

CUSTOMER CASE STUDY



Linde Achieves Major Safety Results with Comprehensive Powerfleet Solutions

About Powerfleet

Powerfleet (Nasdaq: AIOT; JSE: PWR) is a global leader in the artificial intelligence of things (AIoT) software-as-a-service (SaaS) mobile asset industry. With more than 30 years of experience, Powerfleet unifies business operations through the ingestion, harmonization, and integration of data, irrespective of source, and delivers actionable insights to help companies save lives, time, and money. Powerfleet's ethos transcends our data ecosystem and commitment to innovation; our people-centric approach empowers our customers to realize impactful and sustained business improvement. Powerfleet serves over 2.8 million subscribers across more than 48,000 customers in 120 countries, with commercial operations in every major continent.

- **Customer**
Linde
- **Regions**
Greece, Romania, Turkey
- **Business & industry**
Industrial gas and engineering / Oil and gas
- **Total fleet size**
Over 300
- **Vehicle types**
Trailers, heavy goods vehicles, light commercial vehicles
- **Customer since & subscription**
2015 / On-road IoT, 3D tachograph service, AI-powered video solution
- **Aims**
Improve safety
- **Results**
Dramatic reduction in poor driving behaviors, including harsh acceleration (up to 95%), harsh braking (up to 70%), and speeding (up to 98%). Safe kilometers increased fivefold from 5 million (2017) to 25 million (2019).
- **Customer website**
www.linde.com/en



Setting Goals

Linde is a leading industrial gases and engineering company with pro forma sales of \$28 billion in 2018. The company employs approximately 80,000 people globally and serves customers in more than 100 countries around the world. Linde provides innovative and sustainable solutions to its customers, creating long-term value for all stakeholders. The company is making the world more productive by delivering products, technologies, and services that help customers improve their economic and environmental performance in a connected world.

“Since Linde is a company that emphasizes safety, process optimization, and innovation, we wanted each of our fleets within the Region Middle East and Europe East (RME) to be equipped with a standardized combination of telematics solutions,” says Holger Peschke, Senior Manager Logistics RME.

“Our main goals were to improve fleet safety by monitoring and managing driver behavior, as well as enabling real-time vehicle location tracking. Besides that, we also wanted to enhance their scheduling system with actual data.”

For these fleets, the following solutions were selected:

- **On-road IoT**, our comprehensive fleet management solution
- **AI-powered video solution**, an in-cab video system
- **3D tachograph service**, a remote digital tachograph data download service
- **Driver engagement app**, a mobile application for driver performance tracking



With Powerfleet, we have achieved greater operational control in our Logistics Operations. The detailed analysis and fully customizable reports that Powerfleet provides have helped us monitor and improve both road safety and transport efficiency.”

Dimitrios Sfikas

Head of Cylinder Production and Supply GRC/CYP, Linde

The Perfect Mixture

In 10 to 15 countries in the region, Powerfleet solutions were installed according to Linde’s specific requirements. For each fleet in Europe, implementation was carried out with the help of their closest Powerfleet channel partner. This approach ensured that each fleet received personalized support, allowing them to contact their local partner at any time for assistance. These solutions were rolled out at varying speeds, but were still implemented in conjunction with one another.

The installation of the in-cab AI-powered cameras was crucial for Linde, as it supported their mission of maintaining a safer fleet. In-cab cameras offer numerous safety benefits. They monitor unsafe driver behavior, serve as investigative tools to prevent future crashes, and can even act as a deterrent to discourage drivers from engaging in dangerous behaviors.

The AI-powered video on-demand streaming option also helps fleet managers identify the daily challenges their drivers face, enabling them to take actions to improve safety and security. One of the challenges with implementing in-cab cameras was ensuring compliance with GDPR for personal data protection and face detection.



Significant Results Across the Board

The first three countries where Powerfleet solutions were implemented (Turkey, Greece, and Romania) saw major safety-related results within less than a year after implementation.

Certain driving behaviors have been proven to lead to near misses and ultimately to more serious incidents. Unsafe driving acts include speeding, harsh acceleration, and harsh braking (among others). All of these behaviors are tracked by Powerfleet solutions. These behaviors are reported, and driver performance can be measured to provide training aimed at reducing unwanted behaviors. Additionally, the driver engagement app was provided to drivers, allowing them to review their incidents, check their scores, and view their overall ranking within their fleet. These metrics help drivers identify areas where they need to improve their performance.

Since December 2017, there has been a significant reduction in harsh acceleration, harsh braking, and speeding across all three countries. Overall, this has resulted in fewer accidents and an overall improvement in driver safety. For all countries in the region, the number of kilometers driven safely has increased fivefold over the past few years.

By reducing the three factors, drivers become more patient and understand how their behavior impacts their fleets and their own safety. Linde has credited the success of the implementation to their ability to mix and match solutions. This has enabled them to leverage their knowledge about each fleet to determine what is most needed. Going forward, this approach can be easily adapted to meet any new requirements that may arise as these fleets evolve.

Along with achieving safety goals with Powerfleet's help, Linde also saw an increase in customer satisfaction. This improvement is thanks to better scheduling features that allow them to confirm delivery dates and arrival times with customers via notifications.

Country-Specific Results

Safe kilometers increased from **5 million (2017) to 25 million (2019)** across all RME countries

Greece:

92.5% reduction in harsh acceleration

53% reduction in harsh braking

98% reduction in speeding

Romania:

97% reduction in speeding

Turkey:

95% reduction in harsh acceleration

70% reduction in harsh braking

40% reduction in speeding

By connecting Powerfleet with Paragon, a long-term Powerfleet partner that develops advanced routing and scheduling software, Linde will incorporate telematics data into its current scheduling system. The aim is to generate notifications and messages specifically for customers.

Secondly, in 2020, Linde aimed to access all their telematics data through an API to publish it on a single dynamic Tableau dashboard. Multiple user groups can then view both high-level KPIs (Key Performance Indicators) and individual reports.