

# Interactive catalytic converter protection system for theft prevention

## THE WINNER

IOT PROJECT OF THE YEAR 2024

This project won the IoT project of the year 2024 award in the Compact Fleets category.

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### Challenge

Catalytic converters are an important part of a car's exhaust system. They contain precious metals — rhodium, palladium, and platinum — some even more valuable than gold. This has created a lucrative black market for these car parts. Add to that the fact that converters can be removed from a car in under two minutes, and it's clear why understanding how to protect your catalytic converter from being stolen is crucial for fleet owners. The U.S. National Insurance Crime Bureau reported that in 2023, thieves stole 27,609 catalytic converters in the U.S.

[Primo Water](#), an American-Canadian water company, suffered a catalytic converter theft from nine of its delivery vans in Los Angeles. Each new catalytic converter cost them \$3,000, totaling \$27,000. However, the damage didn't stop there, as the company also dealt with extended vehicle downtime, revenue losses, and higher insurance costs. John Lock, VP of Operations at Primo Water North America, said, "We were losing over \$45,000 a day in revenue and faced weeks of downtime before the vehicles were repaired."

Primo Water knew other companies in the area faced repeated thefts, with some vehicles targeted multiple times. Read on to find out how Primo Water safeguarded its fleet and learned how to protect catalytic converters, reducing theft to zero.

### Solution

An effective defense came from [Direct Communication Solutions](#), a trusted and long-standing Wialon partner in North America. In collaboration with [CATrak](#), they implemented an interactive catalytic converter theft prevention system.

The solution combines GPS tracking with immediate theft detection. If the exhaust system is tampered with, a powerful 140dB standalone alarm, which operates independently of the car's main security system, is triggered to deter criminals. Additionally, SMS and push notifications provide real-time theft alerts, followed by theft heartbeats every 30 seconds with a GPS coordinate to pinpoint the vehicle's location. Users can customize alert actions to enhance security and ensure rapid response. For instance, notifications can be sent to private security, local authorities, vehicle owners, fleet managers, or dispatch teams.



The CATrak mobile app provides real-time theft alerts

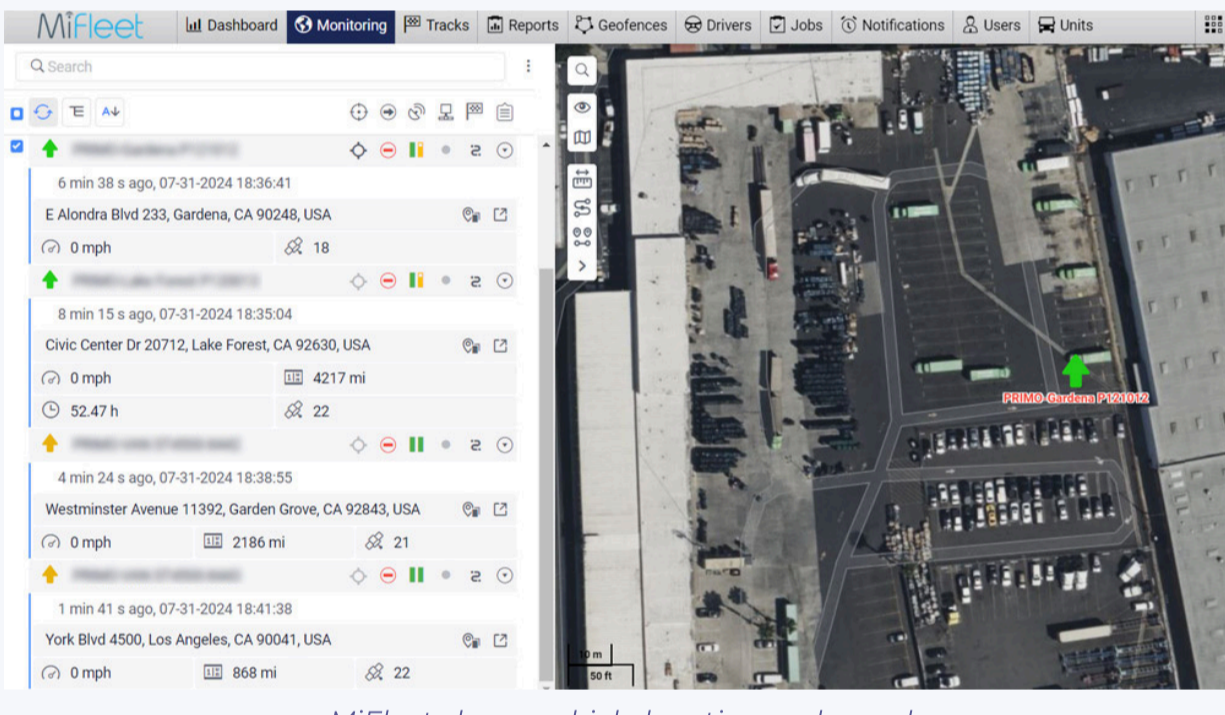
Overall, the solution provides a comprehensive approach to how to prevent catalytic converter theft.

### Hardware

The hardware includes the [Suntech 4500DO](#) OBDII tracker, paired with the CATrak custom temperature-resistant harness and a cut detection trigger, the catalytic converter sensor, and an alarm siren.

### Software

The software used in this project for catalytic converter theft prevention includes the CATrak mobile app, [flespi](#), and Wialon — rebranded as MiFleet by Direct Communication Solutions. Wialon's flexible white-label functionality allows partners to customize various interface elements in [fleet management software](#) to fit their brand. From adding custom logos and backgrounds on the login page to customize reports, partners have the tools to create a seamless experience for their clients.



MiFleet shows vehicle location and speed

Primo Water was initially concerned about the installation process and costs. CATrak made things easier with clear guides and videos, while Direct Communication Solutions offered a pricing plan that covered hardware, Wialon, flespi, and wireless data. With these issues sorted out, Primo Water felt confident moving forward.

### Results

By implementing an advanced catalytic converter protection system, Primo Water has successfully eliminated theft incidents, improved operational efficiency, enhanced fleet control, and increased safety.

#### Zero theft incidents

Since implementing the solution, Primo Water has reported zero catalytic converter thefts.

#### Operational efficiency and cost-saving

By preventing thefts, Primo Water has avoided vehicle downtime and the expenses associated with repairs, insurance claims, and replacement parts, leading to significant cost savings.


#### Enhanced control

The solution provides real-time GPS tracking, giving Primo Water full visibility into its fleet.

#### Increased confidence and safety

The system also enhances personal safety, as drivers and staff are less likely to encounter dangerous theft situations.

### Company profile

 IoT project of the year nomination: Compact fleets

Country: USA

Industry: Security

### Solutions

 Wialon

 flespi

### Hardware

 Suntech ST4500

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