

OBTAINING A SMALLER FOOTPRINT WITH STOREGANIZER





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Improved storage density enables creation of larger picking faces for hot SKUs, saving hours in the replenishment process

Obtaining a considerably smaller footprint within Ingram Micro's 25,000 m² warehouse facility at Northampton in the UK was the first challenge in a multiphase optimisation project. Storeganizer proved to be the perfect solution to achieve the desired space utilisation. Once the six phases are completed, this initial gain in space will translate into greater picking efficiency, ultimately eliminating about 90% of the current replenishment time and allowing Ingram Micro to reduce the cycle time to an average of two hours per order.

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The challenge

An alternative to rigid racking

Ingram Micro's Northampton site manages the national distribution of computer-based products on a next-day delivery basis. One half of the warehouse distributes full case large items, while the other half distributes the smaller accessory type items. Rob Billingham, Ingram Micro's Operations & Lean Manager, explains how for the smaller items, they were in the market for an alternative to the rigid, space-hungry longspan shelf racking structure they had been using for about fifteen years.

“We took an underused space and fitted the Storeganizer solution. Space is the major gain. Time and efficiency are secondary benefits.”

Rob Billingham, Operations & Lean Manager, Ingram Micro



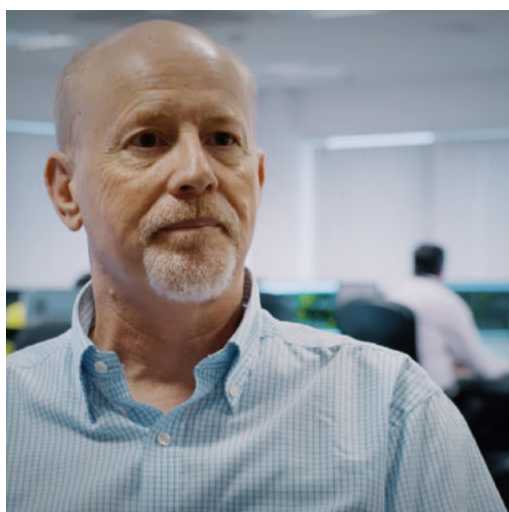
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Looking for the right fit

“We have 15,000 active SKUs and we would probably pick from 3,000 in any one day, which means we were only hitting one in five of our products,” says David Cuddeford, Principal Engineer at Ingram Micro. “If on average you’re passing four SKUs to get to the one you want, the journey time on those slow movers poses a problem. We had already established that carton live storage racks suffered from full volumetric cube utilisation, and that double steel static and draw cabinet type solutions lacked finesse. We considered solutions like vertical carousels or paternosters, but the advantages those offered were far less than those of a Storeganizer solution, and the costs were different as well. What appealed to us most was the simplicity and flexibility of the Storeganizer solution.”

Ensuring that Storeganizer matched the profile

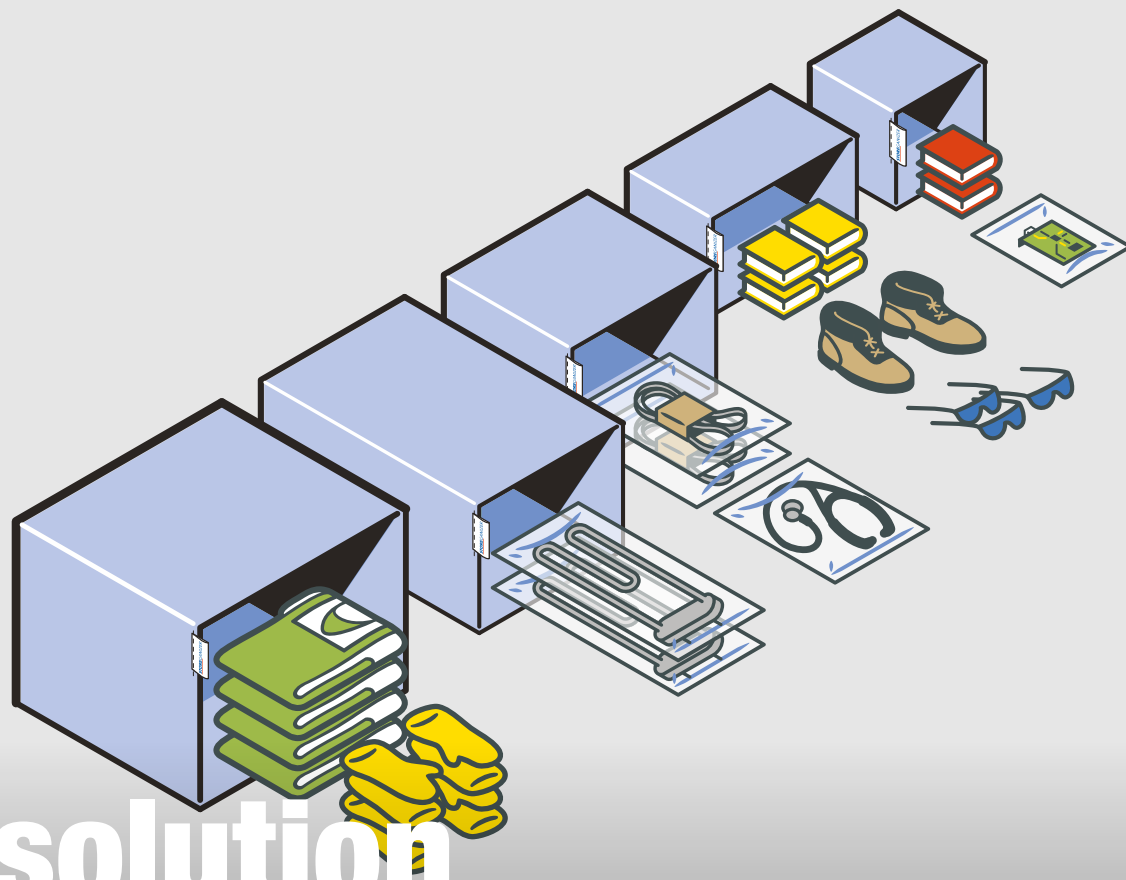
To make sure that Storeganizer was the right solution, the Ingram Micro team visited another distribution centre to see the solution in action. “Initially, we were concerned that, once the pockets were stocked, it would be too difficult to move several columns aside at once,” says David Cuddeford. “But our concerns proved unjustified.”



“Considering a Storeganizer solution to compete against carousels, flow racking or even low level mezzanine structures is a worthwhile exercise. You’ll probably find that you’ll get most of the benefits at a fraction of the cost.”

David Cuddeford, Principal Engineer, Ingram Micro

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The solution

Smooth collaboration

Further collaboration with Storeganizer went seamlessly, Rob Billingham and David Cuddeford agree. “We have a world-class inventory control department which already organised storage based on cube and pick activity. Therefore, we already knew what our optimal mix of location sizes and numbers were. Then it was a matter of coordinating with Storeganizer to achieve the best modular fit in the rack, as a custom solution needs to be defined for your own business. This is not an off-the-shelf solution, so you need to appreciate that in the lead time, but we’re still talking only weeks for the installation,” explains David Cuddeford.

In July 2017, 22 Storeganizer bays were installed in the Ingram Micro warehouse, in three different sizes, in front of a conveyor belt.

Size	N° of bays	Measurements (mm)	Pockets/bay	Pockets/column
S	6	300 w x 330 d x 200 h	522	9
M	6	360 w x 260 d x 200 h	270	9
L	10	550 w x 500 d x 450 h	44	4





Timely delivery and installation

“We had very positive experiences when it came to timely delivery and installation from start to finish,” says Rob Billingham. “Storeganizer did everything in its power to have it finished within the two days we agreed on.” The current solution occupies 91 m², already optimising the space by 80% and releasing twice as much space as the previous solution. About 3,667 different SKUs, representing about a quarter of the actual picking inventory, are divided over the 5,109 Storeganizer pockets, which is about 70% of its fill. This is fairly standard, as a 20% zonal buffer is aimed for. Every pocket is single SKU, although some SKUs may occupy more than one pocket. To address concerns about the lighting, the pockets have translucent backings and some extra space was left on top of the bays. “Thanks to those minor adjustments, a surprising amount of light penetrates in between the rows, even when you pick from the fourth row,” says David Cuddeford.

Step by step

The Storeganizer implementation is part of a larger six-stage restructuring project to release space elsewhere. Storeganizer’s essential purpose is to condense the picking face and release that space for faster movers, which can be given bigger locations. The Ingram Micro Warehouse Management System (WMS) works on a cube fill algorithm for directing the put-away. The next phase will be to start managing the velocity to make sure that, where the Storeganizer solution is concerned, the faster movers go into the front row and the slower ones go successively deeper into the solution. By default the front row will be filled first. At the moment, 40% of the picking from the Storeganizer solution is from the front row, whereas only 5 to 7% is done from the back row.

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Strategic purpose

Part of the Ingram Micro strategy is not to put the fastest moving items in the Storeganizer, says David Cuddeford: “Not because it’s not handy to pick from, but because large quantity replenishment of fast movers is critical during the pick process to prevent stock outs that would affect many orders. It’s more economical to replenish fast movers in pallet-sized quantities. You can spend a lot of money on picking automation, but generally your fastest movers are still best picked by a man in front of a promotional pick face. Due to reduced travel distances, the replenishment of the Storeganizer locations, which is done in case size quantities, can be done faster as well.”

“Storeganizer is easy to get accustomed to. Over the past three months, the picking rates in this section went up by 20%, and they’re still growing.”

Sylvia Piersa, Teamleader, Ingram Micro



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The results

Creating larger picking faces for hot SKUs

According to Rob Billingham, the Storeganizer solution will release about 250 m² as the next phases of the optimisation project are completed. “We took an underused space and fitted the Storeganizer solution,” he says. “Everything that we fill Storeganizer with is coming out of a rigid racking that is taking a lot of room. Space is the major gain. Time and efficiency are secondary benefits.”

Ingram Micro is getting about 15% of all the picks onto the conveyor out of the Storeganizer solution, some 500 picks a day. Previously, 5% of the picks were from carton and longspan shelving. As Storeganizer is installed right next to the conveyor belt, the picking distance to the first row of pick faces is only 1m. On racking, a standard pick is a minimum of a 5m round trip and picking from the furthest point would be a 20m round trip. A pick from Storeganizer takes 14 seconds per pick on average, an improvement of about 10 seconds compared to the previous solution. “With our Storeganizer solution, we obtain a 40% increase on the number of SKUs we hit with every metre of travel compared to standard longspan shelving,” says David Cuddeford. “We use the space we saved for larger picking faces in order to win hours in the replenishment process and to stock shop floor stock-outs and the like.”

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A pleasure to work with

Storeganizer also offers ergonomic advantages, which did not go unnoticed on the floor. “At first, there was some apprehension from the repack order picking teams, as they didn’t know what to expect,” says Sylwia Piersa, Team Leader at Ingram Micro. “But once they started using the new solution, any issues were easily overcome. Actually, the solution was smoothly adopted. We didn’t need any special training to start using it. For anyone who is already familiar with our scanning system, a thorough, ten minute explanation on the allocation, organisation and numeration should suffice to start working in the Storeganizer section. Now, a lot of our order pickers are eager to work in this section, because they’re saving on kilometres. At the end of their shift, they feel less exhausted. Also, the picking rate is easier to achieve. Over the past three months, the picking rates in the Storeganizer section went up by 20%, and they’re still growing.”



The ultimate goal: eliminating replenishment, saving two employees a day

Rob Billingham anticipates two years for the ROI to be achieved: “If all the small product can be removed from our racking, it will probably eliminate 90% of our replenishment. Subsequently, that will save two employees a day, allowing us to reassign 14 hours’ worth of resources. We’re aiming at a two hour cycle time for an order and are currently at five hours on average.”

He also sees potential for a further expansion of the Storeganizer solution in one of the later stages. “We’re still looking at the overall design of the building. Our system is limited in terms of its control on weight, but I think we could replicate two or three more times our current Storeganizer solution. Another major advantage is that we can just pack up the Storeganizer bays and move them if necessary. Even to the point where it offers enough flexibility if we decide that we need to use that bay for pallets.” This represents another advantage not offered by most other solutions, says David Cuddeford. “Wherever you’re considering scenarios that involve carousels, flow racking, or even low level mezzanine structures, looking at a Storeganizer solution to compete against those is a worthwhile exercise,” he concludes.

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About Ingram Micro

Ingram Micro helps businesses realise the promise of technology. It delivers a full spectrum of global technology and supply chain services to businesses around the world. Deep expertise in technology solutions, mobility, cloud, and supply chain solutions enables its business partners to operate efficiently and successfully in the markets they serve. Unrivalled agility, deep market insights and the trust and dependability that come from decades of proven relationships, set Ingram Micro apart and ahead. Discover how Ingram Micro can help you realise the promise of technology. More at www.ingrammicro.com.



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