

Project 10: Sustainable Planning of Material Movement

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PROJECT SPONSOR

Lufthansa Technik AG is a leading global provider of maintenance, repair and overhaul services for the aviation industry, ranging from commercial, VIP and special mission aircraft. The company has over 20,000 employees and 800 customers worldwide. Main sites of the company include Frankfurt, Munich and Hamburg.



Lufthansa Technik



INTRODUCTION

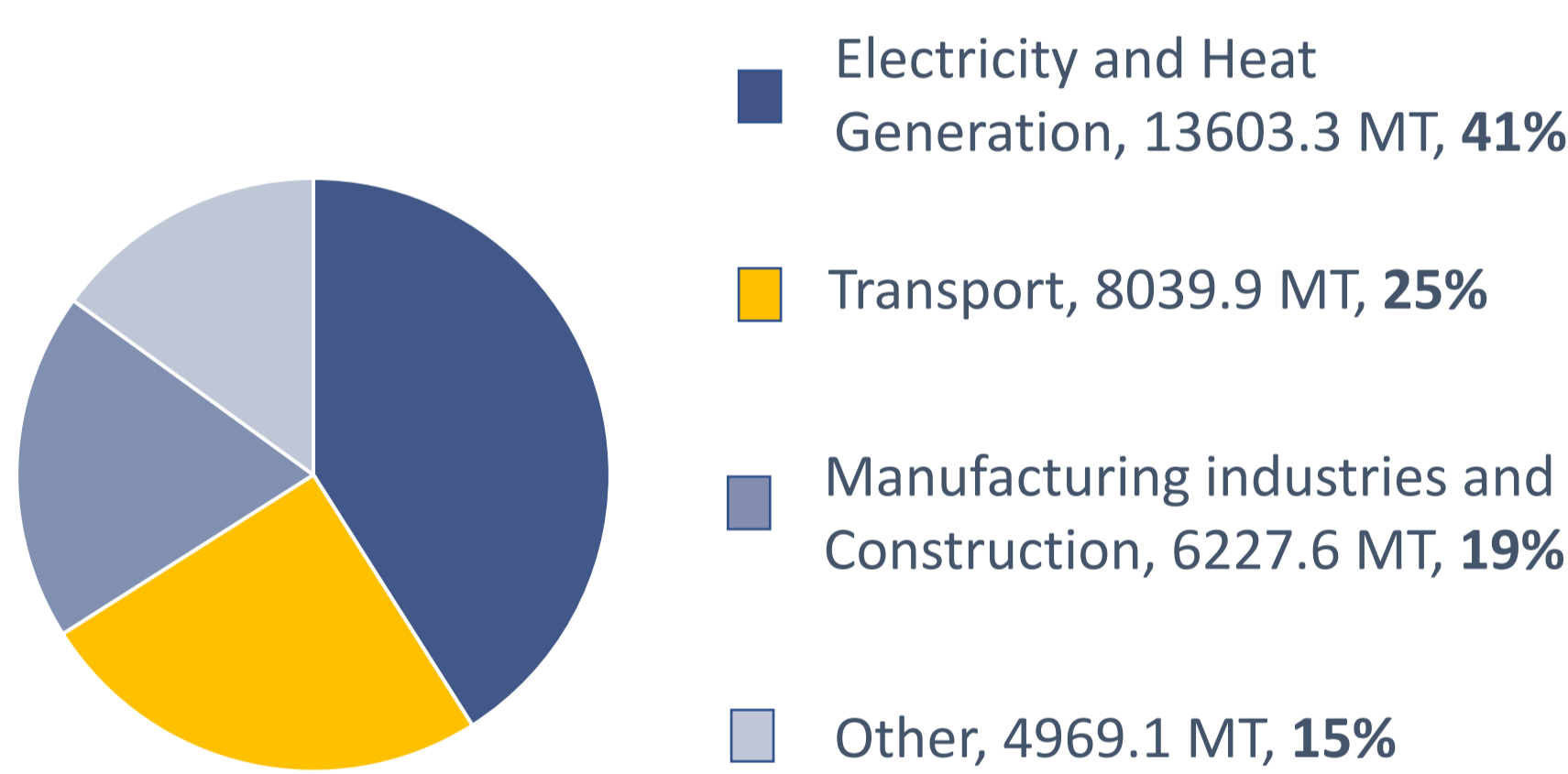
Aimed to develop a sustainable planning for movement of materials during the operations between different destinations.



Sustainability is fulfilling present needs without compromising next generations to fulfil their needs [1].

Logistics sector should focus on becoming more sustainable, as it is one of the major contributors to **Carbon Emission**, which triggers **Global Warming**. To address this issue, our project aimed to develop a sustainable planning solution for material movement during operations between different destinations.

CO2 Emissions by sector (Million Tonnes), 2017 [2]



5 PHASES OF THE PROJECT



Planning and Research



Cluster Analysis



Sustainable Measurement Tool Development



Sustainable Opportunity Identification

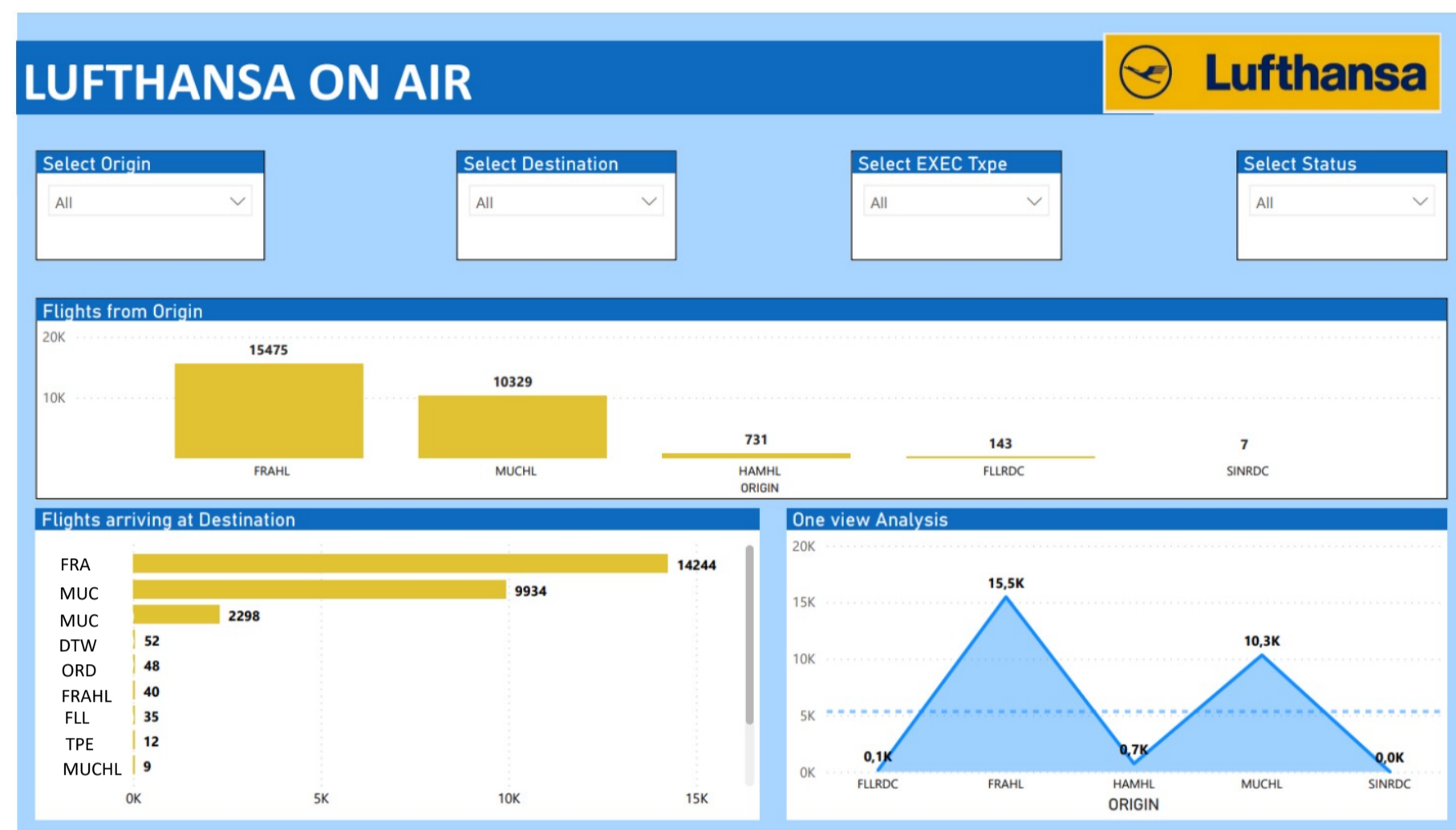


Recommendation Development

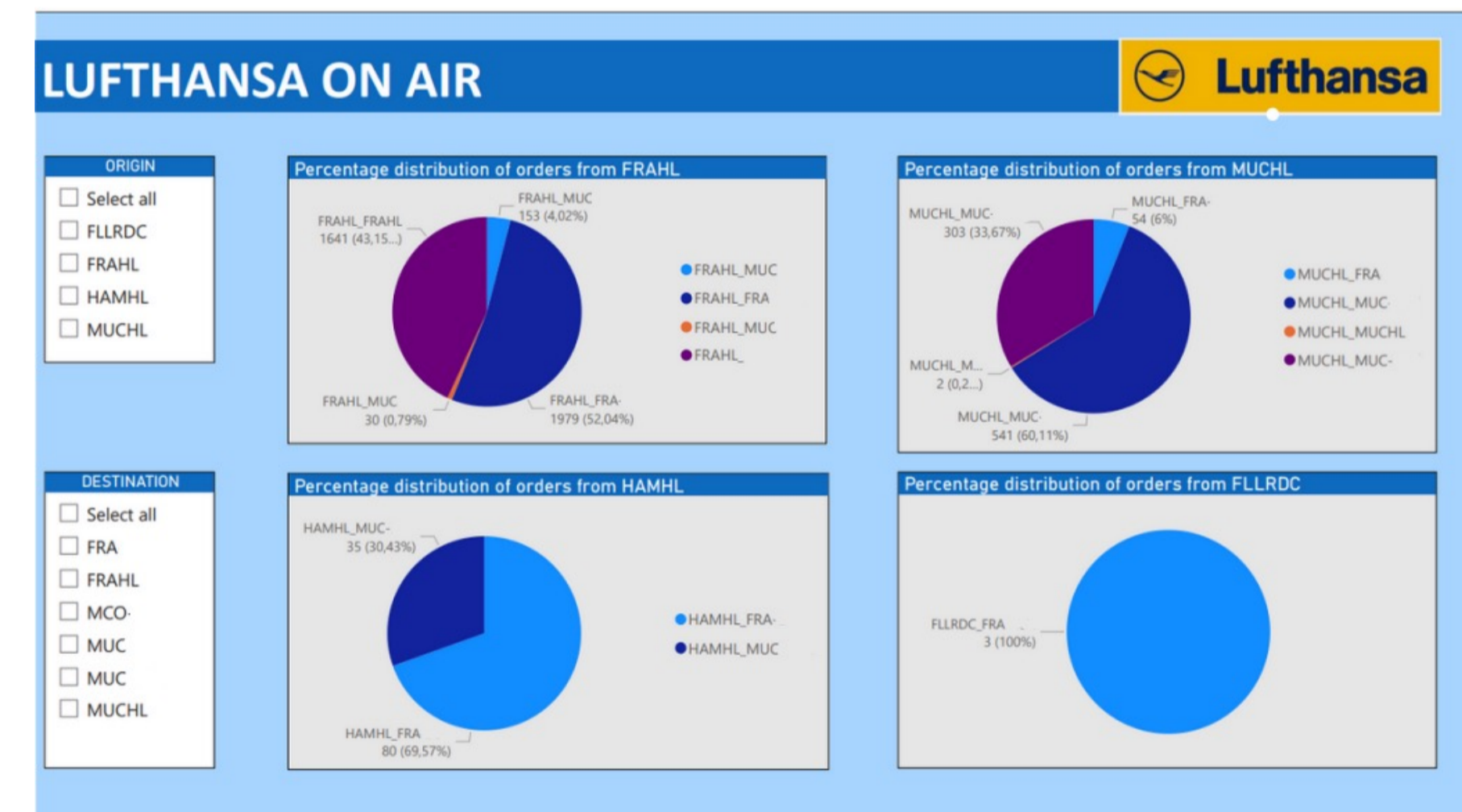


CLUSTERING OF DATA

Cluster analysis was used to group similar shipping operations together based on their urgency and importance, which helped to identify trends and patterns for improving sustainability in the shipping industry.

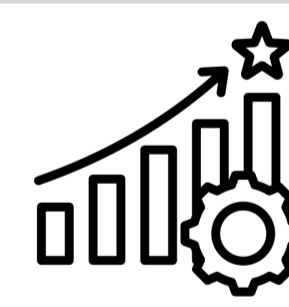


Shipping data was divided into four categories - Very Urgent, Urgent, Important, and Normal - to prioritize shipping operations identifying which operations required the most attention and resources in terms of sustainability. Most parts were internally moved in and around main store in Frankfurt. The main delivery store is in Munich and Frankfurt for customers.

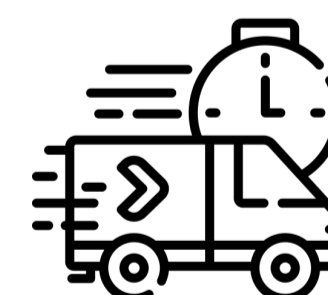


RECOMMENDATIONS

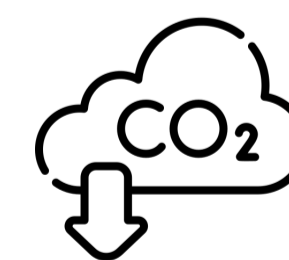
Improved Efficiency



Reduced Delivery Time



Reduced CO2 Emissions

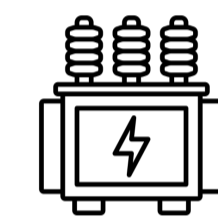


To address the recommendations, the project proposes implementing measures such as identifying frequently used routes and optimizing them, conducting cost-benefit analyses for different transport options, implementing a monitoring and evaluation plan, and collaborating with suppliers and carriers to reduce carbon emissions.

SOLUTIONS

Our approach was based on four key solutions and recommendations: harnessing the power of a comprehensive sustainability measurement tool, promoting collaboration and co-operation among stakeholders, embracing innovation and new technologies, and adopting a proactive approach to corporate foresight. By adopting these solutions, we aimed to drive sustainable logistics and create positive impact for the environment, society, and our business.

1 Powerful Tool



Route Optimization



Cost Optimization



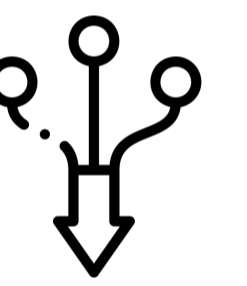
Better Planning



Compliance with regulations

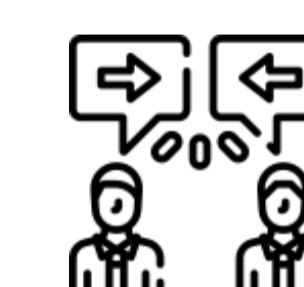


Track and Collect data



Consolidation

2 Cooperation



Internal Cooperation

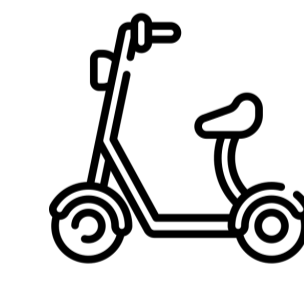
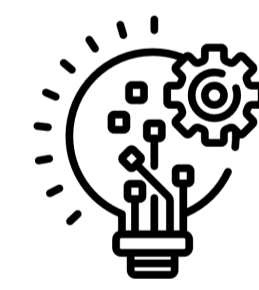


Customized Questionnaire



External Cooperation

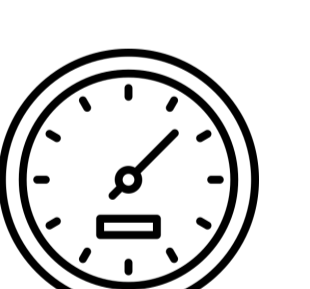
3 Innovative Ideas



E-Bike delivery



Multimodal transport



Solving deadhead mileage problem

4 Corporate Foresight

