



FULFILLD



UNLOCKS:

**FUTURE OF**

**WAREHOUSING REPORT**

**2023**

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# SUMMARY

The logistics whiplash impacting global businesses over the last 18 months has forever changed the dynamics of warehousing. Traditional warehouse management – reactive, static, and monolithic – no longer is efficient and/or effective in proactively anticipating the needs of the customer.

While the Pandemic obviously was a major factor causing world supply chain disruption – warehousing experts believe COVID merely accelerated much needed transformation already ripe for change.

IN THIS REPORT – WE SHARE OUR **TOP NINE UNLOCKS** (ALREADY) TRANSFORMING THE FUTURE OF WAREHOUSING.

**Be Fulfilld**





## DIGITAL-TWIN

Digitizing physical space literally provides a whole new perspective on the opportunities previously invisible to warehouse operations.

Through the use of various technologies such as cellular (4G/5G), ultrawide band (UWB), GPS, optical, etc. - a business can gain insight into the real-time activity of warehouse flow. Harnessing the movement data of workers, products, and connected devices empowers the business to identify, understand, and most importantly act on opportunities for operational improvement.

An estimated 40% of warehouse worker movement is wasteful. Understanding the physical layout of your warehouse and how your warehouse workers perform their day-to-day activities of picking, put away, etc. can help UNLOCK your warehouse.





## ARTIFICIAL INTELLIGENCE

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No longer science-fiction, artificial intelligence (AI) can provide a wide range of business use case UNLOCKS for warehouse operations.

While less prevalent within the traditional warehouse management software (WMS) vendor world, newer Industry 4.0 players have begun integrating, interweaving, and incorporating machine learning optimization modeling into core WMS.

Even low complexity AI machine learning application – such as warehouse worker optimal picking route or improved slotting product placement – can translate into tremendous warehousing ROI via employee time saved, greater productivity, or inventory accuracy.

One of the beauties of AI is its ability to continually improve based on one's specific warehousing environment and corresponding business needs.

AI can transform your warehouse.









## INTELLIGENT ORCHESTRATION

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Warehouses are interdependent ecosystems coordinating sometimes complex, often dangerous, and always business critical activities across a wide network of people, equipment, and devices.

In the past, the scheduling and prioritization of these warehouse events have been dependent and the responsibility of seasoned, experienced, and tested managers with decades of “tribal knowledge.”

Leveraging a warehouse management platform capable of optimally orchestrating warehouse tasks between human labor and non-human connected systems (such as robotics, ASM’s, ASRS, automated vehicles, etc.) provides your business with a game changing UNLOCK.

As automation continues to become common (even in smaller warehouses) through the elimination of human labor, positioning your business with a warehouse management software platform capable of scaling with a wide spectrum of automation scenarios provides tremendous flexibility as your warehouse needs change.





## TURNKEY SCANNERS

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Traditional warehouse management software requires the customer to go through yet another separate purchasing cycle in order to buy handheld scanners. To add to the cost and complexity, the integration of the scanners requires additional work, time, energy often from a third party consultant. Not only does this increase the time to value but increases the total cost of ownership.

Newer - more nimble - warehouse management orchestration platforms now include handheld scanners as part of an out of the box integrated solution.

This turnkey solution UNLOCKS previous interdependence on additional effort and cost.

Delivered, charged, and supported as part of the monthly subscription, the customer can focus on their core business differentiations as opposed to bifurcating already limited core resources towards core business needs and commoditized IT support.







## ELEVATED USER EXPERIENCE

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User experience expectations have changed even for the Enterprise.

The proliferation of mobile applications has set a new higher bar for the end user. Regardless of worker sophistication or complexity of work task, ALL end users now assume their application will be intuitive, elegant, and seamless.

Traditional warehouse management software has failed to respond.

Fortunately, newer warehouse management platforms understand this AND are designing, building, and addressing the necessity for higher user standards. Customer-grade application form and function design now exists in Enterprise business systems.

In short - B2C has gone B2B.

Leveraging a warehouse management platform which embraces an elevated user experience is an UNLOCK. The easier an application is able to use - the higher the adoption; the stronger the ROI; and the quicker the results.

Warehouse workers jobs are not easy. Their user experience should be.





## SYSTEM DIRECTED TASKING

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Imagine the value of a warehouse management platform which proactively directs warehousing tasks based on real-time business needs; warehouse worker and connected system location; and prioritization.

This exists now.

Traditional warehouse management tasking is static - constructed based on a snapshot in time. Real-world warehousing operation is dynamic.

This new intelligent generation of warehousing platform UNLOCKS this opportunity for smart, fluid, and optimized warehousing orchestration.

No longer are warehouses constrained by software systems limiting their ability to pivot as needed based on a constantly changing environment.

Possibility meet opportunity.







## WHAT-IF SIMULATION

Warehousing leaders are continually looking for ways to optimize their operations.

Whether on the shopfloor or in the office – warehouse innovators always think about “what-if” scenarios such as modifying warehouse labor (adding/subtracting); moving product shelving based on velocity, seasonality, or spikes in demand; reconfiguring the warehouse layout; or automation opportunities with the introduction of connected systems.

While traditional warehouse management softwares fail to even explore, the new breed of warehousing platforms UNLOCK this art of the possible.

Leveraging your own real-world historical data such as labor activity; product picking and put away statistics; production, sales, or material info from your ERP; or a myriad of other valuable data across any period of time, these intelligent AI-powered platforms analyze, identify, and propose optimization recommendations.

Your “What-If” is now “When.”





## MICRO-FULFILLMENT

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Customers expect immediate.

Over the course of COVID, the global consumer shifted from “surprise and delight” to same day. This new normal requires businesses to pivot quickly, efficiently, and nimbly – spinning up micro-fulfillment centers closer to the consumer in order to meet this new expectation.

Traditional warehouse software is expensive; difficult, costly, and time consuming to install; and simply not designed for rapid, easy, and often temporary deployment.

Enter the newer generation of warehouse management platform.

Due to its lightweight, highly preconfigured, and low complexity design, this new breed of warehouse management application UNLOCKS the possibility for micro-fulfillment (or dark store) deployment.

With all the richness of an Enterprise platform but channeling the simplicity of SaaS, these intelligent warehousing platforms can show value in weeks... as opposed to years.







## CITIZEN WAREHOUSE WORKER

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Uber enabled virtually anyone anywhere to become an independent taxi driver.

Uber's ease of use both from a driver AND customer perspective; the inherent and immediate trust created via Uber's "handshake"; and its elegant design immediately empowered quick and easy consumer usage creating a new labor category.

Traditional warehousing software is clunky, complicated, and confusing to use. Extensive end-user training is required. These old-school systems require the memorization of menu paths and transaction codes... all of which are frustrating.

A new generation of warehousing platforms embrace intuitive, consumer-grade design, and system-directed step-by-step warehouse task instruction empowering anyone to work in a warehouse.

Creating the Citizen Warehouse Worker - this UNLOCK enables both warehouses and independent temporary workers to partner via a brand new construct.

Regardless of perspective (employer or employee), both parties have the option to engage in commerce without the previous shackles of extensive training, tribal knowledge, or power differences.

Supply and demand now dictate engagement.





## CONCLUSION

Traditional warehousing software - while attempting to evolve - has failed to meet the challenge for intelligent, intuitive, and lower-cost solutions. With decades of technical debt, their path towards solving today's (let alone tomorrow's) warehousing needs is daunting.

Fortunately, the new generation of disruptive warehouse management orchestration platforms led by Fulfilld are UNLOCKING the warehouse's optimization potential via:

1. **Digital twin:** Digitizing warehouse physical space for rich location data leverage
2. **Artificial intelligence:** Deep-learning business optimization via machine learning
3. **Intelligent Orchestration:** Heightened system tasking of human and non-human labor
4. **Turnkey Scanners:** Out of the box integrated handheld scanners
5. **Elevated User Experience:** Consumer-grade UX for the Enterprise
6. **System Directed Tasking:** Real-time prioritized AI-powered warehouse tasking
7. **What-If Simulation:** Model business optimization with own real-world historical data
8. **Micro-fulfillment:** Meet your customer's immediate needs with darkstore capabilities
9. **Citizen Warehouse Worker:** Empower your labor options via initiative Apps

The warehousing world has changed forever. It's time to get Fulfilld.

Learn more about UNLOCKING your warehouse's potential by connecting with [Fulfilld](#)



**FULFILLD**

Fulfilld is the new generation of intelligent warehousing software.

Through our patent-pending location-awareness, AI-driven technology, and orchestration capabilities of system-directed tasking between human and connected systems, Fulfilld optimizes core warehousing operations by reducing wasted warehouse worker activity by 40%; improving inventory accuracy by 24%; optimizing product placement by 18%; and improving warehouse worker efficiencies by 80%.

IT'S TIME TO GET **FULFILLD**