

THE NEW ROLE OF **ROBOTICS** IN THE **SUPPLY** **CHAIN**

White paper written by
Hy-Tek Intralogistics



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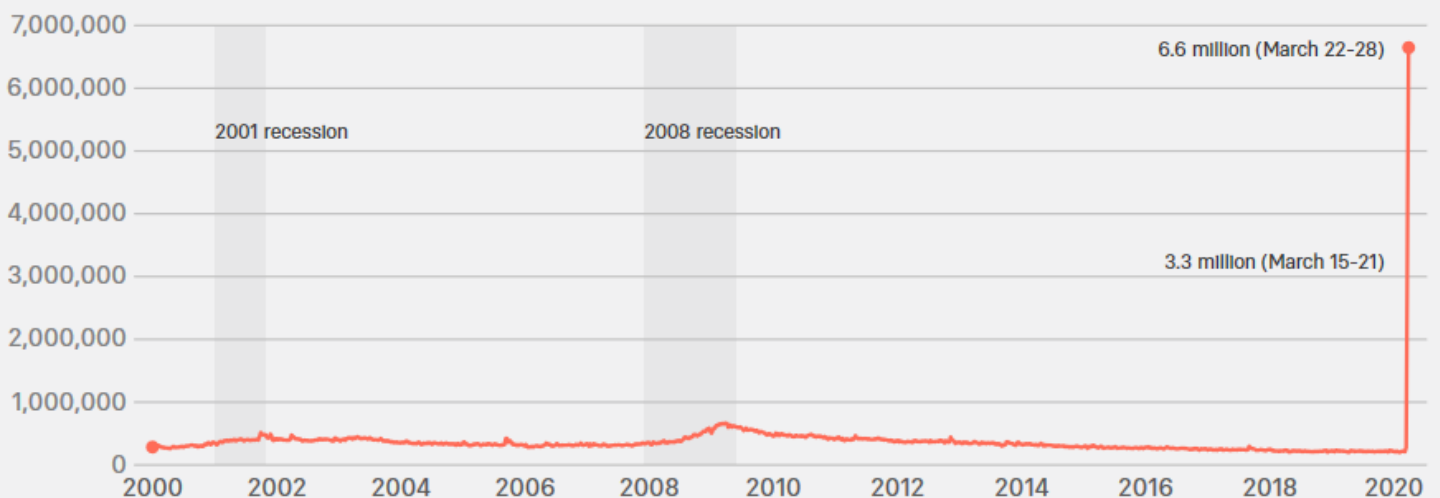
BACKGROUND

Think back a few short months ago; record unemployment, unfilled jobs based on shortages of labor, the strongest economic environment in generations, strong demand in most sectors, and so on. Supply chains were stable. Just in time was the norm. Global supply chains were sound and trustworthy. Now consider what we are dealing with: record unemployment, a recession looming, restaurants, entertainment, travel and hospitality sectors are virtually shut down, shortages of healthcare supplies, inability to meet demands for certain items, and general uncertainty. Based on the current situation, how should the supply chain plan and approach future projects?

Just a week ago, the United States hit a new record level of unemployment claims. Millions of Americans have lost their jobs in the past month because their work was deemed non-essential. This disruption was caused by the despised, COVID-19. The black swan that is currently affecting the whole world.



Nationwide Unemployment Claims



Notes: National data are seasonally adjusted.

Source: Department of Labor, NBER

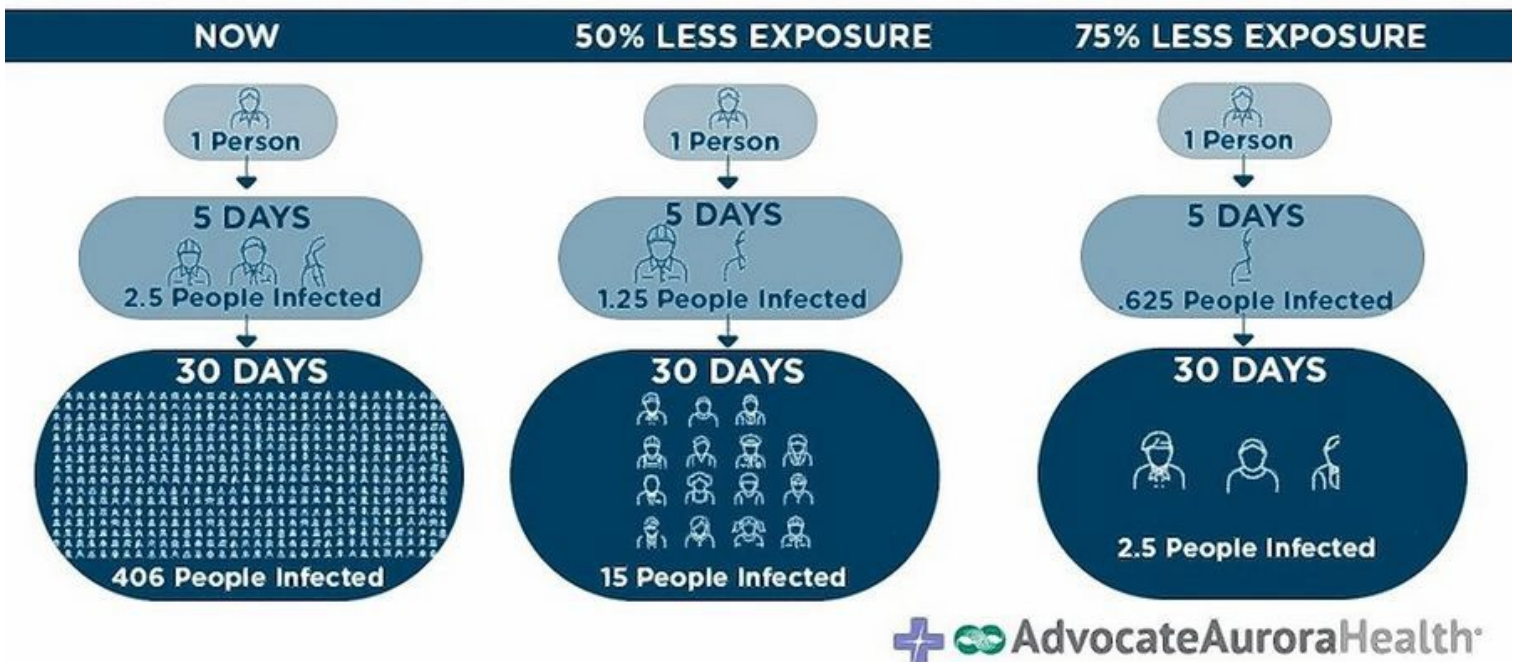
“... limitations have raised the need for many supply chain businesses to review and make significant changes around their supply chains.”

TURBULENCE AND THE CALL FOR ADJUSTMENT IN THE SUPPLY CHAIN - ROBOTS?

Many businesses in the supply chain who have been deemed essential find challenges in hiring employees and getting their supplies from overseas during these chaotic times. This is because of the nation-wide shelter in place orders, trade and travel being heavily limited, and a general concern for health risks. These limitations have raised the need for many supply chain businesses to review and make significant changes around their supply chains. These changes relate to the following:

Social distancing: Traditional warehouses, distribution centers, and fulfillment centers are staffed with hundreds of team members. Robotics will assist in reducing the number of people in limited spaces. Businesses must learn to do more with less, which might become a standard for design. Many operating businesses limit the total capacity of people, or the people load per square foot to reduce the risk of exposures.

THE POWER OF SOCIAL DISTANCING



Domestic Supply Chain Capabilities: Robotic solutions have shown to provide a quick implementation. Traditional MHE (conveyor, carton sorters, basic rack, pick modules, etc.) has an implementation timeline that typically exceeds 30 to 40 weeks when you consider the engineering phases. High-end automation (Stacker cranes, mini loads, shuttles, unit sorters, etc.) typically exceed a year for full implementation. Mobile robotic solutions (AMRs, Goods to Person robotic solutions such as Caja Robotics, GreyOrange, etc., and cube Goods to Person solutions such as Exotec) can be implemented in under 6 months. A quick setup will expedite the solution to counter the lack of adequate capacity in the domestic supply chain.



Exotec Solution – High cube, scalable, and quick to deploy

Just in Time Inventories and Critical Surplus Inventories: When we think about just in time inventories, we understand the benefits of the reduced costs, understand that supply chain must support demand, and are witnessing vulnerabilities in its current state. Critical (essential) supply chains have been identified and are functioning to the best of their ability. Healthcare-related supply chains are struggling due to an abrupt increase in demand, as there has been a national supply chain shortage of medical supplies such as masks, gloves, test kits, and other PPE. That said, the vulnerability lies in the amount of safety stock. It seems that we will see an increased surplus in healthcare areas that require the storage and ability to quickly disperse needed medical supplies to be prepared for a situation like what we are facing today. Traditional hub and spoke distribution models would be positively impacted by having the ability to set up distribution points quickly. Those regional centers could be supported by mobile robotic solutions which are quick to deploy and relatively low capital cost

A photograph of a hospital hallway with a dark overlay containing text. The hallway has a white ceiling with square tiles, large windows on the right side, and a polished floor. In the background, several people in white coats are visible, suggesting a medical setting. The text is centered on a dark rectangular background.

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Healthcare related supply chains are struggling due to an abrupt increase in demand, as there has been a national supply chain shortage.

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BEING REACTIVE WITH ROBOTICS

Robotic supported solutions work to drive efficiency and safety. Prior to what we have been experiencing today, we have considered robots in traditional terms for a business case evaluation. The situation today is driving us to think differently. Business case elements are now under evaluation, paybacks are being looked at differently, and deployment schedules and safety are paramount. Dependence on foreign supply chains is being reconsidered, and our industry needs to respond. The world is seeing leading manufacturers step to the plate in ways we haven't seen since WWII.

Ford, 3M, GE, and other companies have changed their production to begin creating masks for healthcare workers and civilians in need. This is a willingness to adapt to the current situation and seizing the potential for profit. Food and beverage supply chains must keep up with demand as Americans stock up for quarantine, and many switch from eating at restaurants to buying at supermarkets. Traditional MHE companies need to adapt and be ready to solve problems in unconventional ways.

CONCLUSION

With the shortcomings of recent times, Hy-Tek Intralogistics looks to bring stability and reliability to our nation's uncertainty. We plan to accomplish this through our diverse portfolio of robotic solutions and expertise in the supply chain. With the level of unemployment claims growing, Hy-Tek is poised to help you keep your process flow moving through unpredictable events. We will emerge from this better prepared, and our emphasis will be forever focused on mitigating this particular risk. Robotic MHE has a strong role to play in how we will design and proactively approach this in the future.

