



UNIVERSITY
OF HULL



EVOLVING
A CIRCULAR
PLASTICS
ECONOMY

Case Study **Morrisons**

Development of Decision Support System for Morrisons to better manage plastic value chain.

It takes about 400 years for a polyethylene bag to degrade in a landfill site. The persistence of plastic waste in the environment is unsustainable. Retailers are seeking new, viable ways to reduce their use of plastics. Researchers at the University of Hull have worked closely with Morrisons to develop a cloud-based Decision Support System (DSS) capable of tracking plastic usage and managing waste collection, recycling and disposal, leading to more effective supply chain mapping.

To deliver on these objectives, The University of Hull's Logistics Institute, in collaboration with Morrisons, has successfully developed a cloud-based Decision Support System (DSS) for effective mapping of their supply chain.

Key Business Benefits of the DSS:

Simplifies the complex supply chain through the visualisation and flow of plastics between business units

Assists management by addressing fragmented data capture and storage issues within the business by using a central database

Speeds up the data collation, summary and analysis process to support the business in their work towards meeting WRAP 2025 Plastic Pact obligations

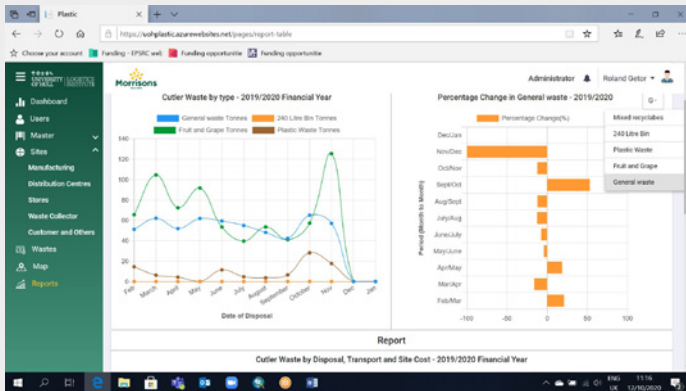
Assists the management team in generating reports, monitoring the progress of target versus actual cost reduction, and highlight best performing sites directly from dashboard.

Equips the team with inbuilt report and map features that assist with illustrating forward and backward linkages, the flow of plastics recycled, revenue generated from sales and costs incurred in disposal of waste.

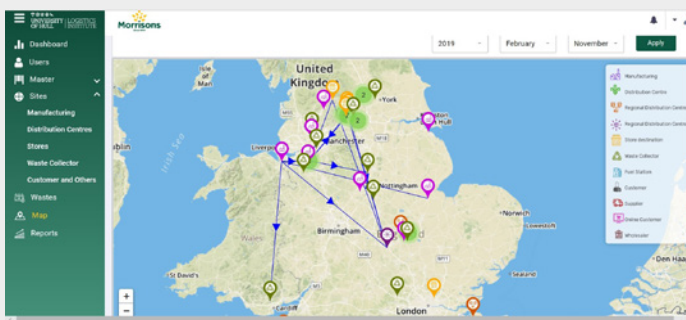


Morrisons
Since 1899

The DSS brings together the different datasets that are required to streamline systems and standardises them, providing an easy way to input information and aggregate it. This invaluable assistance in mapping data could have a profound, positive impact for retailers struggling with the operational challenges of delivering on their environmental aspirations and commitments, offering a solution that is capable of tracking their whole supply chain.



The screenshot shows a table of waste data with columns for Site Name, Waste Collector, Waste Type, Plastic Type, FY, Ticket No, Collect Date, Emptied Container, Storage Collected, Tonnage Collected, Tonnage Landfill, Tonnage Disposed, Total Landfill, Total Disposed, Transport Cost / Customer, and Cost / Ton. The table lists multiple entries for different sites and waste types.



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This tool can be configured in the future to manage plastics for any retailer.
Professor Amar Ramudhin, Researcher

It was challenging to get the level of detailed data we needed against the backdrop of Covid, working with multiple sites, but we got there in the end!

Dr Roland Y Getor, Researcher

Sometimes the message to consumers is a complicated. We need to keep it simple to facilitate change.

Professor Nishikant Mishra, Researcher

I see the DSS allowing us to capture data for not only plastic waste, but also other waste types like food waste. In addition, the report and visualisation functions will enable us to easily extract, export and circulate the type of information (such as month on month changes; total disposal, transport and site costs and plastic revenue) needed for management briefings and decision making.

David Archer, Procurement Manager, Morrisons

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