# PROMOTE SAFETY AND PRODUCTIVITY IN DC ENVIRONMENTS.

Distribution and Fulfillment Strategies for Thriving in the Face of New World Challenges

Honeywell Intelligrated®

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# ABSTRACT

**Conducting business during the coronavirus pandemic has brought heightened scrutiny to operational safety and the accelerated adoption of e-commerce fulfillment models. As a result, distribution center (DC) managers across all retail sectors are implementing new protocols and workstreams to improve workplace safety and adapt to increased order volumes. This white paper will explore how to implement new measures that establish a comprehensive approach to safety while supporting the need for increased productivity.**

## MARKET TRENDS: ASSESSING THE IMPACTS OF COVID-19 ON DCS

In the span of a few short months, the COVID-19 pandemic has seemingly reshaped the distribution and fulfillment (D&F) landscape. As DC managers are faced with deploying new guidelines aimed at improving workplace safety and employee (and consumer) confidence, consumers are embracing e-commerce to new degrees. While many fulfillment centers remain operational, most were unprepared for these new challenges. This combination of demand spikes and workplace safety protocols created a perfect storm of D&F complexities.

Among the primary impacts of this rapidly changing environment include:

- COVID-19 accelerated the growth of e-commerce 4 to 6 years[1] faster than anticipated.
- Investments in automation and robotics are expected to rise[2], especially as a replacement for non-value-add tasks and processes.
- Sharing of devices is no longer a common practice and is now recommended only in accordance with cleaning guidelines[3].
- Personal protective equipment (PPE) — such as face coverings and gloves — is now a necessity.
- The Centers for Disease Control and Prevention (CDC) recommends a minimum social distance of 6 feet among workers.
- Workers should be continually screened and monitored for the possibilities of elevated temperatures.
- Contactless technologies are preferred to prevent cross-contamination.
- Adherence to personal hygiene standards is integral to improving workplace safety.

1. https://www.forbes.com/sites/johnkoetsier/2020/06/12/covid-19-accelerated-e-commerce-growth-4-to-6-years/#356a056a600f
2. https://www.mhlnews.com/technology-automation/article/21129896/intelligent-robotics-what-to-expect-in-the-postcovid19-era
3. https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-manufacturing-workers-employers.html

# PROTECTING PEOPLE AND PLACES

# 1

**Of course, the first order of business for any D&F operation is to protect their workers and take the necessary steps to promote a safer working environment. An outbreak in a facility could have devastating impacts to both human lives and a company's ability to remain operational. From the moment workers enter a facility to the time they complete their shifts, DC managers have a variety of protocols, processes and technologies at their disposal to help them improve workplace safety and maintain worker confidence.**



## CONTACTLESS BUILDING ACCESS

Non-intrusive facial recognition and thermal scanning technologies allow workers to gain hands-free building access while giving operators the ability to detect elevated temperature levels of employees reporting for work. Honeywell's ThermoRebellion solution incorporates software powered by artificial intelligence to allow each individual pixel captured by the camera to be rapidly assessed for elevated temperature levels in individuals.

## PERSONAL PROTECTIVE EQUIPMENT

PPE for each DC worker is instrumental in meeting the CDC's workplace safety guidelines and instilling confidence in your essential workforce. Honeywell offers a wide range of PPE, including customizable, individual-use PPE safety packs to encourage the use of masks, gloves and wipes in DC environments.

## MOBILE DEVICE TRACKING INTEGRATION

Mobility devices — such as scanners, printers and voice-directed systems — combined with smart software and device-tracking capabilities can help DC managers implement new safety protocols, including: compliance with social distancing; providing cleaning/hygiene instructions; and device check-out/check-in management. Honeywell's suite of DC mobility devices and Honeywell Voice can be configured to perform critical safety tasks — such as monitoring device proximity and issuing social distancing alerts — while enabling remote communication among team members through the Smart Talk application and providing proven productivity enhancements.

## BUILDING MONITORING AND ANALYTICS

A healthier DC improves the well-being, confidence and productivity of essential workers on the warehouse floor. From clean air recirculation, ventilation and filtration to frictionless access and smart monitoring, DC operators need a connected infrastructure that enhances workplace safety. Honeywell Healthy Buildings solutions and Honeywell Forge analytics software deliver worker and workplace analytics, visibility to trends, safety alerts and procedure compliance.



# DRIVING LABOR PRODUCTIVITY

# 2

**Finding, training and retaining qualified labor is frequently cited as the single greatest collective challenge (and operational expense) for companies in the e-commerce fulfillment sector. Unfortunately, the coronavirus pandemic has only exacerbated this trend. Rising wages combined with an ever-dwindling labor pool are presenting daily barriers to meeting throughput targets and maximizing profits. And as e-commerce adoption accelerates much faster than previous industry projections, DC managers need to leverage tools and technologies that drive productivity, keep pace with rising consumer demands, and address new safety protocols.**

## LABOR MANAGEMENT SOFTWARE

Maintaining a stable, productive workforce is essential for DC operational success. Modern labor management software (LMS) has become an indispensable tool for driving worker productivity, managing and measuring employee engagement, and retaining top-performing employees. Not only can an LMS help DC managers achieve maximum productivity from their resources, it also allows them to make informed labor allocations based on order volume, available resources and customer service level agreement (SLA) priorities.

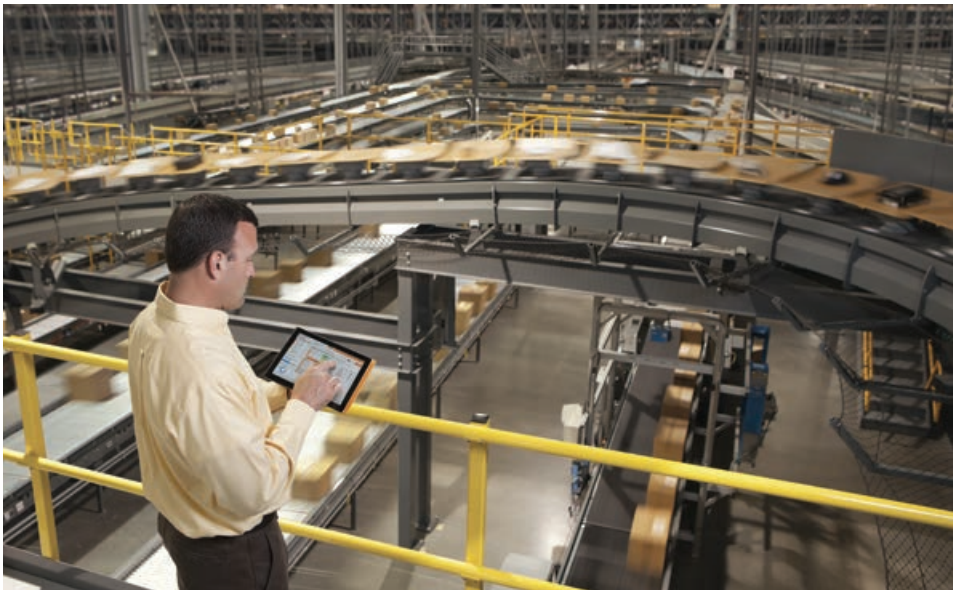
GoalPost® LMS from Honeywell Intelligrated utilizes patented algorithms to detect behaviors that would indicate the potential for employee turnover, so DC managers can take action to retain top performers or proactively replace them.

## VOICE AND MOBILITY DEVICES

From scanners to printers to voice-directed systems, mobility devices are integral to modern D&F operations. While these tools have been used for decades to provide productivity enhancements, today they can also be leveraged to promote adherence to safety protocols, cleaning instructions and new workplace guidelines, such as practicing social distancing recommendations and establishing necessary device check-out/check-in tracking. Equipment and devices are designed with disinfectant-ready housings (DRHs), which utilize plastics capable of withstanding frequent cleaning with harsh disinfectants without compromising their lifespan. These functionalities are available in Honeywell's suite of productivity products as well as Honeywell Voice, which can be configured to provide periodic cleaning instructions (e.g., at the beginning/end of each shift).

## REMOTE MAINTENANCE AND TRAINING

Considering the CDC's social distancing recommendations, in-person maintenance assistance and workplace training may not be an option for many DC operations. Fortunately, augmented reality technologies and distance-learning modules can take the place of these critical functions. TechSight smart glasses from Honeywell Intelligrated enable remote audio and video collaboration with experienced support experts who can provide step-by-step instructions and augmented reality overlays. In addition, the ICampus distance-learning system allows key DC staff members to continue training at their own pace and access the information they need in order to excel at their jobs.



# OPTIMIZING OPERATIONS

# 3

**As the coronavirus pandemic has been driving many consumers to embrace contactless, online fulfillment options, companies across the retail spectrum have been faced with an unexpected acceleration of e-commerce adoption. For both DC and retail store managers, this emerging demand exposed weaknesses in their e-fulfillment capabilities and introduced unprecedented complexities into their operations. Spikes in order volumes dictated shorter fulfillment windows that both DCs and in-store, e-fulfillment models struggled to fulfill. Simultaneously, DC and retail managers were faced with implementing comprehensive facility and enterprise-wide workplace safety measures aimed at improving worker confidence and well-being.**

To meet these emerging demands and prepare for a rapidly arriving and uncertain future, companies are looking for new ways to optimize operations with advanced automation technologies and fulfillment capabilities that improve capacity, productivity and safety in this hyper-competitive, complex marketplace.

## ROBOTICS INTEGRATION

Today, it is more difficult than ever to fill undesirable and potentially unsafe jobs, such as repetitive picking, packing and truck unloading tasks. At the same time, it is becoming more evident that manual labor alone simply cannot keep pace with increasing throughput requirements. Robotics can be integrated into a variety of DC processes to reduce the reliance on manual labor to drive both productivity and safety.

From robotic truck unloading and articulated arm picking to autonomous mobile robots (AMRs) and automated guided vehicles (AGVs), Honeywell has robotics solutions to augment a wide variety of traditionally manual workflows.

## VOICE-ENABLED DEVICES AND ANALYTICS SOFTWARE

For decades, voice technology has been used in DC environments to boost productivity and accuracy while making fulfillment operations more efficient. Combined with analytics-driven insights, this flexible solution can now serve the safety and productivity needs of modern D&F requirements. Honeywell Voice provides advanced data collection, automated documentation and analytics capabilities that allow DC managers to optimize workforce productivity while ensuring compliance with new safety protocols.

## MICRO-FULFILLMENT CENTER (MFC) STRATEGIES



To help shorten the distance between traditional fulfillment centers and their customers, many retailers are augmenting regional DC hubs with rapidly emerging micro-fulfillment center strategies. These highly automated, high-density, small-footprint MFCs can be utilized in stand-alone facilities, installed in dark stores or warehouses, or deployed within existing retail stores to address in-store, e-fulfillment models. Honeywell Intelligrated combines robust automation equipment, robotics and advanced warehouse execution software to help retailers deploy micro-fulfillment strategies all across the retail spectrum.

## DC MONITORING, CONTROL AND VISIBILITY

With so many moving pieces related to employee safety and fulfillment productivity, DC operators need the ability to monitor every aspect of their facility, its people and its assets in real time. This comprehensive view starts by monitoring environmental climate quality, ventilation and the flow of people, and extends to the management of safety, security and building management systems for smart control of access, intrusion and incident response.

Honeywell Building solutions are powered by Honeywell Forge analytics software to provide a centralized dashboard of key facility information and enable autonomous building automation and control. These smart building solutions even make it possible to monitor, track and record the movement of devices throughout a facility.

## DATA-DRIVEN INSIGHTS INTO ASSET PERFORMANCE

DCs that are equipped with connected, internet of things (IoT) infrastructures can leverage the power of operational data to drive DC performance and transition to predictive maintenance programs. Connected Assets from Honeywell Intelligrated allows DC operators to access actionable insights pertaining to asset condition and/or related processes. This system sends real-time notifications of issues impacting operations to predict and prevent unplanned downtime and drive higher asset utilization.

## INTELLIGENT WAREHOUSE EXECUTION

As order fulfillment cycle times continue to shrink, DC managers need warehouse execution systems (WES) and software capable of orchestrating and automating nearly every aspect of the order fulfillment lifecycle — from disparate automation systems and integrated processes to labor management, workload balancing and real-time decision-making. Momentum™ WES from Honeywell Intelligrated is equipped with advanced data science capabilities to give DC managers the decision intelligence to oversee various order priorities and address the ever-changing demands of modern fulfillment operations.

# PARTNER WITH HONEYWELL. PREPARE FOR THE FUTURE.

As the D&F industry adapts to a rapidly changing landscape and prepares for an uncertain future, DC managers need to utilize all available tools, technologies and fulfillment strategies to enhance the safety and well-being of their workforce and maintain peak productivity levels. As a full-service technology provider with deep domain expertise and interdisciplinary solutions, Honeywell is uniquely equipped to help retailers build a foundation for success in the face of these unprecedented complexities.

From PPE and mobility devices to facility management software and warehouse execution systems to robotics and labor management tools, we're ready to help you create a safer workplace where your employees can thrive — and give you the confidence to adapt to whatever the future may bring.



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