



CASE STUDY

## Geesinknorba implemented smart manufacturing, increasing production efficiency by 45%



**Organization:**

Geesinknorba

**Industry:**

Manufacturing

**Location:**

Netherlands

Geesinknorba is one of Europe's leading companies when it comes to the development and production of refuse-collecting vehicles and waste compactors. When 99% of your units are customized, you need a flexible, transparent manufacturing process to meet customer needs. They needed to implement process management to enable their Smart Factory and automate orders quickly to deliver a more intelligent product to customers.

Over the course of just eight months, Geesinknorba was able to create a smart manufacturing environment that is 45% more efficient than their previous factory. This new production process also enables them to be more flexible to the changing needs of their customers.

45% increase in efficiency

40% higher product output

*We can meet customer needs with intelligent, customized products, providing us with a boost in terms of the customer experience.*

COO

### Objectives

- 🎯 Increase the efficiency of production using smart manufacturing
- 🎯 Document processes to comply with ISO 9001 and ISO 14001
- 🎯 Optimize and automate complex processes to accelerate production
- 🎯 Develop production around the variation between base vehicles
- 🎯 Allow for late changes to enable more flexibility for customer changes

### Achievements

- ✅ Decreased the manufacturing lead-time for each vehicle
- ✅ Increased the efficiency of production by 45%
- ✅ Increased production output by 40%
- ✅ Delivered compliance and visibility to processes
- ✅ Enabled flexibility to improve the customer experience

## Overview

Like many manufacturing companies across the globe, Geesinknorba has been striving to improve its production environment with automation and intelligent process technologies.

Working towards Industry 4.0, many organizations take a 'Smart Factory' approach. The innovative approach that Geesinknorba calls 'Smart Units' has flipped this around. They can now meet every customers' individual needs by making each vehicle an intelligent 'user' that navigates

## Challenges

Geesinknorba deals with a broad product portfolio, 99% of which are highly customized to the needs of each customer. This dramatically increases the complexity of the organization's manufacturing process.

Geesinknorba's process begins with a base vehicle, which comes from a range of suppliers including Mercedes, MAN, DAF, Scania, EMOS and many more. From there the organization has a team of specialists to design, weld, assemble and paint the vehicle to create the finished product. With an average of 110 units in production at any time, managing the manufacturing environment was no simple task. That's where the company saw an opportunity.

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*"The opportunity we identified is to create a match between our customer needs and our product needs with an operation system that enables us to intelligently control the production."*

COO - Geesinknorba

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## The Solution

At first, the team looked at the popular concept of the Smart Factory, exploring how they could use IT to streamline their processes and improve efficiency. But they soon realized that they needed a different solution to deal with the complexity, variation and customization in their production lines. This is how they came to the idea of the 'Smart Unit'.

A Smart Unit is different because it acts as the navigator through the production process. It can also start different production steps simultaneously, considering the supply side, the lead-time and capacity. With this all this information available, the system can always make the best decision.

To make this possible, the team needed to document, optimize and automate their processes, building in business rules and machine learning, connecting their production systems through a single platform. Working with their partner Nimble Institute, they selected Bizagi for its ease of use, flexibility and scalability in creating model-driven process applications.

Using Bizagi Modeler, the team was able to produce visual models that the organization could easily understand, helping everyone to collaborate towards the common goal. Then using Bizagi Studio, and working in agile sprints, the team developed the process application, making quick progress and iterating at each stage based on feedback from the team.

## Results

For Geesinknorba's customers, this new way of working is exciting because it allows the company to provide more flexibility to accommodate changes during the production process, as well as delivering the products faster. This project is also the first phase of a larger plan to make Geesinknorba's vehicles smart after they have left the factory. This will allow the customers to make savings by using smart vehicles to increase the efficiency of their own day-to-day operations.

Overall, this new capability will give Geesinknorba a unique position in the market. They are producing the most intelligent products on the market in an insightful and agile way, while being flexible to the changing needs of customers and delivering products faster.

So far, they have already achieved remarkable results. They have decreased the lead-time, increased the production efficiency by 45% and increased the production output by 40%. With a set of other measures, it took the team only 8 months to achieve these remarkable results.