

How to attain a performance edge in your supply chain

By [Neil Gouveia](#)

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Supply chain challenges continue as retailers, warehouse operators and manufacturers struggle to keep up with an accelerated demand that shows no signs of slowing. Ecommerce is driving rapid growth in volume and speed of orders and returns. It's hard to keep pace, and we know that visibility is a top supply chain goal. In fact, in a recent report on technology and the supply chain, 91% of respondents said a lack of real-time inventory visibility was their top priority for overcoming supply chain obstacles.



Source: Supplied | Neil Gouveia, Director: Africa, Zebra Technologies

And while you may be doing some things right, without visibility, you won't be able to reach excellence and exceed customer expectations. If you want to achieve a supply chain edge, you need to start seeing what's happening throughout your supply chain from inventory to transportation and logistics and fulfilment.

Starting with sensor and RFID technology

Barcoding technology has been around for decades, providing insight into the inventory across the supply chain, giving you visibility into what you have, but developments in tech allow us to do more. Take sensor technology—it makes it possible to have additional visibility in your normal or cold supply chains.

So rather than having manual processes, wireless temperature sensors and colour-changing temperature-sensing labels can automatically capture heat, freeze and shipment temperature data, providing you with the ability to see inventory conditions across the supply chain.

An important added sensing layer is radio frequency identification (RFID) which may be reaching a pinnacle moment as businesses face the same or greater volumes of work at higher speeds without additional labour. You can't solve these issues without visibility into them. RFID tags, readers and systems enable you to see assets and inventory in your supply chain in near real-time, delivering visibility into inventory, logistics and fulfilment.

Handheld RFID readers can make asset and inventory counting highly accurate and fast, even across distances, while fixed RFID readers can automate the tracking of goods in and out and on the conveyor. It means more visibility and another step toward attaining an edge in the supply chain.

Moving to machine vision

Businesses can reduce complexity and costs by leveraging an intuitive, unified software platform with a modern user interface that can easily set up, deploy and run fixed industrial scanning and machine vision solutions and integrate them into factory or warehouse systems.

In a warehouse setting, fixed industrial scanners can look for the presence/absence of labels and data, while machine vision systems can be trained to look for a shape or logo on a label. When the item passes under the machine vision camera, it will look for that shape/logo to ensure presence and proper positioning.

In sortation, it will look for the courier logo and redirect the package to the right line for onward distribution. Machine vision systems can also measure the brightness or perform a pixel count within a search region on the label. These are powerful solutions that imaging engineers, programmers and data scientists can use with software tools to match different levels of expertise.

Augmenting workers with robotics automation

Our third step is robotics automation. These are easy-to-deploy solutions for a range of warehouse and factory materials movement use cases. There are autonomous mobile robots (AMRs) for pallet transport and cart connections as well as roller top and order fulfilment. These robots can help solve efficiency challenges related to storage carousel transport, work cell and lineside delivery, replenishment, cycle counting and recycling and rubbish removal.

Solutions come ready out-of-the-box so set-up and deployment can be achieved in a matter of hours or days rather than weeks and months. Robotics software features an easy-to-use graphical drag-and-drop interface so users can swiftly create custom workflow solutions.

API add-ons allow data from external devices like mobile computers, tablets and barcode scanners to trigger or continue a workflow. Software also provides an easy way to assign robots to workflows and define when and how often workflows are executed.

Depending on the use case, businesses have secured 2-3X throughput and productivity increases, floor space gains, and saved operators over 30km in manual travel per day. One business saved its workers 1,000km of manual travel within the first six months of deploying an AMR solution.

Zebra's recent [Warehouse Vision Study](#), for example, found that 90% of warehouse operators around the world plan to deploy some form of AMR within five years. In addition, 83% of associates working alongside AMRs today confirm they have helped increase productivity and reduce walking/travel time, while 73% reported reduced errors.

Step by step, not overnight

Executing these actions will help connect people, assets and data for a more efficient supply chain. As one of my colleagues likes to say, "pick one and run with it". Peers in your industries are doing that and getting a measurable return on investment. A supply chain edge is achieved step by step and not overnight. Assess where your supply chain is today and if you're not sure, check this out. Pick the right next step and solution and run with it.

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