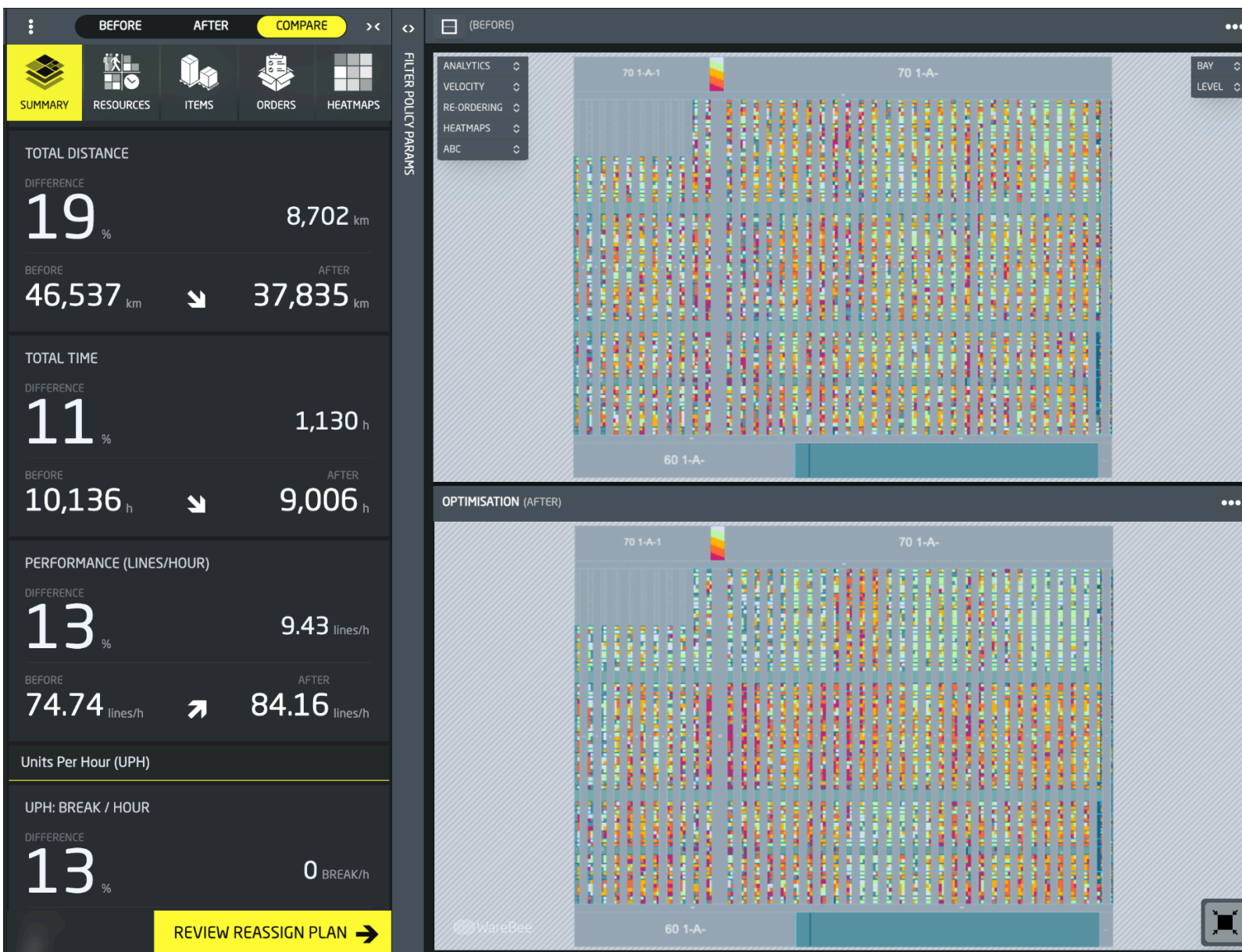




WareBee™

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Case Study

Unlocking Peak Warehouse Efficiency with WareBee

Who Is the Client?

A major UK home improvement retail group with hundreds of physical stores and a strong e-commerce presence. The site under analysis was a national distribution centre supporting daily replenishment, next-day click-and-collect, and online fulfilment. Despite high throughput, the operation faced hidden inefficiencies –

sub-optimal picking path, crushability complaints, and sporadic congestion near popular SKUs.

How Did We Approach the Problem?

WareBee deployed its AI-powered Digital Twin to mirror the warehouse environment. By ingesting historical and real-time operational data, the customer's team ran scenario-based simulations to uncover inefficiencies, create optimisation recommendations, and validate the business impact before any changes were implemented on the ground.

What Did We Find?

Space and Movement Inefficiencies

- Travel distances across picking routes were unnecessarily high, with excessive zone switching and redundant walk paths.
- High-frequency SKUs were not prioritised spatially, leading to inefficient picking, extra replenishment jobs and congestion.

Underused Storage and Picking Assets

- Containers and roll cages were underutilised, with picking density well below operational potential.
- Asset usage (totes) lacked optimisation logic, resulting in higher handling effort per shipment.

Process Blind Spots

- The team had limited visibility into pick density, route efficiency, or SKU placement performance.
- Improvement decisions were reactive, not simulation-tested.

Storage Policy Compliance

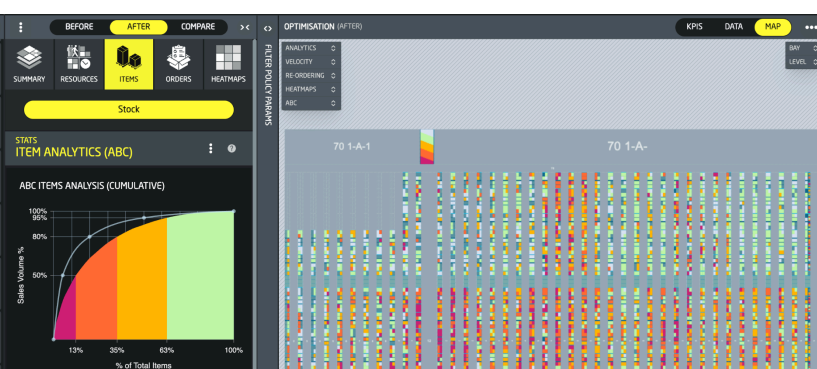
- A few hundred of items were stored in non-compliant locations, violating operational policies around size, weight, or product category.
- Several zones showed 100% compliance, while others had up to **45% deviation**, causing inefficiencies and misaligned workflows.

Replenishment Inefficiency

- Frequent replenishment into suboptimal locations increased handling time and walking distance.

Picking Inefficiency

- Excessive locations visited and suboptimal layout led to longer pick routes and slower fulfilment rates.
- Valuable real estate was occupied by low-velocity SKUs, reducing available capacity in high-turnover zones.



What Steps Did We Take?

- **Layout Simulation & Validation:**
Modelled multiple pick-path and zone configurations using real data to reduce travel and congestion.
- **Zoning High-Turnover SKUs:**
Re-slotted 5,000 SKUs based on velocity, pick correlation (affinity), and ergonomic accessibility.
- **Shipment Asset Optimisation:**
Analysed pick-to-container density and restructured SKU grouping to increase fill efficiency.
- **Continuous Monitoring:**
Activated automated alerts for slot degradation, route friction, and high-variance locations.
- **Operational Benchmarking:**
Quantified baseline performance and simulated improvements before committing any physical changes.
- **Policy Compliance Monitoring:**
Used WareBee to scan for violations across 13 product rules and visualise non-compliance by zone.

What Were the Results?

WareBee's holistic approach delivered ROI improvements within three months.

- **Reduced Travel Time:** Picker walking time was cut by **10%**, enabling faster fulfilment and lower fatigue.
- **Fewer Locations Visited:** Average pick route required **14%** fewer storage locations, increasing efficiency per run.
- **Higher Pick Rate:** Throughput improved by **13.5%**, with no system or labour changes.
- **Improved Asset Utilisation:** Shipment density (picks per asset) increased by **18%**, reducing handling overhead.
- **Replenishment Distance:** Reduced by **16%**, cutting unnecessary walking and stock touchpoints.
- **Optimised Space Utilisation:** Increased storage utilisation by 9%, accommodating future growth without expanding the warehouse footprint.
- **Improved Visibility:** Enhanced data insights and monitoring tools provided real-time visibility into warehouse operations, enabling proactive decision-making and performance tracking.

Why WareBee?

WareBee's Digital Twin allows warehouses to test layout, slotting, and process changes in simulation before making costly decisions. With rapid onboarding and proactive monitoring, WareBee enabled this warehouse to uncover hidden inefficiencies and implement sustainable improvements at scale.