



IMPLEMENTING SUSTAINABLE CHANGE
IN RELIABLE MANUFACTURING:
A PEOPLE-CENTRIC APPROACH

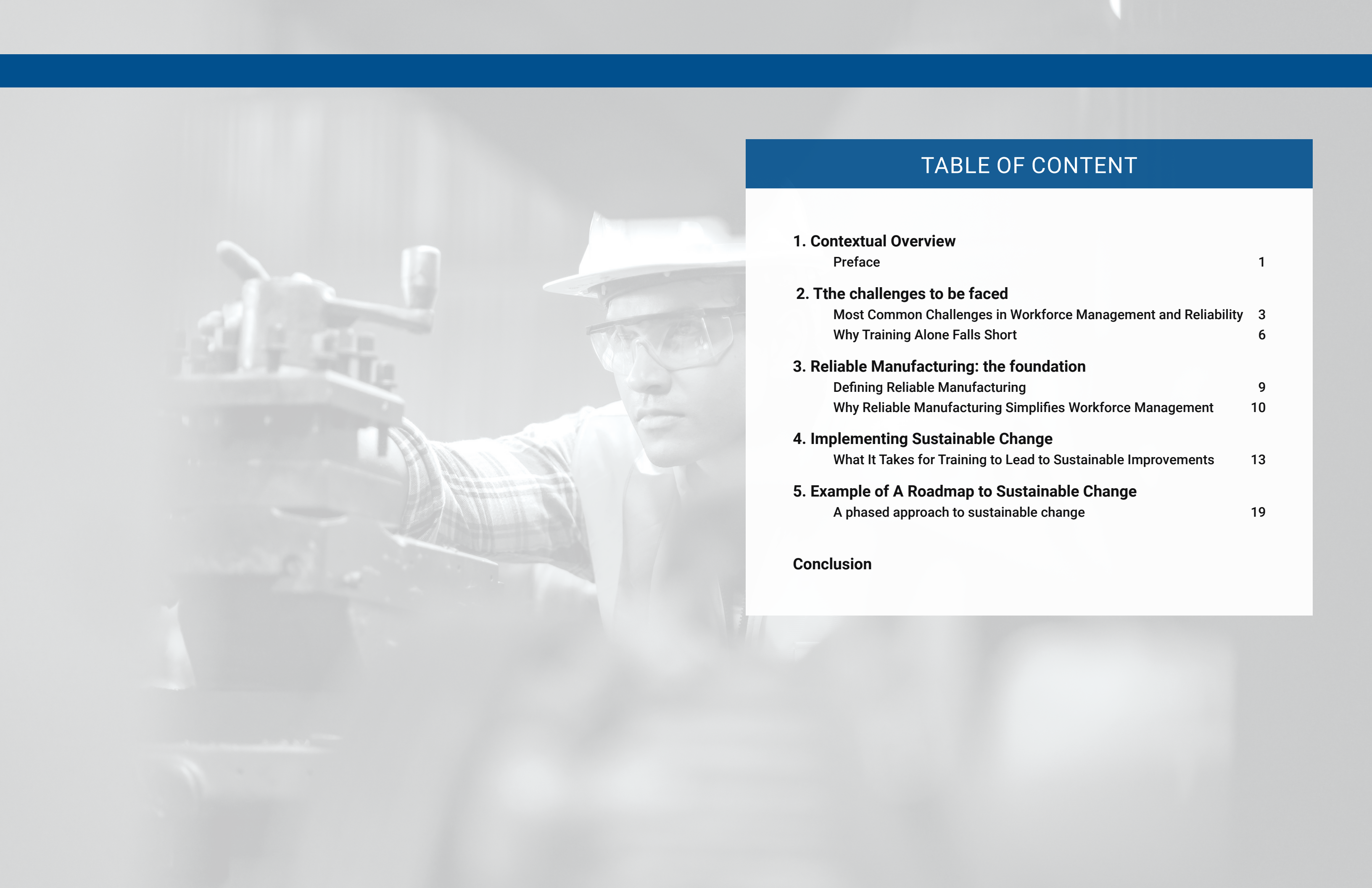
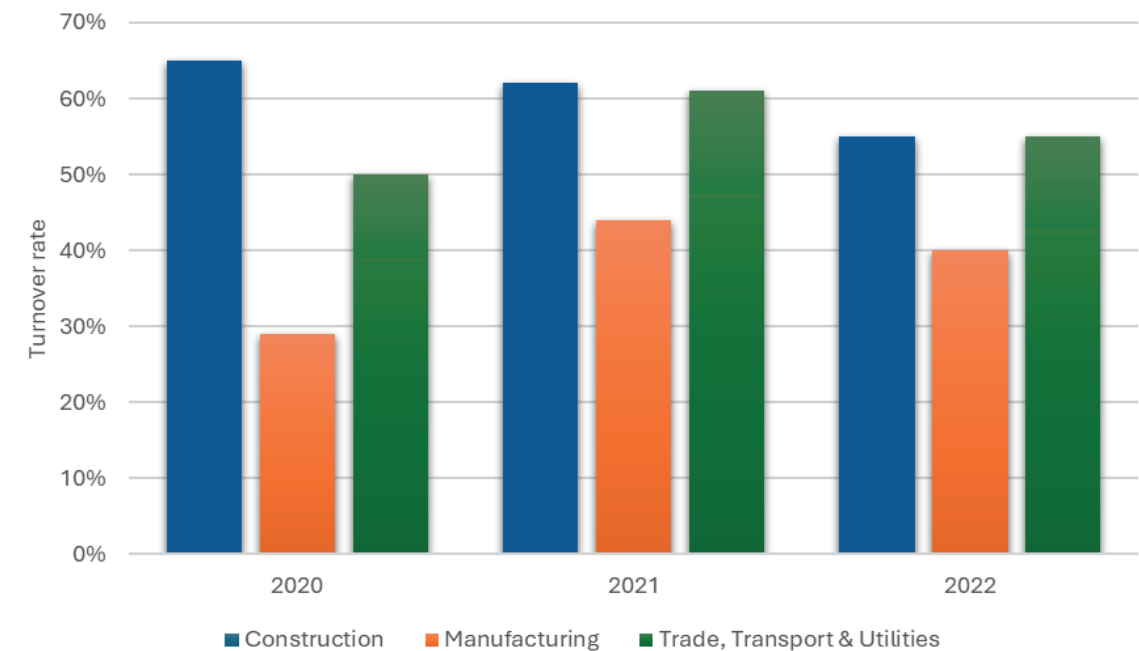


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PREFACE

This white paper, created in collaboration with Reliability Solutions, explores the critical intersection between reliability and workforce management. It delves into the essential role of leadership, employee engagement, and structured change management in embedding reliability into an organization's DNA. More than just a discussion on best practices, this paper presents a roadmap for sustainable transformation.



Employee Turnover Rate in the US from 2020 to 2022

With a turnover rate approaching 40 % in the USA, the manufacturing industry is facing an unprecedented shift caused by an aging workforce and a growing labor shortage threaten to undermine operational stability. As experienced technicians retire, many organizations struggle to retain institutional knowledge and attract new talent with the necessary skills.

At the same time, younger employees have different expectations for workplace culture, training, and engagement, making traditional workforce

management approaches less effective.

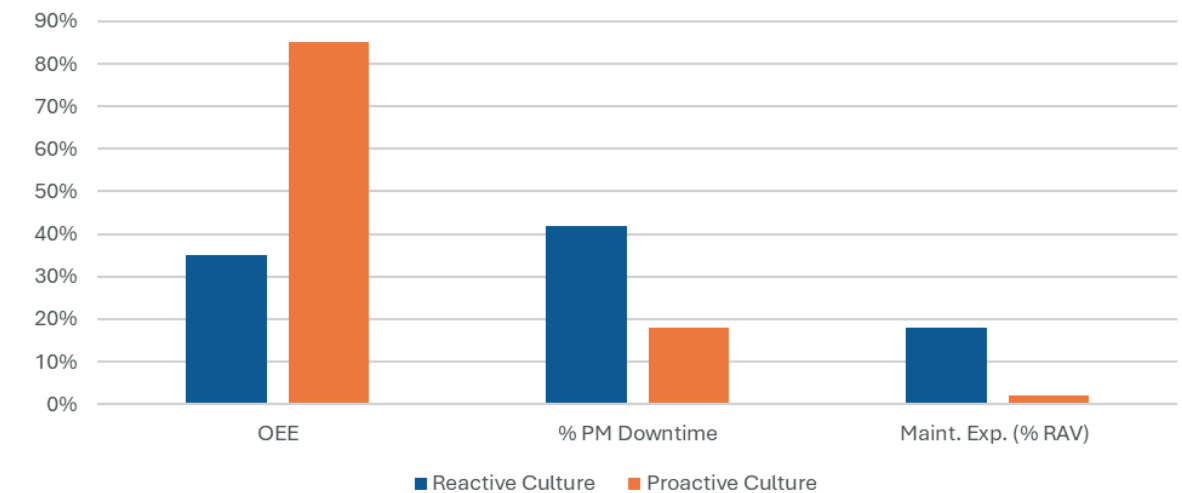
Reliable manufacturing is no longer just about industrial assets, it's about people. A sustainable reliability strategy must address workforce challenges by fostering a culture where employees feel empowered, valued, and supported. By investing in people, organizations can mitigate the risks of workforce weakening and build a foundation for long-term operational success

1.

CONTEXTUAL OVERVIEW

MOST COMMON CHALLENGES IN WORKFORCE MANAGEMENT AND RELIABILITY

Lack of a Proactive Maintenance Culture



Reactive Maintenance vs. Proactive Maintenance - KPI Comparison

Many organizations struggle to shift from a reactive to a proactive maintenance approach. Employees often focus on fixing breakdowns rather than preventing them due to a lack of training, insufficient data, or unclear long-term objectives. It is common to hear statements like, « We don't have time for maintenance when production is running, » leading to increased downtime, higher costs, and operational inefficiencies.

Lack of a Proactive Maintenance Culture

Employees often resist change by relying on familiar routines, stating, « We've been doing it like this for 20 years, and it worked. » This mindset makes it difficult to implement new processes, even when they bring clear benefits. Leadership, on the other hand, may be hesitant due to cost concerns or uncertainty about results. Without trust, clear communication, and active participation in the change process, organizations struggle to achieve sustainable transformation.

2.

THE CHALLENGES TO BE FACED

MOST COMMON CHALLENGES IN WORKFORCE MANAGEMENT AND RELIABILITY

Difficulty in Sustaining Long-Term Improvements

Even when organizations implement improvement initiatives, maintaining momentum over time is a significant challenge. Short-term gains often fade due to a lack of ongoing support, inconsistent follow-up, or employee disengagement. Employees may say, « We tried this new system last year, but nothing really changed, » leading to stagnation or regression. Without continuous reinforcement and accountability, improvements fail to become ingrained in the company culture.

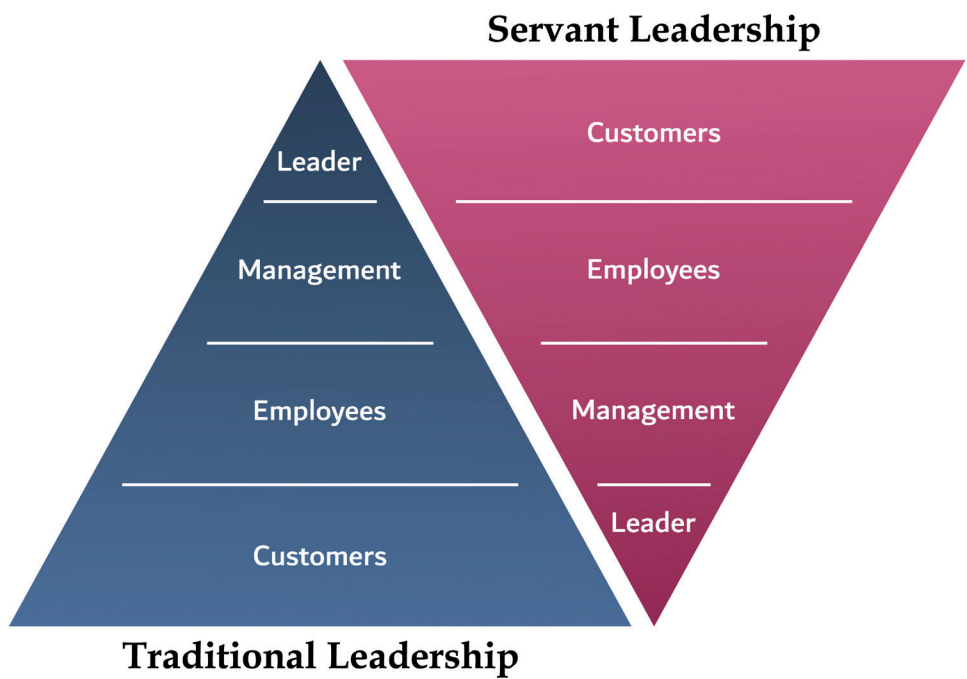
Workforce Motivation Challenges Across Generations

	All Generation	Baby Boomers	Generation X	Generation Y	Generation Z
#1	Relations with Colleagues	Relations with Colleagues	Relations with Colleagues	Relations with Colleagues	Relations with Colleagues
#2	Satisfactory Work	Satisfactory Work	Satisfactory Work	Personal Development	Satisfactory Work
#3	Security of employment	Security of employment	Security of employment	Satisfactory Work	Security of employment
#4	Personal Development	Teamwork	Teamwork	Security of Employment	Relations with Supervisors
#5	Teamwork	Relations with Supervisors	Management Style	Teamwork	Satisfactory Income
#6	Satisfactory Income	Self-realization	Satisfactory Income	Satisfactory Income	Management Style

Managing a diverse, multigenerational workforce presents unique challenges in motivation and engagement. Younger employees may seek purpose and flexibility, while experienced workers prioritize stability and financial incentives.

Statements like, « Young workers don’t want to put in extra hours, » or « Older employees are resistant to new technology, » highlight the challenges in balancing different expectations. Misalignment between company policies and employee needs can lead to dissatisfaction, reduced productivity, and high turnover rates.

Ineffective Leadership Styles Focused on Control Instead of Empowerment



Leadership styles that prioritize control over empowerment can stifle innovation, autonomy, and employee engagement. Employees may feel micromanaged and say, « Why should I take initiative if every decision has to go through my manager ? »

When leaders focus on oversight rather than coaching and development, employees may feel undervalued and disengaged. A lack of vision and inconsistent leadership approaches can hinder long-term organizational growth and reliability.

WHY TRAINING ALONE FALLS SHORT

Training is an essential first step in improving reliability, but it is not enough to drive lasting change. Organizations that rely solely on training often face the following challenges:

- > **Knowledge Decay Over Time:** Without regular reinforcement and real-world application, employees tend to forget what they have learned.
- > **Lack of Real-World Integration:** Training programs may not always address the actual conditions and constraints maintenance teams face daily.
- > **Minimal Impact Without Leadership Support:** If leadership does not actively reinforce and support new processes, employees often revert to old habits, limiting the impact of training initiatives.

Without strong leadership engagement, new skills and processes struggle to take root, and high employee turnover exacerbates the problem. A true culture of reliability requires more than just technical know-how, it demands a shift in mindset, clear accountability, and continuous investment in both people and processes.

By embedding reliability into the organization's culture, companies can create a work environment where employees feel valued, engaged, and equipped to perform at their best.



3.

RELIABLE MANUFACTURING: THE FOUNDATION



DEFINING RELIABLE MANUFACTURING

Reliable manufacturing is a practice that ensures assets operate as intended, when needed, for as long as required, with minimal disruptions. The key principles behind it involve empowering individuals to proactively recognize faults before they become failures and equipping them to follow the correct procedures during maintenance activities.

WHY RELIABLE MANUFACTURING SIMPLIFIES WORKFORCE MANAGEMENT

“A reliable plant is a happy plant.”

The manufacturing workforce is the backbone of a company, and their happiness and sense of inclusiveness play a crucial role in the overall wellbeing of the business.

When assets are constantly breaking down, it creates daily challenges that can lead to frustration and dissatisfaction among employees. This negative impact on morale not only affects productivity but also increases turnover rates.

Reliable manufacturing addresses this by ensuring that assets are operating smoothly, minimizing unplanned downtime, and providing workers with a stable and predictable environment.

Employee Retention and Engagement

Reliable manufacturing, underpinned by well-established maintenance strategies and a culture of continuous improvement, fosters a sense of purpose and ownership among employees.

Employees who see their role as essential to the organization’s long-term success are more likely to remain engaged and committed. By integrating reliability into their daily work, organizations build a workforce that feels connected to their mission, leading to better retention rates, reduced turnover, and greater institutional knowledge.

By fostering a culture of reliability, companies create a positive work atmosphere, which in turn helps to retain talent and keep employees engaged and satisfied.

Skill Retention and Development

A focus on reliable manufacturing often highlights the need for specialized skills to ensure that assets are maintained and operated efficiently. However, as

experienced workers retire or leave the workforce, it is vital to create programs that ensure skills are passed on to younger employees.

A strong workforce management strategy includes mentorship programs, continuous training, and knowledge-sharing platforms that help preserve and transfer this expertise, preventing skills gaps from affecting operational performance.

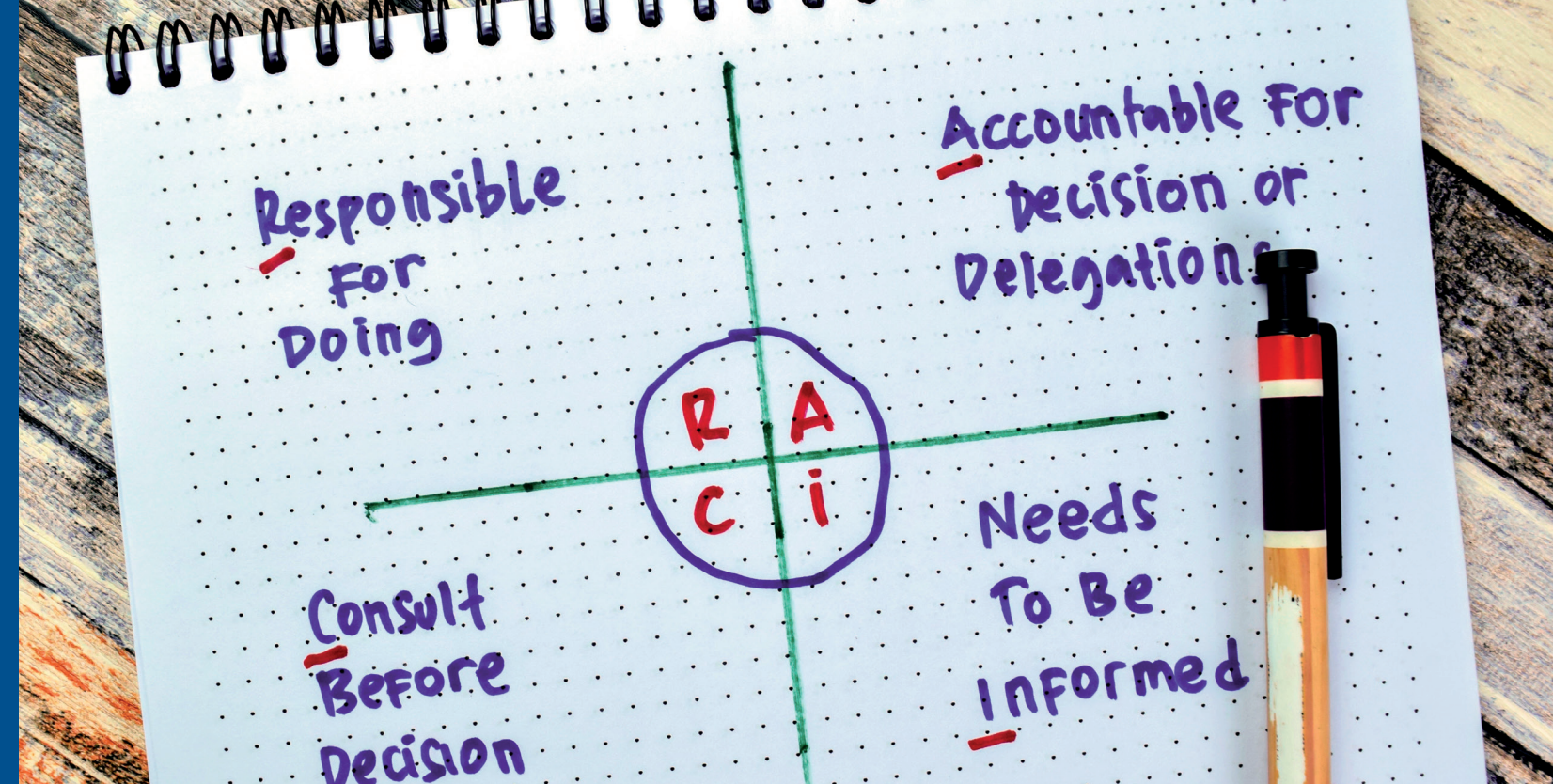
Change Management and Workforce Adaptability

The shift toward reliable manufacturing requires a change in the way employees approach their work. Effective workforce management helps to ease this transition by providing employees with the tools, training, and support they need to achieve their goals.

Additionally, it addresses resistance to change by involving employees in the transformation process, ensuring they feel heard and valued.

Alignment with Organizational Goals

By clearly communicating how reliability impacts business outcomes and individual roles, companies can make sure that their workforce is unified in their objectives.



4.

IMPLEMENTING SUSTAINABLE CHANGE

WHAT IT TAKES FOR TRAINING TO LEAD TO SUSTAINABLE IMPROVEMENTS

To maximize the impact of training, organizations should implement:

Clear Expectations at All Organizational Levels

Clear expectations at all organizational levels are essential for fostering a culture where everyone is committed to maintaining operational excellence.

- > Defining roles and responsibilities ensures that every team member, from leadership to frontline workers, understands their role in reliability and maintenance initiatives.
- > Aligning training objectives with operational goals makes training purposeful and directly tied to the company's success.

WHAT IT TAKES FOR TRAINING TO LEAD TO SUSTAINABLE IMPROVEMENTS

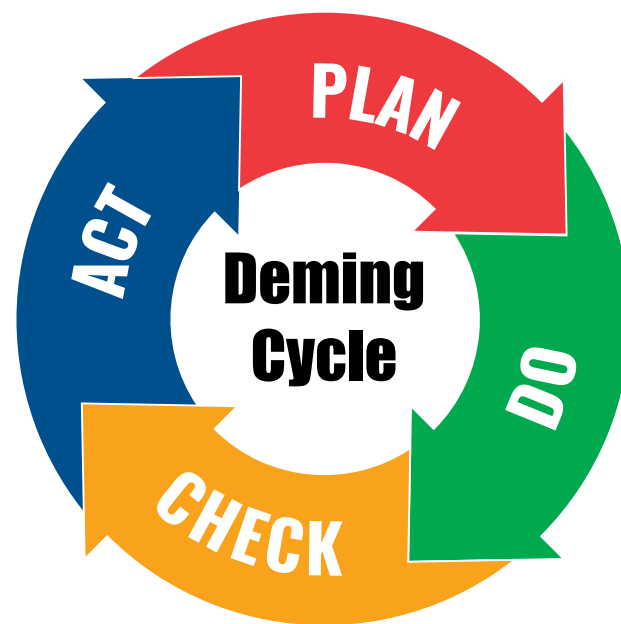
Active Leadership Involvement in Reinforcing Training Outcomes

Active leadership involvement is crucial for translating training into real, lasting change.

When leaders champion reliability practices and provide ongoing, constructive feedback, employees gain clarity on how to continuously improve and maintain high standards.

Incorporating Key Performance Indicators (KPIs) into performance reviews further reinforces the importance of reliability and maintenance efforts, helping employees understand how their contributions are measured.

Mechanisms for Continuous Improvement to Prevent Regression



Continuous improvement mechanisms are essential to maintain progress and prevent regression.

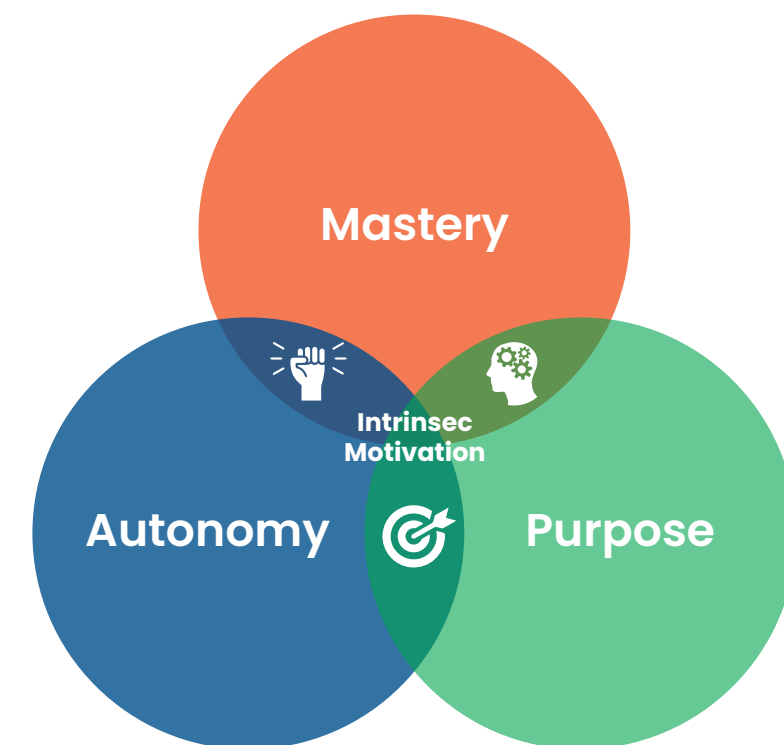
- > Implementing ongoing coaching, refresher courses, and performance tracking helps reinforce learning and ensures employees remain up-to-date with best practices.
- > Performance tracking also highlights areas for improvement, fostering accountability and encouraging consistent application of newly acquired skills.
- > Encouraging frontline teams to report inefficiencies and suggest improvements leverages their unique insights, promoting a culture of continuous innovation and operational excellence.

Key Metrics for Measuring Success

To ensure continuous progress and long-term success, organizations must track metrics that reflect both operational performance and employee engagement.

- > Employee engagement levels, assessed through feedback surveys and participation rates, provide valuable insights into workforce satisfaction and motivation.
- > Asset reliability metrics, such as Mean Time Between Failures (MTBF) and Mean Time to Repair (MTTR), help monitor equipment performance and highlight areas needing improvement.
- > Operational efficiency, measured by Overall Equipment Effectiveness (OEE) and downtime reduction, reflects the effectiveness of maintenance and reliability efforts.

Effective Workforce Motivation



Motivating a manufacturing workforce goes beyond simple incentives; it requires a work environment where employees feel valued, empowered, and connected to a meaningful purpose.

WHAT IT TAKES FOR TRAINING TO LEAD TO SUSTAINABLE IMPROVEMENTS

In high-performing organizations, motivation stems from a combination of autonomy, mastery, and purpose.

- > Autonomy gives employees the freedom to control their tasks, make informed decisions, and address problems proactively.
- > Mastery emphasizes continuous learning and skill development, providing opportunities to refine expertise, tackle new challenges, and stay ahead of industry advancements.
- > A common sense of purpose ensures that employees see how their work contributes to a larger mission, fostering a deeper sense of engagement and commitment.

Building a culture that embodies these elements requires strong leadership, clear communication, and continuous investment in workforce development.

Engaging Employees with the Right Questions

Creating an environment conducive to reliability starts with engaging employees by asking key questions that reflect their daily experiences and challenges:

- > What does a good day at work look like ?
- > What does a bad day at work look like ?
- > What barriers prevent you from having a good day at work ?

These questions help identify areas for improvement and empower employees to contribute their insights.

Following the Four E's for Change Management

Implementing lasting change requires more than introducing new processes ; it involves aligning people, culture, and mindset. By following the Four E's framework, organizations can facilitate smoother transitions and achieve higher adoption rates:

- 1. Educate:** Change begins with understanding. Provide comprehensive training to ensure employees are clear on their roles, responsibilities, and the objectives behind the change.
- 2. Engage:** People support what they help create. Actively involve employees in the change process,
- 3. Empower:** Change is sustainable when employees feel equipped to succeed.
- 4. Expect:** Set high but achievable standards. Establish clear, realistic expectations and maintain accountability.

By combining clear expectations, active leadership, continuous improvement, and engagement strategies, organizations can create an environment where training leads to sustainable improvements, driving operational excellence and long-term success.

5.

EXAMPLE OF A ROADMAP TO SUSTAINABLE CHANGE

A PHASED APPROACH TO SUSTAINABLE CHANGE

Phase 1: Leadership Engagement

- > Conduct a Site Readiness Assessment to understand the challenges and recognize the obstacles that will have to be overcome on the journey to more reliable manufacturing.
- > Host an « **Introduction to Reliable Manufacturing** » for Plant Leadership Teams to understand the impact of reliability on business outcomes.
- > Schedule a three-day « **Reliability Leadership Boot Camp** » to equip mid-level and frontline leaders with actionable strategies.

Phase 2: Skills Training & Implementation

- > Schedule a « **Precision Maintenance and Operator Care Implementation Workshop** » to prepare maintenance and operations leadership teams to implement change after the training.
- > Deliver hands-on **skills training for mechanics and operators** tailored to identified gaps.
- > Develop site-specific action plans with leadership oversight.

Phase 3: Continuous Reinforcement & Mentorship

- > Identify SMEs and Implementation Champions to institutionalize processes and Best Practices.
- > Establish ongoing coaching and mentoring for frontline leaders, technicians and operators to sustain improvements, using online tools such as *Precision Maintenance on Demand* and *Essential Operator Care on Demand* from Reliability Solutions.
- > Conduct periodic **site assessments** to measure progress and refine strategies.

Expected Outcomes of this Approach

By following this structured approach, organizations can expect:

- > Increased OEE through reduced unscheduled downtime and MTTR and more consistent delivery of Precision Maintenance.
- > **Enhanced Operator Involvement** by empowering operators to actively participate in identifying potential failures, fostering a more proactive approach to maintenance, and improving overall detection and response capabilities.
- > Greater workforce engagement and skill retention.
- > Stronger leadership alignment, ensuring reliability becomes a core part of the company culture.
- > Sustainable improvements that extend beyond the initial training period.

This white paper was developed through a collaboration between Reliability Solutions and Spartakus Technologies.



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CONCLUSION

Sustainable change in reliable manufacturing is not achieved through technical solutions alone, it requires a people-centric approach that prioritizes leadership, engagement, and continuous improvement. Organizations must recognize that reliability is a behavior, not just a process. By fostering a culture of accountability, aligning leadership with operational goals, and investing in workforce development, companies can ensure long-term success.

A structured approach to change, starting with leadership engagement, followed by targeted skills training, and reinforced through mentorship, ensures that reliability practices become ingrained in daily operations.

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