Simulation-Based Training:
Powering the Future of Manufacturing

SimTutor

Contents

Improving Workforce Retention and Performance

Attracting and retaining manufacturing workers has become increasingly difficult. The industry standard is 10%, but many manufacturers experience a turnover rate of 20% or higher.[1] With rising costs impacting the bottom line, operators must implement creative onboarding and employee retention practices to mitigate additional profit losses.

Traditional training methods, such as classroom lectures, printed manuals, and hands-on demonstrations often fail to meet the needs of today's workforce. For new employees, the impact of ineffective training isn't realized until faulty parts make it to assembly or contaminants are introduced to a clean environment. Correcting these issues drives up costs. Further, top performers are pulled from their daily responsibilities to administer both training and retraining, increasing employee frustration and adding to losses due to downtime.

Training new employees or processes can be costly and inconsistent, often leaving gaps in real-world problem-solving skills. Even the most experienced trainers can't predict how a trainee will respond to live production challenges.

But simulation-based training can.

Simulations immerse employees in realistic, risk-free scenarios. They provide hands-on experience with manufacturing processes, troubleshooting, and decision-making, ensuring employees are better prepared for the complexities of manufacturing.

Due to their significant impact, simulations are a powerful tool increasingly adopted by highly regulated industries, including aerospace and energy equipment manufacturing. Simulation-based training is crucial in ensuring compliance with strict regulatory standards in the medical device industry. It enhances procedural accuracy and minimizes risks associated with complex manufacturing processes.

By carefully planning and continuously optimizing your approach, you can unlock the full potential of simulation-based training while avoiding common pitfalls.
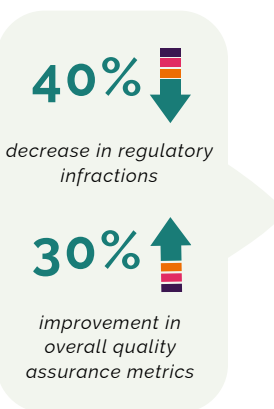
The Benefits of Simulation-Based Training

Effective training isn't just about onboarding—it's about creating a culture of confident learning and engagement. **Simulation training provides an engaging, immersive, and risk-free way to develop employees.**

Simulation-based training helps reinforce FDA, ISO, and OSHA regulations by immersing trainees in realistic, interactive scenarios. This ensures employees fully understand standard operating procedures (SOPs), safety protocols, and quality control measures before working on the production floor.

40%

decrease in regulatory infractions

30%

improvement in overall quality assurance metrics

Companies that implement simulation-based training report significant reductions in compliance violations, with some studies indicating up to a 40% decrease in regulatory infractions and a 30% improvement in overall quality assurance metrics.[2] Additionally, simulation-trained employees demonstrate higher retention rates, reducing the need for frequent retraining and lowering turnover-related costs.

Simulation-Based Training

This proactive approach to compliance education:

- ☑ Mitigates risks.

- ☑ Fosters a culture of accountability and continuous improvement.

- ☑ Ensures you consistently meet the highest industry standards while optimizing operational efficiency.

Increases in Safety and Compliance

According to a survey by the National Safety Council, one in three workers reports that their company prioritizes productivity over safety, resulting in low job satisfaction ratings.[3] Investing in employee safety training not only ensures your protocols are clearly communicated, but it sends a message that your company values worker safety.

Simulations allow workers to gain hands-on experience with complex assembly procedures and equipment operation while reinforcing compliance with ISO and OSHA safety standards. Additionally, simulations can replicate emergency scenarios, helping employees develop the skills to respond effectively to hazards such as contamination, equipment malfunctions, or chemical spills without the stress of impacting live production.

By embedding compliance training directly into simulated exercises, you can ensure employees understand how to follow standard operating procedures (SOPs), quality control measures, and workplace safety guidelines, reducing the risk of errors, regulatory penalties, and workplace injuries.

Reduce Training Costs and Downtime

Traditional training usually involves removing top talent from their machines to train new hires. This decreases production output while increasing frustration and overtime costs.

Simulated training removes the need for extensive in-person instruction, minimizing production slowdowns and cost planning deltas.

Additionally, simulations allow employees to practice compliance-related procedures in a controlled, measurable environment that avoids waste and machine wear and tear. They learn to recognize warning signs of potential production stoppages, such as machine failures or safety and quality violations, without the stress of live production impact.

Scalability and Consistency

Simulated training significantly enhances **manufacturing scalability and consistency** by standardizing workforce skill development. As production demands increase, simulations allow manufacturers to efficiently train new employees with the same high-quality instruction regardless of location or experience level. Simulations provide **uniform, repeatable learning experiences**, reinforcing best practices and regulatory compliance (such as FDA and ISO standards).

Digital simulations can be easily updated to reflect changes in manufacturing protocols, reducing the need for costly retraining and ensuring that employees are always equipped with the latest knowledge. This scalability and consistency help manufacturers maintain high levels of quality control and minimize human errors even as the workforce expands.

This is particularly impactful on the Sales side of the business. It could take months for newer representatives to encounter the number of situations they can interact with through simulated training, practicing pitches, closing the deal, and handling objections. And, if the organization needs to scale the sales force quickly, reps will get up to speed quickly through sales simulations.

Employee Satisfaction & Retention

A staggering 40% of employees who feel they received inadequate training leave within the first year.[4] Conversely, when they feel adequately trained, they report higher job satisfaction, and companies experience higher profit margins due to the reduction of costly mistakes.

Simulated training models provide a hands-on learning environment that builds confidence through low-stakes repetition. Employees move at their own pace and can redo lessons as often as needed, increasing their odds of retaining the material.

Knowledge retention has a significant impact on an operator's long-term success. The average new hire loses nearly 75% of the trained material within the first two weeks with traditional training. To prevent attrition, reinforcement training is necessary. Trainers will again be pulled away from their tasks to administer the retraining, causing even more delays and cost increases.

Simulated training drives higher retention through repetition from the start, and reinforcement training can be administered with minimal disruption and no additional cost.

25%
RETAINED

75%
LOST
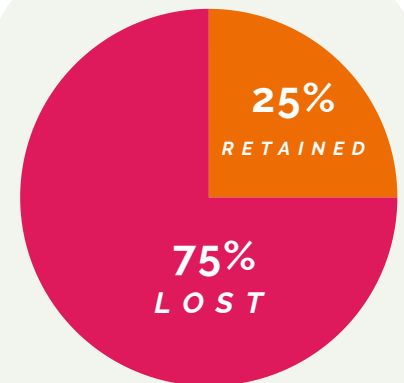
75% of the trained material lost within the first two weeks with traditional training.
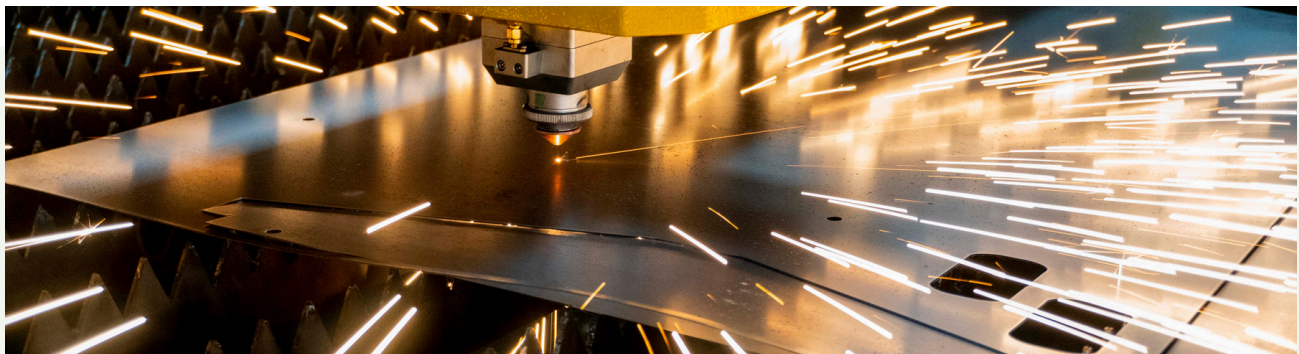
Considerations for Simulation-Based Training

Significant Cost Savings → **Reduced Errors** → **Improved Efficiency** → **Lower Turnover**
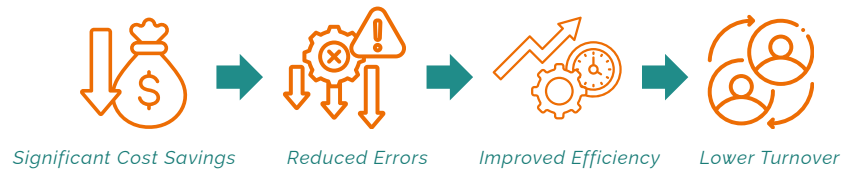
Simulation training offers significant advantages, but manufacturers should know the requirements and potential challenges as with any implementation.

Implementing new training technology requires upfront capital and labor investment. Subject matter experts (SMEs) and instructional designers must collaborate to create **accurate, interactive simulations** that reflect your real-world manufacturing processes and SOP's.

Additionally, trainers and supervisors must be effectively trained to implement and manage simulation-based learning, ensuring that employees receive consistent and meaningful instruction. Transitioning to simulation-based training may also require IT and engineering support to integrate the platform with existing manufacturing systems and ongoing maintenance to keep training content updated with regulatory and operational changes.

However, companies that implement simulated training see **significant cost savings in reduced errors, improved efficiency, and lower turnover**. Factors like error reduction, compliance violations, trainer hours, and the cost of equipment downtime should be considered in a strong return on investment (ROI) analysis.

Benefits of Simulation-Based Training

- ✅ Cost savings from error reduction
- ✅ Decreased compliance violations
- ✅ Reduced employee turnover
- ✅ Faster time-to-competency
- ✅ Minimized equipment & lead producer downtime
- ✅ Scalability of training programs

Employee resistance to transitioning from traditional training methods can be addressed through a **gradual implementation approach** and by actively involving diverse teams in the development and rollout of the training process.

Finally, off-the-shelf training solutions do not focus on company-specific processes and fail to connect with trainees on a personal level. Companies like SimTutor specialize in customized simulation training that aligns with unique manufacturing workflows.

How SimTutor Delivers High-Impact Training Solutions

SimTutor provides tailored, simulation-based training solutions specifically for manufacturers.

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Simulation-Based Training Delivers

- ✓ **Customizable Learning Modules** – Align training with ISO, FDA, and GMP standards.

- ✓ **Interactive Simulations** – Engage employees with hands-on experiences.

- ✓ **Scalability** – Train teams of all sizes, across multiple locations.

- ✓ **Data-Driven Insights** – Track employee progress and identify skill gaps.

Future-Proof Your Workforce with Simulation Training

The manufacturing industry cannot afford ineffective training, as errors can lead to compliance violations, costly product recalls, and even risks to worker safety.

Traditional training methods often fail to prepare employees for the industry's demands. Employees feel unattached to the work and leave before their potential is realized, leaving waste and frustration in their wake.

Manufacturers can transform workforce development by embracing simulation-based learning, ensuring employees gain hands-on experience in a controlled, risk-free environment and giving them the confidence they need to perform well in live production.

Most importantly, simulation training allows your team to reach their full potential while protecting your bottom line.

Are you ready to revolutionize your training strategy? Contact SimTutor today to explore customized simulation training solutions.

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Partner With Us to Transform Manufacturing

Start using simulation-based training to give manufacturing professionals the skills and knowledge they need to excel in their roles.

Request a Demo

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