FROM STORE TO FRIDGE:

HOW ONE INDUSTRY LEADER IS MITIGATING GROCERY DELIVERY EMISSIONS

When a major grocery retailer wanted to reduce its delivery vehicles' mileage and fuel consumption, Dassault Systèmes provided route planning and logistics solutions to make it happen.

DASSAULT SYSTEMES

> *"We've found the right technology partner to help us plan and control our supply chain. Dassault Systèmes' DELMIA Quintiq provides us with integrated supply chain management, an approach that is demand-driven and optimized based on our business goals and constraints."*
>
> - Supply Chain Director

Spurred by the development of e-commerce and changes in consumer habits, home delivery has soared in recent years – as well as the carbon emissions that result from it.

Companies that offer delivery services must find competitive ways to meet customer demands for more convenience while reducing their environmental impact.

By embracing the shift to online grocery shopping and home delivery, one of our customers experienced exponential growth in a short timeframe.

With over 700 stores in two countries, this supermarket chain had to optimize its resources and operations to provide speedy, cost-effective and sustainable deliveries.

By improving its delivery planning and logistics, the company was able to reduce its fleet's travel distances, operational costs and greenhouse gas emissions.

Discover how Dassault Systèmes' DELMIA Quintiq solutions supported this grocery retailer on its journey to minimize the carbon footprint of its home delivery system.

About the customer

Industry:
Grocery retail

Company size:
100,000 employees

Location:
Strong presence in Western Europe

Use case:
Deployment of DELMIA Quintiq on the **3D**EXPERIENCE® platform to optimize planning and logistics of grocery delivery in urban and rural areas to reduce mileage, fuel consumption and CO2 emissions.

The EU Taxonomy

This case study focuses on the estimated contribution to the objectives of **Climate Change Mitigation.**

Results

7.6tCO2e
Avoided emissions[1] per day

528km
Travel distance avoided by delivery vehicles per day

[1]Each of these case studies is a past or current project for which emissions avoided or reduced have been estimated following EU Taxonomy (Regulation Guideline), ISO 14067, 11044 and Guidance of WBCSD Net Zero Initiative Guidelines. The 3DS approach and these calculations, along with the allocated contribution of the software, have been certified by an independent third party. External View URD 2023, Chapter 2.

IN A NUTSHELL

The challenge

The customer's key challenges stemmed directly from its:

I. Business needs

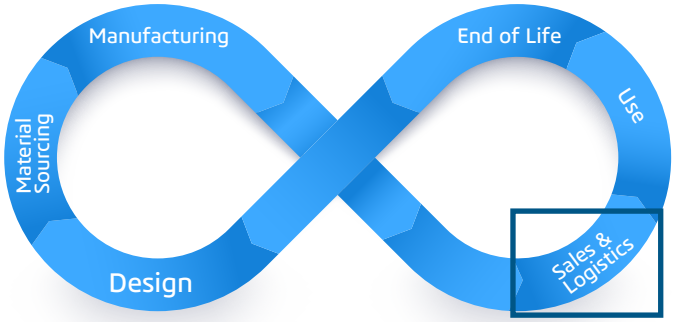
a. Scale up a home delivery service to transport products from 18 distribution hubs to urban and rural areas
b. Reduce mileage, fuel consumption and greenhouse gas emissions

II. Operational requirements

Must make optimal and cost-effective use of vehicles to lower greenhouse gas emissions from delivery while meeting customer demands for convenience.

The solution

Dassault Systèmes' approach addressed a crucial part of the process to achieve this objective:



A. Software used during the **sales and logistics** phase

B. Primary benefits observed during the **sales and logistics** phase

The outcome

By using DELMIA Quintiq's integrated solutions, the supermarket chain maximized its delivery capacity by configuring its vehicles to a high level of detail, from loading dock allocation to multi-compartment configuration and temperature management.

The company improved its logistics network across its supply chain to optimize different routes, from suppliers to distribution centers, stores and home deliveries. Route planning and stops were carefully studied to reduce the number of vehicles on the road and the distance traveled per day, resulting in lower fuel consumption and gas emissions.

The grocery retailer was able to scale its operations up and down according to demand and achieve its strategic goal of providing customer-centric services. It also introduced dynamic time slot deliveries, increasing convenience for its customers without compromising sustainability or cost-effectiveness.

OUR RECOMMENDATIONS AND METHODS

Adoption of Dassault Systèmes' delivery and logistics planning solution on the **3D**EXPERIENCE platform.

The **avoided emission estimation** was estimated following the:

EU Taxonomy (Regulation Guideline), ISO 14067, 11044 and Guidance of WBCSD Net Zero Initiative Guidelines.

Methodology based on the comparison of two scenarios for one given functional unit (ISO 14067:2018 and ISO 14064-2:2019).

3DS methodology has been certified by an independent third party and elaborated in compliance with the EU Taxonomy (Regulation Guideline), ISO 14067, 11044 and Guidance of WBCSD Net Zero Initiative Guidelines. The end result expressed in tCO2e remains an estimation.

THE END RESULT

Mileage reduction

528km

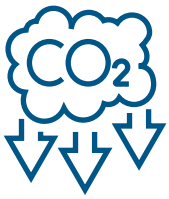
Travel distance avoided by delivery vehicles per day

Climate change mitigation

7.6tCO2e

Avoided emissions[2] per day

Reduced pollution



- Lower fuel consumption
- Fewer vehicles on the road

To learn more, visit our website

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