Volume 2 – Laying the foundation

This case study is part of a series that covers important considerations for setting up Safety Information Systems within an organization. It expands on leveraging technology to support your Safety Culture Goals.

Laying a solid foundation for a safety information system isn't just a one-off technology install—it's a holistic transformation that must address the unique needs of your safety team, production team, and the management team. With the latest advancements in technology, companies now have greater opportunities than ever to achieve their safety goals. Here are the four main considerations that will ensure

Needs Analysis

Before investing in new technology, conduct inclusive needs analysis. Understand the specific risks, analyze past incidents and monitor changing regulatory guidelines.

Collaborative Planning

Collaborative planning is equally important. Engage the right people at the right time. Involving the safety team to understand the many impediments to safety goals and getting the operations team to weigh in on the day-to-day challenges, helps determine how best to implement the safety goals and objectives.

Align Business and Safety Goals – Management involvement is key in establishing and adopting best safety practices.

Data Integrity

Without a standardized procedure for data capture and validation, the collected data becomes unreliable. And unreliable data can cause hallucinations and misinterpretations by the AI models. Governance policies must be implemented to ensure periodic data reviews. Ensure the data is being captured correctly, verify accuracy of the captured data and identify discrepancies. The procedures must also include a clear protocol for data anomalies and enable prompt corrective action.

Sustainable Adoption

Alignment is key when it comes to sustainable adoption. Leadership must clearly articulate the why. They must communicate how safety underpins overall production efficiency and cost containment. Facilitate continuous improvement through regular updates, enhancements based on feedback and by emphasizing that safety information system is a living tool. Regularly conduct review sessions where senior management engages with safety dashboard data, supports corrective actions and motivates all employees to engage with the system.

Needs Analysis — Collaborative Planning — Data Integrity — Sustainable Adoption — Safety Information System Foundation
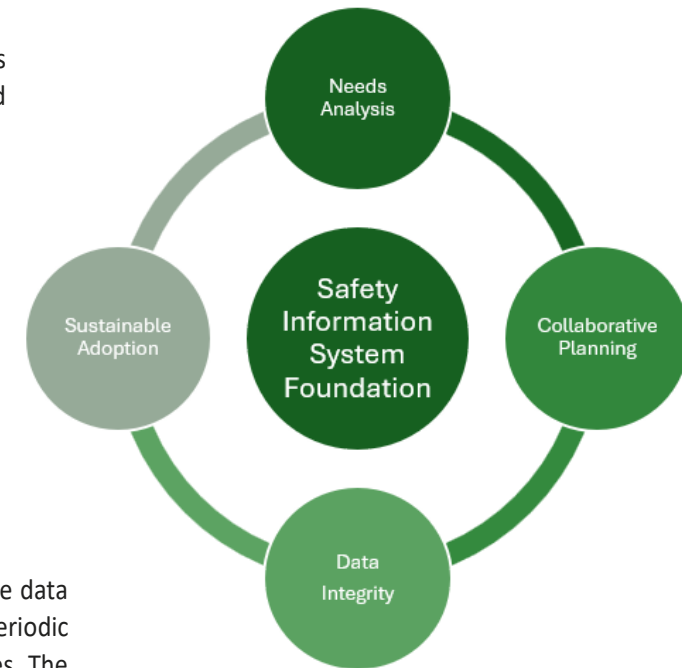
Digital Safety Management Platform

Using a cloud-based system that digitizes and integrates all aspects of safety management, we can collect real-time data from sensors, mobile devices and manual inputs. Systems built with IoT integration and AI-powered analytics can continuously monitor key safety indicators, track worksite conditions, and even predict potential hazards before they lead to an accident.
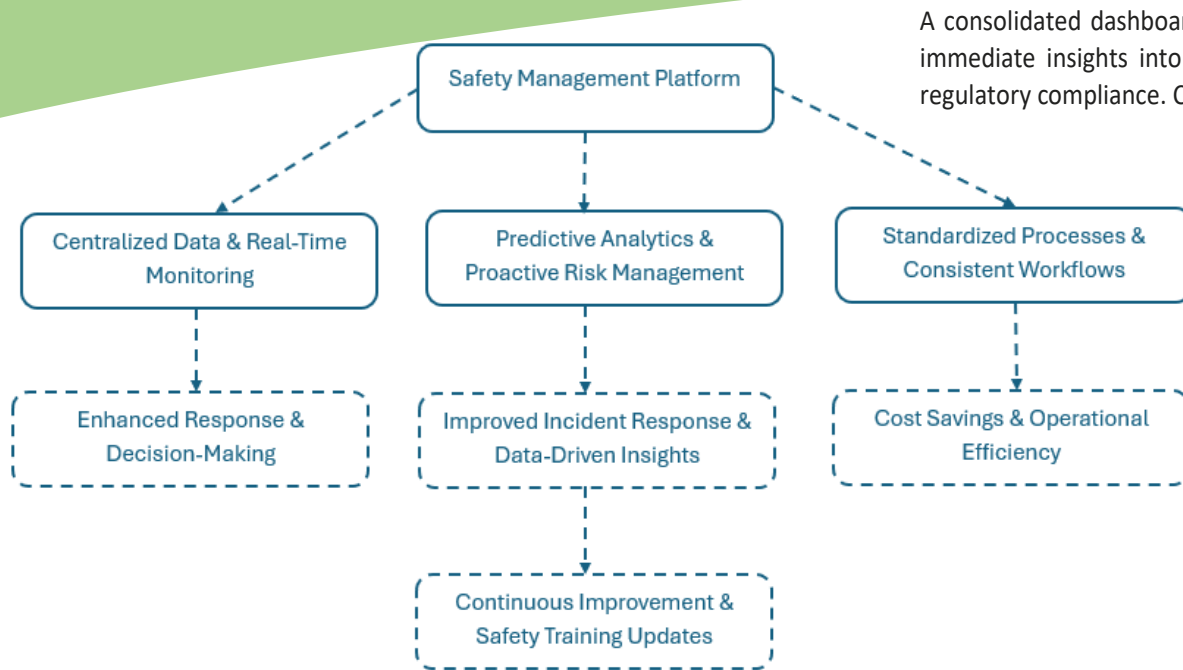
A consolidated dashboard provides all stakeholders—from frontline workers to management—with immediate insights into safety conditions. This helps in swiftly addressing issues and maintaining regulatory compliance. Consider the KPIs and incorporate key data points while laying the foundation.

By employing machine learning algorithms, the system analyzes historical and real-time data to identify patterns and potential risk factors. This predictive capability allows safety teams to implement preventive measures before minor events escalate into serious incidents, significantly reducing overall accident rates.

Digital platforms standardize safety procedures across different teams and sites. Uniform data formats and automated workflows reduce human error and ensure that safety practices are consistent. This consistency is crucial in complex environments like manufacturing lines or large-scale construction projects, where diverse teams must work in unison.

In the event of an incident, the platform offers a detailed, data-driven view of what transpired. This granular level of insight not only aids in rapid incident response but also helps in conducting thorough post-incident analyses. The findings can then inform continuous improvement measures, driving long-term enhancements in safety practices.

By transforming traditional safety management into a dynamic, integrated, and highly responsive process, these digital platforms empower companies to elevate their safety practices.

The prior case study in this series covered important Safety Culture Factors. Future case studies will cover key performance indicators, best practices for collecting good data and enabling continuous improvement to achieve safety culture goals.

For more information, follow us on:
Visit us: www.preciple.com
Contact Us

Diagram:

Safety Management Platform
- Centralized Data & Real-Time Monitoring
  - Enhanced Response & Decision-Making
- Predictive Analytics & Proactive Risk Management
  - Improved Incident Response & Data-Driven Insights
    - Continuous Improvement & Safety Training Updates
- Standardized Processes & Consistent Workflows
  - Cost Savings & Operational Efficiency

Samsung SDS and O'Neal

In a notable case of a Global Constructor in partnership with Samsung SDS, the company transformed its safety procedures by implementing a digital construction safety management platform that leverages cutting-edge technologies—combining IoT sensors, cloud-based data analytics, and AI-based predictive tools. Their solution not only streamlines real-time data collection and analysis but also helps in forecasting and mitigating safety risks before they escalate. Although the primary focus there is operational efficiency and risk prevention, the transformative impact of this platform underscores a new benchmark in safety management practices in large-scale EPC projects.

In another case, O'Neal, a company well-regarded in the construction industry, has built and refined a comprehensive safety management system focused on proactive, data-driven safety measures. Their cultural overhaul integrated safety into every aspect of project delivery—from rigorous hazard assessments to mandatory, role-specific training like OSHA 10. This commitment has earned them the Safety Training and Evaluation Process (STEP) platinum-level national safety award from the Associated Builders and Contractors (ABC) for the seventh consecutive year, which is a strong endorsement of their forward-thinking approach to safety management