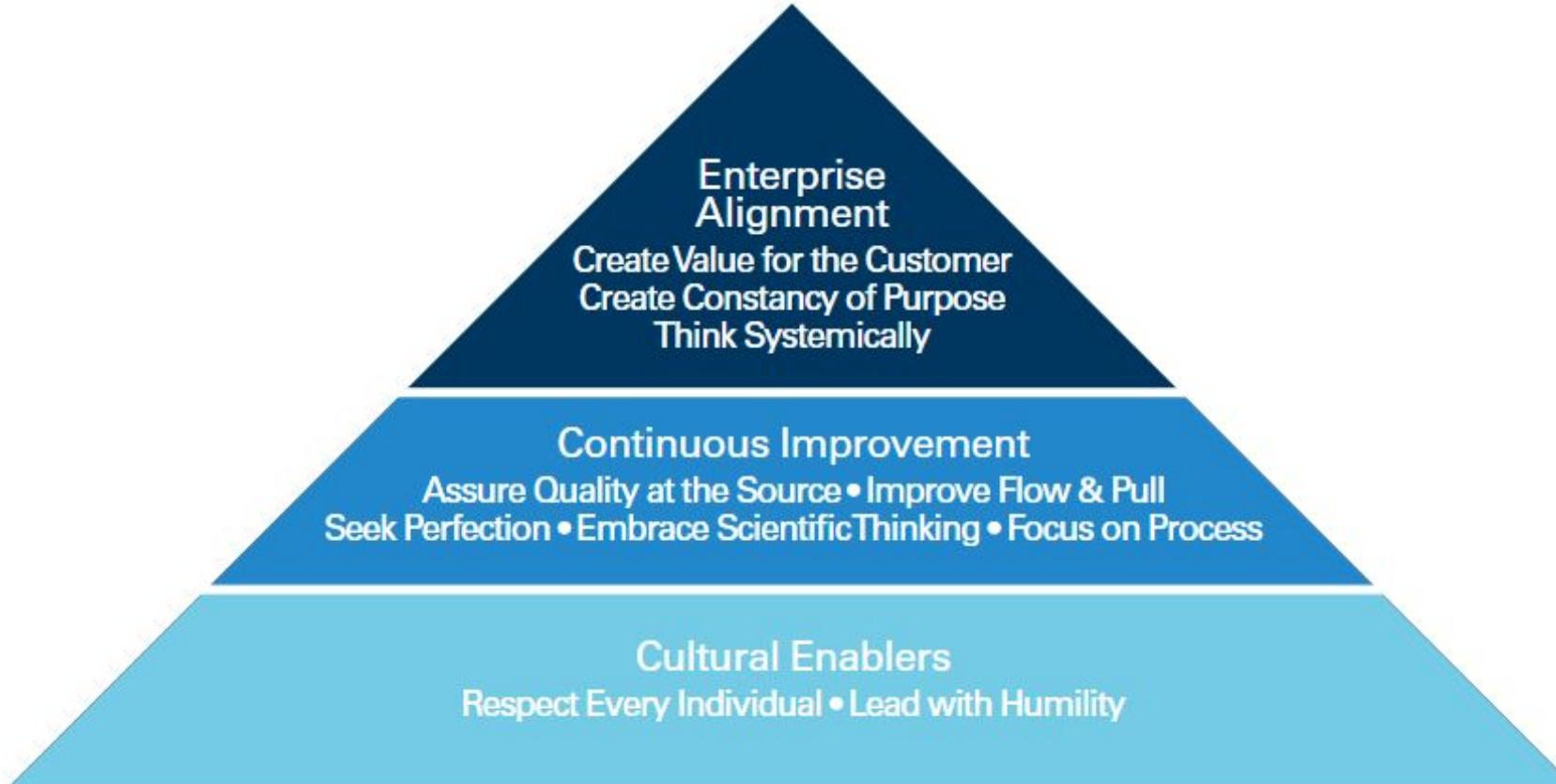
PRINCIPLES
INFORM IDEAL
BEHAVIORS

The more deeply we all understand the principles of operational excellence and the more our systems are aligned to reinforce ideal behavior, the greater the probability of creating a sustainable culture of excellence where achieving ideal results is the norm rather than the aspiration.

Leadership PQ - Systemic Thinking

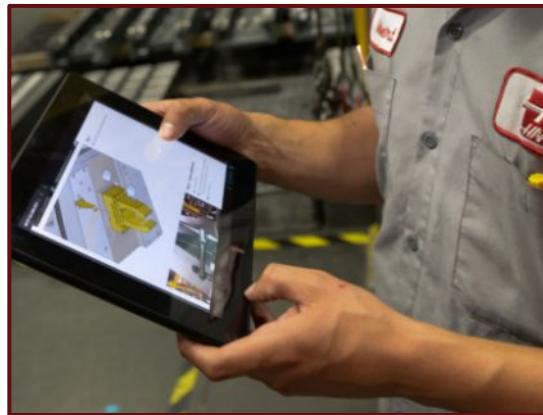


Shingo Principles of Operational Excellence



Innovation and Technology: The Multiplier

Technology amplifies the system you already have.



Connected Worker

- Digital, readily accessible knowledge (FOPs, work instructions, run cards)
- Real-time contextualized guidance
- Digital training platform to rapidly on-board and upskill

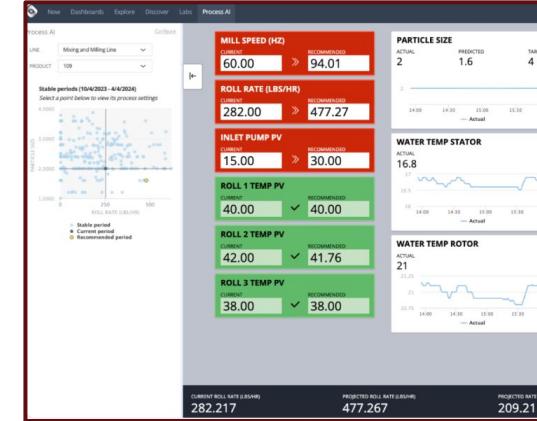
DOZUKI



Automation

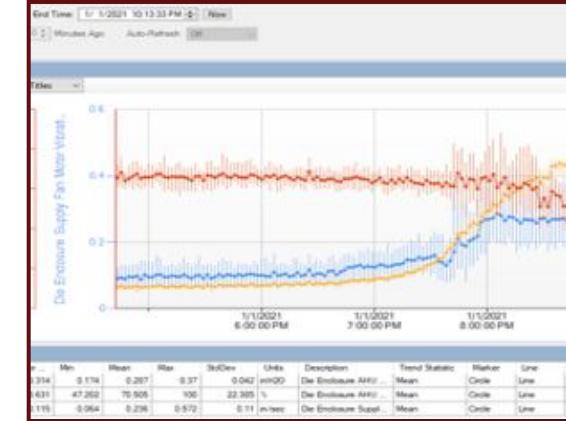
- Robotic-assisted operations
- Automated inspection to detect anomalies
- Automating Controls Systems

3M



Process Optimization

- Advanced process control to reduce variability
- Advanced analytics optimizing energy and emissions/discharges
- Algorithmic scheduling improving service



Predictive Intelligence

- Predictive reliability to reduce failures
- Digital twins to simulate process/product changes
- Technology to accelerate and amplify decision making

Sustainability: Operational Excellence By Another Name



Natural Outcome of Excellence

- When you stabilize the process, you reduce waste.
- When you reduce variability, emissions go down.
- When you optimize productivity, energy efficiency follows.
- When you build a culture of discipline, compliance becomes ingrained—not forced.

*Environmental performance is not a side project.
It's the result of running the operation the right
way, every day.*

The Path Forward: Simple and Proven

We are the architects of the environment in which excellence – or mediocrity – occurs.

Leadership First

Restore principle-based leadership discipline with presence, standards, accountability, and deep systemic understanding for a sustainable transformation.

Technology Second

Selectively harness the right innovations to multiply principle-based systemic leadership effectiveness and accelerate operational excellence results.

Disciplined Behavior Always

Design systems to scale operational discipline that makes chemical manufacturing safer, more efficient, sustainable, resilient, and competitive.

Why Back-to-Basics is the Most Future-Focused Strategy We Have

The results are

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Minimize
COPQ

95%+
OTIF

YOY 2% Net
Productivity

<75 DIO

45%

Recordables

>10%

YOY

1000 bps

>4%

YOY

27%

67% Spills

98% Discharges*

* PFAS Discharges vs. 2019 baseline

A Simple Call to Action

1. **Where have the fundamentals slipped in your organization?**

Because I'm confident there is at least one area where standards have eroded.

2. **How often are you physically present in the operation?**

Presence is a behavior – one that builds trust, accelerates learning, and strengthens accountability.

3. **Are you using technology as a crutch, or as a multiplier?**

Because the ROI of innovation depends entirely on the clarity of the system it operates within.

If we—collectively—recommit to leadership discipline and selectively harness the right innovations, the chemical manufacturing sector will not only become safer, more efficient, and more sustainable it will become more resilient, more competitive, more capable, and more future-ready.

Thank you,

Leadership first.

Technology second.

Disciplined behavior always.