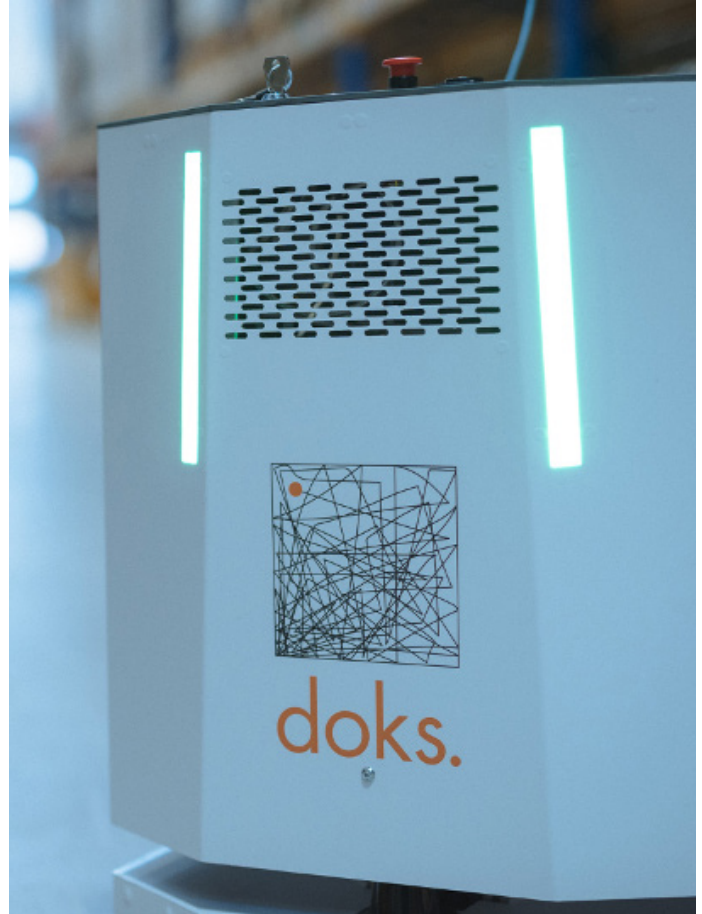**RAWview**

Revolutionising the warehouse & logistics industry with a drone automation programme

Revolutionising the warehouse & logistics industry with a drone automation programme

As many warehouses expand in size, and the need for efficiency increases with the continued rise of ecommerce, businesses are frequently incorporating automation and robotics into their operations.

As part of this move towards automation, drones are increasingly used in the logistics sector, particularly within warehousing operations, performing tasks like inventory checks.

Here, we look at the applications of drones in warehouses, the benefits of using drones in this environment, and how to overcome the potential issues the project may face.

Benefits of using drones in warehousing

The use of drones in warehousing offers several benefits, including:

Accessibility
Drones can make certain warehousing tasks more accurate and accessible. Specific processes, such as the cycle counting of inventory can be difficult and potentially hazardous to complete manually, due to being challenging to reach or access, using drones resolves this common problem.

Affordability
The use of drones is also affordable, dramatically reducing the labour and equipment costs involved in completing manual inventory tasks. While there is a cost involved in deploying and operating a fully autonomous drone operation, the cost savings made through greater efficiency, more productive utilisation of staff, and elimination of human error all contribute to delivering an impressive return on investment (ROI), with payback periods often less than 12 months.

Furthermore, companies can offset 100% of the operating expenditure against their taxable profit – effectively reducing their tax liability to the tune of 19p of every £1 invested in their drone programme

Scalability

Driven by software, drone solutions are scalable and can be customised to meet the warehouse's specific requirements.

Safety

Drones can be used to scan items that are stored high up, eliminating the need for workers to operate at height and reducing the time that MEWPs are in use. This is not only beneficial for your staff, but can help avoid costly health & safety incidents.

Automation

Drones can navigate through even the most complex warehouse layouts without any human input.
So, using software-based drones, it is possible to automate tasks, such as inventory counting. This improves workforce productivity and currency of inventory records, whilst removing the reliance on human input resource.

In addition to this, drones can also be used to gather date and location proofed images of each bin location, which can be used for statutory audits.

Specific drone applications in warehouse management

Drones can be used in several warehouse management applications, including:

Cycle counts

This is the most common application of drones in warehousing. When inventories are carried out and managed manually, teams must walk around the warehouse, scanning or physically counting items. The process is inherently slow, labour-intensive, dangerous, expensive, and prone to inaccuracies.

Autonomous warehouse drones are proven to increase inventory accuracy, reduce labour costs and minimise health and safety risks amongst the workforce. It also frees up your team for other duties that can't be as easily automated, ensuring you're getting most value from your workforce.

The ROI for inventory management is clear – autonomous drone inventory counts are typically 3x faster and 3x more cost effective than manual counts.

Intercompany collaboration

Scanned inventory reports can be securely accessed by any authorised person, meaning 3PL companies can provide their customers with near real-time information about their stock.

Empty-bin audits

Tight integration with your WMS means that autonomous drones are able to validate that each bin location matches the data in your WMS. For example, if the WMS indicates that a series of bins are empty, the drone will autonomously navigate to those locations and confirm or deny if they are indeed empty.

RAWview

Put-away audits

Busy warehouse operations, with fast-moving inventory, can be prone to human error. This can take place in many forms, but one that can cause the most significant bottlenecks is where put-away errors occur.

Deployment of an intelligent, fully autonomous drone solution can quickly detect any errors in the put-away process, therefore eradicating time wasted on searching for misplaced pallets.

How to deal with the challenges to drone automation in Logistics

What are the obstacles in warehouse automation with drones?

Physical obstacles

When implementing warehouse automation with drones, there are likely to be physical obstacles in play; both permanent and mobile in nature. These obstacles create challenges that must be overcome when deploying autonomous drones.

Limited space

Warehouses differ significantly in terms of size and layout. In addition to potential physical obstacles, limited space caused by VNA rack layouts create challenges that must be overcome when deploying autonomous drones.

Physical objects and environmental factors, such as low ceilings, hanging lights and intrusive shelves need to be accounted for when planning a drone programme.

Navigation

With the majority of warehouses being deprived of reliable GPS signals - the usual method for navigating autonomous drones - any indoor drone system needs to include a robust alternative.

Integration

Current logistics and warehouse management processes have likely been in place for many years and were not developed with the use of drone automation in mind. Integrating drone automation into existing logistics processes can be time consuming and requires careful thought to ensure it augments the workflow, not hampers it.

How to overcome these obstacles with good planning

As you can see, there are many things to consider if you want to fully realise the huge benefits drone automation can bring to your logistics operations. Fortunately, good preparation and planning means these potential pitfalls can all be overcome.

A good drone programme should start with a clearly defined three-phase approach to plan, develop, and support the integration of drone technology into your warehouse logistics.

RAWview

This preparation starts with a detailed feasibility analysis, followed by a pilot deployment and finally, a full-scale production roll-out. The end goal is an end-to-end drone operation that is tuned to your environment and existing management systems, which can then be rolled out across your other warehouse facilities.

Feasibility Analysis

This stage should assess the benefits, potential risks, impact on existing business processes, sustainability, and scalability, as well as costs involved in the automation.

This analysis stage is designed to establish how the drone automation would work effectively, providing the data to back it up.

Careful planning at this stage leads to a successful and cost-effective deployment.

Pilot deployment

The pilot stage involves the on-site implementation of a full-scale version of the solution for a three month period, in order to start tuning the technology to the environment in which it will be deployed. This stage should be used to assess factors such as data security and privacy, reliability, and ease of integration into the warehouse's operations.

The purpose of a pilot deployment is to allow us to review, adapt, and fine-tune the process until both our team and yours are 100% happy with the outcomes.

Production deployment

Once the pilot deployment has been successfully completed, full-scale production deployment at all target warehouses can then begin.

RAWview - the perfect team to solve your logistics challenges

RAWview is perfectly placed to solve your logistics challenges. We're motivated by giving businesses access to the drone automation programmes that take their operations to the next level. Our experience in this area is what makes us perfectly placed to both identify and solve the common issues warehouses face.

We're using our expertise to offer a fully autonomous, drone-based inventory counting solution that will help overcome the challenges faced by warehouse operators, enabling a cost-effective transition to autonomous aerial warehouse inventory scans.

"As warehouses seek to gain a competitive advantage from the use of cutting-edge technology, the commercial drone industry in the UK now includes the deployment of drone fleets for supply chain and logistics applications. RAWview is excited to bring this solution to key European markets and to ensure that customers have reliable access to on-site support, service and economies of scale."
Joseph Waldron,
Product Integration Director

Read our case study to see how we can revolutionise your warehouse and logistics operations. Once you've decided to take your first steps into the world of drone automation, download our business case whitepaper to see how you can demonstrate the benefits of a drone programme to your board.

RAWview