



WORKtoZERO

an nsc program

Eliminating fatalities in the workplace through emerging technology.

Every worker deserves to return home safely, yet **each year approximately 5,000 US workers lose their lives**. Although workplace injuries have been decreasing over the past decade, the number of fatalities remain relatively stagnant. The National Safety Council (NSC) Work to Zero initiative believes technology can help eliminate workplace fatalities in our lifetime. Early tech adopters are not only reporting health and safety performance improvements but also increased operational efficiencies from implementing technology.

In 2020, NSC conducted initial research, identifying and mapping the top workplace hazards, contributing risk factors and viable technology solutions. This research has helped guide the Work to Zero program in supporting businesses in adopting lifesaving technologies.

Review the full report, [Safety Technology 2020: Mapping Technology Solutions for Reducing Serious Injuries and Fatalities in the Workplace](#), to learn more.

Safety Technology 2020 Key Findings

Top 5 Hazardous Situation	% of Non-Roadway Deaths
1. Work at Height	22.59%
2. Workplace Violence	13.27%
3. Repair and Maintenance	12.40%
4. Construction and Installation	12.24%
5. Logging Equipment Operation	5.67%

Examples of Situational Risk	Examples of Systemic Risk
Falls	Lack of Training
Falling Objects	Fatigue
Struck by an Object	Poor Safety Culture
Electrocution	Adverse Weather
Fire	Worker Wellbeing

Most Commonly Used Tech	% of EHS Participants Used
Robotics	71%
Sensors/detectors	47%
Software	35%
Wearables	29%
Equipment	24%
Content	18%
Mobile Apps	18%
Analytics	12%
Data Management	6%

To learn more about NSC Work to Zero, our research and growing suite of free tools and resources visit: nsc.org/worktozero. Start by reviewing the **Safety Innovation Journey** and **Implementation Roadmap**.

SAFETY INNOVATION JOURNEY

The [Safety Innovation Journey](#), a key resource developed by Work to Zero, is a free interactive webtool that organizations can use as a customized step by step guide to successful adoption of technology solutions.

1. Assess Your Risk

Start by assessing the level of risk in the workplace. NSC has developed a [risk assessment tool](#) to help identify the primary workplace hazards associated with serious injuries and fatalities and which to prioritize solving through innovation.

2. Identify Technology Solutions

NSC can connect you to [key resources](#) such as webinars, white papers, investment calculators and case studies to explore [technology solutions](#) that can be used to address workplace hazards.

3. Determine Your Readiness

NSC provides a free [online assessment](#) to determine an organization's readiness for implementing technology. The assessment report outlines the five phases of digital readiness for safety technology (observing, experimenting, adopting, integrating, and transforming) and provides guidance for organizations as they progress.

4. Make The Business Case

NSC developed [calculators](#) to help organizations make the business case for innovation solutions and start the conversation about investing in safety technology. These calculators allow comparison between business as usual versus adopting technology solutions.

5. Your Roadmap

NSC has created a [guide](#) to help organizations plan, prepare, evaluate and innovate work practices within an organization.



NSC WORK TO ZERO

SAFETY TECHNOLOGY PILOT AND IMPLEMENTATION ROADMAP

NSC believes the best way to protect workers is to eliminate, substitute or engineer out potential hazards, and implementing safety technology solutions can help. Recommendations below come from the [Safety Technology Pilot and Implementation Roadmap: Making Innovation Accessible](#) report. This report discusses challenges to innovation and provides a roadmap to assist employers on their innovation journey. This four-stage tool includes a series of continuous improvement action steps for employers to follow for successful digital transformation.

Step 1: PLAN

- Define values and business goals.**
 - Articulate values, goals and strategic vision.
- Consider the Management of Change (MoC) process to assess business impact.**
 - Align on values and communicate the collective 'why'.
 - Step back to assess how technology interacts with and impacts the various users and stakeholders, including employees, through its lifecycle.
 - Identify what supporting elements need to be put in place to fully leverage and realize its value (e.g., IT infrastructure, talents, functions, activities, resources, process changes).
 - Clarify expectations, anticipate errors and assess the potential unintended consequences.
- Ensure organizational readiness.**
 - Assess and discuss the organizational and digital readiness level, with management, employees, customers and other stakeholders.
 - Develop consensus on business goals and strategic vision.

Step 2: PREPARE

- Build a coalition of digital champions representing all employment levels and revisit readiness.**
 - When forming the coalition, consider:
 - What purposes may the technology serve?
 - How will the business need and the technology evolve?
 - Who interacts with the technology and how?
 - Who is affected by this technology?
 - What may need immediate attention?
 - What likely upskilling will connect with employees?
 - What are the hidden safety and security risks?
 - What skills and expertise are needed?
- Determine data structure and reporting alignment.**
 - Consider the following fundamental questions:
 - What data are needed to fulfill the purpose?
 - How is that data captured?
 - Who contributes to that data?
 - How is the data processed and how will it be used?
- Revisit the MoC Process.**
 - Reassure innovation aligns with business goals.

Step 3: EVALUATE

- Examine the Return on Investment (ROI) of technology.**
 - Consider the costs and value involved in business-as-usual compared to the costs and value of innovation.
- Review case studies.**
 - Case studies or use cases from like businesses can serve as useful points of comparison and analysis to make a technology solution fit-for-purpose.
- Design/select possible technology solutions.**
 - Consider a set of comprehensive criteria, such as:
 - Scalability
 - Ease of use
 - Data quality and transferability
 - Minimal business interruption
 - Security
 - Compatibility
 - Technology maturity

Step 4: INNOVATE

- Roll-out technology.**
 - Engage affected groups for technology and support readiness. Consider assessing their:
 - Acceptance and willingness
 - Skill and problem-solving abilities
 - Cultural appetite for change
 - Consider launching a pilot project with a small group of team members.
- Evaluate data integrity and performance.**
 - Consider digital objectives and business goals.
- Enact continuous improvement and monitoring.**
 - Follow MoC principles.
 - Conduct regular assessments regarding technology use and data produced.
 - Commit to continuous improvement and monitoring.