

# The Art and Science of Modern Delivery: From Factory to Final Mile

PostgreSQL Project



**Polytechnique Institute of Paris**  
Applied Mathematics and Statistics - Master degree  
Database Management Systems - Garima Gaur  
Winter Semester 2026 - M1 APPMS

---

**Katerina Michenina, Aya Matmata, Nicolas Valety**  
03.02.2026 - v0.1.0 - draft



# Contents

1 Introduction .....	3
1.1 Context .....	3
1.2 Aim and Objectives .....	3
1.2.1 Aim .....	3
1.2.2 Objectives .....	3
1.3 Datasets .....	3



# 1 | Introduction

## 1.1 Context

In today's fast-paced world, the efficiency of delivery networks—spanning factories, supply depots, and the final destination—defines the backbone of global commerce. Whether by truck, car, or drone, each link in the chain must operate with precision to meet rising demands for speed, reliability, and sustainability. *But how do businesses balance cost and efficiency while ensuring seamless logistics?*

The answer lies in leveraging data-driven strategies: *predictive analysis, real-time tracking and alternative delivery methods* (such as drones and autonomous vehicles) to transform traditional supply chains. This presentation explores the journey of goods—from production lines to doorsteps—and the cutting-edge solutions reshaping the future of delivery.

## 1.2 Aim and Objectives

### 1.2.1 Aim

*Optimize the delivery process from factory to customer* by integrating data analytics and PostgreSQL database management.

### 1.2.2 Objectives



At this point, objectives may change regarding to the usability of the datasets.

1. *Route Optimization:* Minimize delivery times and maximize cargo load efficiency for each delivery vector (trucks, drones, etc.).
2. *Inventory Management:* Ensure optimal stock levels in supply depots to prevent stockouts and overstocking, aligning with demand forecasts.

## 1.3 Datasets

To achieve these objectives, the following datasets could be utilized to build a comprehensive logistics database:

1. Logistics and Supply Chain Dataset – Focuses on shipment tracking, delivery times, and supply chain efficiency metrics.
2. Delivery Logistics Dataset – Contains data on delivery routes, timings, and performance indicators, useful for route optimization and last-mile delivery analysis.
3. Transportation and Logistics Tracking Dataset – Includes real-time tracking data for shipments, ideal for studying transportation efficiency and delays.
4. Amazon Delivery Dataset – Focuses on last-mile logistics and delivery performance, with insights into delivery times, distances, and customer satisfaction.
5. Logistics Shipment On-Time Delivery Classification Dataset – Useful for predictive modeling to determine on-time delivery probabilities based on historical data.