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THE VOICE OF INDUSTRY

The introduction of Siri back in 2011 has been the trigger for a massive growth in the use of voice control on the smart devices we interact with. Alexa and Google Assistant have followed hot on Siri's heels, and today it is possible to talk to your television, your car and a host of other devices—even ones you don't need to. But you may not be aware that the use of voice as a man-machine interface has been common in the distribution sector, where Voice Beyond lead the way, for many years. The firm is now taking its knowledge and expertise into a new area, maintenance and inspection, as Breakthrough magazine found out.



Voice technology has been employed in the distribution industry for over 20 years. Walmart, the US retail giant, was among the first to adopt the technology when the company spotted the advantages it could bring to their logistics operations.

In the distribution sector, voice-controlled interaction offers many benefits over the traditional methods; such as handheld scanners or even paper-based documentation.

Of course, it is hands-free which in itself can help speed up operations. There are also health and safety advantages, through minimised visual distractions; the time to learn new routines is reduced through the use of clear guidance; and staff flexibility is improved as operators can switch tasks more quickly or indeed staff that might otherwise face a language barrier are no longer restricted.

One of the key advantages of a voice guided system, however, is its ability to improve accuracy. Users are given, and respond with, clear voice instructions. There is no scope for forgetting steps in a process and mistakes can be picked up as they happen. So, voice can almost entirely eliminate operator errors.

In a distribution environment small errors can have a significant impact, as Mark Batchelour, Voice Beyond Europe's Managing Director, explained: "If you have 100 items, being sent in batches of ten each to ten customers, incorrectly picking one item

does not result in simply a 1% error rate.

"One customer has an incorrect order, so 10% of the overall orders are wrong. But then another customer's order will also be wrong, so there is, in fact, a 20% error rate. It's easy to see how a small error can have a big impact. And that's before you consider the knock-on impact. If stock levels are wrong while waiting for the mis-shipped item to return, the business may not be able to meet other orders," continued Mark.

While minimising errors can bring huge cost savings, the improved efficiencies offered by a voice-based system can open up valuable revenue streams.

When an online retailer introduced a voice-based picking system into its distribution centre, it was able to extend the last order deadline from 5pm to 7pm. Two extra hours shopping was valuable, but they are also the two hours after most people leave work—so many more customers were able to use their online store. The impact on sales was significant, and it made a major difference to the profitability of the business.

But as already explained that the technology is over 20 years old so you may be asking when we will get to the innovative part of the story? Well, it is in new applications for the technology, in a discipline where voice-based technologies had previously been impractical—maintenance and inspection (M&I).

M&I was, in fact, the first area where the technology was

trialled over 20 years ago—with Ford and GM. But it wasn't efficient at the time, and so it quickly moved to, and took hold in, the distribution and retail space when Walmart adopted it. But today, enabling technology has caught up, making voice technology a realistic, and indeed valuable, option in the M&I sector.

The technology hadn't taken off in the M&I industry because typically, more than just simple voice interaction is needed to carry out an inspection. In most cases, technicians need to capture their observations and findings as a separate process from the actual inspection or maintenance procedure. A richer series of information is required beyond voice instruction, such as the ability to view images or call up information; exploded diagrams or torque settings, for example.

That is hard to do with a standard voice system without a screen. So, to overcome the barrier, Voice Beyond has now integrated tablet based devices into its voice systems.

This new approach means users no longer have to refer to manuals for technical specifications. All information requirements can be accessed through the tablet integrated into the system, which can align the details with the inspection or maintenance procedure—calling it up at the appropriate time. The voice functionality can then be used to guide the inspection task through carefully defined steps, allowing the user to record their findings and observations by speaking into a headset. It means no more going back and forth to a laptop or to manually record results on paper.

Many of the advantages are the same as within the distribution sector—efficiency, improved accuracy and precise guidance. But in the M&I industry, there are other

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benefits too. Compliance in this sector is critical, where inspections may be carried out on aircraft engines for example. Not only does the based voice system ensure accurate records are captured and archived, but it can also ensure correct procedure is followed.

Mark explained how this was the case: “A high-street retailer runs a large fleet of delivery vehicles, and its drivers are required to carry out safety inspections on their vehicle before each shift. When investigating the process, it became apparent that on days when the weather was bad, some drivers were completing their checklist forms in the warmth of their dry staff-room—before even going out to the vehicle.

“If there had been an accident on one of these days, the implications for our customer would have been significant. To minimise this risk, we program the voice system with contextual information. So, if the lights need to be checked on one of the large vehicles, the system will know that you can't walk around the vehicle in under five seconds. The system can also capture GPS data, or a barcode over a wheel arch, so it also knows where the inspection took place. Now users can't rush through the checklist from a different location and get away with it. And all this information will be captured on the company's servers. So a record is always available for scrutiny.”

The ability to integrate the established voice systems with new technologies has opened up a new market, and in the future, Mark can see voice technology extending into an even broader range of applications, fuelled by the ever growing capability of the technologies that surround it. Augmented reality (AR) is an example. It can't be used for applications like inspection and maintenance on its own. But AR can replace the functions delivered by the tablet today, and work in tandem with voice's unique ability to offer instruction in an even more practical way.

New sectors could open up to the existing technology as well. In the US, voice technology is being increasingly used in healthcare settings, where the ability to control processes such as health checks, and then easily capture and store the information that results, is a real advantage. As of course is the evidence the voice-based approach captures.

The next few years promise to be interesting for Voice Beyond, as Siri and its colleagues bring voice based interaction to a growing audience and other enabling technologies advance. At Breakthrough magazine, we are looking forward to hearing how the company brings its technology and its many advantages to new, voice savvy, sectors and customers.

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