Look into the future

What's ahead for warehousing? That's a tough question to answer right now—and it's not just because of the pandemic that has raged across the country since March. Even before the emergence of Covid-19, warehouses and DCs were in the "midst of a massive shift in fulfillment operations, primarily driven by the rapid increase of e-commerce with direct-to-consumer fulfillment, and the impact on labor costs and staffing challenges," notes Clint Reiser, director of supply chain research at management consulting firm ARC Advisory Group.

To find out how practitioners plan to meet future e-commerce demands and what technologies they're using or plan to use within the next few years, DC Velocity teamed up with ARC to conduct a broad industry study in early 2020. The key takeaway: The future of warehousing depends on investment in software and automation technologies.

In the next 12 months, what “established” warehouse automation technologies do you expect your organization to invest in? (Top five responses, multiple answers accepted)

- Conveyors/Automatic sortation: 33%
- Shuttle systems (100 pounds or less): 29%
- AS/RS (stacker crane): 27%
- Pick to light/Put to light: 24%
- AGVs (traditional point-to-point): 22%

In the next three years, what “emerging” warehouse automation technologies do you expect your organization to invest in? (Top five responses; multiple answers accepted)

- Shuttle system–robot hybrids: 49%
- Robotic case picking: 45%
- Autonomous mobile robotics–collaborative: 43%
- Autonomous mobile robotics–zone-based: 38%
- Robotic item (each) picking: 36%

Which order fulfillment channel do you expect to increase extensively over the next three years? (% of respondents)

- Direct to consumer (e-commerce or other direct channel): 51%
- Direct fulfillment of retail partner's customer orders (drop ship): 24%
- Traditional store replenishment (to retail locations): 13%
- DC replenishment (to downstream or partner DCs): 11%

What order and release methods do you currently use? (% of respondents; multiple answers accepted)

- System-directed batching/waving: 71%
- Waveless (dynamic release) fulfillment: 35%
- System-directed batching/waving: 35%

Which of the following warehouse tech investments are the highest priority for your organization? (% of respondents; multiple answers accepted)

- Warehouse management system (real-time w/ radio-frequency, voice, etc.): 36%
- AGVs (Kiva-like or point-to-point vehicles): 13%
- Shuttle system (100 pounds or less): 11%
- Warehouse labor management system: 11%
- AMRs (collaborative robots): 9%
- AS/RS (stacker crane): 9%
- Case-picking robotics: 6%
- Conveyors/Automatic sortation: 2%
- Pick to light/Put to light: 2%
- Voice recognition: 0%
- Item-picking robotics: 0%

About the study: ARC Advisory Group's 2020 Warehouse of Tomorrow study explored how rapid growth in e-commerce is changing fulfillment channels, ways in which the workload is managed, and the priorities and expectations for technology investment. The study was conducted among 48 logistics professionals from a variety of industry sectors, who submitted responses between January and March of this year. According to ARC, these trends are expected to continue, with substantial impacts on the methods of order release, value of warehouse automation, types of warehouse investment, and overall value proposition for warehouse technologies.

SOURCE FOR ALL DATA: ARC ADVISORY GROUP, 2020 WAREHOUSE OF TOMORROW STUDY