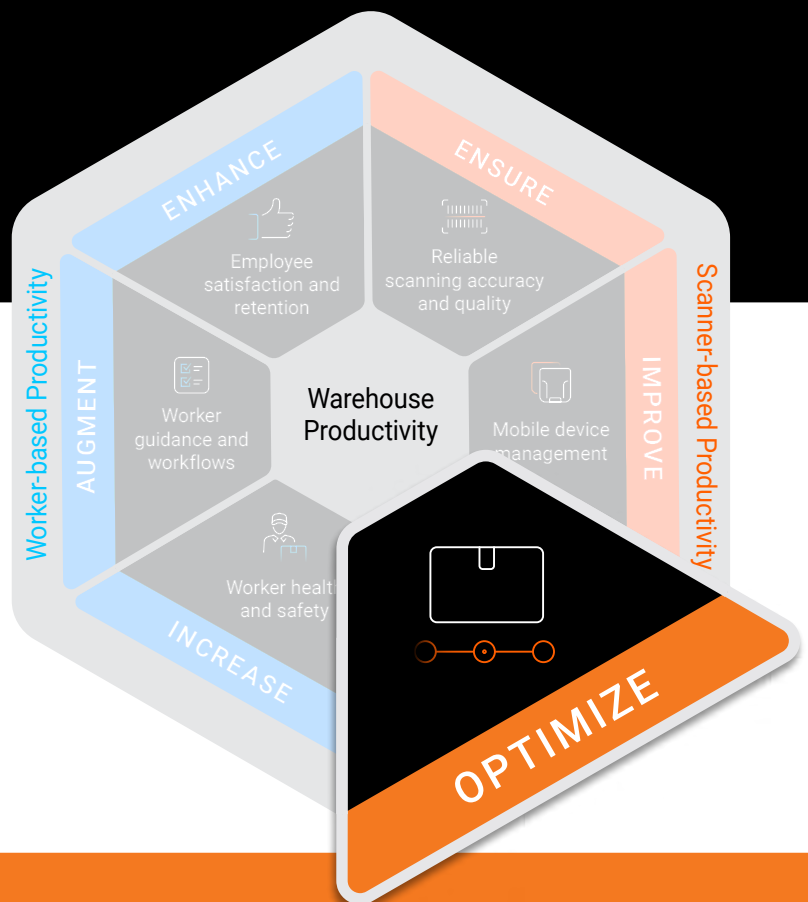


Where productivity starts

# Optimize processes and layout

## Six solutions paths to warehouse productivity

Investment in any individual path is a strong lever for productivity improvement. Together, they optimize the building blocks of barcode scanning: speed; accuracy; worker satisfaction.



## Streamline processes and layout to be faster and more accurate

ProGlove puts new tools and technology in, and on, the hands of warehouse workers. Our combination of innovative hardware and software solutions provides management with new tools to optimize processes and layouts.

Faster scanning

Up to **6** seconds  
per scan

Reduce errors

**33%**  
fewer scanning errors

Gain worker buy-in

**95%**  
worker approval rating

# Increasing productivity as demand escalates

Warehouse operations must confront both escalating customer demands and supply chain disruptions on a daily basis. In our recent survey, [Productivity in the Warehouse](#), increasing productivity is by far the greatest concern of warehouse managers and productivity innovation leaders. It is the impact their companies require to maintain their customers' satisfaction.

Their top two priorities:

**72% improving processes and workflows**

**67% optimizing space and layout**

The reality is that most of the productivity gains made possible by current technology have already occurred. Driven by existing systems, warehouses are laid out to maximize space, not productivity or efficiency. Therefore, warehouse operations need the ability to better connect layout and process.

ProGlove devices generate an immediate improvement in the speed and accuracy of scanning. They also generate new worker-based data from the shop floor. This data provides management with the insights to optimize warehouse processes and layouts. This is without complex WMS programming, but with a direct feed to your business intelligence tools.



# Refining processes, gaining efficiencies

There are the collection of activities, or the six key processes, that, together, comprise warehouse functionality:

**1. Receiving:** This is where it all starts, where the packages, the goods are delivered, and along with them, the ownership and responsibility. It's critical that the warehouse determines these are the right goods in the right quantity, at the right time, in the right condition.

**2. Put-away:** Goods are moved to what should be the optimal location. The determination of what is optimal has a huge effect on both processes and productivity.

**3. Storage:** Warehouses have much more information, and thus greater ability, to maximize available space than to increase labor efficiency.

**4. Picking:** This is where the customer's order is introduced. It is the central warehouse process and comprises 55% of operating expense (and 40% of overall effort). Accuracy is of great concern.

**5. Packing:** Per the customer's order, the consolidated items are boxed and made ready for shipment. The warehouse must ensure that the order is complete and the items are undamaged.

**6. Shipping:** The goal is OTIF, on-time, in-full, every single time.

In addition to accuracy, primary concerns also include speed, or the velocity with which processes can be completed and goods moved through the warehouse, safety, and worker satisfaction. Management needs the insight to optimize every step the worker takes.

We believe that there is substantial room for productivity improvement within processes, especially if the linkage to layout is maximized. For instance, within the picking process,

- Goods can be stored, and located, with increased speed and efficiency.
- The time required for a worker to find the right product is minimized
- Safety is increased, both for workers and the goods
- Space is used more intelligently and productively.



# A deeper understanding of the shop floor

The shop floor layout is a primary contributor to the overall productivity of the warehouse, which includes its ability to control errors, cost, and ship on-time, in-full. The concept of layout includes warehouse staging areas, tools, inventory protocols, and various conveyances and machinery.

In our recent survey, **43%** of warehouse managers and productivity innovation professionals say that one of their top challenges is poor layout and space utilization.

A process or functional layout is the way the floorplan of these facilities are designed, grouping equipment by the functions they perform for maximum efficiency. Process layout levels or organization are:

- The location(s) or the warehouse(s)
- Process groups – which are the six key warehouse process discussed earlier
- Processes and subprocesses – which can be specific to coordinating timing (deliveries) and shift.

The goal of layout is to maximize the available space while facilitating the warehouse operations and improving throughput. It is necessary to continually look for current, identifiable patterns and bottlenecks. Ideas to help improve current performance include:

1. Regularly schedule a critical assessment of how your warehouse layout and processes are working or not working. This includes asking workers to review and comment on the shop floor layout.
2. Using a digital twin of your warehouse will help you to experiment and realize changes and improvements to meet anticipated needs for increased production and safety.
3. Evaluate what's happening on the shop floor, concentrating on work stations, to identify improvements.
4. As possible, gain access to shop floor data and relevant business intelligence reports.

It is also necessary to optimize the layout when there are significant market changes, and/or new data becomes available with the potential to impact warehouse productivity.

Many companies are reevaluating warehouse layouts with the occurrence of: omni-channel retail to integrate the shopping experience across web and mobile devices. This greatly increases the number of orders; supply chain disruptions, making a mess of inventory management; and the diversity of the size, weight, and handling requirements of new products.

## ProGlove brings simplicity

An organization should focus on optimizing warehouse processes and shop floor layouts when:

- Increasing storage capacity, introducing a new operation, or the warehouse becomes too small.
- There is a need to redistribute the storage systems, get more out of the available space or assess the possibility of automating processes.
- Using software to identify and analyze problems in the logistics facility - software that is designed to structure the huge amount of data generated and convert it into useful information that improves decision-making.

How can warehouse productivity take a big leap forward in optimizing processes and layout? Through simplification.

“Almost all quality improvement comes via simplification of design, layout, processes, and procedures.”

**TOM PETERS**

Simplification, in the face of sharply escalating complexity is difficult. Solving the puzzle requires new ideas driven by new technology. Our innovation is based on a relatively simple fact - the one function that is common to all processes is barcode scanning. That is the richest source of warehouse productivity improvement available today.

- Lightweight, wearable, ergonomic scanners give workers freedom of both motion and work-related injuries. Their jobs become easier as scanning becomes faster and more accurate.
- On the back of each worker’s hand, these devices are ubiquitous on the shop floor. The data generated by these devices provides unprecedented intelligence on how processes and layout can be substantially improved.



## Additional datapoints to unlock productivity

Quite simply, the data from the shop floor has never before been available to warehouse management, nor made as readily available to legacy systems (WMS and ERP).

### Traditional scanner data (captured in the WMS)

1. What information contains the barcode?
2. When was the barcode captured?

1. Where are most false scans occurring?

2. How long does a false scan take to correct?

3. How many false scan did my workers have this week ?

4. How long did it take my workers to complete their scan list each day?

5. How many steps are my workers taking per day?

6. How close are people coming to each other daily?

7. What happens to scan time when I rearrange my warehouse?

8. How much time is spent each day changing out batteries?

9. Are my workers taking the recommended route each day?

### Additional intelligence (from ProGlove scanners)

# Helping optimize warehouse processes and layout



ProGlove comes with a strong point of view on how and where productivity begins. We have focused our work and our innovation on the potential of the individual worker.

“The human workforce is the center of our universe. We develop integrated hardware and software solutions that can interact with the worker to guide them through their day. Our technology can generate data that will help management to improve workflows, as well as worker satisfaction, safety, and contribution. We aspire to be the innovators, the disruptors that usher in a new era of logistics quality and productivity.”

**Ilhan Kolko, CPO, ProGlove**

From our unique perspective, we have developed advanced technology that delivers data to you and your legacy systems that comes from the shop floor - a bottom-up view of what’s really going on, step by step.

Analysis of this data will provide management with the ability to optimize processes and layout, and enjoy a substantial increase in overall productivity. Here are just some of the capabilities you will gain by adopting ProGlove’s barcode scanning devices and Insight software:

- Build a hierarchy and a representation of your physical environment's process structure using ProGlove's Insight software. Define multiple organizational levels and assign your devices to their respective meaningful groups.
- Close the gaps in your shop floor knowledge through a narrated feed of data, continuously updated and tailored to your requirements. You will gain an understanding of spatial awareness, process layout, and time & motion studies to better understand how your shop environment can be optimized to improve how workers move around.
- See cycle times, walking times, and group activities as clear process steps and identify and act on process gaps.

ProGlove customers report a

**20%**

gain in warehouse productivity.



“Thanks to ProGlove we are no longer tied to stationary processing stations but can process bulky goods anywhere.”

**WERNER KUNERT**  
Deputy Head of Warehouse, DHL

## Processes and layout checklist

- Warehouse operations must confront both escalating customer demands and supply chain disruptions
- 72% of warehouse managers are looking to improve processes and workflows, and 67% to optimize space and layout.
- ProGlove devices generate worker-based data and new insight as into how to optimize processes and layout.
- Data can be consumed easily. WMS programming is not required.

## Ready to work smarter?

Visit [ProGlove.com](http://ProGlove.com) to see how ProGlove addresses 6 individual paths to increased warehouse productivity.

1. Worker health & safety
2. Worker guidance & workflows
3. **Employee satisfaction & retention**
4. Reliable scanning accuracy & quality
5. Mobile device management
6. **Processes & layout**

