

USING ARTIFICIAL INTELLIGENCE to Support Harm Reduction Goals

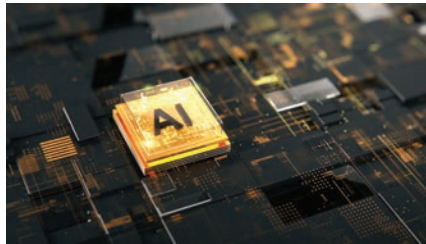
By Karl Simons and Kyle Freeman

Lagging and leading indicators have long played an instrumental role in how OSH leaders project visibility and show the path to others on how they can ultimately achieve reductions in injuries and incidents to employees, including those in their supply chain.

The controls organizations adopt regardless of sector are largely down to similar initiatives built around these traditional metrics. However, the future is starting to look very different as the landscape of injury and illness prevention mentality starts to change because of the digital revolution we are seeing known as Industry 4.0.

Artificial intelligence (AI) is emerging as a significant influencer, firmly establishing its presence and gaining momentum. Early adopters see tangible benefits, prompting visible impacts and outcomes that justify investments in safety, ultimately influencing decision-makers within organizations. As long-standing and respected international safety and health leaders, the authors share similar observations regarding the impact of digitalization.

Regardless of which industry sector or type of organization you are in, as an OSH professional the opportunities exist right now to take harm prevention to a whole new level. Progressive organizations are already introducing a series of digital safety performance indicators that sit alongside the traditional human-led metrics of leading and lagging indicators. These indicators provide a different level of insight. One of the disappointing positions for OSH is how the present safety management systems (SMS) are separated from the operating model of business. Asset management and work scheduling giants such as IBM Maximo, Salesforce, Oracle and SAP control how the daily work is planned and executed, then when something goes wrong the



SMS is used, which is rarely integrated into these systems, so the opportunity for deep learning is lost.

We are now seeing a rapid dynamic shift in many sectors in many geographies around the world. As cofounder and chief futurist at an AI technology company, over the past 3 years author Karl Simons has seen a massive increase in the adoption of AI algorithms. The reason (take your pick): auto population of reports such as point of work risk assessments, permit to work authorizations, daily pre-start briefings, wrap-up closure to jobs for shift handovers. What I see is the use of natural language processing, object recognition through imagery analysis, predictive reasoning and application programming interfaces that enable other internal or external systems that hold useful information to feed the report that goes to those working at the front line of so many dangerous environments.

Actionable insights are increasingly being provided, optimizing nudge intervention as a result of handheld technology being at the fingertips of everyone working on sites. Real-time visibility for managers bridges the gap by connecting them directly with

what is happening at the point of work during the day, allowing them to prioritize their time by knowing where their highest risks are at any moment. The list goes on, but clearly companies not yet having seen or tried the AI safety technology that is now available are potentially missing an opportunity to better prevent harm.

Author Kyle Freeman feels that his job is primarily to listen, understand and empower those working in the field where the real danger is. Opening the door and getting the latest technology in front of hardened leaders with many years working in construction is crucial in how he best serves the purpose of preventing harm to all.

“Empowering people in the field with the latest innovations has significantly made us better,” Freeman says. “First, it has helped our people to recognize hazards that would have otherwise gone unnoticed. This piece has also assisted in reminding our people of our critical controls with these hazards. Completely removing the possibility of complacency and educating our younger foreman by assisting them in hazard recognition gives us the best opportunity of our primary goals of returning home safely. New technology that embraces AI has definitely been a game changer for us.” **PSJ**

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Vantage Point

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Kyle Freeman leads safety and health across the U.S. and Canada for Ferrovial Construction. His more than 40 years of experience comes from working on large, complex civil engineering public-private partnership projects. His advice is regularly sought from OSHA and the highway authority due to his depth of critical risk controls and knowledge of construction civil and criminal liability. His work influencing organizational psychology through the implementation of behavioral programs has led to recognition as one of the national leading strategic thinkers in safety and health.