The Next Generation: Taking Safety Performance to a Higher Level

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Agenda

- SNC-Lavalin safety and culture
- History of safety policies and OSHA
- The next step change – digital
- Case study
- Recommendations for the next step change
- Implications that go beyond safety

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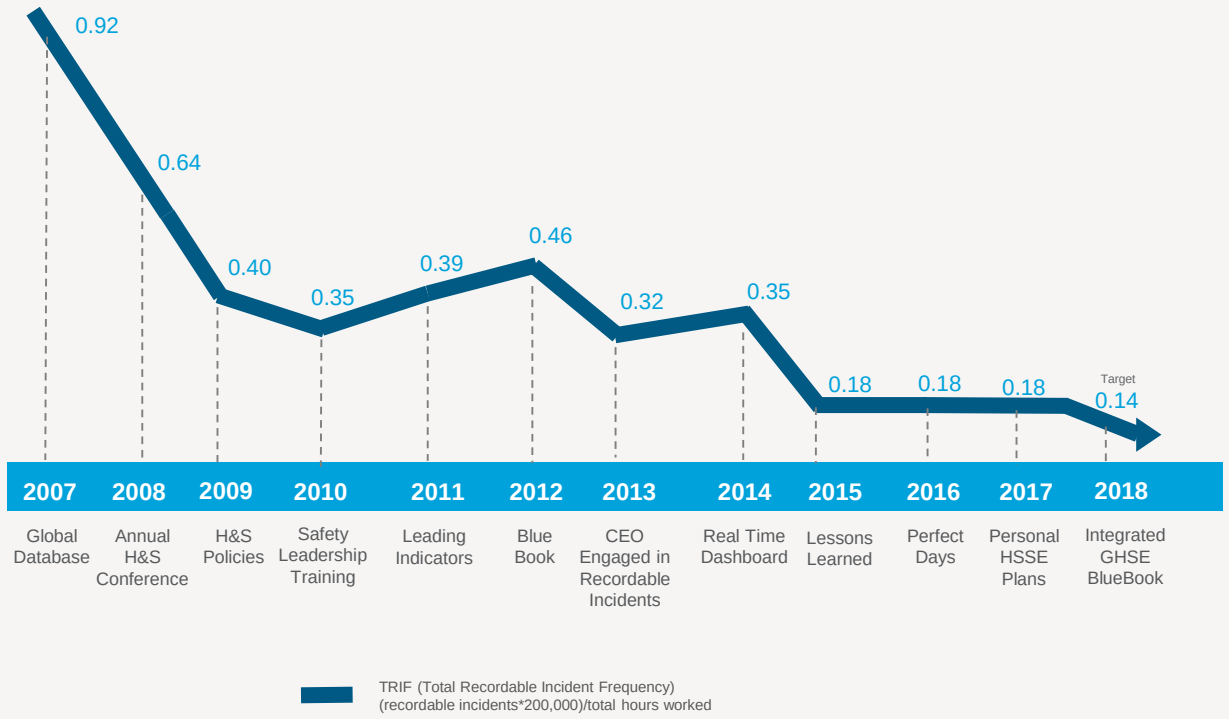
Safety is priority



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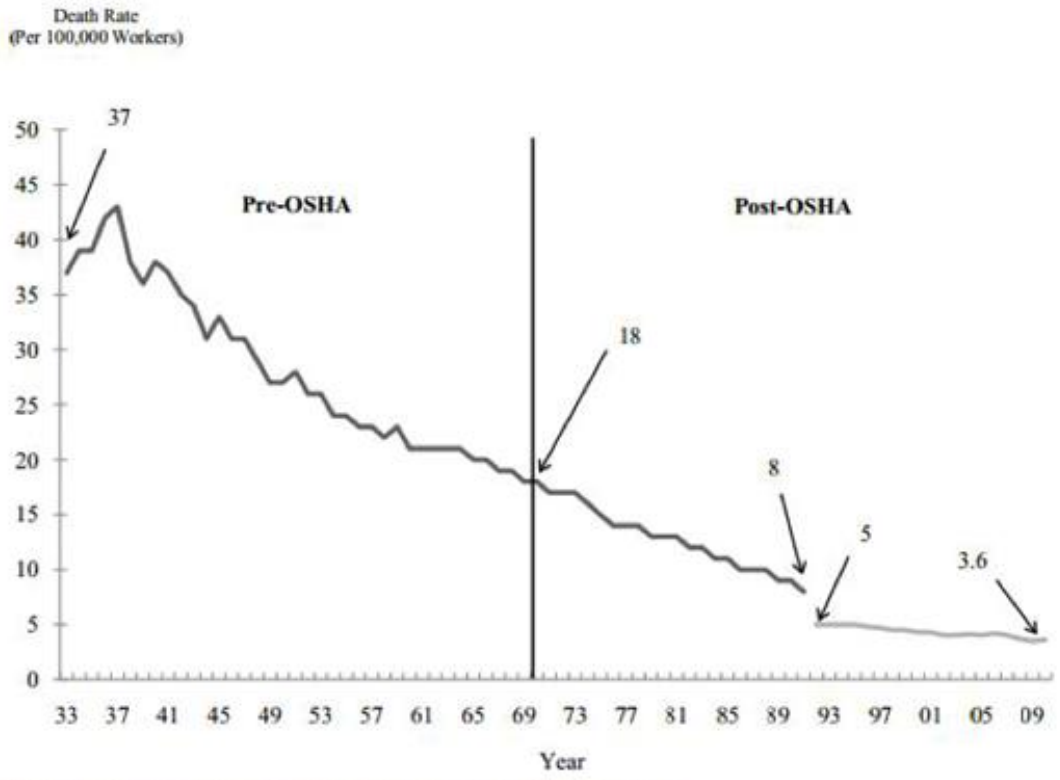
Workplace fatalities, 1933-2010

FIGURE 1: WORKPLACE FATALITIES, 1933–2010



Sources: National Safety Council (1994) and US Department of Labor, Bureau of Labor Statistics (2012)

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What's next?

Image From National Safety Council

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The next step change

Safety has evolved to meet the needs of the workplace. As we step into the digital revolution age, safety is evolving again.

How can we use digital in a way to enhance safety and allow for deeper analysis of those safety issues? How can we eliminate future risks?

- Increased automation
- UAV / drone surveys
- Connected worker
- Analytical decision support

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Increased automation

By increasing automation in the workplace, safety is also increased because of:

- Functional Operations/Process
- Emergency Response
- Safety Planning

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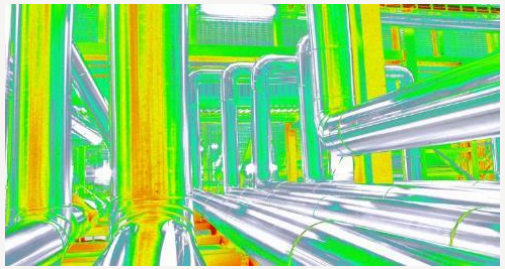
UAV / drone surveys

Many companies are utilizing the use of drones today for inspection and survey work. By using drones - time, cost and safety of inspections compared with traditional survey methods is improved.



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Connected workers

Connected workers are employees who not only are empowered with wearables, smartphones or connected products, but also are able to fully exploit the data these devices produce to carry out their jobs as safely and efficiently as possible.

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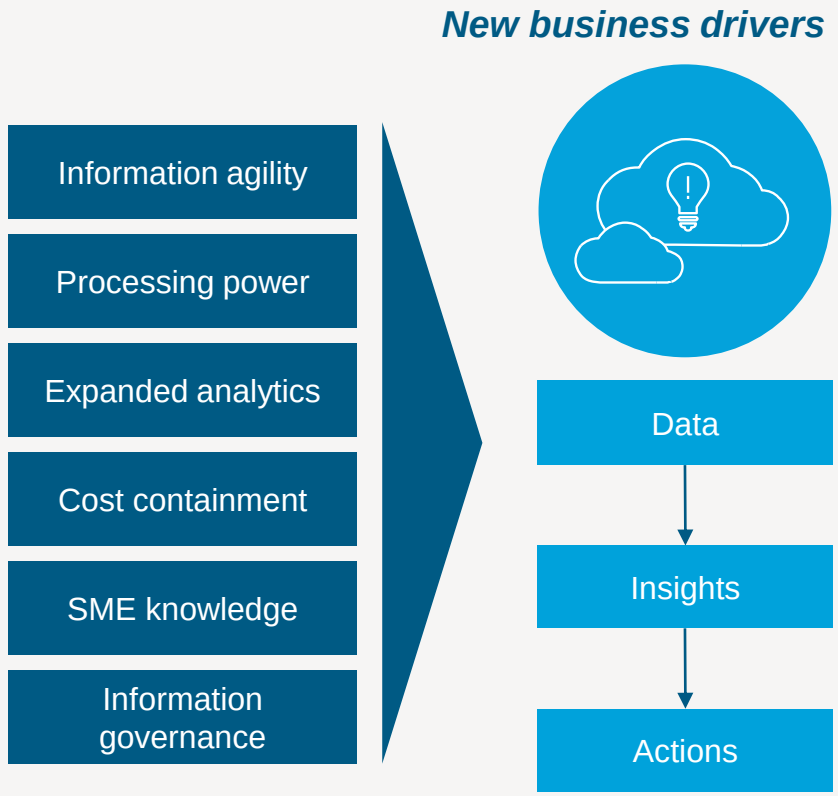
Analytical decision support

Analytical decision support routines are applied throughout the asset lifecycle, enabling better and faster decisions for complex questions.

Artificial intelligence and analytics allow us to identify patterns and relationships that would be impossible to see without extreme computing capability.



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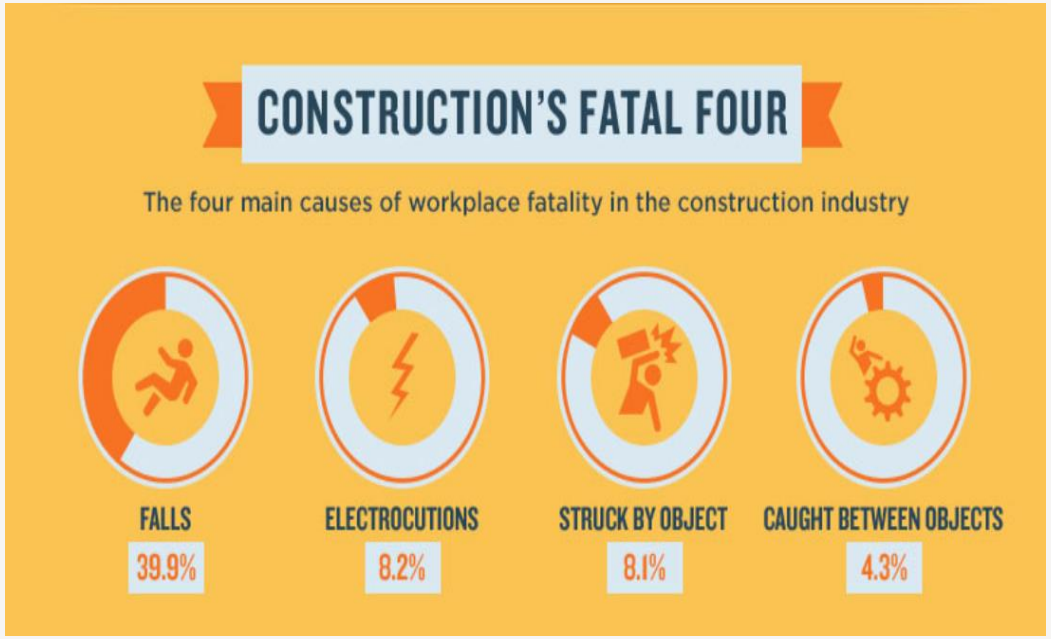
Case Study: Digital Safety Solution

THE PROBLEM | Most work related illness and fatalities are preventable, but the world still loses almost 70 MIILLION Years of LIFE due to these events.

THE COST | Work related illness and fatalities account for a global loss approaching $3 TRILLION USD.

OUR SOLUTION | Real time site monitoring of people tying the Internet of Things together and providing a tool to drive real time prevention and behavior change using geo-fencing and geo-location.



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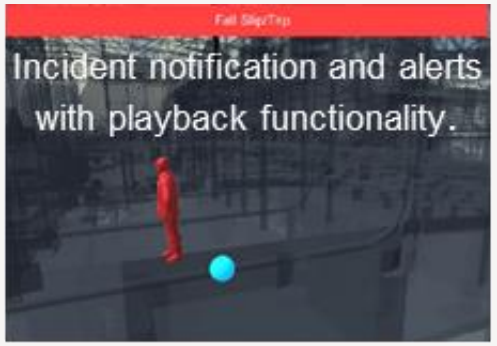
Case Study: Digital Safety Solution – Example Scenarios

- Location monitoring
- Real time check in to geofenced zone/muster point
- Incident reporting and tracking
- Personnel identification
- Proximity to vehicles/hazard alerts
- Restricted access / lone worker alerting
- Turn by turn first response



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Industry recommendations to drive the next step change

- Make digital a priority for senior executives
- Drive a culture of innovation and technology adoption
- Invest in human capital and development programs that promote new, digital thinking
- Put in place a methodical approach for developing and/or industrializing new capabilities
- Reform the company's data architecture
- Identify opportunities to deepen collaboration and understanding of sharing-economy platforms

Source - Digital Transformation Initiative: Oil and Gas Industry White Paper

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Value-at-stake headlines for digital transformation

For the oil and gas industry, digitalization:

- Has the potential to create around $1 trillion of value for oil and gas firms
- Could create benefits worth about $640 billion for wider society
- Could reduce CO_2e emissions by approximately 1,300 million tonnes

Source - Digital Transformation Initiative: Oil and Gas Industry White Paper

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Our digital strategy

We are driving **step change improvements** for our clients and ourselves.

At SNC-Lavalin, our business is perfectly aligned to deliver transformative innovation and sustained improvements along the entire value chain throughout the project lifecycle.

We combine **engineering expertise, deep industry knowledge, digital technology and data** across the entire asset lifecycle, to improve and consolidate the **design, planning, construction, operation and maintenance of physical assets.**

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If you always do what you've always done, you'll always get what you've always got" – Henry Ford

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