



Automation amidst Coronavirus: Opportunity for the Future

Michael Clarke | Research Associate

VDC Research





Automation Amidst the Coronavirus: Opportunity for the Future

By: Michael Clarke, Research Associate



Who We Are

VDC

Founded in 1971, VDC Research provides in-depth insights to technology vendors, end users, and investors across the globe. As a market research and consulting firm, VDC's coverage of AutoID, Enterprise Mobility, Industrial Automation, and IoT & Embedded technology is among the most advanced in the industry, helping our clients make critical decisions with confidence. Offering syndicated reports and custom consultation, our methodologies consistently provide accurate forecasts and unmatched thought leadership for deeply technical markets. Located in Natick, Massachusetts, VDC prides itself on its close personal relationships with clients, delivering an attention to detail and a unique perspective that is second to none.



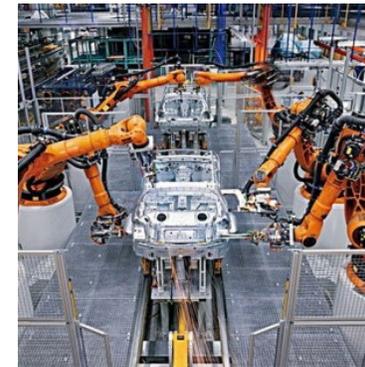
AutoID & Data Capture



IoT & Embedded Technology



Enterprise Mobility & Connected Devices



Industrial Automation & Sensors



Custom Research & Consulting



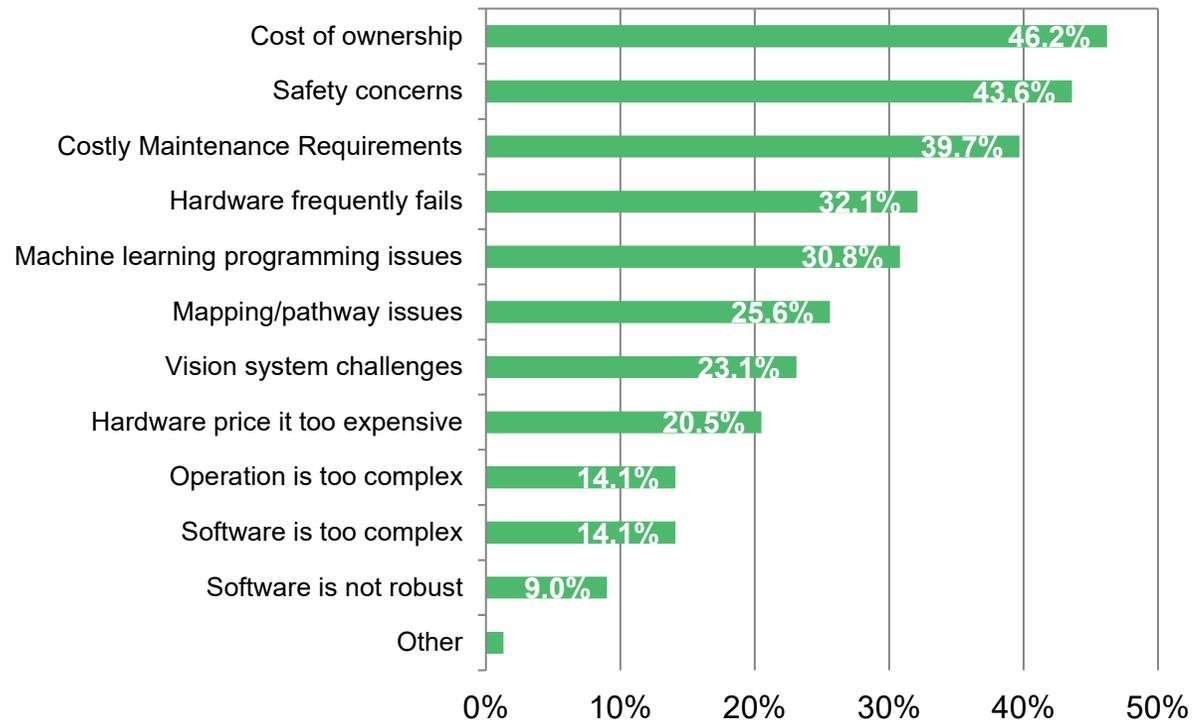
Overview of the Retail Landscape & the Pressure it Faces

- ▶ The modern retail landscape will continue to evolve from its traditional fulfillment framework, expanding its delivery model and the way consumers purchase products.
 - ▶ E-commerce sales continue to grow as a portion of retail transactions, reaching nearly 11% in the US for 2019 according to Census data.
 - ▶ The rise of omnichannel retail such as buy-online, pick-up in store (BOPIS), buy online, return in store, and direct home delivery from store models have strengthened the critical importance of accurate inventory management across store and warehouse locations, demand forecasting, understanding consumer purchasing behaviors and product preferences, as well as consumer interaction.
 - ▶ Therefore, as the retail landscape continues to evolve towards omnichannel fulfillment, retailers must address key challenges in terms of scalability, inventory accuracy, and meaningful customer engagement.
- ▶ Companies will require dynamic technology solutions to address the evolving retail landscape:
 - ▶ The manual nature of in-store shelf checking, price auditing, and shelf re-stocks takes store associates hours per day and keeps them away from customer engagement that lead to increased sales.
 - ▶ On the back end, warehouse associate are also manually transporting goods across facilities, average 5 miles travelled per day.
 - ▶ Therefore, companies must strongly consider automation and smart solutions that can enhance worker productivity: automation through the integration of robotics and enhancing software analytics through artificial intelligence will prove beneficial to successful navigation through the current retail landscape.



Robotics-Physical Automation

Most Pervasive Challenges Facing Robotics Deployments

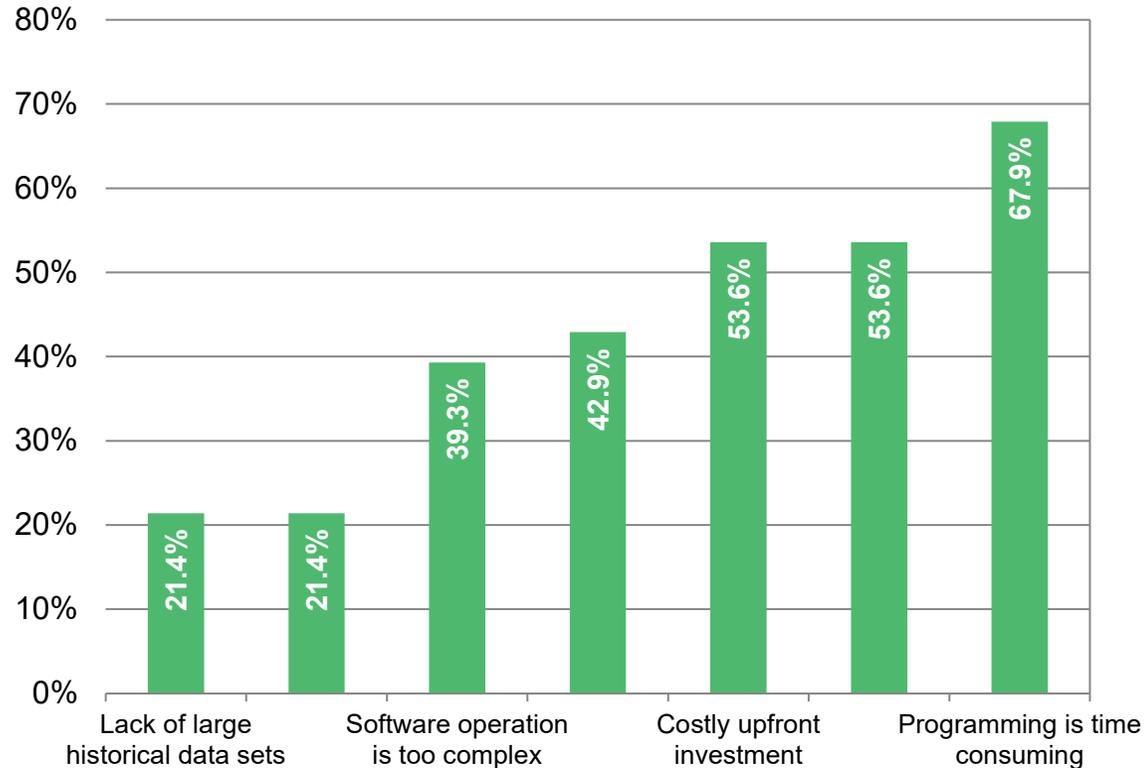


- Challenges hindering robotics integration:
 - The largest barriers to automation is the large upfront cost/capital expenditure constraints, safety concerns, and integration timeframe.
 - The installation of the hardware and the customization to retro fit warehouse and in-store layouts requires a sizeable investment from a time and monetary standpoint.
 - End users must have the project timeframe and the flexible budget to invest into cobot technology
 - As a result, end users must heavily consider the hardware manufacturer and solution providers through these two-year automaton projects.
- Key benefits of robotics integration:
 - Increase worker productivity 1.5-2.5x+
 - Optimize labor requirements
 - Automate monotonous tasks that can free retail associates for higher value customer engagement tasks
 - Improver operational efficiency for inventory management and in store operations
 - Provide scalability for growing ecommerce and omnichannel fulfillment strategies



Artificial Intelligence-Cognitive Automation

Most Pervasive Challenges Facing AI Deployments



- Challenges hindering AI Integration:
 - Retailers have struggled with the optimal application of large data where artificial intelligence can harness these data points to create actionable business insights and ultimately create drivers for increased sales.
 - As POS systems and online platforms collect massive amounts of data, a significant portion of retailers is underutilizing these metrics, called “dark data”.
 - Additionally the quality and willingness to share data across partners has prevented the optimal usage of retailer data
- Key Operational Benefits of AI Integration:
 - Fully integrating AI into retailer software architecture alleviates the manual nature of data optimization
 - Increasing worker productivity and focusing on high value tasks
 - Improving predictive accuracy of demand forecasting
 - Enhancing inventory requirement accuracy and product replenishment management
 - Solving complex retail operational decision making



Retail in the Time of Coronavirus – VDC's View

- ▶ VDC predicts a long-term consumer behavioral change with e-commerce becoming more all-pervasive and accepted than it is already
 - ▶ Amazon, Target, and Walmart have already seen historic sales thanks to their strong e-commerce backgrounds and well-planned supply chains.
 - ▶ These retailers have added several hundreds of thousands of temporary positions in a bid to meet growing demand for their products and services, which is atypical for the rest of the global economy
- ▶ VDC expects there to be increasing interest in automation investments, especially to support growing e-commerce orders from warehouses
 - ▶ Customers will flock to e-commerce operators that are able to offer high service levels and expedited delivery during this time of crisis.
 - ▶ VDC believes this competitive edge will be brought on by automation-related investments with returns being achieved through lower fulfillment costs via increased volumes.
 - ▶ In the near term, however, solution providers will see lower order activity from retail customers and prospects. prove beneficial to successful navigation through the current retail landscape.



2019 Notice of Copyright

The entire contents of “Strategic Insights 2019: AutoID & Data Capture, Track 2: Market Tracking & Forecast Reports, Topic 8: Q2 2019 Mobile Thermal Printers Quarterly Tracker.” are proprietary to VDC Research Group, Inc. (VDC), and may not be distributed in either original or reproduced form to anyone outside the client’s internal organization within five (5) years of the report date without prior written permission of VDC.

VDC has devoted its best efforts to obtain for and provide to its clients as accurate data as is possible. Nevertheless, we cannot be held responsible for incorrect information provided to us by vendors, users, or others that we interview. Nor can we be held responsible for forecasts of the future evolution of an industry, which, in retrospect, proves inaccurate. Our goal is to provide the best possible analysis of an industry, utilizing data obtained through a time-proven and rigorous research methodology, for our clients to employ in developing strategies to compete in an uncertain and ever-changing business environment.

Trademark Acknowledgement

Many names of companies, associations, technologies, products and product types, etc. mentioned in this report comprise Trademarks, either registered or non-registered, owned by various entities. These are too numerous to mention individually. VDC acknowledges that ownership of these Trademarks exist and requests that readers acknowledge this as well.

