



The Elastic Warehouse

**Because when the world is constantly changing,
you need to flex for success**

More than ever before, organisations are challenged to generate greater efficiencies and better performance because consumers are demanding more.

Once upon a time, people used to take a trip into town to purchase anything they needed. But life isn't like that anymore. Today, our lives revolve around convenience, so habits, such as online shopping have become more prevalent – 57% of consumers actually prefer to shop online, with a third stating the primary reason is their ability to shop 24/7¹.

Online sales continue to increase 64% year-on-year¹, and by 2024, online shopping is forecast to account for 19.3% of total retail spend².

It's driving demand for different delivery methods, such as 'buy now pay later' schemes, and 'click-and-collect', which 58% of Internet users aged between 18 and 25 have tried³.

But it's also changing expectations.

Less than 5 years ago, online shoppers were happy to wait 4.8 days for a package delivery – today, it's just 2 days⁴. Online retailer Amazon has played a huge part

in making 2-day shipping the 'norm', and for its Prime members, the expectation is greater still – next, or even same-day, delivery.

But enabling your business with the logistics required to meet the demands of online shoppers isn't that simple.

And it's not just retail feeling the pain. Take the pharmaceutical sector responding to demand for drugs in health care, to the manufacture of construction materials required to meet the surges of house building, through to components for electronics. Industries across the board are having to find ways to be more agile and get more out of their investment in warehousing and technology.



The lack of available warehouse space

According to data from Logistics Management and Peerless Research Group, on average warehouses are operating at 68% capacity - although 15% said they were full, with a further 19% somewhere between 81%-99%⁵.

Despite the industry's best efforts, the hard truth is that the current growth rate isn't enough. Demand for warehouse space has outpaced supply since 2010⁶, with demand set to increase by 53% over the next 2 years⁶. Plus, peak times of year already cause a surge in demand - everything from Christmas when a typical household spends an additional £800 in December⁷, to political uncertainty related to Brexit which has created stockpiling of critical medicine, foods and drinks, and raw materials.

Assuming you manage to secure the space you need, then you will have a number of other practical hurdles to overcome. The four principal ones are:

Updated delivery requirements

65% of retailers are planning to offer a same-day delivery service within the next 2 years to meet consumers' growing demands⁸. But achieving that delivery window requires huge logistical changes in the warehouse. And with 90% of consumers now tracking the delivery status of their order⁹, you need to be set up to provide the real-time status they crave. If you are involved at any point along the supply chain - from raw materials to finished goods, you'll feel the impact of the consumer demand.

Accounting for reverse logistics

30% of all products ordered online are returned, compared to just 8.89% in brick-and-mortar stores¹⁰. It's

costing retailers 8% of their total sales¹¹ since reverse logistics requires additional labour to process the returns, and about 20% more warehouse space¹². When you consider that only half of returned items can be resold at full price¹³, planning how you deal with returns and setting your warehouse up accordingly really is crucial to maintaining a healthy profit margin.

Trading globally

Trade deals control the flow of goods into the country. But during times of political uncertainty, issues arise - ahead of the December 2019 General Election, three-quarters of warehouse owners claimed to have no available space after retailers stockpiled goods amid uncertainty around Brexit¹⁴. And then there's the workforce itself. Here in the UK, EU workers currently make up 13% of the entire logistics workforce, but declining EU net migration has contributed to a 43% rise in job vacancies over the past couple of years¹⁵. Mitigating these risks with appropriate controls is essential to surviving the global markets.

End of life tech

Despite Microsoft phasing out its Windows Embedded Handheld operating system (OS), 50% of decision makers expressed that they would remain with this legacy technology after its end of life phase¹⁶. Without security patches or software updates, these organisations are exposed with attackers actively targeting the known security vulnerability. Therefore, transitioning from legacy Windows is a business necessity, and there really is no better OS than Android™ since it's already used in 80% of smartphones around the world¹⁷.



Logistics managers now have a complex problem

The puzzle is now about how to manage all these challenges while maintaining the more predictable day-to-day demands of the warehouse environment.

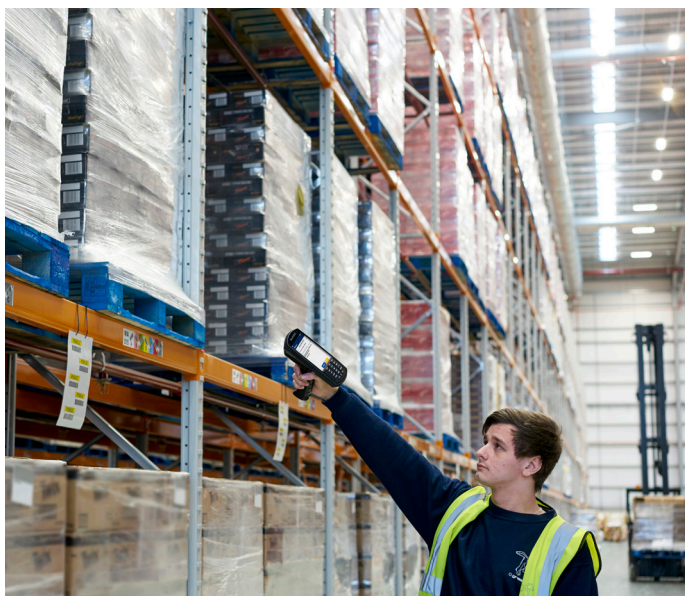
So how do you:

- Support the introduction of new shopping channels,
- Have the flexibility to manage more volatile 'trends' until they are a proven commodity,
- Hit Service Level Agreements (SLAs),
- Avoid introducing any risk to the supply chain,
- Deliver it all within the same confines of the existing warehouse,

and still maintain a healthy bottom line?

With a finite amount of resource, investing millions in building state-of-the-art facilities to create new super hubs is probably out of the question for most organisations. Some might look into more modest expansion. But with annual costs for warehouse space typically ranging from £50,000 to £300,000 per square meter¹⁸, the cost may be prohibitively expensive. While others will focus on re-engineering and streamlining their existing facilities in an attempt to create efficiencies in the supply chain.

But there is another option. The Elastic Warehouse.



The Elastic Warehouse

An alternative concept is the Elastic Warehouse, which allows organisations the flexibility to bend, grow or shrink in line with the demands of the supply chain at a moment's notice, all within the parameters of their existing property.

The approach provides companies with:

- The flexibility to meet fluctuations and unplanned changes to demand.
- The potential to take on more contracts and not forfeit seasonal work.
- Financial stability, accounting for fluctuations in a far more controlled way.
- Increase workflow without jeopardising SLAs or impeding regulatory standards.
- Improved staff efficiencies from well organised working conditions.

Achieving it is reliant on adopting a new model that best suits your operations and your future ambitions, along with the underlying supporting technology.

The 4 models to create the Elastic Warehouse

- 1. Elastic Overheads:** existing tech, people and warehouse space investments work harder.
- 2. Elastic Outsource:** outsourcing warehousing and distribution of key seasonal lines for a finite period.
- 3. Elastic Tech:** a complete technology-lead implementation.
- 4. Elastic Blend:** cherry pick elements of the first 3 approaches for the ultimate financial and operation control.

Model 1. Elastic Overheads

Using the latest technology to optimise all assets, including technology, people and warehouse space, this model focuses on how to make your existing investments work harder.

At its core sits a process management system, which is coupled with handheld technology used to check in, find, pick and allocate stock as the warehouse expands. And it works best when the scheduling tools link directly to the ordering and fulfilment systems. Now you can accurately

forecast stock levels and demand at any time and plan your resourcing appropriately.

Choosing to adopt an Elastic Overheads model is likely to include the following initiatives:

- **Evaluate employee demographic:** to understanding the language differences and identify training gaps, which need addressing to improve productivity.
- **Take an inventory:** to identify equipment requirements, which could include anything from forklifts to picking arms, totes, racking and shelving.
- **Technology review:** to check that your hardware, applications and work management tools are agile enough to cope with fluctuating demand.
- **Special considerations:** if you're adopting voice picking technology, consider that your workforce might not have a good command of English so chose the right language settings.
- **Process review:** to eradicate obsolete processes, improve broken ones, and introduce new ways of working.
- **Device review:** to ensure you have sufficient devices to deal with peak times, and enough chargers so new shift workers never run out of power.
- **Wireless site survey:** to ensure you optimise your wireless coverage across the warehouse, which can get blocked by racking.

Model 2. Elastic Outsource

Adopting this approach maintains the status quo of the day-to-day operations. It ensures the existing operation remains focused on the core lines, by using a third-party to take on the seasonal demand for a finite period.

The technology is integrated easily with the third-party provider to ensure the management teams have access to key information, regardless of where the stock is geographically, or which company is managing that stock.

Choosing this model is particularly useful when:

- The extra capacity is required for a finite period of time, for example, over Christmas.
- The day-to-day demand for core lines is steady and already deemed to be at full capacity.
- There are strong economics, or the benefits outweigh the cost.
- The suppliers of the seasonal lines are different to those of the core lines.

Model 3. Elastic Tech

This approach is concerned with using the existing footprint more efficiently by implementing technology across the whole supply chain to bridge any gaps. It's ideal for bigger operations that manage large volumes of goods, or disparate warehouses and distribution centres.

Typical technology implementations include:

- **Handheld data capture:** using devices to quickly scan items into the warehouse and send them to the designated storage area.
- **Warehouse Management Systems (WMS):** using barcodes to identify items quickly and easily within the warehouse, with orders fulfilled with 100% accuracy.
- **Applications:** to provide real-time information about the speed of operations, as well as uncovering and alerting management teams to bottlenecks.
- **Mobile printers:** to produce customer order/address labels that can be put onto pallets as soon as they are picked, which avoids delays.
- **Integration:** connecting the dots between all other enterprise systems with those used by the retailer and supplier.

Model 4. Elastic Blend

For most logistics distribution centres, the Elastic Blend is the best way forward, since it takes the best of all the previous 3 models; adopting and implementing the latest technologies are complemented by improved processes and supported by trained people to deliver the best outcome.

It's best suited to larger operations that:

- Accommodate 24-hour delivery schedules for inbound vehicles.
- Have the capability to integrate their systems into supplier and customer systems.
- Need to retain control of the end-to-end supply chain no matter the scale of the extra demand.
- Rely on efficient distribution and stock transfer for various delivery/collection services.
- Have investment readily available for hardware and training.
- Demanding SLAs with hefty financial penalties.



5 steps to identify the best model for your organisation

Taking the decision to adopt an Elastic Warehouse approach sets the path for growth, creates the opportunity to take on larger contracts and helps to differentiate or diversify your offering. But achieving it requires careful planning:

Step 1: perform a gap analysis

You need to identify where your 'problem areas' are, before you can start planning how to address them appropriately. It's important to be clear on what you need the Elastic Warehouse to achieve for your business.

For example:

- Do you want to diversify and move from frozen into perishables, or introduce more seasonal ranges into your FMCG operation?
- Do you want to take a slice of the international export market?
- Do you want to specialise in a particular high-risk, but high-profit market?
- Do you want to offer more choice to customers as to how and when they receive orders with services, such as click-and-collect?

Step 2: map your processes

You need to identify 'what should be happening in your supply chain' versus 'what is actually happening in your

supply chain'. This allows you to identify current points of weakness, processes in need of improvement, and areas where your technology/staff/facilities aren't being used to their full potential.

Step 3: map the physical layout

Regardless of the model you choose, one of the key components to creating an Elastic Warehouse is making sure that the physical layout of the warehouse is correctly specified. Software can help you to play around with the configuration and get the racks laid out in a logical order for goods inward receipting and putaways, bulk storage and quality or quarantine checks areas, and goods out.

Step 4: consider your SLAs

Moving towards an Elastic Warehouse model will require change that could affect the SLAs you currently have in place. Consider if/how you need to update them, and whether it's possible to deliver a better/different service that differentiates your organisation.

Step 5: introduce a WMS

Using a WMS you can eradicate many issues by giving structure and sequence to how stock is organised and managed within the warehouse. Adopting software to assist, rather than traditional paper-based systems, enables you to significantly improve the accuracy of your operations, while leveraging automatic identification and data capture for better reporting.

In the spotlight...

30% of errors are due to the operator picking the wrong item, but by integrating technology into this process, you can eliminate those inefficiencies. There are 2 main types of picking technology to choose from:

- 1. Radio Frequency Scanning:** using handheld scanners with built-in screens, which use barcodes to identify every SKU in the warehouse. It offers an expected pick rate of 50-190 lines per hour, accuracy of up to 99.5% and savings of up to 25%.
- 2. Voice:** using headset technology where an operator informs the user of where to go and how many items to pick. It offers an expected pick rate of 175-275 lines per hour, accuracy of up to 99.97%, and efficiency savings of up to 25% over Radio Frequency Scanning.

We can help you plan for success in the Elastic Warehouse

Every organisation is different, comprising varying warehouse footprints, geographies, skills, technologies, customer profiles and locations, as well as regulatory and perhaps cross-border legislation and compliance.

Embarking on a programme of change comes with many challenges. And understanding the pitfalls and planning to manage them is a critical part of the Elastic Warehouse puzzle. But get the balance between technology, process and people right, and the rewards can be great.

While many organisations set out with the best of intentions - some even getting as far as creating a new organisational blueprint - sadly for many companies it never becomes a reality as the change programme is deemed too ambitious.

Yes, building an Elastic Warehouse is an ambitious undertaking – but it enables ambitious strategies to be

realised. The Elastic Warehouse really is the best way for any company to grow its customer base, open up new markets and unlock new territories, while returning real value back to its shareholders – and we can help you.

Well experienced in this arena, we can work with you to determine which model is best for your organisation, and how to:

- Align it to a 3 or 5-year plan, which ensures a healthy return on your investment.
- Ensure that the enabling technology is fully adopted across the business.
- Help your people to see their future role in the new Elastic Warehouse, and how the proposed changes improve their working day, give them the ability to achieve more and fulfil their own potential.

For more information visit TouchStar's website at www.rugged-mobile-computers.co.uk or talk to our experts today +44 (0) 161 874 5050.

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