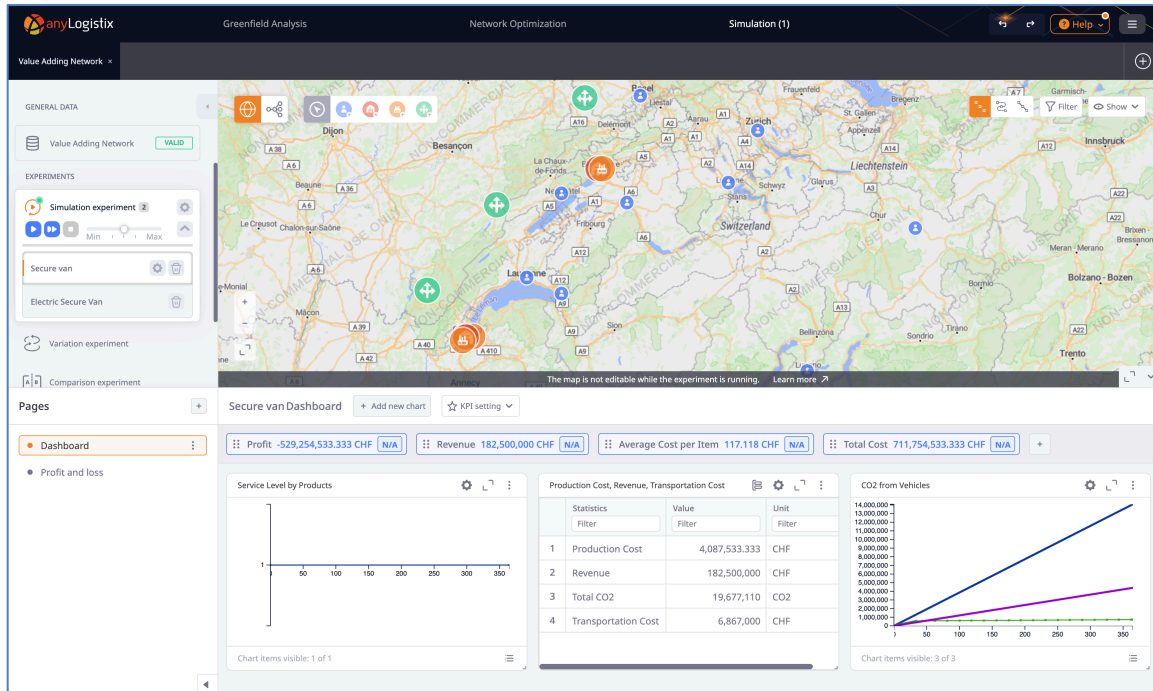# Modeling Carbon Emissions in anyLogistix:
Video Guide & Learning Objectives

YouTube Video Link: https://youtu.be/d0qmZd_rFeA

- To improve your viewing experience, you can access the YouTube settings and enable English subtitles and adjust the video quality to HD.

- The video was created using a specific version of anyLogistix, and some interface elements, such as adding charts or tables for simulation results, may have changed in later versions. These changes are minor, and the updated steps should be intuitive.

1. Purpose of the Video

This video introduces how to define, calculate, and monitor carbon emissions in a supply chain network using anyLogistix. It continues from the value-adding network model with fixed demand (developed in the third document). The video then demonstrates a what-if scenario analysis that measures the emission reduction potential of switching from diesel to electric vehicles in last-mile delivery. The model assumes transportation and facility operations are the main contributors to emissions.

2. Key Learning Points

By watching this video, you will learn:

- **Define Emission Sources**: Assign carbon emission values to different transportation modes and facility operations in the supply chain.
- **Calculate Network Emissions**: Use a simulation to quantify total emissions under a baseline scenario with diesel vehicles.
- **Run What-If Scenario Analysis**: Replace diesel vans with electric vans for last-mile delivery and assess the resulting impact on total emissions.

3. Exercise Questions

After watching the video and practicing the case, take some time to reflect on your learnings and answer the following questions. Be prepared to discuss your answers during the next lab session:

- **Application**: Identify two areas in your country or region's supply chain (e.g., retail or pharmaceutical) where switching to electric delivery vehicles can significantly reduce emissions. What factors should be considered beyond carbon emissions when making this decision?
- **Analysis:** Let's add carbon emissions related to inbound and outbound shipments to/from the Distribution Centre by setting the carbon parameter to 100 grams per piece of final product. How does this change impact the total emissions of the network? What does this tell us about the relative contribution of internal distribution compared to last-mile delivery?
- **Decision-Making:** Based on your analysis, what trade-offs should a company consider when reducing carbon emissions in its supply chain? Consider aspects such as cost, service level, operational feasibility, and long-term sustainability goals.