



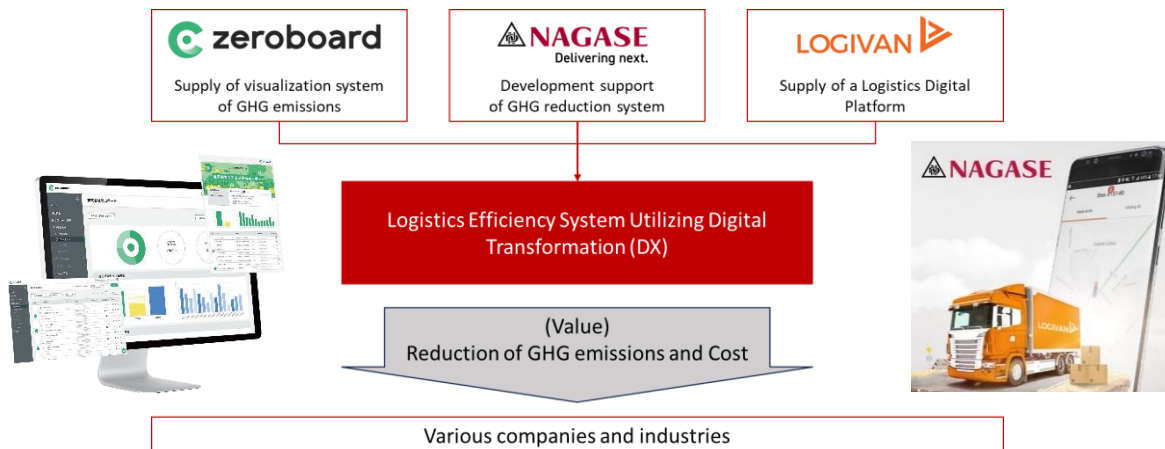
NAGASE & CO., LTD.

Demonstration project to reduce greenhouse gas emissions by improving logistics efficiency using DX in Vietnam

Objective of the project

This project aims to leverage digital transformation (DX) to enhance logistics efficiency and reduce GHG emissions in Vietnam. The logistics industry in Vietnam consists mainly of small-scale individual proprietors, leading to an inefficient distribution system. To address this issue, by developing additional functions for the logistics digital platform provided by LOGIVAN, we aim to improve insufficiencies in logistics operations and reduce GHG emissions from logistics in industry. Furthermore, in collaboration with Zeroboard Inc., we will support specific reductions in Scope3 logistics among supply chain emissions.

Cooperation with local companies/governments



Targeted economic/social issues

■ Challenges in the Logistics Industry in Vietnam

The logistics infrastructure is inadequately developed, with the transportation industry accounting for approximately 20% of the GDP. The majority of transporters are small-scale individual proprietors and many brokers are involved in layers, resulting in high freight rates, while leaving low profits for the end transporters.

■ Challenges in the Vietnamese Transportation Industry and GHG Reduction

The Vietnamese government has set GHG emission reduction targets by 2030. The GHG emissions from land transportation account for about 80% of the total emissions in the transportation sector, but the specific reduction targets and methods in the logistics sector are not yet clear, and there are also issues such as inadequate logistics infrastructure and inefficient transportation systems of small-scale transporters. These issues make efforts to reduce GHG emissions difficult, highlighting the need to accelerate digitization in the logistics sector.

■ GHG Reduction Targets in Vietnam

The Vietnamese government has established GHG emission reduction targets for 2030 and 2050. With 2014 as the base year, the goal is to achieve a 9% reduction by 2030 and a maximum of 27% reduction with international support. However, it is difficult to achieve carbon neutrality by 2050 with the current targets.



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Demonstration period

November 2022 – January 2024

Details of demonstration

1. Verification of Costs and Services Using LOGIVAN's System

Conducted single deliveries from a single warehouse to a destination with LOGIVAN's system to verify costs and service details.

2. Demonstration of Cost and CO2 Reduction Using Existing Systems

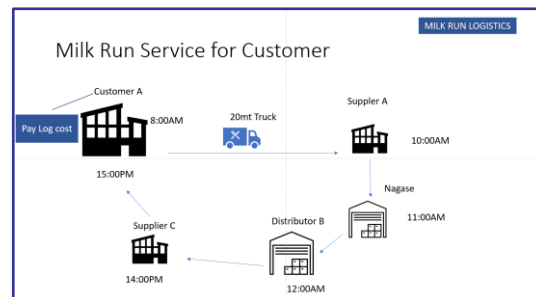
The issue with single deliveries was poor loading efficiency and a lot of empty time. To improve loading efficiency, we demonstrated the degree of cost and CO2 emission reduction when using multiple-point delivery, multiple-collection delivery, and multiple-point collection & delivery.

3. Assessment of Further CO2 Reduction Using Newly Developed System

Developed and implemented a new system for milk-run collection and delivery (See figure below) and joint delivery with multiple partners. This system is designed to reduce empty time.

4. Demonstration of CO2 Reduction by Multiple Partner Companies

Demonstrated CO2 reduction using the newly developed system in collaboration with multiple partner companies.



Project outcome / Future plans

■ Project Outcome

The use of LOGIVAN's system has been proven to contribute to the efficiency of delivery, as well as the reduction of CO2 emissions. As a measure to reduce CO2 emissions in Vietnam's logistics sector, LOGIVAN's services have been validated as effective. Furthermore, it is expected to reduce existing logistics costs and improvements in convenience are also anticipated.

■ Future Plans

• Collaboration with Zeroboard

We aim to integrate the services of LOGIVAN and Zeroboard. Zeroboard's cloud service will enable the visualization of GHG emissions from all corporate activities. The collaboration with the two services will enable companies to formulate specific reduction plans for Scope3 logistics emissions when considering how to grasp and reduce the GHG emissions across their supply chains.

• Addition of Partner Companies

To make more effective use of the newly developed system (milk-run collection and delivery and joint delivery with multiple partners), we will increase the number of partner companies using LOGIVAN's services.

