

MINIMIZING THE IMPACT OF **LABOR SHORTAGES** IN THE WASTE INDUSTRY

There's no room for short-term strategies.



**Environmental
Solutions Group®**

a **DOVER** company

An Environmental Solutions Group White Paper

The Challenges

Like all businesses nationwide, the Waste Industry has experienced unprecedented COVID-related challenges since the pandemic first entered the world stage in 2020. Although waste collection services were allowed to remain in operation through classification as an essential industry, both private and municipal waste collection fleets have faced issues that even the most forward-thinking planners could never have anticipated.

To compound matters for the refuse industry, massive company shutdowns resulted in a dramatic increase of the public being confined to their homes. As a result, the volume of residential waste increased exponentially as home-bound residents discarded more trash and used the time off to perform major house cleaning activities. With an already reduced labor force and significant increases in residential waste being left at the curb, a “perfect storm” of challenges was created for an already-overwhelmed industry.

News of vaccination developments and pandemic decline gradually provided a glimmer of hope that the waste industry was finally on a path back to normalcy. Much to their dismay, the “post-COVID” labor phenomenon would pose an even greater challenge than the initial pandemic.



Although hiring rates have outpaced “quit rates”, what has become known as “The Great Resignation” or “The Great Reshuffle” has had significant impact on staffing levels in the waste industry. A complex and controversial topic highlighted in countless online resources, the adage “You can’t change the wind, but you can adjust the sails”, offers a much healthier and productive approach to dealing with the current labor crisis.

As one of the nation’s most resilient industries, the solid-waste sector is no stranger to change and has a long history of evolving to thrive in the midst of unprecedented challenges. Rather than dwelling on the problem, successful haulers have quickly embraced the opportunities that exist, enabling them to remain productive and profitable, while those doing things the way that they have always been done, continue to struggle.

The Opportunities

As the industry's leading innovators in solid-waste equipment and technology, Environmental Solutions Group (ESG) has always recognized the critical need for real-world solutions that allow waste haulers to operate at peak efficiency and profitability.

As part of ESG's mission of Improving Lives, we are driven to continuously lead the way in the development of cutting-edge technology and equipment solutions that maximize productivity, increase safety, improve operator satisfaction/retention, reduce stress, and deliver healthier bottom lines.

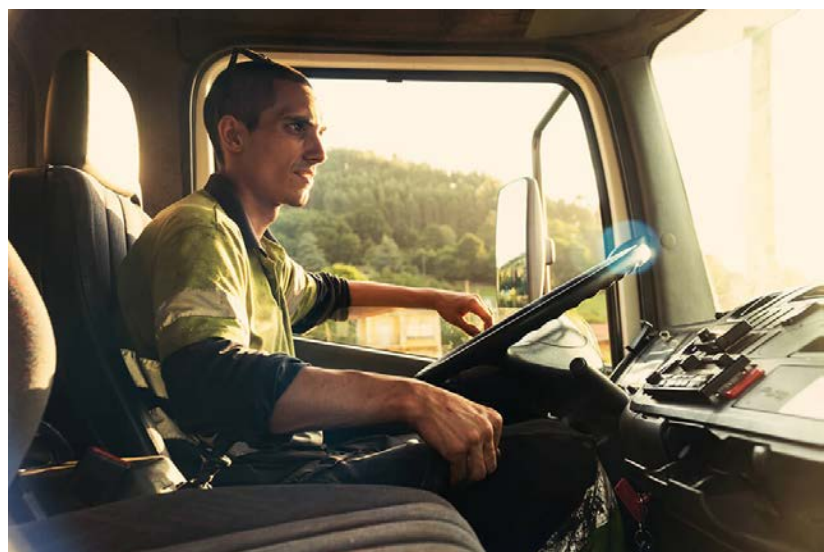


This article will describe some of the ways that successful waste organizations have utilized technology and automation, enabling them to do more with less, achieving maximum efficiency, increasing operator safety, productivity, and retention, all with fewer employees. Lastly, we will introduce industry-changing technology, allowing for automated functions that would otherwise require additional employees to accomplish.

Utilizing Technology to Maximize Efficiency with Fewer Employees

ESG's Connected Collections™ comprehensive fleet-data strategy provides a rich stream of data and data-driven options that improve operator performance, maximize efficiency, and automate the communication of information between the vehicle and back-office/service shops. Most importantly, functions are performed passively and eliminate the need for manual actions by drivers, office staff, or shop personnel.

The following are a few of the top time and labor-saving technology solutions to increase efficiency, productivity, and profitability with fewer employees.



Routing Efficiency

Planning waste-hauling routes can be a time-consuming and complex logistical challenge with countless factors requiring on-the-fly adjustments and communication to operators on the street. Performing this task manually often requires a full-time team to accomplish, while standard routing software is not designed for the complicated factors involved with waste hauling routes.



Mobile-Pak and Map-Pak software from Soft-Pak provide intelligent turn-by-turn route guidance, real-time productivity status, and real-time communication between dispatch and the operator, for immediate workload revisions via the durable in-cab tablet. Custom-designed for waste industry routes, Soft-Pak routing solutions provide the most efficient and flexible turn-by-turn mapping, while saving countless hours of wasted labor by office and operator personnel.



Map-Pak is the most powerful and cost-effective mapping application on the market - providing a clear map, display of all routes, and individual stops within the easy-to-use Soft-Pak dispatching center. By clicking on any stop, users are able to verify account information and services performed. Select any criteria to view various route types, (same day routes, weekly routes, or different route types on different days). Visually identify overlapping stops and make the necessary changes to move stops and improve efficiencies. A truck's GPS location can be viewed in real-time, allowing dispatch to make on-the-fly decisions easily for unbeatable productivity.

Soft-Pak offers the ability to optimize waste-hauling routes by leveraging the industry's most powerful re-routing tools. If a route re-sequence is required, users can automatically make adjustments in the Soft-Pak operations center, which leverages its seamless integration with RouteSmart for better route manageability. For additional flexibility, Soft-Pak also offers integration with aptitude for the re-sequencing of one route or to organize daily cart-delivery routes.

Maximizing route efficiency is one of the easiest, most cost-effective methods to keep each truck and driver efficient, productive, and profitable – Soft-Pak makes it simple.

Eliminate time-consuming “Go-Backs” with Positive Service Verification

Anyone within earshot of a waste-fleet receptionist is all too aware of the regular stream of phone calls from irate collection customers complaining that their trash wasn't picked up, and demanding immediate service.

For years, fleets have struggled with these complaints, leaving them with the costly choices of dispatching a second truck to service the account, or face potentially losing the customer, often resulting in harsh negative reviews that can have a devastating impact on future business. For haulers with municipal contracts, multiple complaints can even lead to the loss of lucrative city or township accounts. In addition to the stress and potential loss of business from missed pickup complaints, the labor required to dispatch single trucks for individual service calls is incredibly costly, particularly for fleets without sufficient drivers to service even standard routes.

As most missed pickups are a result of blocked, improperly placed, or “not-out” containers, dealing with service complaint calls is a source of great frustration for waste hauling fleets. Early attempts at solving the missed pickup complaint issue required drivers to manually get out of the truck and take photos with a mobile phone or tablet to document the reason why a service could not be completed. Although this method provides basic causal documentation of a missed pickup, it requires the driver to manually exit the vehicle, pull out a phone or tablet, take a photo, and send to office staff. Additionally, this method can become costly for fleets and is an inefficient use of time and available resources.

Fortunately, groundbreaking Verif-Eye 3rd Eye Service Verification technology provides haulers with a powerful solution that instantly eliminates costly go-backs and dramatically improves customer communication and satisfaction.

Verif-Eye is the first solution that automatically provides fleets with a single consolidated record of each stop, all without requiring manual action from the driver - readily accessible in the simple, easy to understand Eye-Site dashboard. Detailed photo or video documentation, including time stamp and GPS coordinates, and all associated details of the service are all right at a fleet's fingertips.



With Verif-Eye, when service cannot be performed due to a customer-caused issue, fleets can proactively contact the account to inform them of the issue, or have detailed documentation instantly accessible to neutralize angry calls by simply helping the customer understand why service was unable to be performed. When faced with irrefutable documentation of service-preventing issues at a stop, customers recognize the hauler's commitment to customer service, and as an added bonus, are far more likely to understand their part in assuring successful service. This results in a modification of customer behavior, decreasing the likelihood of future blocked, missing, or improperly placed waste containers. A win for productivity, efficiency, and customer satisfaction.



[**Learn how 3rd Eye Verif-Eye can increase your productivity and customer service.**](#)

Seamless Integration With Billing

With over 1-million data points generated per truck per day – along with asset positional information, Soft-Pak and 3rd Eye provide revenue-generating solutions, such as overloaded container and contamination recognition, as well as cost-reduction solutions, like additional excise tax recovery, identifying “not outs”, or blocked containers. All of this information is automatically ported to Soft-Pak’s back-office solutions for additional customer reporting and billing.

Soft-Pak also helps fleets better utilize their assets with in-cab tablet solutions like Mobile-Pak™, which when linked to Map-Pak™ – allowing fleets to service new customers in real time without the nuisance of paper-route sheets or missed pickups.

Further, with Soft-Pak in their corner, fleets can communicate with their customers if route collection is delayed due to traffic conditions or other interruptions. All of this is possible right now to help make better decisions, faster.



[**Learn how Soft-Pak can streamline billing and increase revenue - without additional staff**](#)

Increase Fleet Uptime that Reduces Shop Labor and Personnel

Garbage truck maintenance is challenging due to a number of factors that impact overall business performance – starting with the number of vehicles modern fleets have to manage, and the reduced number of shop employees available to accomplish this task. With shortages of shop personnel and supply chain constraints affecting new vehicle deliveries, keeping trucks in peak operating condition with existing staff is more critical now than ever in order to ensure a successful operation.

While vehicle and body technologies have grown dramatically over the last decade, the means to collect data from refuse collections vehicle has lagged – often resulting in reactive maintenance campaigns that only tackle repairs after vehicles are out of service, or down on route. This in turn impacts fleet productivity and customer service, ultimately leading to the need for an increased number of shop staff and spare vehicles, both of which are simply not an option for most fleets struggling with post-COVID challenges.

Fortunately, 3rd Eye has introduced Optim-Eyes, a quantum leap forward in the ability of haulers to see the future of their fleet's maintenance needs. This innovative technology advancement provides a cost-effective means to passively collect data from refuse collection vehicles, providing solutions that specifically address these challenges - reducing labor costs, increasing performance, minimizing the need for spares, improving relationships with customers, and ultimately, growing bottom lines.

Optim-Eyes passively monitors vehicle performance and automatically detects vehicle maintenance issues BEFORE they become a problem. Optim-Eyes' unique AI time-advanced fault-code detection works to accurately predict maintenance issues two to three weeks before they become a problem, often reducing maintenance costs by 25%, troubleshooting time by 70%, and increasing fuel economy by 27%.



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25%



Reduces Troubleshooting Time By:

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Increases Fuel Economy By:

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Optim-Eyes automatically communicates what to fix AND how to fix it; including the engine, brakes, coolant, both diesel and CNG fuel systems, electrical systems, and exhaust, not to mention how weather impacts the vehicle's performance. Having a detailed diagnosis of each vehicle on this granular level reduces errant parts inventories and ultimately reduces the need for additional mechanics and fleet spares to compensate for unanticipated breakdowns.

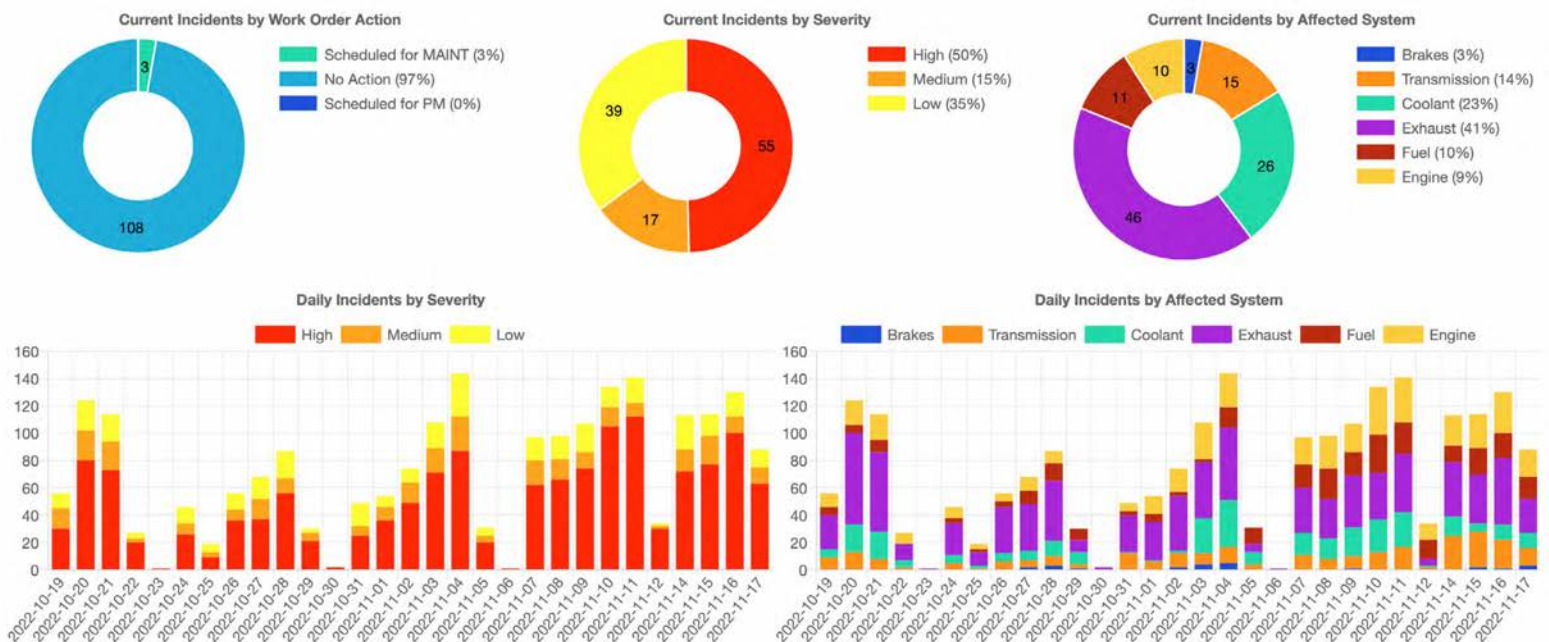
In addition, Optim-Eyes automatically opens work orders in your system, prioritized by severity level. Diagnosis includes a low, medium, or high severity level to allow for efficient shop labor scheduling and part planning. Each event automatically orders parts and opens work orders in your fleet maintenance system and provides fleet owners with extensive comprehensive asset-based fleet health assessments.

This next-level technology with passive data collection is incredibly simple to use. With the state-of-the-art 3rd Eye RCV J1939 gateway, telemetry data, or “heartbeat” from the chassis and body, is passively collected, processed, and displayed in the 3rd Eye Eye-Site portal.

Optim-Eyes deployment is incredibly simple and cost-effective. An out-of-the-box solution, with data available on day one, integrates with your maintenance ERP system, activated by email. No driver interaction is required, and an intuitive, color-coded dashboard is provided for easy visual reference and fault identification, allowing for immediate action or deferred maintenance – all saving shop labor, downtime and time spent waiting for parts.

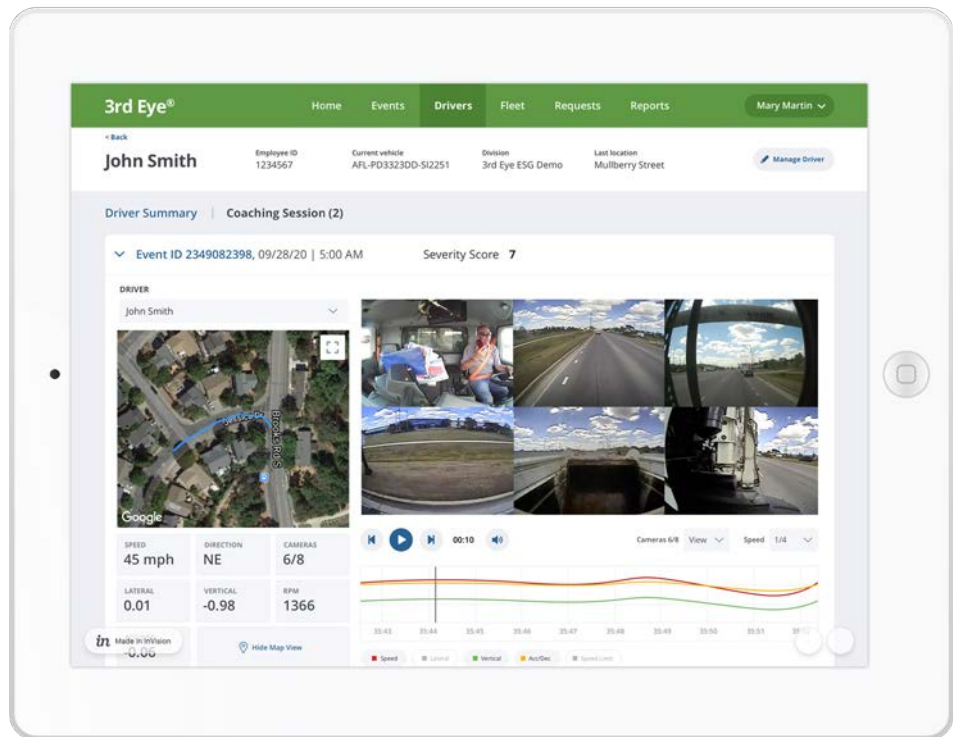


Learn how Optim-Eyes can Improve Fleet Uptime with Existing Shop Personnel



Safety/Coaching

With fleets struggling to hire additional drivers and retain existing operators, keeping drivers safe, well trained, and empowered is now more important than ever. The waste industry's most advanced fleets have discovered that technology can easily provide the information needed to develop highly successful safety and driver-coaching programs that increase driver safety and retention, reduce liability, reduce labor shortages from injured or suspended drivers, and maximize productivity.



3rd Eye, safety video – captured in real time from up to eight heavy-duty camera inputs, is ported to the 3rd Eye review team to identify unsafe behavior, and to provide fleet owners with a complete overview of what the driver sees, and what they don't see. Video findings provide invaluable input that can be used for positive coaching events, as well as post-accident fault mitigation.

With reinforced driver-coaching programs, vehicle monitoring, and waste-technology integration, driver retention is dramatically increased. Utilizing 3rd Eye creates safer fleets, decreases liability incidents, and provides better training opportunities for the waste-industry as a whole.



3rd Eye can automatically provide real-time detection and notification for the following common safety events:

- **Speed-limit sign detection**
- **Traffic-sign detection (stop sign/light)**
- **Vehicle-proximity detection (tailgating)**
- **Distractions (smoking, cell phone use)**
- **Vehicle and driving-lane recognition**

[Learn more about 3rd Eye fleet solutions.](#)

Do More With Less by Utilizing the Right Refuse Collection Equipment

In a highly competitive industry, choosing the right waste collection equipment has always been an incredibly critical decision for refuse haulers. Post-COVID labor shortages have added even more importance to this decision. With increased efficiency, safety, and productivity, fleets can successfully collect greater volumes of waste faster, and with fewer operators.

For waste haulers struggling to meet collection demands with the current number of employees, there is good news! By considering vehicle choices that successful fleets have found can increase efficiency, haulers have the ability to keep up with route demands while utilizing significantly fewer operators.

The following are several of the top ways that successful fleets are able to increase productivity while requiring fewer operators:

Half/Pack LowRider Automated Front Loader

The ultimate in route efficiency

One of the best-kept secrets of highly profitable waste collection fleets is the mega-efficient Heil Half/Pack LowRider Automated Front Loader equipped with The Curotto-Can.

The LowRider's low-profile and lightweight body combines the massive capacity and compaction of a front loader, with similar benefits of an automated side loader. With a body height 12" lower than a standard front loader the LowRider can operate in residential areas with bridges and low wires. In addition, weighing 4,150 lbs. less than most front loaders, the LowRider's increased waste capacity allows it to service more customers and pack up to two tons more payload, increasing the time on route and requiring fewer trips to the landfill or transfer station.

In addition, Heil's Lightning Cylinders have a 23% faster container dump cycle when compared to a non-Lightning equipped front loader. Combine all of this with smooth Odyssey® Controls for more uptime by eliminating prox switches, cylinder cushions, air lines, or MAC valves. In addition, Odyssey's smooth operation provides a dramatically improved driver experience by eliminating body-jarring cab shake, a major driver complaint and cause of long-term injury.



The LowRider handles ANSI-compliant containers with ease, and with optional Heil Autonomous Lift Option (H.A.L.O.), operators have the confidence to be safe and productive on day one without the risk of windshield or cab damage. H.A.L.O. handles the complete container leveling and dump cycle with the push of a single button. For fleets with high turnover and drivers unfamiliar with a front loader, this is a game changer. For experienced operators, it's just easier and quicker than using manual controls.



When combined with The Curotto-Can®, the LowRider becomes the most productive residential collection vehicle on the road. With eyes-forward, operators are safer, contamination is identified at the source and no carts are lost. With the Curotto-Can, fleet owners have the ability to handle take-all routes and won't need a second truck to handle bulk collection.

The Curotto-Can automated carry can has the fastest load time of any automated system on the market and delivers a proven 25% to 30% productivity advantage over already efficient automated side loaders. By using the robust reliability, additional capacity, and compaction power of a front loader, The Curotto-Can delivers game-changing performance that enables haulers to service more customers, in less time, and in more applications – all with a single operator.

In addition, the following are just a few additional examples of how an ASL equipped with Curotto-Can can further keep drivers happy, safe, and productive, allowing fewer operators to do more with less:

- **Fastest load time available — 4 to 5 seconds from wheel stop to wheel go.**
- **Eyes-forward operation enhances operator and public safety as well as reduces the risk of repetitive stress injuries, keeping operators safe and on the route.**
- **Hopper is 4x larger than an ASL (capable of taking large bulk). A single operator is able to load bulk material with easier access to container waste and eliminate the need for a chase truck.**
- **Better operator experience due to less cab shake and no strained necks from craning to monitor ASL arm functions.**
- **Less down time. If maintenance is needed, simply swap out the can or remove it for commercial collection. The truck is back making money in no time.**

Learn more about how the [Half/Pack LowRider](#) and [Curotto-Can](#) can dramatically increase route productivity with fewer drivers.



Automated Side Loaders

Reliable Performance with a Single Driver

Some of the industry's largest and most successful companies and municipalities have discovered the huge productivity boost that can be achieved through the use of automated side load (ASL) vehicles.

Since the origin of the waste industry, rear load garbage trucks have been the staple of refuse collection routes. A typical rear-loader requires a driver and multiple operators for each vehicle, doubling or tripling the number of employees needed to service a route. In addition, the manual process of operators jumping off the vehicle, wheeling carts to the vehicle, hoisting them into the body to empty, and returning the cart to the curb is a time consuming, labor-intensive process, not to mention the serious safety and injury risks to operators performing these functions in the street.



Although rear load garbage trucks will have a place in many refuse collection fleets for the foreseeable future, ASLs provide a quick and easy way to immediately reduce the number of operators needed per route and increase the productivity and efficiency of existing drivers.

Through the use of a vehicle equipped with an automated arm, ASLs allow a single driver to quickly and easily grab, dump, and return containers with a single fluid motion, allowing the driver to remain safely in the cab during the entire process.

A leader in the design of ultra-efficient automated side loaders, Heil provides haulers with a multitude of choices to best accommodate individual fleet and collection needs. With their long reaches and superhero-level strength, Heil ASLs are the workhorses of residential or commercial fleets, and are products of years of innovation and engineering.



Learn more about the labor-saving [Heil Automated Side Loaders](#).

Where to Go from Here

Despite the numerous COVID-related challenges that continue to face the waste industry, haulers have numerous options to increase their productivity and minimize the impact of labor shortages, without requiring additional employees.

Environmental Solutions Group is committed to Improving the Lives of their customers and welcomes the opportunity to work with haulers of any size by performing a free analysis of individual fleet needs and providing a complimentary demonstration of available equipment and technology solutions.



For additional information, or to request a free demo, contact your local representative by visiting www.heil.com/dealer-locator



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