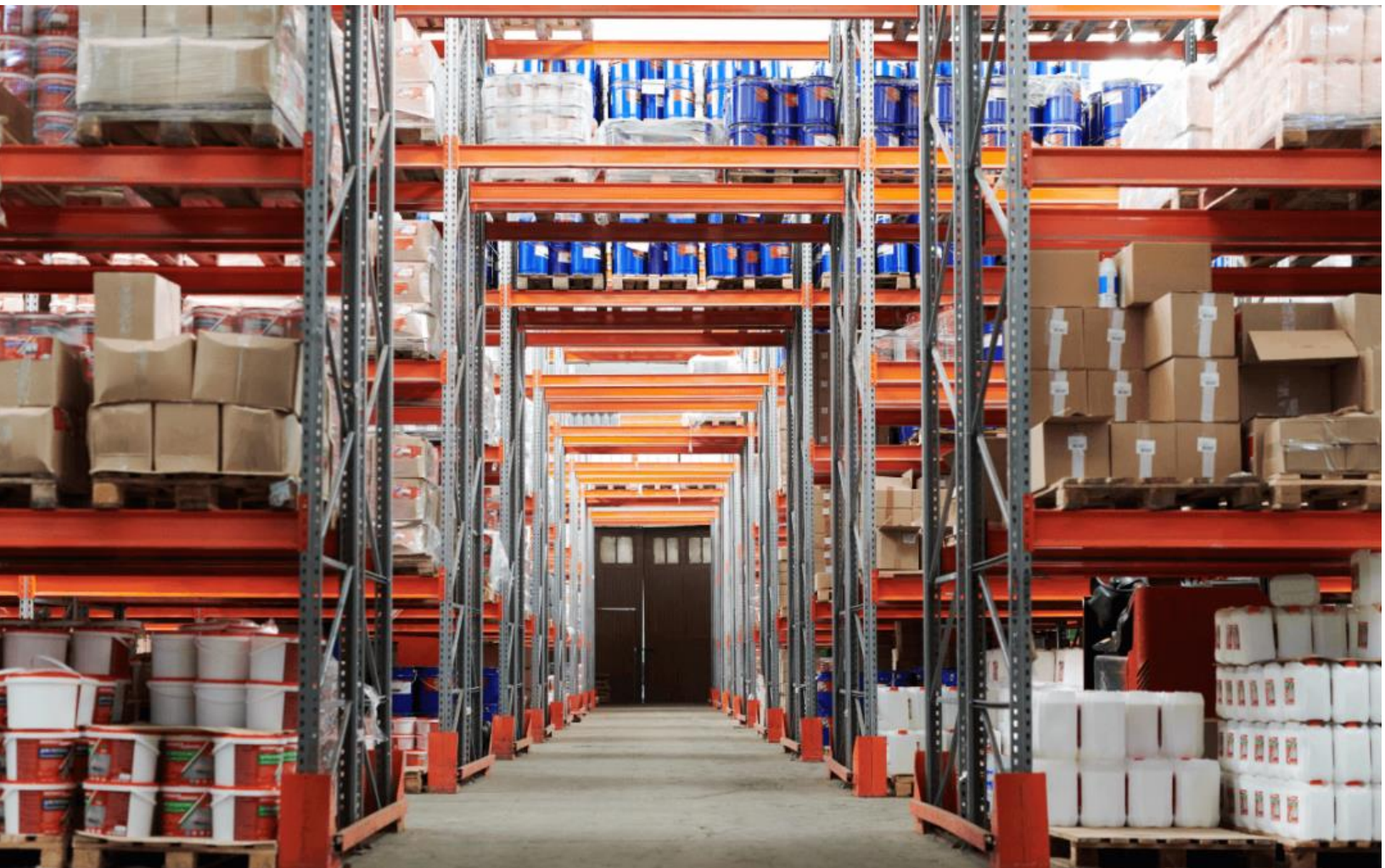




COVID-19 Fast-Tracks Intralogistics Automation

Guidance Automation Research Report



Introduction

In April 2021, [Guidance Automation](#) commissioned Sapio Research to undertake research to understand the importance of intralogistics automation, including the role of Autonomous Mobile Robot Technologies (AMRs) within companies that have a warehouse, fulfilment, production or distribution operation. The research assessed the current level of awareness and confidence in technology, including AMRs, the need for automation and plans for adoption, as well as the impact of automation on employees.

Key Findings >>>

A third of businesses (33%) say intralogistics automation is critical to business success - rising to **42%** of manufacturing/engineering companies.



One quarter (**25%**) of companies have accelerated the adoption of automation as a result of COVID-19.



*Over half (**54%**) recognise the impact automation has on making workplaces more COVID-secure.*

Two in five say social distancing has made manual process flows unworkable.

Confidence in intralogistics automation technology is high - almost three quarters (**73%**) of companies that say intralogistics automation is critical to business success, expect to achieve an ROI on AMRs.



Just over one in ten organisations are already using AMRs - and two in three (**68%**) companies have plans to invest in the next six to 12 months.



Automation is driving the need for a digitally enabled workforce - with **54%** saying automation will be positive for the existing workforce.



COVID-19 and Brexit accelerate automation

For any manufacturing or logistics business, the double whammy of COVID-19 and Brexit has had a significant influence on day to day business operations. On the plus side, the huge growth in e-commerce during lockdowns has [increased demand](#) for many companies, providing new customers and unexpected growth. The challenge, however, has been fulfilling these orders. With many European staff opting to return to their home countries during the pandemic - and as a result of Brexit - there is a notable reduction in available employees.

According to a [report](#), the easing of restrictions has led to a rapid increase in job vacancies - up 36% in logistics and warehousing, 33% in retail and 27% in manufacturing within weeks. There are now almost one million unfilled vacancies in these industries - and others including hospitality - with a rapid drop in interest from overseas employees exacerbating the recruitment challenge.

In addition, while the majority of office workers have had the luxury of working from home, any business with manufacturing, warehouse and logistics operations has had to find new ways to operate while maintaining employee safety, such as through adherence to safe distancing guidelines.



Employee safety drives automation

The survey confirms that it is the changes created by COVID-19, rather than Brexit, that have had a bigger impact on organisations' plans for supply chain automation: one in four (25%) companies confirm the pandemic has accelerated their plans.

While over a third (37%) recognise the increase in customer demand - including more frequent and complex orders - is affecting the business, it is the new operational challenges that are the primary drivers behind automation. Over half (54%) cite the need to safeguard employees by adhering to social distancing guidelines within the workplace - a figure that rises to almost two thirds (64%) of smaller companies (employing five to 100 staff). Furthermore, 40% confirm social distancing has made manual process flows unworkable - rising to 49% for companies that run both manufacturing and distribution operations. Almost a third (29%) also admit that the labour shortage is affecting the business' plans for automation.

One third of businesses say intralogistics automation is critical to success.



Adapting to the new pace of change

Online ordering is far from the only change that has become embedded within society over the past year. Working from home is no longer the preserve of forward thinking companies, but now a standard part of employee contracts. Companies have been forced to adapt and, in the process, have gained confidence in the power of technology to safely enable changing working models. This nonlinear change also applies to the speed with which companies want to introduce automation throughout the supply chain.

After the challenges of the past 18 months, companies recognise the need to insulate the business from future disruption - from pandemics, staff shortage or some, as yet unforeseen challenges. Using automation to future proof the business will make companies less reliant on a transient workforce and add the agility required to support the peaks and troughs of demand without affecting the underlying cost model.

Automation encompasses myriad solutions - with warehouse management systems, barcoding and conveyors leading the way. Robotics are gaining ground fast - both AMRs and robotic picking are in the top five automation intralogistics technologies.

Just over one in ten organisations are already using AMRs - and two in three (68%) companies have plans to invest in the next six to 12 months.

One third (32%) of businesses believe the implementation of AMRs to automate materials movement would lower operations costs, a quarter (25%) increase productivity and 24% reduce pick/pack errors. For those involved in Retail/ Retail Distribution/ Wholesale/ Ecommerce, 35% expect to benefit from more accurate order fulfilment, accentuating the importance of meeting customer needs first time to minimise expensive returns management.

Companies are also confident that investment in automation in general and AMRs specifically will deliver a return on investment. Over half (54%) expect intralogistics automation to generate a return higher than the investment. For those companies that deem intralogistics automation as critical to business success, 73% expect an investment in AMRs to return more than the investment.



Addressing barriers to adoption

While confidence in the value of automation is high, the research reveals a number of misconceptions that could undermine the speed with which companies embrace this technology and achieve the expected business goals. While half of respondents believe AMR implementation is a gradual process, the other half expect it to result in a sudden change to warehouse or manufacturing operations. Companies recognise the importance of warehouse / manufacturing processes - with over two thirds (68%) saying that understanding processes is just as important as the automated solutions being implemented.

They also recognise the need to review these processes as part of an automation project - something that is vital to maximise the value of a robotic solution. From the number of SKUs to the distance travelled on each route, a variety of factors will influence the number of AMRs required. Furthermore, by running a simulation of how the automated model would work in practice, an organisation can highlight opportunities to optimise the batching of orders to dispatch to the AMRs, gaining further efficiency advantages.

Fast tracking automation

However, companies expect both aspects of the implementation process to take far longer than the reality. While companies that are using AMRs confirm the entire project took 20 months (9 months for process mapping and 11 months for implementation), those that have not yet embarked on a project expect it will take more than 25% longer (26 months). It is also telling that those companies with no plans to implement AMRs believe it would take 33 months - a timeline that is potentially deterring investment. The average expected cost of AMR implementation is £300,000 - which is a sizeable investment for all but the largest companies.

There are many ways in which robotics suppliers can address these barriers to adoption - from minimising the upfront capital expenditure by offering equipment rental, to taking an incremental approach to automation. AMRs, for example, are designed to work seamlessly with existing operations, from WMS to ERP, enabling rapid adoption with minimal disruption. AMRs can be deployed one by one - a model that both provides companies with a chance to address specific areas of operational



challenge, and gives employees a chance to be part of the business change and gain confidence in the robotic technology.

Safe and supported

Another misconception affecting adoption is that 38% of companies cited the lack of trained employees to maintain the automated systems as a barrier to implementing automation in an organisation's supply chain with the use of autonomous mobile robots (AMRs). This should never be an issue: any AMR acquisition includes a Service Level Agreement and excellent support, just like any other piece of manufacturing or warehouse equipment. Companies simply do not need dedicated AMR maintenance staff.

Putting that concern to one side, the next issue on the list is also one that, while understandable, can be quickly addressed. Almost a third (32%) raise concerns about the amount of downtime required to upgrade and 31% about the extent of overhaul required - yet every vendor recognises the vital importance of avoiding business disruption. From running new systems in parallel to trial the technology - and only switching over when the new process has been proven - to starting small and scaling up, automation should be achievable with minimal disruption and upheaval.

Creating a digital workforce



The introduction of automation in general, and robotics specifically, is often perceived to be a negative for the existing workforce. But in fact, just over half (54%) expect automation to have a positive impact on warehouse or manufacturing plant employees.

Benefits of automation on working life include less repetitive and strenuous manual work (49%), relief for overworked staff (40%) and providing workers with an opportunity to upskill (39%).



It is interesting to note that in companies where intralogistics automation is critical to business success, over half (52%) cite upskilling workers as a key benefit, while 42% say it will result in a higher wage / incentives for employees.

There is a concern that jobs could be lost due to automation (38%) - yet with the labour shortage affecting the industry, for most companies the combination of retraining and upskilling with natural wastage should minimise job losses. Furthermore, companies will be well placed to scale up in response to growing online sales without the challenge of adding staff.

Automation also provides companies with the chance to create a far more consistent performance model, especially within warehouses where the difference between the best and worst manual pickers can be very significant. Reducing the reliance on physical picking activity adds flexibility to the business, introducing more options for job sharing and part time working, which could help to address the recruitment shortfall.

A number of companies (37%) also raise concerns about staff safety when working alongside robotics. However, safety is an absolute priority for all robotics vendors - not least due to the fact that senior management of these companies are personally liable for any health and safety breaches under UK law. AMRs can be programmed to move at any speed - typically operating at walking pace when used side by side with employees, and faster if deployed in a separate gated environment. With built-in safety features, including emergency stop, self-driven vehicles such as forklift trucks are far safer than those relying on human drivers.



Conclusion

After 18 months of extraordinary global upheaval, businesses of every size are refocusing, rebuilding and adapting to new challenges. Our research confirms the focus is positive - with companies prioritising increasing sales (51%) and business growth (42%), including merger and acquisition. Businesses are also looking to boost efficiency (41%) and cut costs (37%), as well as increase employee engagement (36%). Digital transformation (31%) is also a key business goal - with a quarter (25%) specifically citing AI, robotics and automation as business priorities, a figure that rises to 35% in companies with over 500 employees.

With the majority of businesses looking to deploy AMRs over the next year, companies clearly want to push forward with automation - both to future proof the business and achieve a far more scalable operational model. It is therefore crucial to achieve an implementation model that delivers rapid ROI - which means taking a tactical, incremental approach. Starting small - with just a handful of AMRs, for example - will deliver rapid improvements by automating repetitive tasks and allowing employees to be redeployed to more intelligent or complex jobs.

The additional benefit of this tactical approach is that it provides a gradual evolution for the workforce, enabling an organisation to manage expectations and build up new skill sets to ensure staff remain both motivated and valuable.

Change is now essential. Confidence in intralogistics automation technologies is high. The key is to ensure companies find the correct way to utilise technology to manage that change - and that means a fast, scalable, incremental approach that delivers fast return, builds confidence and creates a clear roadmap to a digital business.



About Guidance Automation

An award-winning pioneer in guidance, navigation and control technologies, Guidance Automation has over 25 years' experience in developing advanced solutions for the global robotic vehicle market and has thousands of systems in service.

Our aim is to consistently meet our clients' needs by offering automated guided vehicle technologies which serve the market need and improve operational performance and efficiency.

We are proud to have enabled our clients to automate robotic vehicles, fork lift trucks, floor cleaning equipment and all types of mobile moving systems. These solutions have been applied in a broad range of autonomous transport applications such as airports, warehousing, healthcare, production, bottling plants, printing, retail, marine and more.

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