

AUTHOR: ALI RAJAWIN

# The bot behind the box

## What's behind the need for smarter, more efficient warehouse automation?

— When the time between Click to Buy and the doorstep, or dock, is measured in hours, and customers always want it faster and cheaper, there's no time to spare.

I always loved United Parcel Service's *"We run the tightest ship in the shipping business"* slogan in the 1980s. It said who they are, and what they did. Back then efficiency meant good systems guiding good people who hand-sorted thousands of packages.

Today the logistics, warehouse and shipping (or 'intralogistics') sector is a whole-new ball game, with a number of megatrends driving the need for greater automation:

### The ticking demographic time bomb

There are already more than 840 million people within decade of retirement – in some countries as much as 20 percent of the population. This older workforce does not want to spend its days doing strenuous, repetitive labor or climbing high on shelves. And there is little talent in the pipeline: the lion's share of today's digitally-weaned knowledge workers seek fulfilling mental challenges, not physical ones.

### The squeeze is on

The distribution channel can often get squeezed as global manufacturing and retail giants look to boost their profits. Increased data transparency and a focus on margins means that these players are taking a far more informed, strategic and aggressive approach to negotiating freight and cargo. To maintain competitiveness, shipping and intralogistics centers are leaving no rock uncovered in the hunt for efficiency.

### eCommerce is everywhere

In 2016 global e-commerce was nearly \$2 trillion dollars, by 2020 some industry experts think this could double. This is especially true in emerging markets where higher living standards, increased internet access and improving infrastructure are leading to double digit e-commerce growth in economies with single digit overall growth. For the top dogs in the global supply chain, the challenge is to serve this rapid growth with comparable competitiveness and efficiency as mature markets.





**About the author**  
**Ali Raja**

I joined ABB in 2015 to lead ABB Robotics' market entry in the Intralogistics industry, where robotics is the fastest growing segment. I have 10 years of experience in designing warehouse automation solutions for customers around the globe.

**Messy, messy complexity**

There is an enormous shift taking place as manufacturers of everything from clothes to wearable fitness and snack foods go from making large quantities of the same goods to making smaller lots of more diverse and increasingly customized goods. Trucks that used to be loaded with uniform skids of products now arrive to the dock with a mix of pallets and parcels, which often have to be broken down by hand – sometimes on a waiting trailer – to ensure they reach the right warehouse storage. This can have a critical impact on dock-to-load rates.

**Christmas in July**

Managing the holiday peak each year is a familiar if painful challenge for many shipping centers. But what happens when peaks come at unexpected times? Manufacturers have greatly increased their agility to adapt to emerging trends and more seasonality. Automation solutions that are scalable in terms of software & functionality can help manage more sporadic and less predictable peaks without the high CAPEX investment of designing-to-peak.

Scalability can also include linking separate islands of automation, or taking advantage of data from one part of a warehouse to improve a previously manual process – for example using connected robots to improve picking speed and accuracy via an RFID-based inventory management ERP system.

**Miss GPS, have you met Mr. RFID?**

Whether intralogistics operators are enthusiastic about going 'digital' or they are being dragged into the future kicking and screaming, there has never been a greater need for smarter, more efficient automation. And in fact many technologies that

were once disruptive, such as RFID and GPS tracking, are now seen as invaluable tools to make sure the right packages get on the right trucks. This is helping breakdown fears of switching from familiar but limited analogue automation to digital solutions.

**We need it yesterday...**

It used to be exciting when a package arrived within one week. Nowadays customers get upset if they don't receive an immediate delivery SMS confirmation for a product they expect tomorrow. The bar continues to go higher and players who provide best-in-class delivery in technologically innovative ways stand apart from the crowd, from drones to same-day delivery. Those who underinvest in automation efficiency risk losing their ability to remain relevant.

**Where is this all going?**

The last great wave of warehouse automation took place nearly a decade ago, where automated storage and retrieval systems brought goods to people. The past few years have seen these systems optimized to the point where the low-hanging fruit is long gone and there is not much left to improve.

The next new wave is robots, which offer tireless endurance from strenuous, repetitive tasks and are happy to work from height. This frees people to do more rewarding tasks that better suit their strengths such as problem solving and adapting to complexity. And, robots today can be connected to the greater ecosystem, sharing data with the intralogistics ecosystem. So the new model for efficient shipping and logistics could well be 'goods-to-robot.'