**Case Prompt Brief: Autonomous Shipment Rollout**

**Autonomous Robot Delivery Trial**

**Business Context:**  
A **start-up, AutonomousShipment**, aims to optimize last-mile delivery using autonomous robot drones. To test feasibility, the company is conducting a **one-month trial in Leeds** across different stores. The trial requires selecting the best **robot prototype** and **determining the optimal allocation** of robots while staying within budget constraints.

**Key Tasks:**  
**Robot Selection:**

* Choose the best prototype (Archer, Bowler, Corner, Deviant) based on key criteria:
  + **Carrying Capacity, Battery Size, Speed, Cost per Unit, and Reliability.**
* Use a **Multi-Criteria Decision Analysis (MCDA) method** to justify selection.

**Robot Allocation:**

* Allocate robots across **Grocery, Clothing, and Sports stores** while ensuring:
  + A **minimum of 5 robots per store**.
  + **Maximized order fulfilment** per day.
  + Total cost does not exceed **£250,000** (including operating costs).
  + Staff support hours do not exceed **250 hours/week**.
* Use **optimization techniques (e.g., Goal Programming)** to determine the best allocation.