



A Systems Approach to Safety

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The integration of IndustrySafe's Safety Management System and Scantron's SafetyCapture onDemand data collection solution provides employees with an exceptional opportunity to become fully engaged in hazard identification and mitigation within their work environments

I firmly believe every safety professional is fully committed and engaged in a myriad of programs and processes to minimize to the maximum extent possible, injury and illness which occur in our work environments. At our very core as safety professionals we are humanitarians at heart. Our goal is both simple and complex: to ensure each and every employee goes home safely to their families and loved ones.

Safety cannot be viewed as merely a priority within our organizations; as priorities can often change depending on many factors. Instead, safety is a **core value** where every management decision supports and adds strength to the value. If a contemplated decision does not support the value system, then it is the wrong decision!

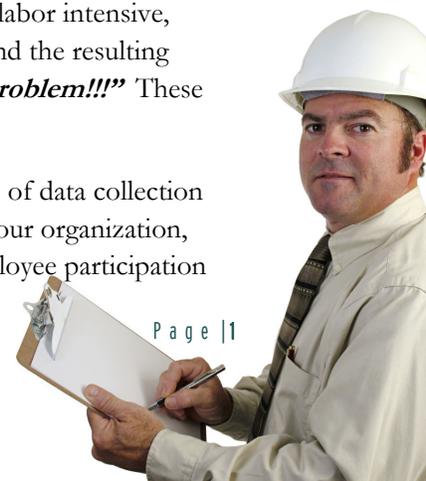
At one time or another, each of us has envisioned a safety culture where zero injuries and illness is possible. As a company, we are certainly no different. I also believe if each of us had a crystal ball to predict when, where, and why our next injury were to occur, we would all have at least one and pay any amount of money to obtain it. In the interim, what if we could use existing technology to come closer and closer to predicting the next injury? Would it deserve our attention? Is it even possible?

While the statements above may seem irrational or absurd by some, we see strong indications from analyzing the leading indicators of incidents that we are coming closer to the eventual predictive interpretation of the empirical evidence gathered within our work environments. ***The challenge for us has been to identify how we can obtain the data in an appropriate manner, analyze it, synthesize it, and communicate findings quickly to project operations and employees within our sphere of influence?***

Our Journey

For years, we used a manual hand-written reporting system for all health and safety observations performed by employees. While this process provided meaningful and constructive data, it was very labor intensive, involving countless hours of work by safety professionals to derive logical conclusions, and the resulting insights were far from timely. Borrowing a phrase from NASA, ***"Houston, we have a problem!!!"*** These are never the words we want to hear!

Understanding the challenge, we knew we had to rapidly depart from traditional methods of data collection and analysis. We also knew our safety program was not keeping pace with the growth of our organization, satisfying customer expectations, or providing for the in-depth analysis of data from employee participation



in behavior based safety, hazard identification, and mitigation. We believed then, as we do now, that the strength of our safety program is not exclusively in the systems we have in place, but in the engagement of employees in controlling their work environments using a system that actually works.

We had two very significant issues to resolve:

- We needed a systems approach to safety that would quickly analyze information in a relational database.
- We needed a solution for the safety observations our employees reported in their work environments.

The First Step: a Comprehensive Safety Management System

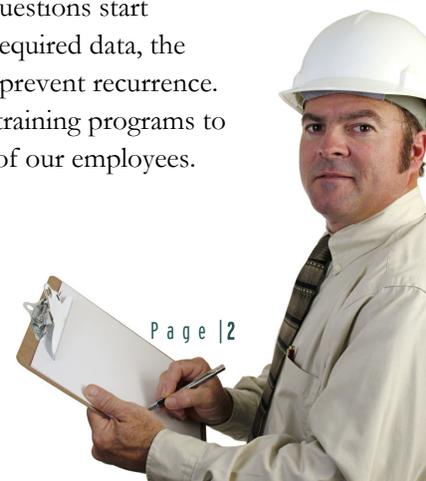
We decided our most important effort initially should focus on a comprehensive safety management system. This would permit us to have a uniform and standardized reporting system to capture all safety-related information derived from the lagging and leading indicators of incidents. Through researching various safety management systems we looked at the cost and benefit to our company. While there were a number of systems available, only one had the comprehensive approach we were seeking.

Our research concluded IndustrySafe had a proven web-based software solution which was customizable to accommodate our needs and, as importantly, our budget. We understood then, as now, it would provide our project management and safety leadership with virtual real-time information on the performance of Brinderson's Safety Program. We are pleased to report IndustrySafe now forms the cornerstone for Brinderson's Safety Management System. Simply stated, it provides us with a workable management system for all activities involved with health and safety management.

Our Safety leadership analyzes the data along with project management to achieve workable solutions to the findings. All of this is done to prevent recurrence. As importantly, senior executive management and our executive safety leadership now have been provided with actionable data so that subsequent decisions on safety performance are focused on actual identified problems rather than assumptions. *What a concept!*

IndustrySafe offers a tailored approach to safety management and gives us the options to choose from the following modules: Incident Reporting, OSHA Recordkeeping, Inspections, Corrective Actions, Training, Hazard Reporting, Dashboard, Behavior Based Safety, Claims Management, Industrial Hygiene, and Individual Home Screens for all users. You can add additional modules at any time which we see as a value-added benefit.

Our partnership with IndustrySafe was a significant part of the solution especially as it pertains to root cause analysis (RCA). Historically we only conducted RCA on the more serious incidents. IndustrySafe now performs the analysis for *all* incidents. As incidents are entered, answers to the required questions start forming the basis for the RCA. By the time our safety professionals have entered all the required data, the RCA has been determined and we can share the entire investigation with stakeholders to prevent recurrence. Having this level of sophistication on incident analysis give us the ability to improve our training programs to address findings and at the same time require a higher level of accountability on the part of our employees.



The Next Step: an Efficient Observation Capture System

However, we still had a relatively huge issue on how we should analyze employee observations to give us a better understanding of the leading indicators of injury and illness. As mentioned, our former process was labor-intensive and far from timely. The information that did flow back to employees and project management was often dated or of little relevance to the work that was currently being performed since most employees had already moved on to other tasks.

A collateral component of addressing leading indicators is *how do we keep employees motivated and fully engaged in the hazard identification and elimination process—especially if our feedback to employees is not timely?* Our employees in the field have historically provided us with concrete information from their observations. To be quite honest, often we did not see the true picture of what was being reported from the evidence presented. We had an antiquated system, volumes of information—and we were still getting people injured. This was not acceptable! We concluded we were missing a golden opportunity to move our program forward.

We needed a program or system that could be integrated with the data we were getting from IndustrySafe. We also needed to provide employees with what was actually being done with the information they provided. *It is one thing to report observations, but if nothing is done in a timely basis employees will disengage from the process.* We understand there are many factors that impact the effectiveness of an organization's health and safety program, none more directly than employee participation.

At about the same time, we noticed many of our clients were gravitating away from using manual recording observation forms and adapting to electronic collection systems. Unfortunately, most client locations had proprietary systems that could not be easily adapted to our new system nor could we gain easy access to their observation data. We decided to contact Scantron to see if they had a solution. This is when we were exposed to Scantron's SafetyCapture onDemand. This system was exactly what we needed, although it initially did not integrate with IndustrySafe. This was a major setback for us as we did not want two separate systems. *We needed one system that would address all of our concerns, but it simply did not exist!*

A Complete Solution

Realizing we needed to have a single solution and one which would work, we researched the strengths of using Scantron's SafetyCapture on Demand (SCoD) to capture observation data automatically, then integrating the collected data with IndustrySafe. *What we found were two very willing and cooperative partners in Scantron and IndustrySafe.*



Working with both organizations, we developed a multi-purpose input form that captures 400 data points on leading indicators of injury spread across 12 dimensional areas. The form can be used for Audits, Behavior-Based Observations, and Project Inspections. Employees have four options they can report on for each section:

- Is what they are witnessing safe behavior? If so they indicate on the form what they are witnessing.
- Is it at risk? If so, they indicate what was at risk and what they did to prevent recurrence.
- Did they use their Stop Work Authority (SWA)? If so, what did they do to correct the situation?
- Is corrective action required beyond what the employee can address? In these instances, we may need to repair a piece of equipment, purchase another, provide training, additional PPE or an innumerable range of options that would require management intervention. All of this information can be recorded on the new Health and Safety Observation Report (HSOR).

The input cards are gathered daily and scanned using Scantron's proprietary scanners with the data housed securely within their proprietary servers. Every 10 minutes, IndustrySafe queries Scantron's servers for new observations. The data is then collected within the Observation Module of IndustrySafe. Once the data is in the Observation Module (usually within 15 minutes of our initial scanning), it is **instantly available and is already analyzed. Yes, you read that correctly, *already analyzed!*** A major benefit of the integration is the metrics on leading indicators. This information is immediately available on pre-established charts and graphs along with many other charts on key performance indicators.

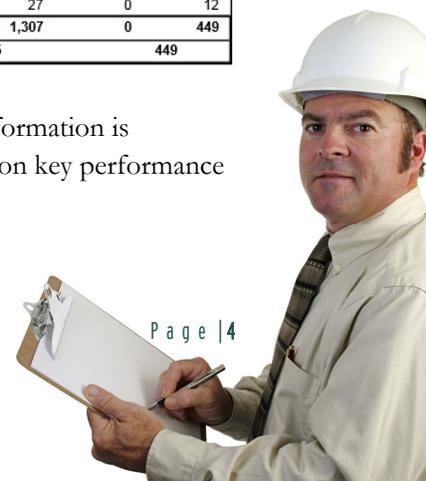


Observations Summary

Division: All Project Location: All Site: All Client: All
Checklist: All

08/15/2013 - 09/15/2013

Category	Safe	At Risk	Safe Condition	SWA
01. PERSONAL PROTECTIVE EQUIPMENT	7,887	353	0	166
02. HAZARD IDENTIFICATION/ ELIMINATION	2,494	61	0	19
02. WORK PREPARATION	24	0	0	0
03. HOUSEKEEPING	4,780	222	0	54
04. BARRICADES	1,573	70	0	18
05. CONFINED SPACE	809	20	0	17
05. TOOL SELECTION AND USE	12	0	0	0
06. LOCKOUT TAGOUT	2,414	33	0	13
06. WORK IN PROGRESS	20	1	0	0
07. MOBILE EQUIPMENT	27	0	0	0
07. MOTOR VEHICLES	2,939	209	0	51
08. ERGONOMICS	27	0	0	0
08. BODY POSITIONING / MECHANICS	3,337	121	0	34
09. HAND AND POWER TOOLS	4,414	142	0	39
10. CUTTING AND WELDING	2,319	29	0	16
11. EXCAVATION AND SHORING	511	19	0	10
12. ELECTRICAL SAFETY	791	27	0	12
Totals:	34,378	1,307	0	449



All of this is accomplished without Safety having to do anything but scan the employee HSOR forms. The analysis is done *automatically* based on the criteria we have established with IndustrySafe. We now get near-real time observation data that is having a measurable positive impact on our safety performance and at the same time clearly demonstrating to employees how vital their observations are to the overall success of our safety program.

Looking Forward

But what if you want more information? Glad you asked. There are approximately a dozen standardized reports available within the Observation module that are very useful for project feedback and management intervention. Also, there is a custom report generator which can analyze information beyond the standardized reporting. If you can think of a way to analyze data, it is available. If not, Industry Safe will develop and produce custom report generators for you. Each of the modules within IndustrySafe has exclusive reports that can be used to share with your clients and management. There are also a number of other methods to analyze the data from your reports all contained within the software.

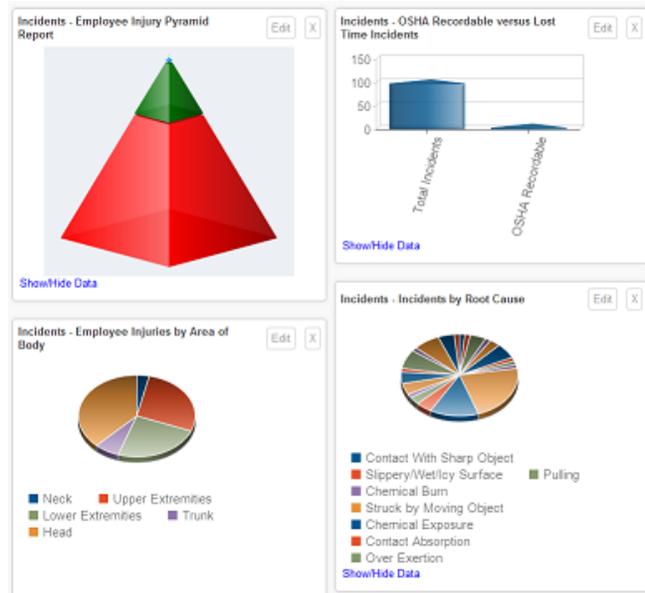
From our interaction and development with IndustrySafe and Scantron, they now have a product which can be offered to other safety professionals facing similar problems. They continue to provide innovations that will make our tasks easier. Examples include conducting audits on iPads, tablets, and PDA cellphones using checklists that coincide directly with OSHA regulations or customized inspection templates that feed directly into IndustrySafe. Rather than going back to the office to write your report, you can now send it to any shareholder immediately after you have concluded the effort. All of this information automatically flows into the appropriate module and is ready for you when you get back to the office—actually *before* you arrive.

The improvements and enhancements to the system are all part of your relationship with IndustrySafe. Whenever we wanted improvements made, they were either done straight away or became part of their next software revision. We could not be more pleased with the quality of service and the professionalism of their staff. They are solution-oriented and their value system is in direct concert with our desire to understand and eliminate the leading causes of injury and illness. We would highly recommend your consideration of their services to provide you with a total solution to your safety management issues.



Our Crystal Ball: IndustrySafe + Scantron

At the beginning of this paper I posed a question. What if we could predict when the next injury or illness was to occur?



The metrics and analysis component contained within the Key Performance Indicators Module gathers all the historical data from previous incidents and can display the data in over 175 charts and graphs. It can tell you the type of incident, division, project location, shift, worker age, category, time with company, day of the week, time of day, and the involved craft on previous incidents. Using this data we can come close to anticipating when our next incident will occur.

Although it is not an exact science by any stretch of the imagination, it does provide us with information that we use at our projects to assist in creating greater awareness and preventing injury. While IndustrySafe is not necessarily offering a

crystal ball that will predict the next injury or illness, they are actively working on ways to make our work effort more effective providing a comprehensive solution to safety management. ***In some respects, the crystal ball is in development although a little behind schedule!***

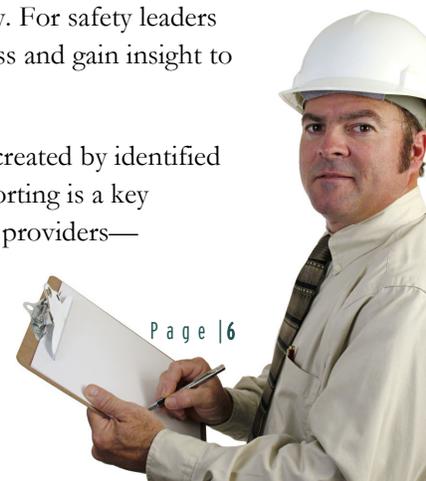
How Can IndustrySafe and Scantron Help?

IndustrySafe Safety Management Software allows organizations to track and analyze all different types of safety data including incident tracking and OSHA recordkeeping, inspections and observations, training tracking, corrective action items and more. These suite of modules allow organizations to assess safety trouble spots and proactively work toward improving safety.

Specifically for Behavior Based Safety, IndustrySafe Safety Software includes forms and pre-built checklists, enabling organizations to perform and track percent safe for their behavior based safety acts and conditions. You can upload your own observation checklists or utilize our library of Observation categories and subcategories. Detailed reporting for behavior allows organizations to develop action plans to improve safety.

SafetyCapture[™] onDemand by Scantron is a web-based solution that helps improve your safety observation process and generate positive change. Rather than keying data from checklists, observations and audits, you can efficiently scan those forms and collect the data electronically, saving time and money. For safety leaders and safety programs everywhere, SafetyCapture onDemand delivers a smarter way to access and gain insight to your safety data.

However, simply having the data in a system is not enough. You need to see the pattern created by identified hazards and observed daily behavior to predict and prevent future hazards. Effective reporting is a key component of prediction and prevention. Scantron partners with several safety reporting providers—



SafetyCapture onDemand can seamlessly transfer scanned form data directly into the safety tracking databases provided by our strategic alliance partners.

Scantron understands that creating a complete safety picture and communicating that picture effectively to workers, management, and executives benefits everyone by providing greater safety, contained costs, and improved bottom lines. And isn't that ultimately what an effective safety culture is all about?

About Scantron

Scantron (www.scantron.com) is a leading and trusted source of data capture, decision support, and technology support services for education, commercial, and government organizations. Its expertise is in delivering difficult-to-capture data and technology support services that are critical to risk mitigation and organizational growth. Scantron uses leading multi-modal data collection, survey design expertise, assessment, analysis, and professional consulting to provide powerful and proven solutions that are delivered with comprehensive value-added services and support. Scantron Corporation is an indirect wholly-owned subsidiary of Harland Clarke Holdings Corp., which also owns Harland Clarke Corp.

About IndustrySafe

TRA provides IndustrySafe, cost-effective, web-based (SaaS) safety management software, so that organizations can track, manage, and comply with environmental, health, and safety regulations. IndustrySafe Safety Software enables our clients, leaders in construction, manufacturing, government, energy, and transportation to track Incidents, Inspections, OSHA Reporting, Observations, and more. Our mission is to provide the most user friendly and cost effective environmental, health, and safety software for our clients.

