

A photograph of a Black male worker in a white hard hat and a high-visibility orange and grey jacket. He is looking upwards and to the right, holding a metal chain with a yellow handle. The background is a bright yellow industrial structure. The image has a warm, orange-toned overlay.

INTELEX
INSIGHT REPORT

**How InteleX Supports
Safety Culture from
the Front Lines**

Table of Contents

- 1 Introduction: What is Proactive Safety?
- 2 The Role of Data
- 3 The Role of the Frontline Worker
- 5 Proactive Safety Management Systems
 - 6 Inspection Management
 - 6 Audit Management
 - 6 Training Management
 - 7 Job Safety Analysis
 - 7 Safety Observations Management
 - 7 Behavior-Based Safety
 - 8 Communications Management and Bulletins
 - 9 Incident Management
- 9 Conclusion
- 10 About the Author



Introduction: What is Proactive Safety?

For years, health and safety programs have used traditional approaches like root-cause analysis, corrective actions, regulatory reporting and incident management to prevent the reoccurrence of incidents in the workplace. Cloud-based technology that allows workers to report incidents on mobile devices from the field has revolutionized health and safety, helping leaders uncover more safety risks across the organization than has ever been possible in the past.

Today, a new generation of data-based tools is moving safety from reactive to proactive and preventing injuries and fatalities before they happen. This report will examine how frontline workers can use Intelix to support a proactive safety management system.

The Role of Data

Traditional approaches to safety are built on lagging indicators, which is data from incidents that have already happened. Lagging indicators are the result of approaches like root-cause analysis, incident investigations and corrective actions. Examples of lagging indicators include injury frequency, reported injuries, Lost Time Injury Frequency Rate (LTIFR) and workers' compensation costs. While the ultimate goal of all safety programs is to prevent incidents from happening, the reality is that lagging indicators require fatalities, injuries and equipment damage to have taken place. Only once this has happened will safety practitioners have the data they need to promote continuous improvement.

Leading indicators precede incidents, making them an important category of data for proactive safety. They are derived from data that assesses risks and determines the probability that an incident will happen at some point in the future, not from incidents that have happened in the past. Data that supports leading indicators comes from safety inspections, safety audits, training, observations and other awareness-based approaches that assess the potential for threats before they become incidents.

A proactive safety management system will include both lagging and leading indicators, with leading indicators supporting incident prevention and lagging indicators providing the assessment of incidents that do happen, which supports continuous safety improvement. With the rapid development of digital tools that can analyze massive datasets to look for patterns and trends, both lagging and leading indicators have a significant role to play.





As workplace safety programs improve, there will be fewer incidents, which means fewer lagging indicators and less data to support analytics.

However, lagging indicators have two significant weaknesses. First, as discussed previously, incidents have to happen before there is usable data for analytics. Incident data is an artifact of a reactive approach to safety, which means there has to be a fatality, injury or equipment damage before there is data to support continuous improvement. This has been a reality of safety management for years, and it certainly has its place, but it does nothing to protect the people who have been hurt or killed or to promote a sense of trust in the organization's safety culture. Second, as workplace safety programs improve, there will be fewer incidents, which means fewer lagging indicators and less data to support analytics. Eventually, continuous improvement will grind to a halt and be unable to close a persistent gap. Analytics relies on massive data sets for understanding trends, behaviors and safety hotspots in the workplace. The more data analytic tools have, the better they work. However, if there are fewer incidents and, consequently, less data, preventative models will become less accurate.

The Role of the Frontline Worker

Reporting and compliance are critical parts of running an organization. For many leaders, these are some of the most important outcomes of health and safety programs. However, keeping workers safe is not simply a means to a regulatory end; it is an end unto itself. Frontline workers who perform critical tasks every day bear the brunt of incidents in the workplace, and there can be no effective safety culture in an organization until frontline workers feel their safety is valued and that they are empowered to have agency in how that safety culture operates.

Digital safety applications do much more than simply make reporting and compliance easier. They give frontline workers the ability to record safety observations using a mobile device in any location, whether they have immediate access to the Internet or not. Instead of having

Workers empowered with digital applications become part of a bi-directional communication channel in which they are receivers and transmitters of critical safety data.

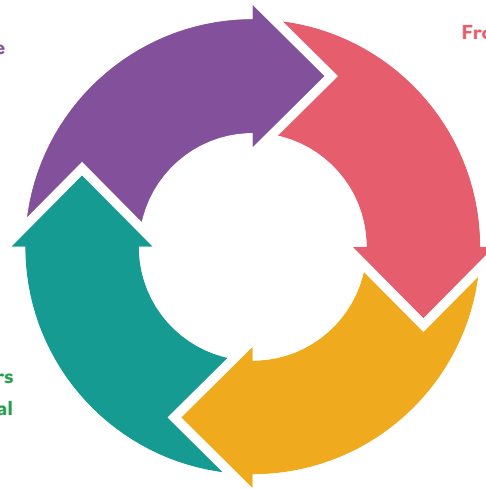
intermittent, scheduled inspections to produce safety data, a digitally empowered workforce becomes an army of diverse, dynamic inspectors that provides a constant stream of real-time safety data to the safety management system.

Workers empowered with digital applications become part of a bi-directional communication channel in which they are receivers and transmitters of critical safety data. They report data through the applications, and this data becomes the foundation of the leading indicators that fortify the safety management system and keep workers safe throughout the organization. The constant flow of information to and from frontline workers means they can adjust their situational awareness and make real-time corrective actions to the work environment before incidents take place.

A true proactive safety management system, therefore, is more than simply a collection of tools. It is a culture of constant communication and continuous improvement in which frontline workers are empowered by technology to be process owners and active participants in their own safety by preventing incidents before they happen.

Safety leaders communicate proactive safety information to frontline workers using Intelx bulletins & other apps.

Safety leaders get leading safety indicators in dashboards and visual reports for Intelx.



Frontline workers report safety observations, such as substandard conditions and safe or at risk behaviour.

Intelx collects and analyzes safety observations data.





Proactive Safety Management Systems

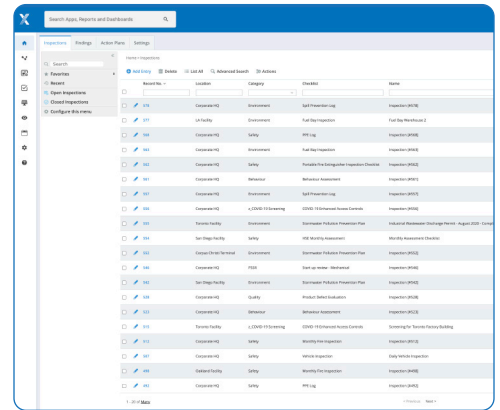
According to a [whitepaper](#) by Predictive Analytics, there are two primary metrics that produce leading indicators: observations (a single instance of a behavior or condition that can be either safe or at-risk) and inspections (a collection of one or more observations). From these two primary metrics, we can derive four general principles.

Incidents go down when inspections increase.	This is the first stage of collecting proactive data. The more data you have, the more accurate your predictive models can be.
Incident probability decreases as number and diversity of people performing inspections increases.	Inspections should not be activities performed only by inspectors. Everyone on the front line should be recording observations. This crowd-sourced approach from diverse observers increases the volume and quality of data.
Too many safe inspections can be predictive of higher injury rates.	If no one is reporting at-risk observations, things are not as they seem. New, unfamiliar issues might be growing unseen or workers might not be recording their observations properly, maybe because of error or fear of punishment.
Having too many repeated at-risk observations is predictive of higher injury rates.	Digging more deeply into at-risk observations data will reveal if they are new issues that can be corrected or if they are persistent, reoccurring issues that require retraining or more extensive corrective actions.

The technology component of a proactive safety management system should support frontline workers to ensure they can record observations from any location and should provide visual representations of data to facilitate real-time decision making. Intelix supports a proactive safety management system with the following applications.

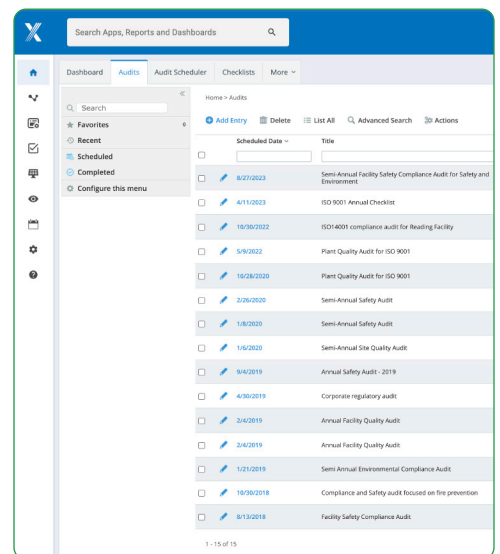
Inspection Management

The Inspection Management application facilitates inspections across the entire organization. It allows you to get complete oversight of all the elements of both completed and in-progress inspections, including timing, duration, requirements and scheduling. It records internal and external nonconformance findings and provides a central point of reference for corrective actions. Tasks to address nonconformances can be triggered automatically within the application, which ensures everyone is accountable for implementing actions that prevent incidents before they happen.



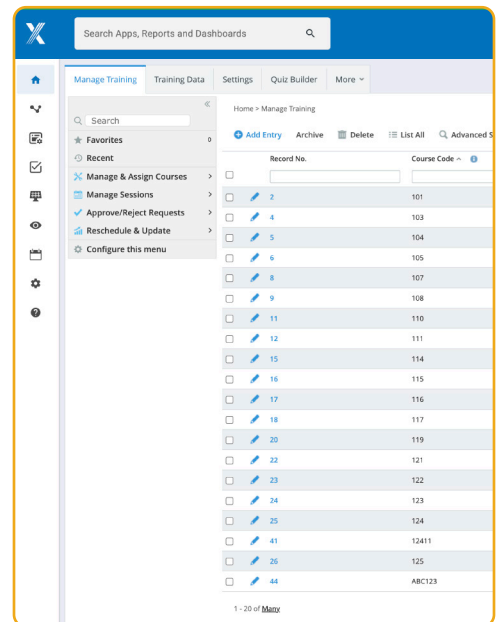
Audit Management

Along with Inspections Management, Audit Management is a critical component of a proactive safety management system. Audit management allows you to create a detailed structure for your audit activity and data, with recurring and ad hoc standard audits for individual or multiple locations. It allows you to create consistent procedures and activities for audits, with multiple levels of responsibility for due dates, findings, action plans and corrective actions. Users can use the audit data to analyze trends and patterns to identify at-risk areas and engage corrective actions before they aggregate into safety failures. Audit Management also has integration with third parties, including Verisk3E, Enhesa and RegScan, to help you understand regulatory requirements for your safety management system.



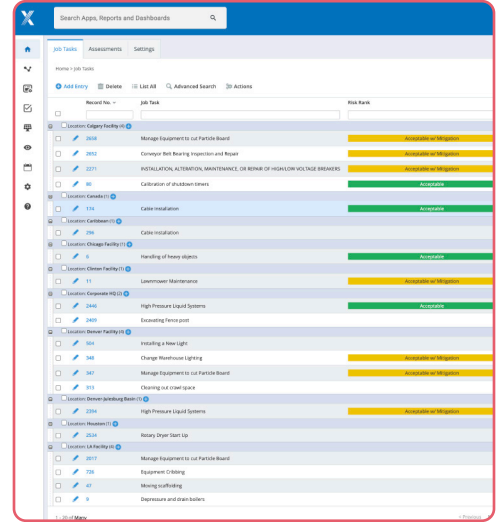
Training Management

For workers to operate safely and understand their digital reporting tools, they need training. Too often, understanding how to safely operate equipment or navigate workplace processes is communicated from worker to worker orally or through mentoring. This can work well, but it also allows for knowledge gaps that could lead to safety incidents. The Training Management application supports training for unlimited user groups based on job titles, roles, departments or locations. You can design and deliver training in standard SCORM format, track the results and identify training gaps that provide leading indicators for workers who haven't demonstrated they understand the complexity and dangers of the tasks they're performing. Training Management provides dynamic data visualization for training data in real time to ensure you can identify workers who are potentially at risk because of knowledge gaps in their training.



Job Safety Analysis

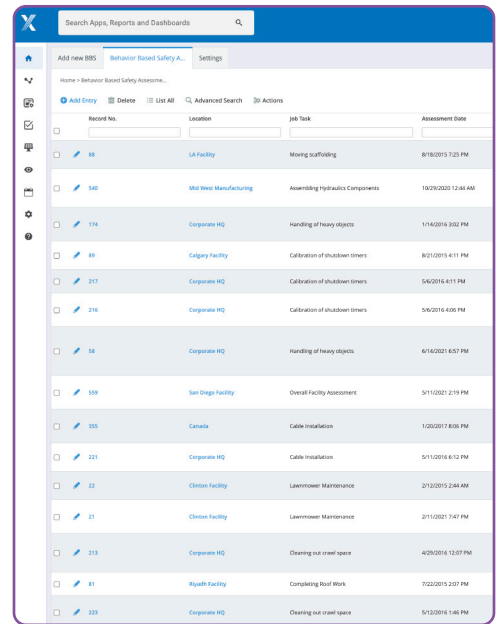
Job Safety Analysis helps you understand the risks and potential for incidents before workers begin tasks. You can organize steps into risk categories such as Acceptable, Acceptable with Mitigation or Unacceptable, and you can ensure that everyone involved in those tasks has the correct training and qualifications to perform the work. You can use a configurable risk matrix to measure the probability and severity of potential safety threats, and you can register the controls for each task and determine whether they adequately reduce risk to acceptable levels. Every analysis can be sorted by location, employee, hazards, triggers, severity and many other criteria, while historical analyses with data for past risk levels and controls can be used to understand trends over time and identify at-risk tasks that represent potential threats in the safety management system.



Record No.	Job Task	Risk Rank
1000	Manage Equipment to Facility Board	Acceptable with Mitigation
2002	Conveyer Belt Pre-Run Inspection and Repair	Acceptable with Mitigation
2003	INSTALLATION, ALTERATION, MAINTENANCE, OR REPAIR OF HIGH-VOLTAGE BREAKERS	Acceptable with Mitigation
80	Calibration of shutoff timers	Acceptable
114	Cable Installation	Acceptable
106	Cable Installation	Acceptable
9	Handling of heavy objects	Acceptable
11	Laundryroom Maintenance	Acceptable with Mitigation
2446	High Pressure Liquid Systems	Acceptable
2400	Encasing Ferris post	Acceptable
504	Installing a New Light	Acceptable with Mitigation
340	Change Washroom Lighting	Acceptable with Mitigation
340	Manage Equipment to Facility Board	Acceptable with Mitigation
303	Cleaning out crawl space	Acceptable
2000	High Pressure Liquid Systems	Acceptable with Mitigation
2034	Rotary Wiper Start Up	Acceptable
300	Manage Equipment to Facility Board	Acceptable with Mitigation
300	Equipment Cleaning	Acceptable
47	Mixing out/finishing	Acceptable
9	Depressure and drain boilers	Acceptable

Safety Observations Management

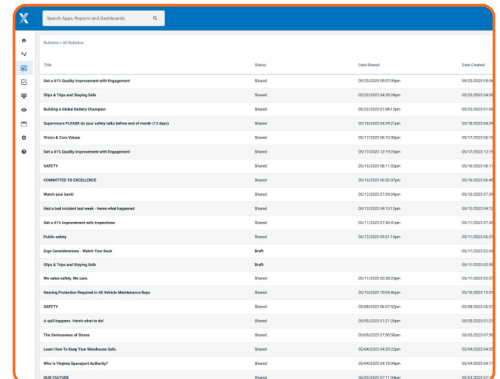
When frontline workers see behaviors, activities or situations that could result in an incident, they need a way to record those observations. Safety Observations Management gives frontline workers a mobile application that collects observations data and identifies the leading indicators that can prevent those at-risk situations from becoming injuries or fatalities. Out-of-the-box forms encourage workers to provide thoughtful, detailed answers on the severity of the situation, while the flexibility to create customized forms unique to your work environment ensures you can capture the nuances of every task your workers perform. Once workers have identified and logged their observations, you can assign corrective and preventative actions (CAPA) or training to mitigate risks before incidents occur. You can also set up automatic alerts and triggers for observations of high-risk situations that require immediate attention.



Record No.	Location	Job Task	Assessment Date
88	LA Facility	Mixing out/finishing	8/18/2015 7:25 PM
540	Mid West Manufacturing	Assembling Hydraulics Components	10/29/2020 12:46 AM
114	Corporate HQ	Handling of heavy objects	1/14/2016 3:02 PM
88	Calgary Facility	Calibration of shutoff timers	8/21/2014 4:11 PM
217	Corporate HQ	Calibration of shutoff timers	5/4/2015 4:11 PM
216	Corporate HQ	Calibration of shutoff timers	5/4/2015 4:06 PM
98	Corporate HQ	Handling of heavy objects	6/14/2021 6:57 PM
359	San Diego Facility	Overall Facility Assessment	5/11/2021 2:19 PM
300	Canada	Cable Installation	1/20/2017 8:06 PM
221	Corporate HQ	Cable Installation	5/11/2016 4:12 PM
22	Clinton Facility	Laundryroom Maintenance	2/12/2015 2:44 AM
21	Clinton Facility	Laundryroom Maintenance	2/11/2015 7:47 PM
213	Corporate HQ	Cleaning out crawl space	4/20/2016 1:37 PM
81	Spokane Facility	Completing Roof Work	7/22/2016 2:27 PM
200	Corporate HQ	Cleaning out crawl space	5/13/2016 1:46 PM

Behavior-Based Safety

The Behavior-Based Safety application encourages workers to support the safety culture of the organization by logging observations of at-risk behaviors. Very often, incidents are the result of human error and unreasonable risk tolerance. When workers log observations of at-risk behavior from a mobile device, those observations can be set to automatically trigger a near miss, which can then assign corrective and preventative actions or training to mitigate the risk and decrease the likelihood of an incident. Embedded analytics tools allow managers



Task	Status	Date/Time	Event/Event
Set a 4% Quality Improvement with Engagement	Failed	05/03/2020 08:07:56pm	05/03/2020 08:07:56pm
Stop a Near Miss Safety Task	Failed	05/03/2020 04:09:54pm	05/03/2020 04:09:54pm
Building a Safety Culture	Failed	05/03/2020 04:08:11pm	05/03/2020 04:08:11pm
Supervisor PROMISE to your safety only before end of month (17 days)	Failed	05/18/2020 04:29:21pm	05/18/2020 04:29:21pm
Stop a Near Miss	Failed	05/17/2020 08:19:26pm	05/17/2020 08:19:26pm
Set a 4% Quality Improvement with Engagement	Failed	05/15/2020 07:07:56pm	05/15/2020 07:07:56pm
Safety	Failed	05/14/2020 04:11:26pm	05/14/2020 04:11:26pm
Completed 100% Distribution	Failed	05/13/2020 06:00:27pm	05/13/2020 06:00:27pm
Watch out event	Failed	05/13/2020 07:29:26pm	05/13/2020 07:29:26pm
Set a 4% Incident Rate with... Home when Engaged	Failed	05/11/2020 04:11:11pm	05/11/2020 04:11:11pm
Set a 4% Incident Rate with Engagement	Failed	05/11/2020 04:04:54pm	05/11/2020 04:04:54pm
Public safety	Failed	05/11/2020 04:03:13pm	05/11/2020 04:03:13pm
Edge Construction - Watch Your Back	Failed	05/11/2020 04:03:13pm	05/11/2020 04:03:13pm
Stop a Near Miss Safety Task	Failed	05/11/2020 04:03:13pm	05/11/2020 04:03:13pm
Stop a Near Miss Safety Task	Failed	05/11/2020 04:03:13pm	05/11/2020 04:03:13pm
Building a Safety Culture - 100% to Watch Your Back	Failed	05/10/2020 05:04:54pm	05/10/2020 05:04:54pm
Safety	Failed	05/08/2020 08:07:56pm	05/08/2020 08:07:56pm
A Self-Report - Near Misses at All	Failed	05/06/2020 01:17:26pm	05/06/2020 01:17:26pm
The Performance of Teams	Failed	05/04/2020 07:00:00pm	05/04/2020 07:00:00pm
Learn How to Stop Your Watchdog Bells	Failed	05/04/2020 04:00:00pm	05/04/2020 04:00:00pm
Who is Making Management's Bed?	Failed	05/03/2020 04:19:26pm	05/03/2020 04:19:26pm
Set a 4% Incident Rate	Failed	05/03/2020 01:17:26pm	05/03/2020 01:17:26pm

and leaders to visualize and filter leading indicators by employee, task, location and other facets within one location or many locations across the entire organization.

Communications Management and Bulletins

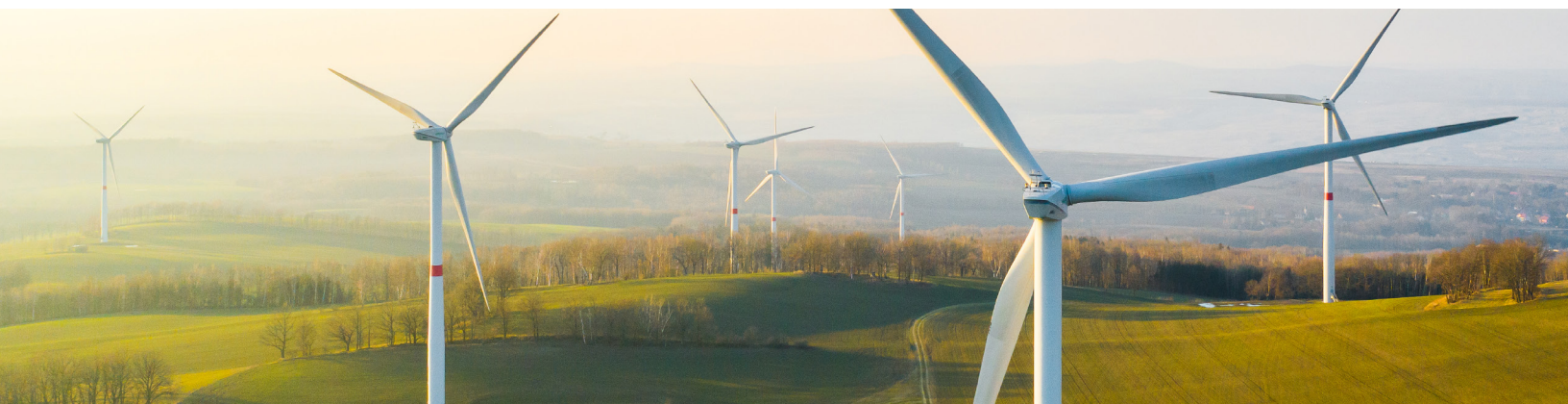
Communication between workers, managers and leaders is important for providing the information for leading indicators that support proactive safety.

Bulletins allow real-time and scheduled communication between the organization and frontline workers. Bulletins can include both text and images to provide urgent alerts, upcoming events and information campaigns to drive employee behavior. Users can choose out-of-the-box messaging templates or create their own according to their needs to provide information like effective safety process steps, tips on safe work practices and best practices for safety behavior. They support training organized into microlearning, and they can provide immediate bi-directional communication between the organization and the frontline in the form of feedback and polling tools. The Bulletins application provides analytics for user engagement, which can help to fine-tune messaging or scheduling.

Information from internal and external communications, including complaints, concerns, information requests and regulatory updates, is critical for creating data to support analytics for proactive safety.

Communications Management allows the organization to capture and store information like dates, times, employee information, responses and status. Actions and tasks can be created directly in the form to support workflows that ensure all communications are acknowledged and addressed quickly and effectively. Nonconformances can be associated directly with a record to maintain constant insight into the progress of corrective actions that prevent incidents before they occur.

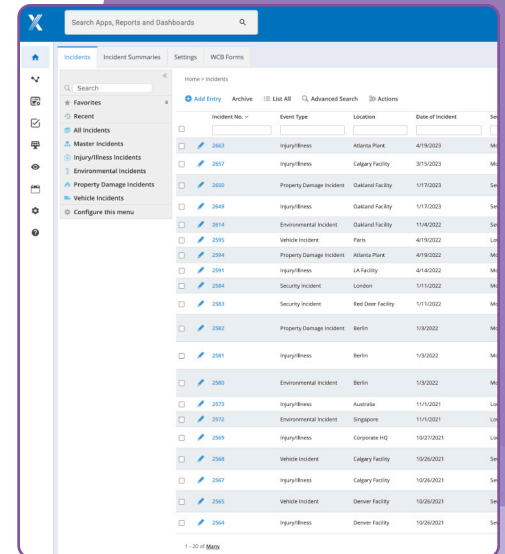
Communication between workers, managers and leaders is important for providing the information for leading indicators that support proactive safety.



Incident Management

No matter how much work we put into a safety culture, incidents will happen. We might make progress reducing their number or severity, but perfect safety is not possible. As such, lagging indicators still have an important role to play in a proactive safety management system. The data produced by incidents will be a critical input into an analytic approach to understanding system failures and learning how to address fundamental weaknesses.

Incident Management software records, tracks, analyzes and reports incident data from any location. It provides root cause analysis tools such as 5-Whys and Wishbone to understand how incidents happened, and it provides a single source of data for analyzing trends and gaps in the safety management system. It also manages tasks and the flow of incident information to ensure investigations and analyses are addressed and closed promptly.



Incident No.	Event Type	Location	Date of Incident
2003	Injury/Illness	Atlanta Plant	4/19/2023
2007	Injury/Illness	Calgary Facility	3/15/2023
2009	Property Damage Incident	Oakland Facility	1/17/2023
2049	Injury/Illness	Oakland Facility	1/17/2023
2014	Environmental Incident	Oakland Facility	11/4/2022
2005	Vehicle Incident	Paris	4/19/2022
2004	Property Damage Incident	Atlanta Plant	4/19/2022
2001	Injury/Illness	LA Facility	4/14/2022
2004	Security Incident	London	1/11/2022
2003	Security Incident	Red Deer Facility	1/11/2022
2002	Property Damage Incident	Berlin	1/9/2022
2001	Injury/Illness	Berlin	1/9/2022
2000	Environmental Incident	Berlin	1/9/2022
2023	Injury/Illness	Australia	11/15/2021
2012	Environmental Incident	Singapore	11/4/2021
2009	Injury/Illness	Corporate HQ	10/27/2021
2008	Vehicle Incident	Calgary Facility	10/26/2021
2007	Injury/Illness	Calgary Facility	10/26/2021
2005	Vehicle Incident	Denver Facility	10/26/2021
2004	Injury/Illness	Denver Facility	10/26/2021

Conclusion

A proactive safety management system should have a single purpose: to keep workers safe. Compliance and reporting are important goals, and Intelex applications easily support them, but they are secondary goals to ensuring the health and safety of the frontline workers upon whom our businesses are built. Here are a few points to keep in mind as you build your own proactive safety management system with Intelex.

- 1** Before you purchase digital solutions, you must learn about how your frontline workers do their jobs. Going to Gemba is still a critical component of understanding your organization. Imposing solutions on frontline workers without understanding the complexity of their tasks is a recipe for problems with implementation and adoption.
- 2** Remember that frontline workers are your partners in safety. They are stakeholders who need to be empowered, not machines who need rules and solutions thrust upon them. Give frontline workers the autonomy and agency to record observations and contribute to the system and you will have the foundation for an effective and efficient culture of safety.
- 3** Mobile solutions for frontline workers are not optional anymore. For a proactive safety management system to work, workers must be able to log observations in real time from any location. If they have to write observations on paper and then wait until they have access to a desktop in an office before they can log them, your management system will never get the data it needs to work properly.
- 4** Data is a critical component of a proactive safety management system, but only if it's usable and accessible. Data quality is the missing element of many data programs, and it can be what spells the success or failure of your management system. Isolated silos of data in different applications, swamps of ungoverned data and a lack of data standards will undermine your proactive safety management system and create no leading indicators to keep your workers safe.

Free Trial

If you would like a free trial of our software solution, please [click here](#). You will have the opportunity to experience the basic “plug-and-play” software before making a commitment.

Pricing Information

If you would like to receive a custom quote or pricing-related information, please [click here](#). This includes the total business value that our software will provide, projected ROI, financial benefits via a “hard dollar” analysis, and total business benefits via a “soft dollar” analysis.

Free Demo

If you would like a demonstration of our software solution, please [click here](#). This includes a product tour and a conversation with our software experts.

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