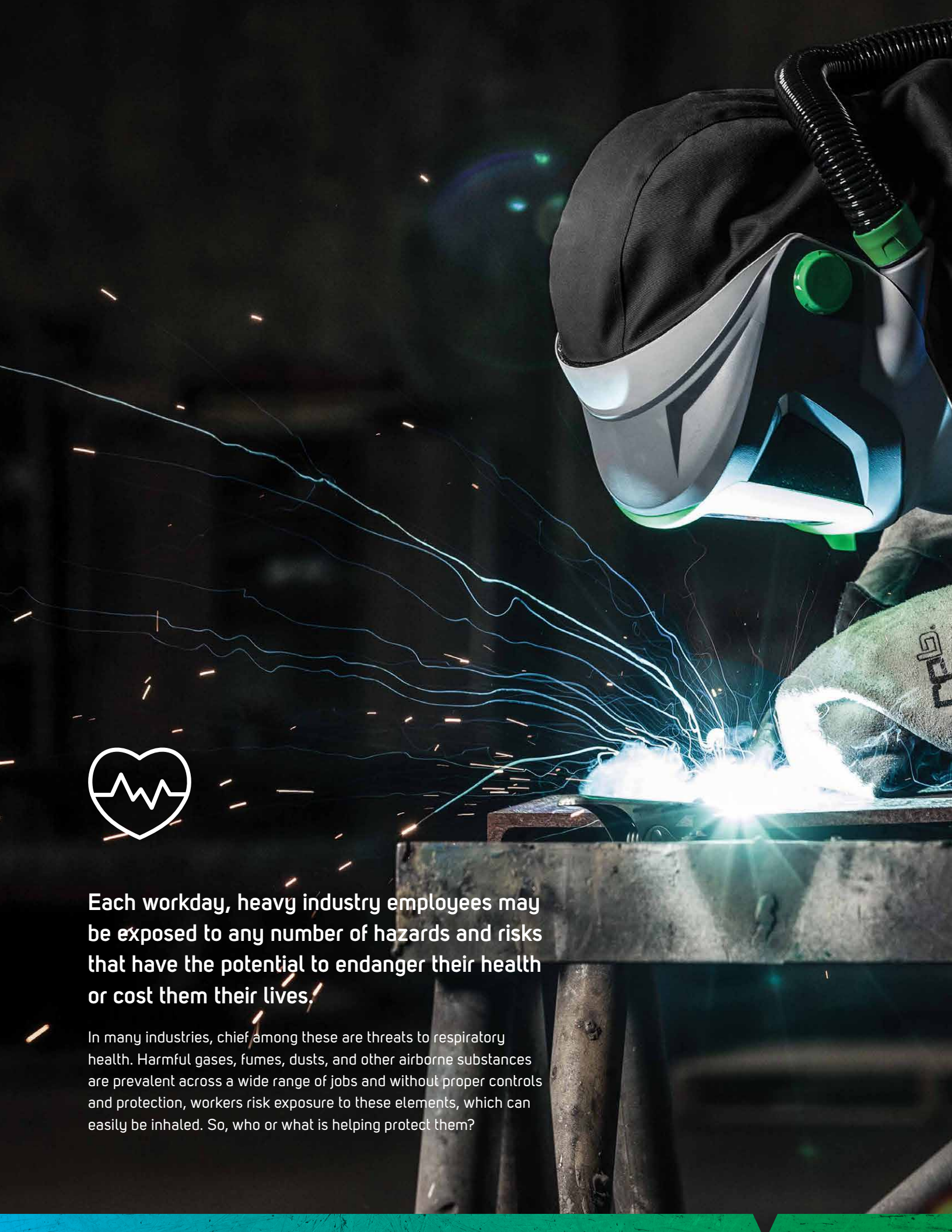




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The Responsibility of Respiratory Safety





Each workday, heavy industry employees may be exposed to any number of hazards and risks that have the potential to endanger their health or cost them their lives.

In many industries, chief among these are threats to respiratory health. Harmful gases, fumes, dusts, and other airborne substances are prevalent across a wide range of jobs and without proper controls and protection, workers risk exposure to these elements, which can easily be inhaled. So, who or what is helping protect them?

Laws, Standards, and Processes

Employees place their trust in the government to set the correct safety standards, and in their employers to mitigate risks and provide safe work environments, helping them get home safely at the end of each day.

For the employer, this means things like implementing environmental and engineering controls, and providing proper respiratory protection gear and training. Safety Officers know that employee wellbeing rests in their hands, a task that can't be taken lightly.

While most companies strive to do everything in their power to protect employees, there are still instances where they fail to meet those legal standards set by regulatory bodies. Even when they are met, sometimes those standards are later proven to be unsafe where they were previously deemed permissible. In these instances, workers who trust that the government's standards and their employer's programs are always up to date, may find themselves at risk.

Sometimes, that risk of harm eventuates. A look into many Occupational Safety and Health Administration (OSHA) citation cases indicates that it's not always enough for employers to simply provide employees with correct respiratory protective equipment (RPE) and basic training. Proper procedures, education, and follow ups must be implemented to ensure it is effective; when this does not happen, threats to safety occur.

Perhaps most of all, what these cases illustrate is the need for employees to be empowered, to fully comprehend all aspects of their workplace, and to share the responsibility of safety alongside employers and governments. With proper education, they will be positioned to do everything in their power to make choices on how to protect themselves. Those who know better can do better.



The Threats to Respiratory Safety

When Standards Aren't Met

In 2021, OSHA reported that the second most-cited standard violation occurred under the respiratory protection standard (29 CFR 1910.134). These violations included shortcomings like lack of training in use of RPE and failure to provide proper respiratory protection. All resulted in large fines and threats to employee safety.

Some recent examples:

In August 2021, [OSHA cited a brick manufacturer](#) for two willful and six serious safety and health violations. The employer failed to provide workers with personal protective equipment, exposing them to respirable crystalline silica. OSHA also found the brick manufacturer did not implement adequate engineering and work practice controls, conduct scheduled monitoring, establish regulated decontamination areas, or make a medical surveillance program available for employees exposed at or above the action level. The company faced \$131,972 in penalties.

[An Atlanta recycling company](#) was cited in December 2021 for continually exposing workers to chemical hazards and failing to "conduct annual training on the use of respirators and fit tests for employees". They faced penalties of up to \$311,934.

In December 2021 [OSHA also cited a Missouri contractor](#) who, after several inspections was found to be continually exposing workers to asbestos and other workplace hazards. The department has referred Compass Resources to collections for non-payment of more than \$186,337 in prior penalties.

It's not just the threat of injury or death that should drive both employers and employees to be aware of risks and demand proper respiratory protection and training – it's the reality that fatalities do occur.

In July 2021, [two chemical operators](#) of an Alabama chemical manufacturing plant died, and a third was hospitalized for respiratory failure after they were exposed to toxic fluorocarbon and other hazardous chemicals. OSHA cited the company for failing to provide appropriate protective equipment and implement safe work practices during maintenance activities on chemical processing equipment. "Two families will enter 2022 without their loved ones and one family will have the long-lasting memory of a frightening and serious illness," said OSHA Area Director Ramona Morris in Birmingham, Alabama. *"This tragic event should serve as a lesson for all employers to ensure effective safety protocols are established before initiating maintenance activities involving chemical processing equipment and systems."*

**IN 2021 OSHA REPORTED THAT THE
2ND MOST CITED VIOLATION**
OCCURED UNDER THE RESPIRATORY PROTECTION STANDARD

**AN ATLANTA RECYCLING COMPANY FACED
\$311,934 IN PENALTIES**
FOR NOT MEETING STANDARDS

*Reported by the Occupational Safety and Health Administration (OSHA)

If employees possess their own knowledge and understanding of RPE – including where and when it should be used, and in what manner – they stand a greater chance of recognizing when employer-provided protection falls short of the standard. Those who are fully informed, able, and encouraged to speak out can be of assistance in bringing this to the attention of employers, resulting in better safety for themselves and their fellow coworkers.

Lack of Awareness and Understanding

Employers' failure to provide adequate RPE – along with training for it – is only one facet of the issue.

OSHA reported that the fourth most violated standard in 2021 was that of hazard communication ([29 CFR 1910.1200](#)). This standard outlines the requirements for “communicating information concerning hazards and appropriate protective measures to employees.”

A [2021 case in Florida](#) found that a company exposed workers to unsafe measures of lead without implementing adequate engineering controls and without identifying all hazards on entry permits. OSHA found they failed to provide an annual update of the written compliance program for cadmium, inorganic lead, and arsenic and required workers to wear respirators that were not fit-tested annually. Proposed penalties totaled \$319,876.

In New York [an iron foundry](#) was found to have exposed workers to crystalline silica, silica dust, and combustible dust.

At [another case in Connecticut](#), OSHA found that an aircraft parts manufacturer did not take the required steps to identify potential exposures and protect employees from hexavalent chromium and cadmium – both known carcinogens.

While the government places the legal onus on employers to monitor the work environment for the presence of hazards – and accordingly provide the appropriate notice, training, and gear to its employees – cases like these illustrate that it does not always happen.

A well-informed employee can work with employers to maintain routine monitoring and provide safer environments. To be of assistance, they must fully understand potential risks in their environments and be aware of the way an employer monitors or protects them against these risks. If they are encouraged to speak up and ask questions, they are more likely to bring potentially harmful things – like unusual odors or sudden presence of fumes – to their employers' attention.

Furthermore, if workers fully comprehend the health consequences of exposure to these substances, they can make their own choices when it comes to RPE. If educated, they may prefer to be safe than sorry and select the highest level of protection available.

IN 2021 A FLORIDA COMPANY FACED
\$319,876 IN PROPOSED
PENALTIES
FOR EXPOSING WORKERS TO UNSAFE MEASURES OF LEAD

*Reported by the Occupational Safety and Health Administration (OSHA)



Shifting Standards

Rules, regulations, laws, and programs are necessary to provide a standard of safety across industries. They set benchmarks and provide knowledge and awareness for employers and employees alike. Adhering to standards is one thing, but what about when those standards change?

Research is continuously ongoing, and new data and information often reveals that standards and permissible exposure levels (PELs) previously deemed acceptable are, in fact, not permissible for good health. New research and information continues to emerge, often showing that standards weren't ultimately set to safe levels, or that certain hazardous materials and environments are more dangerous than initially thought.

OSHA itself acknowledges that standards change for any number of reasons, advising they continually review items to "keep pace with developing and changing technology." In 2017 [a new OSHA ruling](#) on Beryllium exposure reduced the PEL and required employers to implement new or improved workplace controls as necessary. This changed a 40-year-old PEL that, according to OSHA's new ruling, was "outdated and did not adequately protect worker's health."

In June 2022, the US Department of Labor began the rulemaking process to [revise standards](#) for occupational exposure to lead, serving as another warning that government standards and PELs are constantly being reviewed across all industries. This can make it difficult for some to trust that even current standards are safe enough. One could argue that PEL or not, any exposure to hazardous substances has the potential to be harmful.

Standards are constantly being reevaluated and sometimes what has been considered safe in the past is later found to pose risk. Workers must rely on the people making those decisions to determine what is harmful. However, understanding that exposure limits and safety standards do change – and that in some cases, even minimal exposure can be dangerous – allows an employee to choose whether he or she wants to take that risk. Regardless of PELs, he or she may choose to protect themselves by using respiratory protection.



Bringing It All Together

Employers' failure to adhere to standards, employee lack of awareness and understanding, and ever-changing standards; addressing these three core shortcomings is key to reducing the number of citations and incidents of respiratory harm in the workplace. What can be done, and does it work?

Proven Success in Prevention Programs

All of these elements can be addressed collectively with the implementation of an injury and illness prevention program. As a proactive measure, OSHA encourages these programs to "help employers find and fix workplace hazards before workers are hurt".

OSHA has found successful programs to have key elements in common, including:

- Management leadership
- Worker participation
- Hazard identification and assessment
- Hazard prevention and control
- Education and training
- Program evaluation and improvement

After analyzing numerous studies, OSHA found that such programs are effective in reducing injuries, illnesses, and fatalities. An examination of eight states that required a program found that injury and illness incidences were lowered by nine percent to more than sixty percent.

A closer look at some of the states involved and their results:

- California: five years after implementing a program, injuries and illnesses decreased by 19%.
- Hawaii: since requiring these programs in 1985, net reduction in injuries & illnesses has been 20.7%.
- Washington: after establishing required programs in 1973, the net decrease in injuries and illnesses was 9.4% when assessed five years later.

Additionally, in 2009 OSHA found that these three states – with their mandatory program requirements – had workplace fatality rates as much as 31 percent below the national average.

A report (Gallagher, 2001) on studies of these programs concluded that *"recurring findings across these studies were the critical role played by senior managers in successful health and safety management systems, and the importance of effective communication, employee involvement and consultation"*. OSHA also stresses that worker participation is an especially fundamental element of the program.

While responsibility lies with employers to establish and maintain these programs, the importance of the role of the employee cannot be overlooked.



Empowering the Employee

Citation cases and the success of prevention programs serve as reminders that employees should not be complacent when it comes to their own respiratory protection.

Employers, trade schools, and training centers alike should see these instances as encouragement to educate workers at every opportunity. For their part, employees deserve the right to set their own health standards and therefore must take some of the responsibility when it comes to protection.

If an employee hasn't spoken up, it could simply be due to a lack of awareness and knowledge rather than apathy. For instance, a welder may not know that beryllium is toxic to humans, and that it is present in welding fume. Even if they did know, they may not have been aware that the PEL was recently lowered, meaning levels once deemed safe are no longer acceptable.

Awareness surrounding the respiratory dangers of these environments can be difficult to establish. Unlike obvious risks such as heavy machinery or heights, hazardous substances (like toxic gases or fumes) are often invisible and effects from inhaling them may not present themselves for years to come. This means workers could be exposed and harmed before they even realize it. If employees are properly educated about all potential risks and corresponding harm that they may encounter from the start, they will be better positioned to do everything in their power to protect themselves.

A Safer World – But Still a Long Way to Go

Now, perhaps more than ever, we appear to be a safety-focused culture. OSHA standards require employers to instill numerous mandatory safety procedures, courses, training, and access to personal protective equipment. Articles and studies abound on the importance of safety in the workplace, and entire companies exist solely to provide health and safety training and awareness.

Yet, the [United States Department of Labor \(DOL\) Bureau of Labor Statistics \(BLS\) reported](#) that the number of recorded fatal work injuries in the United States rose 2 percent in 2019, from 5,250 in 2018 to 5,333. It represents the largest fatal case count since 2007.

The [U.S. DOL reports](#) that exposure to harmful substances or environments is the fifth most common cause of fatal injuries (642 instances in 2019). Respiratory protection is a key factor in working to prevent these incidents, yet [OSHA reports](#) that respiratory protection was the fifth highest "willful" violation that occurred in 2019.

Changing the Game

Though the statistics remain poor, progress has been made. [2020](#) saw the number of fatal work injuries at their lowest since 2013, with a 10.7 percent decrease compared to the year previous, and while the global Coronavirus likely would have played a part in that, it's no less a shift in the right direction.

[OSHA reports](#) that on average, workplace deaths in the U.S. are down from 38 per day in 1970 to 15 per day in 2019. Injuries and illnesses are down from 10.9 incidents per 100 workers in 1972 to 2.8 per 100 in 2019.

While encouraging, the fact remains that everyone is entitled to the protection that guarantees them a safe, healthy workplace. No employee should go to work concerned about whether he or she will return home safely at the end of the day. Accidents happen, and the data will never be perfect. Even one death or injury will always be too many.

Statistics like these are all the more reason for employees to step up alongside employers and the government and take responsibility for their own health and safety. When training for a heavy industry career, students need to fully comprehend all aspects of their future job and recognize safety as a high priority. From the beginning, the importance of knowing the risks, knowing the environment, and choosing protection must be instilled in all workers.

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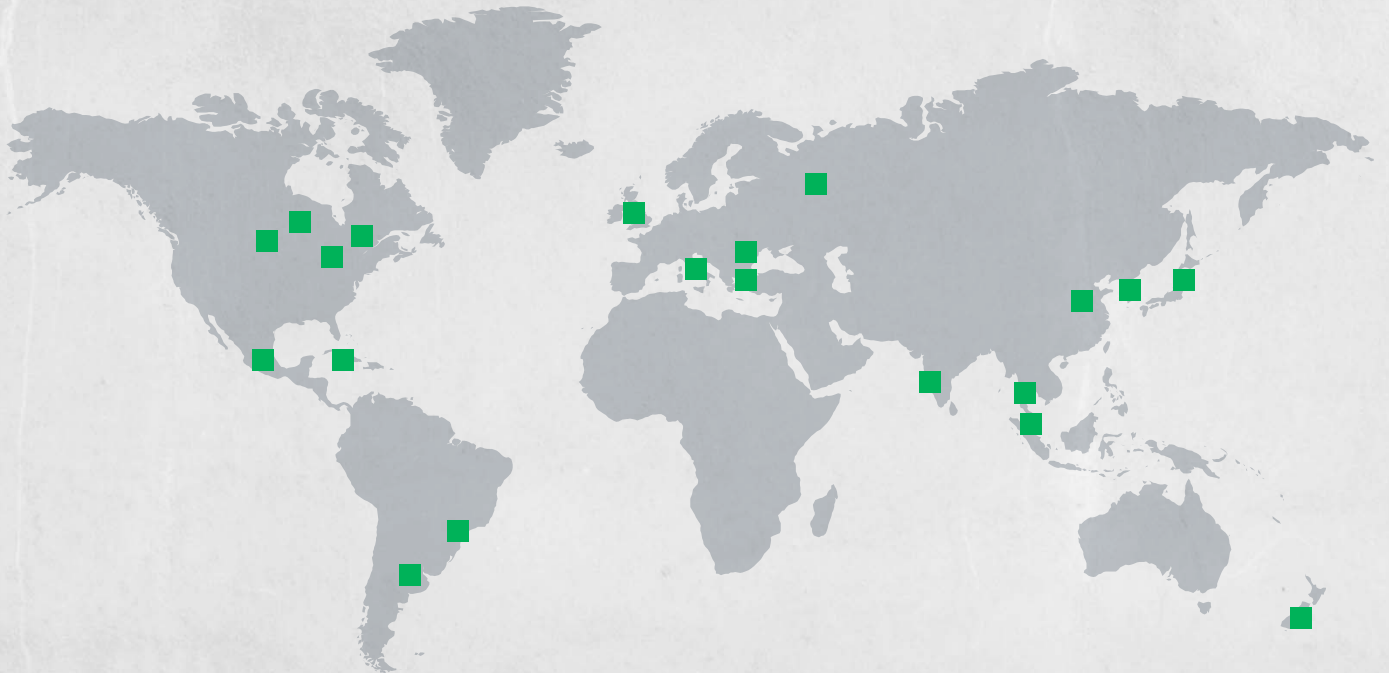
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