



Enhancing

# productivity through safety

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Reduce costs and boost  
employee performance

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Did you know that businesses spend about \$170 billion per year on costs related to occupational injuries and illnesses? But taking steps to build and maintain a safety culture can make a difference. Workplaces that establish safety and health management systems can reduce their injury and illness costs by 20-40%.

Today's fast-turn, customer satisfaction-driven economy puts more pressure than ever on warehouse and distribution center employees to meet productivity goals. With tight order fulfillment deadlines and long hours pushing personnel and processes to their limit, operations can be vulnerable to safety risks, including:

- Operator error
- Incidents and injuries
- OSHA violations and penalties
- Insufficient maintenance practices

This white paper offers a step-by-step approach to help foster a healthy, safe workplace through proper training, innovative technologies and maintenance best practices.



## Make training a priority to reduce operator error

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Operators with poor or insufficient training can create unsafe situations and reduce their ability to meet productivity standards. To foster a culture of safety, operators are required to receive training for powered industrial trucks that adheres to OSHA standards and is tailored to their exact use of the equipment – specific to the site, truck class and application.

Hands-on safety demonstrations and instruction are essential elements of any training program.

Assigning an experienced mentor to work directly with new hires provides an additional resource for questions and facility knowledge, increasing the chances of a successful onboarding period.

In addition to operators, pedestrians must understand how to interact safely with lift trucks. These employees should participate in training that addresses pedestrian safety issues throughout the facility, including interactions with lift trucks and other mobile equipment, as well as understanding hazards presented with mobile equipment in that facility. A pedestrian training program should also cover topics such as wearing safety vests for greater visibility, posting pedestrian signs in locations where lift trucks operate and, where possible in each facility, providing separate travel zones for pedestrians and trucks.



Properly training employees can help organizations:

- Reduce lost-time injuries
- Limit incidents resulting in medical expenses and workers' compensation claims
- Improve OSHA compliance and avoid related penalties
- Boost driver efficiency
- Decrease product damage and accidents
- Reduce lift truck downtime

**According to OSHA, 70% of forklift safety incidents can be attributed to operator error. With effective training, OSHA estimates that lift truck incidents could be reduced by 25%, while operator performance scores could see a 61% improvement, helping increase throughput and reducing downtime.**



## Enrich training with virtual reality technology

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Facilities looking to enrich their training portfolio may want to consider simulation. While not a substitute for OSHA mandated hands-on training, forklift simulators can help operators learn accurate equipment response, complete with automated, real-time feedback on their performance, all while working in an immersive and realistic 360° learning experience.



Using a simulator to sharpen skills may help reduce the risk of product damage, facility damage and injury associated with operating a real lift truck in an active work setting. This virtual approach allows new employees to practice in a safe, low pressure environment and helps them make the most of live, in-person training.

## Adhere to safety protocols with robotics

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Warehouse turnover continues to be widespread, climbing from just over 40% annually to nearly 60% over a five-year period. The higher the turnover, the larger the training burden facilities face to scale up new operators. And with new, inexperienced operators comes increased risk of not following site-specific safety protocols and traffic rules.

From day one, thanks to navigation technology and site-specific programming, robotic lift trucks can adapt to surroundings and real-time conditions, while strictly following safety protocols. This capability can help reduce the risk of accidents and collisions, without the extensive onboarding and training required by new operators.

Warehouse workers must also be trained on how to properly interact with robotic lift trucks. While robots have sensors and systems designed to prevent impacts, guests and facility personnel can be unpredictable, which makes clear explanation and enforcement of rules all the more important.

**Organizations augmented by automation technologies are 33% more likely to be “human friendly” workplaces, where employees are 31% more productive. Why? Because robotic equipment frees workers from the monotony of repetitive tasks and allow them to focus on more rewarding work.**

## Use telemetry to protect assets, manage costs and optimize productivity

Technology can also help companies manage equipment and operator behavior. Remote data monitoring solutions, such as telemetry systems, make critical maintenance data accessible, while also providing alerts and fault codes related to hazardous driving behaviors, such as excessive speed or impacts. Having access to this kind of data allows organizations to isolate and work on remediating problem areas and reinforce best practices to promote safety.

Using telemetry to enhance safety:

- Tracks scheduled PM tasks and triggers service calls based on equipment diagnostics
- Restricts truck access to approved operators only
- Tracks training updates
- Requires OSHA pre-shift checklist completion before truck operation
- Identifies efficient routes via GPS monitoring to influence facility layout and traffic patterns
- Provides supervisors with impact detection, alerts and other data associated with operator performance
- Equips managers with data to help identify operators who require additional training

Some OEMs offer an optional impact camera that syncs with the impact detection of the main telemetry system, automatically saving video footage three minutes before and after an impact. Not only does this help provide clarity around impacts, but also promotes operator accountability to adhere to safe operating practices.

Another telemetry feature available on some systems is load sensing. Depending on the system and truck configuration, if onboard sensors detect a load beyond the trucks rated capacity, the telemetry system can respond in a variety of ways, including alerting the operator via the display, notifying supervisors of the event, and setting hydraulic and traction restrictions.



## Reinforce best practices with operator assist technology

A new type of advanced operator assistance technology has emerged to help reinforce lift truck operating best practices and support operator awareness. It works by controlling truck performance based on real-time information about the equipment and operating environment.

One such system, the Yale Reliant™ solution, offers redundant detection systems to trigger dynamic alerts and can apply a broad range of equipment controls based on proximity to pedestrians and obstacles, load weight, equipment status and location-specific rules.

In practice, this technology can work to:

- Automatically slow down lift trucks as they approach the end of an aisle, an intersection, another piece of equipment or obstacle
- Limit speed in designated zones or even prevent access to pedestrian-only areas
- Proactively reduce speed when traveling around corners to avoid upsetting stability
- Prevent trucks from moving loads that exceed weight threshold through hydraulic lock-out

Used as a complement to proper operator training, an operator assist solution can help reinforce lift truck safety initiatives that allow businesses to maximize operator productivity and equipment uptime.



## Give your operators comfort and control where it counts

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Sprains and strains account for 36% of workplace injuries and are the most prevalent type of injury to the back, shoulder and knee. Since operators spend the vast majority of their time sitting, standing and twisting, ergonomics are key for enhancing comfort, productivity and safety.

Lift truck manufacturers have made significant strides in the development of ergonomic features that complement safe materials handling practices. Some of these features include:

- Open air compartments for greater comfort and movement
- Enhanced through-the-mast visibility to avoid straining and awkward positioning
- Padded compartments with adjustable features for support
- Pedal-free floor systems to allow for natural stance and adjustments
- Adjustable steering columns with tilt memory for ergonomic positioning
- Fingertip controls for easy access and low effort activation
- Electric power steering for reducing road shock through the steering wheel or tiller

Carefully evaluate equipment so that operators can stay fresh and productive and avoid injury risk due to poor ergonomics.

## Don't skimp on maintenance

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Maintenance plays a major role in creating a safe and more productive work environment. Something as common as an oil leak can cause someone to slip, leading to downtime, lost productivity and financial impacts.

By executing a periodic maintenance (PM) program, organizations can be confident that each lift truck receives timely, thorough inspections, while also keeping equipment in peak operating efficiency. Often lift truck dealers and OEMs offer turnkey PM programs so that organizations can focus on their core business, rather than equipment maintenance.

When a lift truck is out of commission for maintenance or service, do not fill the gap with just any truck. This can put the operator and others at risk by using a piece of equipment that does not fit requirements of the specific task. A proper PM program can help guarantee that an operation has the correctly configured backup trucks available.

How does a PM program help curb hazards?

- Timely, thorough lift truck inspections
- Confirms that equipment is in peak operating condition
- Helps identify mechanical issues that could be hazardous or costly
- Reduces unplanned downtime, increasing application-specific truck availability



## Safety can help enable productivity advantages

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Adherence to strict safety standards does not run counter to the aggressive productivity targets and speed of modern supply chains. In fact, safe operating practices avoid unplanned downtime and costs that can eat into already thin margins. A partner with a strong safety background can help your organization leverage advanced technology and tried-and-true safety practices to keep warehouse operations running efficiently.



For more information about enhancing the safety of your operation through proper training, innovative solutions and maintenance best practices, contact your local **Yale® dealer.**