

**H HENDRICKSON**



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# Corporate Responsibility **2024** REPORT

Ensure an inclusive and safe work environment for all by valuing similarities and differences through encouraging genuine collaboration among employees and businesses.

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# MESSAGE

## Message from Hendrickson's President and Chief Executive Officer **MATT JOY**

Hendrickson is dedicated to fostering a sustainable future that is ingrained in our company's core values of safety, quality, inclusion, and innovation. Our vision for sustainability is a comprehensive approach that encompasses environmental accountability, social equity, cultural diversity and preservation, stakeholder engagement, community involvement, and innovative product development. It reflects Hendrickson's continued commitment to create long-term viability for the company and its stakeholders while leading the way to build lasting, positive impacts on the global commercial transportation industry. Hendrickson's investments in research and development, design and engineering, manufacturing, supply chain, and customer experience lead the way to advance industry progress and, ultimately, contribute to a safer, more equitable, more sustainable future.

### Safety

Every year, we start our Corporate Responsibility Guide with safety. This is purposely done to show that nothing is more important than our employees' health and safety. And every year we will push to get closer to our Vision Zero safety goal and remind everyone we are a safety first company.

In 2023, we moved a step closer to our Vision Zero journey with our safety record improving for the second year in a row. This improvement only occurs with great employee involvement and strong safety leaders. I want to thank all our employees for their commitment to safety and, in particular, congratulate our locations that achieved **Vision Zero**, participated in our Ergonomic Excellence program, and achieved or maintained their OSHA VPP certification.

### ENVIRONMENTAL

Commitment to implementing practices and strategies that minimize the company's environmental footprint.



### SOCIAL / CULTURAL

Foster a positive impact on the members of our organization and areas where we operate.



### PRODUCT INNOVATION

Continuous innovation in products and services to sustain the long-term viability of the organization and to create forward-looking solutions to global transportation challenges.



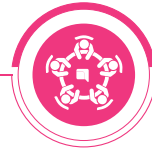
### COMMUNITY

Proactively participate in the communities we work and serve through collaboration with local organizations.



### STAKEHOLDER ENGAGEMENT

Engage with stakeholders, including employees, customers, suppliers, governing bodies, regulatory officials and local communities as appropriate.



### REPORTING AND ACCOUNTABILITY

Publish sustainability reports that details environmental, social and economic performance that allow stakeholders to assess the company's progress and hold it accountable for its sustainability commitments.





### **Environmental Sustainability**

In 2023, all Hendrickson locations certified to the ISO14001 environmental management standard maintained their certification. This continues to show our dedication to maintaining a compliant and sustainable work environment.

Beyond our ISO 14001 certification, we achieved significant strides in understanding our environmental emissions impact. One major achievement was the launch of our greenhouse gas emissions tracking platform. These metrics allow us to assess our impact and better measure our improvements. I look forward to our teams' use of the data and other green initiatives to continue ensuring Hendrickson's sustainable future.

### **Hendrickson One**

We continued to invest in training and development to ensure all Hendrickson employees are set up for success. We want a culture in which everyone can succeed, and I am proud to say that in 2023, 84% of leadership positions were filled internally and 225 employees were promoted. Along with this, our employees completed a record number of e-learning initiatives, with over 16,000 training classes completed. This development culture is vital to Hendrickson's success as we continue to grow as a company.

In 2023, we successfully launched our Global Buddy and Women in Manufacturing programs. These initiatives, in conjunction with our mentoring and leadership programs, truly expanded our Hendrickson One culture.

Additionally, our organization remained devoted to our core values and celebrated our 110th year in business by delivering timely, cost-effective, innovative ride solutions. This guide reflects our team's efforts, and I am truly proud to share our achievements.

Finally, I am continually amazed at our employees' efforts in community outreach. Looking at this report, you will see how passionate the Hendrickson Gives Back culture is within our local communities!

Hendrickson's commitment to our corporate responsibilities is stronger than ever and I want to thank all our employees for their support. As you read this report, we hope you share our excitement about our progress and we look forward to expanding on these in 2024.

# **ENVIRONMENTAL MANAGEMENT**

# ENVIRONMENTAL MANAGEMENT

Hendrickson is committed to environmental excellence through compliance with regulations, environmental management systems, and many sustainable efforts. The efficiencies of our operations and products are realized in our engineering efforts, manufacturing facilities, and on the road for our customers and the environment.

## ISO 14001 Environmental Management Systems

Each year, Hendrickson facilities are audited by their registrars in conformance with the ISO 14001:2015 standard. In 2023, all certified Hendrickson sites went through successful surveillance audits both on-site and via remote technology. Congratulations to Hendrickson's **Spring Europe Group, Piedras Negras, Lebanon, Kentucky, Kendallville, Indiana, and Woodridge Truck HQ** on their recent recertifications for ISO 14001:2015.



### CANADA

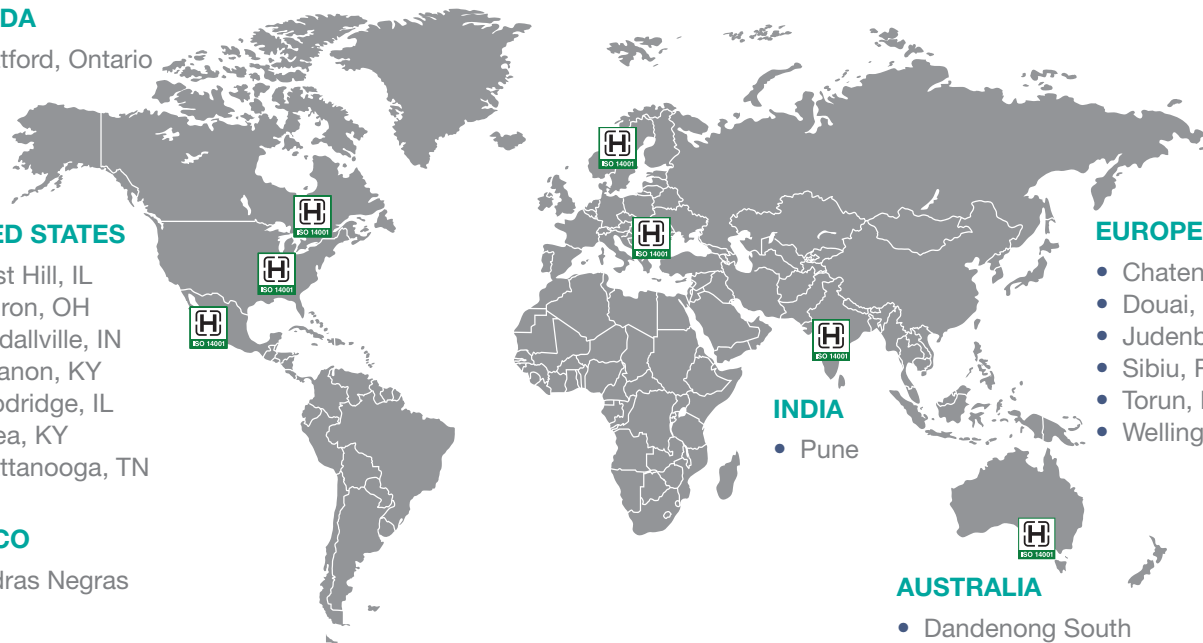
- Stratford, Ontario

### UNITED STATES

- Crest Hill, IL
- Hebron, OH
- Kendallville, IN
- Lebanon, KY
- Woodridge, IL
- Berea, KY
- Chattanooga, TN

### MEXICO

- Piedras Negras



### EUROPE

- Chatenois, France
- Douai, France
- Judenburg, Austria
- Sibiu, Romania
- Torun, Poland
- Wellingborough, UK

### INDIA

- Pune

### AUSTRALIA

- Dandenong South

# ENVIRONMENTAL MANAGEMENT

## Sustain.Life Update

In 2022 Hendrickson partnered with Sustain.Life, a vendor of sustainability software for businesses to measure, manage, and report greenhouse gas emissions and make business decisions with the environment in mind. In 2023, Hendrickson gathered operational data from 2022 to baseline its environmental impact moving forward. This data has been essential for analyzing our operations, as well as providing information to our interested parties. Hendrickson has rolled up this data to assess the impact of various site goals, respond to information requests for customers and governmental requirements such as CSRD or CBAM, respond to Supplier Assurance Questionnaires and CDP reporting and share information with our employees. Using the initial data, Hendrickson has increased its CDP score from a “D-“ to a “C.” A CDP climate change score of “C” is the North American Regional Average, as well as the Global Average. Below is a summary of Hendrickson’s global RY2023 Scope 1 and 2 CO<sub>2</sub>e emissions.

**CO<sub>2</sub>**

CO<sub>2</sub> (Carbon Dioxide) is a colorless, odorless greenhouse gas released when fossil fuels (such as natural gas, oil, coal, and other fossil fuels) burn.

**CO<sub>2</sub>e**

CO<sub>2</sub>e (Carbon Dioxide equivalent) is more accurate, as it contains all the molecules that will absorb heat and will warm our atmosphere.

**Scope 1**  
Direct emissions from sources you own or control.

Stationary combustion	67,863.82
Mobile sources	2,049.96
Fugitive emissions - Fire suppression	187.56
Fugitive emissions - Refrigeration	0.69
<b>70,103.03 Metric Tons CO<sub>2</sub>e</b>	

Impact by Scope

**Scope 2**  
Indirect emissions from purchased electricity, steam, heat, and cooling.

Purchased Electricity	71,668.12
<b>71,668.12 Metric Tons CO<sub>2</sub>e</b>	

## 2023 Environmental Sustainability Highlights

### Judenburg, Austria

On-site renewable energy

Hendrickson Austria commissioned a 400kWp photovoltaic plant (February 2023)

### Hendrickson Austria takes the next step towards CO<sub>2</sub>-reduction

In order to make the energy-intensive manufacturing process more efficient, Hendrickson Austria has already replaced one gas furnace with a modern, electrically operated induction furnace at the beginning of 2022. By using this more efficient technology, it was possible to combine two manufacturing steps – as a result, CO<sub>2</sub> emissions were reduced by approx. 33%. The next step towards sustainability and renewable energies was taken at the beginning of 2023 with the commissioning of a 400-kWp photovoltaic system on the roof of the company building; the installed PV modules are designed for a snow load of 5400Pa and a wind load of 2400Pa. The solar plant operates in grid-connected mode, meaning that the solar power generated is used both for self-consumption and for feeding into the public power grid, ensuring maximum use of the energy generated.



Last year, we generated about 310MWh of electricity with our photovoltaic system, which covered 4% of our electricity needs.



# ENVIRONMENTAL MANAGEMENT

## Key Initiatives at Hendrickson Sites

- High-efficiency air compressor upgrades
- Use of returnable dunnage-reducing wooden pallets and cardboard waste
- Upgrading plasma tables or changing over to laser tables
- Finding recycling solutions for landfilled waste streams
- Upgrading processing equipment to newer, more efficient models
- Facility conversions to LED lighting
- Solid waste reduction plans
- Outer grounds cleanup events
- Improving processing efficiencies
- Elimination of product & materials stored outside
- Improvements to air handling equipment and capturing efficiencies
- Reductions of permitted air emissions units and reductions of natural gas combustion units

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## Complete US Environmental Regulations Training

In July 2023, Hendrickson hosted its US site Environmental Compliance Champions at the Woodridge HQ for training and certification on US environmental regulations and Resource Conservation and Recovery Act (RCRA) hazardous waste management. Hendrickson continuously promotes opportunities for employees to grow their knowledge base to ensure environmental excellence throughout the company. This training helps develop critical knowledge about EPA regulations needed to operate an environmental management system and / or get ISO 14001 certification. Training Topics included: Structure of environmental regulations (40 CFR), Clean Air Act (CAA), Clean Water Act (CWA), Safe Drinking Water Act (SDWA), Pesticides - Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), Comprehensive Environmental Response Compensation Liability Act (CERCLA/Superfund), Resource Conservation and Recovery Act (RCRA), Emergency Planning and Community Right-to-Know Act (EPCRA), and Toxic Substances Control Act (TSCA). All global Hendrickson sites have provided similar training according to their local regulatory format.



# ENVIRONMENTAL MANAGEMENT

## Product Sustainability Advantages

### Truck: OPTIMAAX®

Hendrickson's OPTIMAAX® system is a revolutionary 6x2 solution designed to improve freight efficiency for fleets by lowering operational costs by increasing fuel economy, reducing wear on brakes, wheel ends and tires, as well as providing significant weight reduction compared to traditional 6x4 tandem axle configurations.

Operating as a liftable axle in the forward tandem position, this system provides versatility for a variety of applications, including diminishing load applications such as grocery or beverage as well as operations with routine variable loads, deadhead / empty or partial backhauls such as livestock, intermodal tank/bulk haul, and auto part haulers. Through the elimination of one drive axle, 6 x 2 configurations achieve up to 3% fuel economy improvement. With OPTIMAAX, up to an additional 2% fuel economy improvement can be achieved through lifting the non-driven axle.

OPTIMAAX reduces the weight of a Freightliner Cascadia tractor up to 400 pounds versus traditional 6x4 configuration. The reduction in weight can be used to improve a fleet's operation by carrying additional cargo in the trailer or reducing the overall weight of the tractor, which could allow for lower horsepower / torque requirements and a more efficient operation.

### Footprint Reduction Per Unit:

7.8 MT CO2e annually per unit

### Estimated Footprint Savings Over Time:

Together, our recent units installed save over 3,500 MT CO2e annually on the road



# ENVIRONMENTAL MANAGEMENT

## Trailer: ULTRAA-K®

The ULTRAA-K® axle suspension system is the next generation VANTRAAX® air slider system for the van and refrigerated trailer markets. Building on proven VANTRAAX air slider design expertise, the ULTRAA-K system is engineered with an optimized strength-to-weight ratio, making it stronger than comparable standard and heavy-duty 40K slider models in the market today. It is the lightest slider system in the industry by nearly 100 pounds.

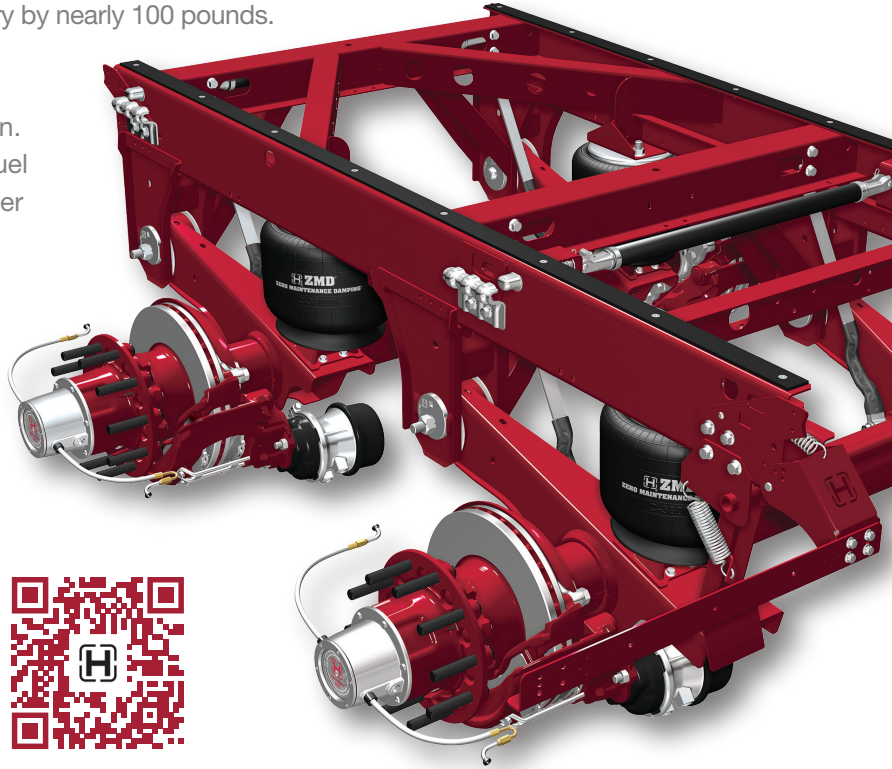
ULTRAA-K provides a lightweight, durable solution for trailers with a life-cycle advantage over the competition. By choosing ULTRAA-K, operators see an increased fuel ton-mile efficiency – allowing a larger payload and fewer trips over the road.

### Average Weight Savings:

Over 11,000 Tons saved in suspension weight in recent production years, allowing for more payload to be transported over the road every day

### Estimated Production Footprint Savings:

Over 15,500 MT CO2e saved in production of ULTRAA-K suspensions over the last three years



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## Specialty Products Group: AERO CLAD®

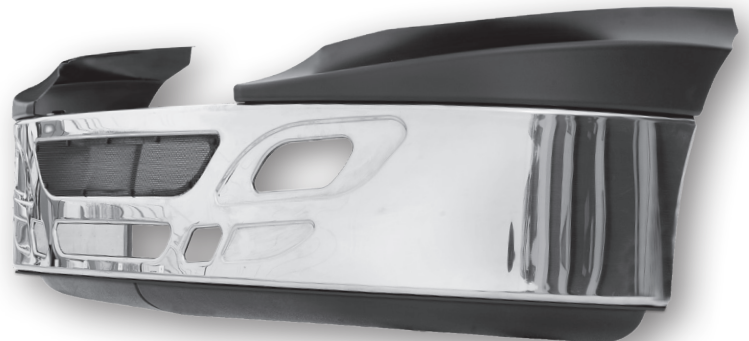
Thanks to advanced materials and state-of-the-art metal forming technologies, Hendrickson's lightweight aerodynamic metal bumpers are more corrosive resistant and durable than ever. AERO CLAD's stainless steel finish is 10 times thicker than chrome plating. The clad material provides a mirror-bright surface that resists corrosion - even after damage from impact. Our proprietary AERO CLAD material is 100% recyclable because it only contains aluminum and stainless steel and is manufactured without harsh plating chemicals. The tough finish resists stone chips; it won't crack, peel, rust, or fade, and minor abrasions can be buffed out. We're so confident in the durability of our AERO CLAD bumper's finish we warrant it for 5 years.

### Durability:

Lightweight for better fuel economy (30+ lbs. savings)

### CO2e Savings Over Time:

Recently, over 3,100 MT CO2e saved in production



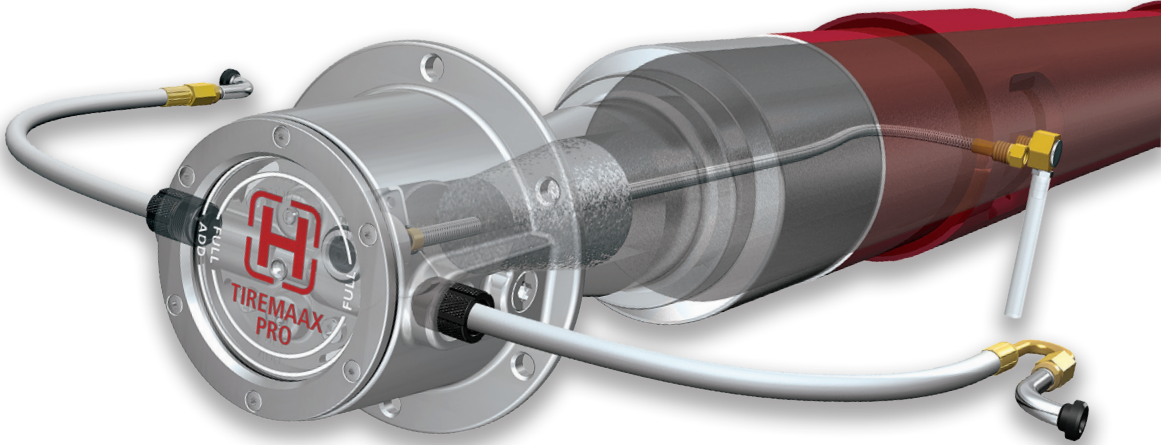
# ENVIRONMENTAL MANAGEMENT

## Brake and Wheel-End: TIREMAAX® PRO

One of the most significant maintenance issues facing the industry today is the problem of improper tire inflation. Studies show improperly inflated tires can greatly reduce fuel economy (1.5%) and decrease tire life. Hendrickson's industry-leading lineup of TIREMAAX® tire pressure control systems utilize advanced, patented technology to keep trailer tires properly inflated and rolling smoothly. TIREMAAX tire pressure control solutions can pay for themselves with savings from increased fuel mileage, reduced tire maintenance and replacement costs and prevention of tire failure leading to downtime and costly road service.

### Max CO2e Saved:

Over 159,000 MT CO2e saved on the road over the last 3 years from recently installed units



## Reduced Fuel Economy

According to TMC, 30 percent to 40 percent of the fuel required to move a vehicle down the highway is spent overcoming tire rolling resistance. When tires are under-inflated, the amount of drag created by the tires increases. This additional drag causes an increase in friction and heat and therefore an increase in fuel consumption. Conventional wisdom says vehicles running with tires under-inflated by 10 psi can see a 1.5 percent decrease in fuel economy. That is equivalent of \$415 per tractor per year in excess fuel costs, using today's diesel prices.

## CSA Violations and Fines

Under-inflated tires can result in a citation during a roadside inspection, as tire inflation is covered in the CSA Maintenance BASIC. In fact, tires are among the top three components most often responsible for violations in the Maintenance BASIC, with a flat tire being an eight-point deduction and an under-inflated tire being a three-point deduction. In addition, under-inflation is often responsible for much of the tire damage inspectors see.

## ADDITIONAL FACTORS

### Greenhouse Gas Phase 2 (GHG2) Regulations

The recent release of phase two of the Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles (GHG2), places an increased focus on technology that improves fuel efficiency and reduces greenhouse gas (GHG) emissions for trailers used in combination with tractors. A recent report published by the International Council on Clean Transportation (ICCT) estimates "fuel savings will be over half a million barrels of oil per day in 2035, and by 2050, when the rule is fully phased in, these savings increase to over 800,000 barrels per day."<sup>9</sup>

The GHG2 ruling can be overwhelming when trying to decipher. However, the requirements specific to trailers can be summed up fairly easily. All full and partial-aero box vans (dry and refrigerated) are held to a performance-based compliance standard. This means original equipment manufacturers (OEMs) of these trailer types can use a combination of low-rolling resistance tires, aerodynamics, weight savings and/or tire pressure system to meet the required carbon dioxide (CO<sub>2</sub>) emission spec. Non-aero box vans, liquid and gas tanks, straight flatbeds, and container chassis are held to a design-based compliance standard. Trailer OEMs of these styles are required to use low-rolling resistance tires and a tire pressure system; no calculation or equation is used.

## GHG Phase 2 FACTS

Effective January 1, 2018

### 1 AFFECTED TRAILER CATEGORIES



#### BOX TRAILERS

- Dry Vans
- Refrigerated Vans



#### NON-BOX TRAILERS

- Liquid and Gas Tanks
- Straight Flatbeds  
*(Single continuous load-bearing surface)*
- Container Chassis

### 2 COMPLIANCE STANDARDS

#### PERFORMANCE-BASED

**Full- and Partial-Aero Box Trailers**  
Combination of low-rolling resistance tires, aerodynamics, tire pressure system and/or weight savings that meet the required CO<sub>2</sub> emission spec. Calculate using the compliance equation.

#### DESIGN-BASED

**Non-Aero Box Trailers and Non-Box Trailers**  
Requires the use of low-rolling resistance tires and a tire pressure system.

### 3 EXCLUSIONS

- All other vocational trailers not listed
- All trailers with 4 or more axles
- Trailers less than 35 feet long with 3 axles
- Trailers with fixed axle spread  $\geq$  120 inches

#### AERO Defined

**FULL-AERO:** Underside and rear of trailer are **FREE** of any work-performing equipment

**PARTIAL-AERO:** Work-performing equipment is installed on underside **OR** rear of trailer

**NON-AERO:** Work-performing equipment is installed on underside **AND** rear of trailer

9. Retrieved August 2017 from [theicct.org/US-phase2-HDV-efficiency-GHG-regulations-FRM](http://theicct.org/US-phase2-HDV-efficiency-GHG-regulations-FRM)

# **OCCUPATIONAL HEALTH & SAFETY**

# OCCUPATIONAL HEALTH & SAFETY

Hendrickson and its associated brands remain steadfast in our dedication to Safety Excellence, prioritizing the well-being of our employees, customers, and communities. Throughout 2023, we fostered collaborative endeavors aimed at enhancing our proactive safety initiatives and exchanging best practices across all our locations.

Our commitment to Health and Safety Excellence is demonstrated by our active participation in OSHA's Voluntary Protection Program (VPP) at our U.S. facilities and adherence to the International Standard 45001 (Safety & Health Management) at our international sites.

In the fourth quarter of 2023, we welcomed Brunner into our family of brands and began collaboration with their management to seamlessly integrate environmental, health, and safety (EHS) practices, a process ongoing into 2024. This integration involved comprehensive EHS evaluations at both the Medina and Niagara Falls facilities.

Regarding sustainability, significant strides were made in 2023, including close cooperation with key customers such as Volvo, Daimler, and Volkswagen-Navistar on sustainability reporting initiatives, utilizing SAQ or customer specific forms / reporting requirements. We look to expand these efforts throughout 2024 to ensure alignment with evolving customer sustainability requirements.

## Safety Excellence Meetings

In 2023, we began holding monthly Safety Excellence meetings with personnel from across the company including, corporate, division and plant management teams. Our standing agenda included the following:

- Review of our key performance indicators (Recordable Incident Rates, Corrective Action Management and Safety Leader Participation);
- Significant Injury / Fatality Prevention – review any incidents that could have resulted in a serious injury or fatality. SIFs have become an emphasis within Occupational Safety & Health;
- 2023 Ergonomic Initiative – Quarterly ergonomic projects at each facility;
- Best Practice Sharing – topics ranging from Heat Stress Prevention to high Visibility Vest programs for those working outside and hand/finger safety awareness;

- A review of our monthly Toolbox Talks & Training Plan.

Each Microsoft Teams meeting was recorded so those unable to attend could also participate. Examples of content shared at these meetings are below:

## Specialty Products Group Bumper – Heat Stress Prevention

Safety & Health team developed a Heat Stress campaign, which includes posters, a video and training awareness materials. They also entered into OSHA's 2023 Heat Illness Prevention Campaign - National Heat Contest | Occupational Safety and Health Administration (osha.gov). Unfortunately, Bumper did not receive an award, but we were able to share the posters, video and training awareness materials throughout the company.



## Trailer Suspension, Navarre, Ohio – 2023 Everyone Has A Hand In Safety Campaign

Several facilities shared best practices regarding hand and finger safety efforts. This included an analysis of incidents that have taken place at the site to help identify common causes, the creation of awareness / commitment banners and display and training aids. An example includes:



# OCCUPATIONAL HEALTH & SAFETY



## Vision Zero

A culture that believes all incidents are preventable and zero incidents are achievable.

### Facilities Achieving Vision Zero in 2023

- Trailer - Mississauga, Canada
- Trailer - Queretaro, Mexico
- Trailer - Mitchell, South Dakota
- Spring Europe - Douai, France
- Spring Europe - Sibiu, Romania
- Spring Europe - Wellingborough, UK
- International - Dandenong, Australia
- International - Pune, India
- International - Jinan, China

### 2023 Safety Leader Program

Over 300 frontline leaders, including supervisors, area coordinators and team leads, playing an instrumental part in managing occupational safety and health, participated in our 2023 Safety Leader Program. Micro-learning videos were assigned every two weeks, with participation averaging 90.4%. This program was well received by our frontline leaders and will continue into 2024.

### 2023 Safety Leader Topics Included:

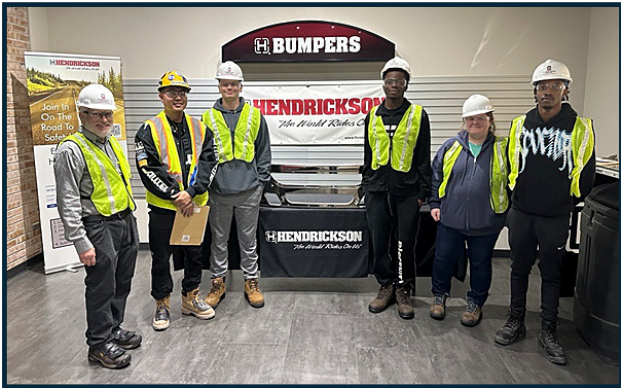
- Overview of Slips, Trips & Falls
- Machine Guarding – Nip & Pinch Points
- Severe Weather Preparedness & Response
- Using Tools Safely (Hand/Power Tools) Heat Stress
- Lock/Out-Tag/Out
- PIT Pedestrian Safety
- Loading Docks & Trailer Safety
- Overview of Confined Spaces
- Leadership Messages from Matt Joy, Richard Mudd and Jeff Wittlinger





# OCCUPATIONAL HEALTH & SAFETY

Scott Lasky and Bill Linneweh, both alumni of the Northern Illinois University (NIU) Graduate Safety Degree Program, collaborated with Hendrickson Bumper and students from NIU on a project centered around job safety analysis and the implementation of machine guarding for mechanical power presses.



## HENDRICKSON BUMPER / OSHA SAFE + SOUND WEEK



Hendrickson Bumper participated in OSHA's Safe and Sound Week with a week-long agenda of safety activities. The week's activities included testimonials, annual hearing testing, a 5S event, training and more!



# OCCUPATIONAL HEALTH & SAFETY

According to Liberty Mutual and their 2022 Workplace Safety Index - Liberty Mutual Business Insurance, ergonomic injuries resulting from overexertion from handling materials, overexertion from awkward postures and repetitive motions are at the top of the ergonomic hazards list. In 2016, the Safety Excellence Team introduced the Ergo Excellence Awards to recognize sites tackling some of the most challenging ergonomic hazards at their workplace. Sites present their Ergo Excellence projects to a panel from the Safety Excellence Team. Scoring is based on six categories: innovation, simplicity, cost savings, ergonomic risk, teamwork, and presentation quality. The top three scoring sites are recognized with the Ergo Excellence Award.

## Previous Award Recipients

2022	Torun, Poland	Somerset, KY	Chatenois, France	
2021	Judenburg, Austria	Kendallville, IN	Lebanon, IN	
2019	Lebanon, KY	Sibiu, Romania	Somerset, KY	Canton R&D, OH
2018	Judenburg, Austria	Lebanon, IN	Hebron, OH	
2017	Joliet, IL	Chatenois, France	Kendallville, IN	
2016	Judenburg, Austria	Lebanon, IN	Stratford, Ontario	

## 2023 Ergo Excellence Awards

We are pleased to recognize **Canton, Navarre and Joliet** with the 2023 Ergo Excellence Awards.

The following sites participated in the 2023 Ergo Excellence Awards.

- Berea, KY
- Canton, OH
- Chatenois, France
- Chattanooga, TN
- Clarksville, TN
- Dayton, OH
- Douai, France
- Elizabethtown, KY
- Hebron, OH
- Joliet, IL
- Lebanon, IN
- Lebanon, KY
- McKinney, TX
- Mitchell, SD
- Navarre, OH
- North Canton, OH
- Somerset, KY
- Torun, Poland

In addition to the above winners, beginning this year, we are recognizing best-in-class recognition for innovation, simplicity, cost savings, ergonomic risk and teamwork.

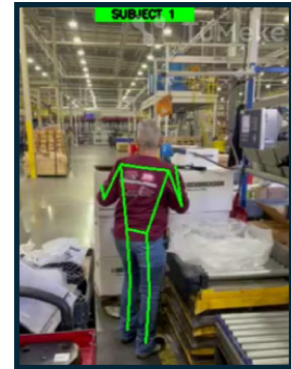
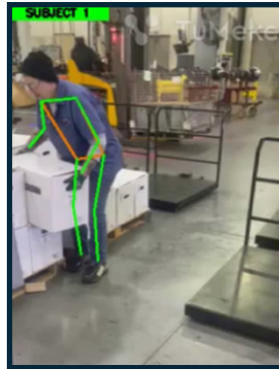
<b>Innovation</b>	The entry represents newly created devices or processes (for workplace solutions) or was created or significantly improved through study and experimentation.	North Canton, OH
<b>Simplicity</b>	The solution is simple and straightforward.	McKinney, TX
<b>Cost Savings</b>	The entry provides an attractive Return on Investment (ROI).	Chattanooga, TN Torun, Poland Clarksville, TN
<b>Ergonomic Risk</b>	The solution or education approach significantly reduces or eliminates ergonomic risk.	Chatenois, France
<b>Teamwork</b>	The solution involves participants from across multiple functions.	Lebanon, IN

## 2023 Ergo Excellence Award Winner Snapshots

### Navarre, OH

#### Air Springs at Parts Box Kitting Ergo Improvements

Ergo improvements include: programmed air spring scanning operations to reduce handling of 28 lb. springs; added foot controlled lift conveyor; added extension arm scale interface; added padding to conveyors made box height adjustable to the operator.



### Joliet, IL

#### Compression Former Shoe Change / Handling Ergo Improvements

Ergo improvements include: rearranged shoes stored in the compression former area to minimize lifting; created a shoe transfer cart to eliminate lifting; created added thread holes to shoes so that they can be lifted with a jib crane.



### Canton, OH

#### Bullard Platform Ergonomic Improvement

Ergo improvements included: substantially increased ergonomic comfort for the technicians, drastically reduced safety hazards and created a lightweight all-in-one stow-and-go unit for ease of operation.



# **CONTINUOUS IMPROVEMENT**

# CONTINUOUS IMPROVEMENT

## CLARKSVILLE PAINT LINE

The Clarksville, TN Hendrickson facility has nearly completed the construction of the state-of-the-art \$8.5M new paint line. The previous paint line in Clarksville, built approximately 25 years ago, was initially designed for a daily production capacity of around 360 suspensions, which was later expanded to 550. The new paint line boasts an impressive output capability of 650 suspensions per day, with the potential to increase to 850 suspensions through the integration of additional robotic systems. This marks an 18% increase in production compared to the previous paint line.

In a strategic move to mitigate potential risks, the new paint storage facility has been relocated to an external building positioned on the east wall of the factory adjacent to the new paint line. This differs from the previous layout, where paint storage was situated on the production floor. The paint storage facility has a state-of-the-art monitoring system that will work in tandem with scales to ensure residual paint material is used and mixed appropriately, where the paint will then be pumped on demand to the spray booth. This updated process will significantly reduce the generation of hazardous paint waste at the facility.

Automation takes center stage in the new paint line, with all painting processes executed robotically, eliminating the requirement to manually paint the suspensions. The regulated and robotic nature of the process has resulted in a 10% improvement in paint application efficiency by minimizing waste.

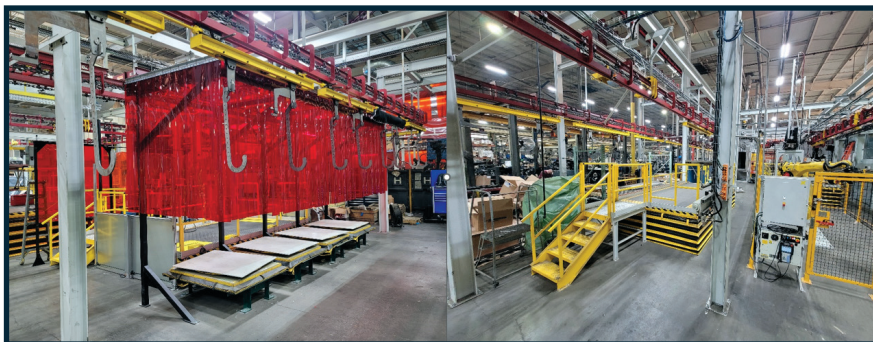
Unlike the manual loading, Axle Cleanout Unit (ACU), and paint application processes on the old paint line, the new paint line's loading procedure involves operators at



suspension weld scanning the suspension before releasing the pallet to the paint line. This innovative approach eliminates the need for paper speed builds at the paint prep area, as the carriers for the paint line utilize RFID technology to store and transmit information from the speed builds, ensuring accurate and efficient data transfer. This replaces the former practice of storing paper copies of speed builds in the spindle beneath a mocap and significantly reduces the risk of paperwork loss. After the robotic cell, only one paint operator is necessary for touch-ups. The ACU process has also undergone automation, enhancing overall productivity and eliminating the need for manual intervention.

Following the painting process, suspensions are routed to their designated lines based on the information stored on the carrier. To ensure safety and prevent potential falls, an overhead storage queue with wire cage drop protection has been constructed. This queue not only surpasses the storage capacity of the old paint line but also serves as a buffer in the event of a paint line shutdown, thereby minimizing production interruptions.

We are incredibly proud of this achievement and look forward to the positive impact it will have on our operations. Stay tuned for more updates as we continue to lead the way in innovation and excellence at Hendrickson Clarksville.

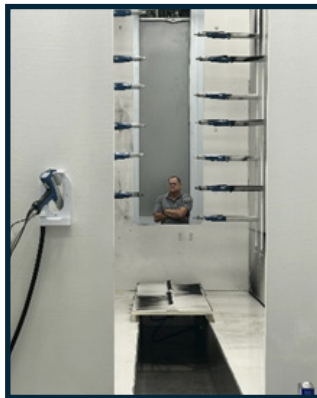


# CONTINUOUS IMPROVEMENT

## BEREA POWDER COAT LINE

Berea, KY, is truly a melting pot of Hendrickson and Motor Wheel products and cultures. People and processes from all over Hendrickson are now residing in the Motor Wheel Berea plant. Each product line that leaves the facility has various coating application requirements, so Hendrickson performed an analysis to find common ground in a decision to install a powder coat line on site.

The Truck division needed the highest possible quality finish for their products, while the Trailer division loose axle products needed speed and efficiency to handle volume. The truck division's driving product is a heavy 8'x8' frame for the Gillig Rear LUXAIR™. The BWE group's driving product was the TRLAXLE®, which needs only a small 2' x 2' window to properly paint.



The powder coating line in Berea will be as versatile as it is efficient. Utilizing a 7-stage zirconium pretreatment wash line, Nordson's quick color change powder coat system,



including an automatic powder coating booth and a multi-lane cure oven to allow for varying cure times, the system will allow the Berea team to nimbly handle a broad range of customer requirements.

The new powder coating line will be fully operational near the end of Q1 2024 and will be running TRLAXLE, LUXAIR, as well as Brunner brake tables with AAXTREME COAT technology.

One of the biggest benefits of this powder coating line is the environmentally friendly impact. Where similar lines might utilize an iron phosphate or zinc phosphate

wash line and require expensive and environmentally hazardous waste to be removed from the plant for treatment, Berea's wash process will have no hazardous waste to be removed, and all process waste waters will be treated so that it's safe to return to the city sewer system. Additionally, standard spray coating applications emit Volatile Organic Compounds (VOCs) into the atmosphere and commonly require the use of solvents, while the powder coat process eliminates these emissions.

Additionally, a new approach to part conveyance was taken with this line. Intellitrak was chosen over the traditional chain driven power-and free systems used in other locations, as it will provide more flexibility to handle the different product family requirements. Instead of the whole conveyor traveling at the same speed continuously, carriers on this line will be able to speed up and slow down as required by the process. This allows for much smaller ovens and pretreatment stages, conserving valuable floor space in the plant and delivering the same high quality that our customers require.

Both our customers and the team in Berea are looking forward to the completion and start-up of the line. We believe the state-of-the-art line will be critical in the continued growth of the Brake and Wheel End Group as well as the Hendrickson Truck Commercial Vehicle Systems.







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