



# 2019 STATE OF SUPPLY CHAIN INNOVATION SURVEY

Now in its third year, Kenco’s State of Supply Chain Innovation Survey aims to uncover how supply chain professionals are investing and implementing innovation initiatives. The first year revealed the vast majority of supply chain leaders want to adopt technologies that are proven, reliable, and will have a positive impact on their bottom line. In 2018, responses signaled progress towards investing in and prioritizing more emerging technologies. This year, the logistics landscape has shown movement in both technology adoption and innovation spending, but some seemingly “hot” solutions are actually still slow to catch on as a top priority for supply chain leaders.

## INVESTMENT IN INNOVATIVE TECHNOLOGIES ON THE RISE

In 2019, supply chain leaders are showing a greater willingness to take a risk on new technologies, as 46% of respondents say they are willing to spend 10-24% more on innovation – up from 24% in 2018 and 29% in 2017. Investment rates have increased for the following technology categories:

### SENSORS/IoT

Up from 46% in 2018 and 42% in 2017, 56% of supply chain professionals are currently or planning to invest in sensors/IoT. This increased comfort level with sensors and IoT technology speaks to how the focus has shifted to how organizations can access and capture data since traditional systems do not contain the full picture.

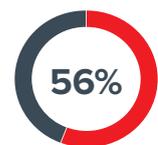
The interest in investing in this area is less about deploying wide-scale IoT and more about niche information like productivity, safety, and visibility that can deliver proven ROI. Sensors and IoT devices are less expensive than traditional systems to implement and see immediate returns. Since traditional systems are cumbersome to customize to capture needed data, IoT is a way to capture additional information without complex programming in the system. This more targeted approach is focused on specific elements like leveraging sensors for forklifts to avoid collisions.

### AR/VR

The proven effectiveness of vision picking has driven growth in this area, as 34% of respondents are currently or planning to invest in AR/VR – up from 23% in 2018 and 8% in 2017. With vision picking, it is easier to train employees to accurately complete tasks, which is essential in a labor market where it is harder to find talent. There is a lot of complexity involved in training someone on the warehouse management system on a radio frequency device, and vision technology greatly simplifies the process.

Investments made in:

#### Sensors/IoT



#### AR/VR



#### Drones



Particularly for temporary employees, organizations do not want to spend a lot of money on onboarding. Kenco tests have found it takes about two weeks to achieve full proficiency on an RF device, whereas vision picking takes about 15 minutes to an hour. Vision devices also have multi-lingual capabilities and are more intuitive to use with visual directions versus multiple inputs and screen options.

## **DRONES**

Drone technology has seen high levels of interest because it is easy to see how the solution can deliver value. In 2019, 22% of supply chain leaders said they are currently or planning to invest in drones, an increase from 13% last year and 8% in 2017.

Manufacturers have overcome autonomous flight capability challenges and improved battery life issues, which was previously a huge obstacle. Now, commercial models have hour-long battery lives, and the battery change is very quick. Many drone solutions now have a vision system, which provides a lot more information and delivers a more robust solution beyond just barcode scans. With more startups in the space, Kenco's Innovation Test Lab is helping clients weed through the clutter to find the best fit.

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## **WHAT IT MEANS**

The increasing investments in emerging technologies suggest that supply chain professionals are starting to think differently about how to solve their problems, and organizations are seeing enough proof points in the industry to invest. Instead of focusing on just process improvements, efficiency gains, and productivity initiatives, businesses are making strides to move further along the innovation continuum. Emerging technologies are a means to transform the way business is conducted, and greater adoption of these solutions helps businesses to have a more holistic vision for innovation and moving forward in digital transformation efforts.

The increase in investment means organizations must focus on proper implementation to generate results that justify the spend. In addition to continuing to evaluate technologies, logistics leaders must now plan around how to effectively leverage these innovations to improve operations.

# HOT OR NOT: VISIBILITY, ROBOTICS, BLOCKCHAIN, AND DRIVERLESS CARS

The latest and greatest technology solutions assuredly grab headlines, but are supply chain executives actually putting all of them on their short list of priorities? Some of the most buzzworthy technologies are actually not the center of attention for supply chain leaders.

## BLOCKCHAIN

The buzz around blockchain is everywhere from financial services to healthcare. In the supply chain, blockchain is being explored for use cases like fighting fraud and ensuring an ethical and sustainable supply chain. Still, is anyone actually taking steps towards bringing blockchain to life?

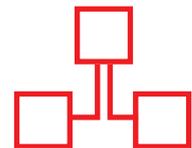
Almost 40% of supply chain leaders are currently or planning to invest in blockchain, an increase from 35% in 2018. The desire to invest reinforces that there is still a lot of promise and potential. Forward-thinking companies are planning to invest when blockchain gets to a point that it can deliver value. However, blockchain has yet to provide complete value beyond food or pharmaceutical applications. As a result, only 6% of supply chain leaders consider blockchain to be a high priority in 2019, a slight decline from last year.

Organizations are likely less interested in blockchain efforts due to the lack of collaboration. The supply chain is still driven by reducing margins, and there is little value in blockchain if the technology is only tested between two parties. However, it is significant when an ecosystem of partners is trying to communicate on the same blockchain. The Blockchain in Transport Alliance (BiTA) Standards Council Board just approved its first official standards earlier this year, and there is still work to be done to ensure different, often competing, organizations are aligned and communicating in the same language. Until there are more standards, regulations, and active participation by larger groups in the space, companies will continue to emphasize other emerging technology efforts over blockchain.

## DRIVERLESS CARS/SELF-DRIVING VEHICLES

Contrary to the amount of discussion, driverless cars/self-driving vehicles are not on the fast track to taking over deliveries. Just 4% of supply chain leaders list it as a high priority, a decline from 5% in 2018 and 6% in 2017. There is a high level of uncertainty about what government regulations will allow, and safety concerns around elements like weather and interacting with human drivers on the road remain.

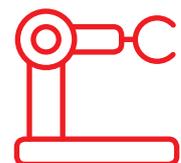
Investments in:



**Blockchain 40%**



**Driverless Cars 4%**



**Robotics 20%**

There are questions about how the current infrastructure will handle the technology, and there needs to be more consumer acceptance. Since there is still a ‘fear factor’ about driverless vehicles, the industry does not yet consider the technology to be an immediate need. Self-driving vehicles are also a high cost investment, so it is more likely that organizations will adopt a platooning approach first – where a lead vehicle with a human operator is systematically tied to driverless trucks that will follow.

## ROBOTICS

While robotics saw a bit of a rebound in 2019, it is still markedly below how many supply chain leaders cited it as a high priority in 2017. Only 20% of supply chain leaders say it is a high priority in 2019, up from 17% in 2018 and 31% in 2017. Often there is a case of information overload, and companies are not sure of which vendor to choose. As such, the industry is taking more time to research the technology, and Kenco’s Innovation Test Lab is evaluating the technology as well.

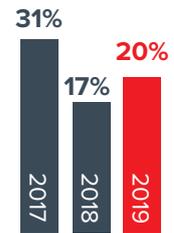
While adoption has not been as fast as the industry thought it would be, the industry is beginning to see the hockey stick effect as labor market issues have driven significant rollout numbers in late 2019. While robots are popular for e-commerce and each picking applications, there are very few companies looking at robotics for big box operations. This is a missed opportunity, as organizations could latch onto robotics as a service model in this larger moving space for items like pallets and appliances.

## SUPPLY CHAIN VISIBILITY

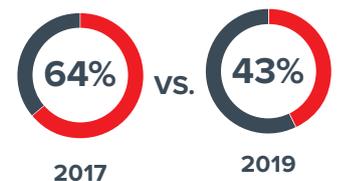
Supply chain visibility, a hot button topic with the rise of e-commerce, while still a high priority, continues to trend downward. While 64% of supply chain professionals noted visibility as a high priority in 2017, only 43% of supply chain leaders feel the same way in 2019.

This decline could in part be due to challenges with data governance. When companies are evaluating technologies to improve visibility, they are realizing they need strong data governance with a master data management program as the core foundation, which has been difficult for businesses to define and implement.

Robotics rebounds in 2019:



Supply chain visibility trends downward:



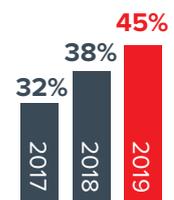
## THE ROAD AHEAD

Looking to 2020 and beyond, it is expected that there will be continued growth in co-investment between organizations and 3PLs. In 2019, 45% of supply chain professionals expect to co-invest with 3PLs, a steady rise from 38% in 2018 and 32% in 2017. Investing with a partner reduces the risk of wasting money on innovation projects. Since 3PLs are trialing and testing technologies and bringing the business cases to the shippers, more and more shippers will be partnering with outsourcers on innovation projects in the next year. Regarding technologies, drones will continue to evolve and see a much larger adoption rate. Digital control towers will be spanning operations within the warehouse – not just in transportation applications.

As businesses implement more technologies, there will also be a shift to managing data instead of people. In contrast with management traditionally being primarily concerned about labor, the focus will now be on how data can be collected to help the organization make quicker, faster, and better decisions. Robots are providing insights into how product is moving and where it intersects, whereas the supply chain did not have this visibility when it was a human performing the task. Additionally, electronic logs in transportation are providing valuable telematic information on driver behavior and safety.

In the coming year, there will be greater interest in last-mile delivery, particularly from a technology and startup perspective. Solutions like track and trace technology, mobile apps, machine learning, and artificial intelligence will become priorities as brands increasingly look to meet consumer demands for immediate delivery in many markets for items like furniture, alcohol, food and convenience products. As younger generations are more concerned about sustainability, there will also be an increased focus on making the supply chain more sustainable. Now more than ever, consumers expect a personalized approach, and the supply chain space will need to be more concentrated on customer choice rather than pushing customers to be inside a box.

Continued growth in co-investment in 2020+



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