# Preciple^

## Case Study Series: Steps to Safer Horizons: Driving metrics, building safety culture, saving lives

## Volume 1 – Safety culture factors and leveraging technology to support them

This case study series covers impact of technology on safety and how it works hand in hand with other factors that shape safety culture

Safety is the cornerstone of success for EPC, construction and manufacturing firms, as it directly impacts their workforce, reputation, and financial stability. By prioritizing safe practices and environments, firms protect their employees from harm, foster trust with clients, and reduce costly accidents or legal complications. A strong commitment to safety not only ensures compliance with regulations but also boosts worker morale and productivity, ultimately creating a thriving, sustainable business in a competitive industry.

## OSHA investigations at Accurate Manufacturing

- 3 OSHA investigations
- 36 violations
- Exposed employees to struck-by hazards
- 25 serious safety viloations of US Department of Labor regulations
- OSHA's health investigation found 10 violations
- Cited for a Penalty of $237,890

Source:

https://www.dol.gov/sites/dolgov/files/OPA/newsreleases/2023/10/OSHA20232174.pdf

There were three OSHA investigations at Accurate Manufacturing identifying 36 violations.

**Incident Description:** In April 2023, a tragic incident occurred at Accurate Manufacturing Inc., a metal fabrication company in Tulsa, Oklahoma. During the pressure testing of a heat exchanger, a plug blew off under 2,600 psi of pressure, fatally striking an employee. This incident not only resulted in a loss of life but also exposed the company to significant scrutiny and reputational damage.

**Injury and Involvement:** The incident involved one employee who suffered fatal injuries. Following this, OSHA conducted investigations that revealed numerous safety violations at the facility.

**Root Cause:** The root cause was identified as a failure to implement adequate safety measures during high-pressure testing. Additionally, the company lacked a comprehensive energy-control program and proper training for employees.

**Preventive Measures:** To prevent such incidents, the following steps could have been taken:
1. **Enhanced Safety Protocols:** Establish strict guidelines for high-pressure testing, including the use of protective barriers and safety equipment.
2. **Employee Training:** Provide thorough training on handling high-pressure systems and emergency response procedures.
3. **Regular Inspections:** Conduct routine checks to ensure all equipment is in safe operating condition.
4. **Compliance with Regulations:** Adhere to OSHA standards and implement a robust energy-control program.

# Factors shaping Safety Culture and how they interact with technology
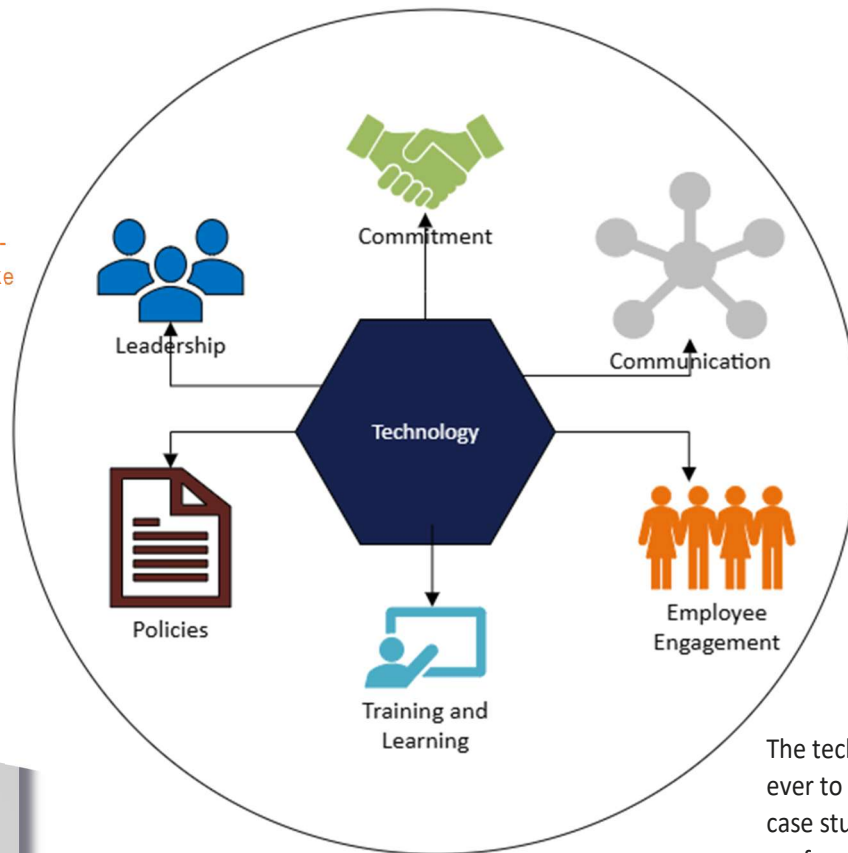
The case of Accurate Manufacturing underscores the critical importance of proactive safety measures and compliance with regulations to protect employees and maintain a company's reputation.

Without commitment to Safety and consistently upholding the safety practices, the safety culture starts to disintegrate costing the company its reputation and the bottom line.

Strong leadership sets the tone for safety-first culture. Technology complements this by providing real-time data and dashboards and make informed decisions.

Open and transparent communication ensures everyone is aligned with safety goals. Technology like messaging platforms, safety apps and alerts helps disseminate critical safety information quickly and efficiently.

Clear and well-enforced safety policies form a solid foundation. Technology supports this by ensuring automated compliance tracking, documentation management, and instant access to safety protocols.

When employees actively participate in safety initiatives, the culture thrives. Technology fosters this by enabling tools like gamification of safety training or anonymous resporting system for hazards.

Commitment
Leadership
Communication
Technology
Policies
Employee Engagement
Training and Learning

Through virtual reality simulations, e-learning platforms, and interactive modules, technology provides hands-on experience for employess to learn

The technological advances in the AI era has made it more easier than ever to implement these much needed measures for companies. Future case studies in this series will cover laying the foundation, key performance indicators, best practices for collecting good data and enabling continuous improvement to achieve safety culture goals.

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