

Powering smarter city infrastructure: Digitalizing Belgrade's 500+ vehicle utility fleet

THE WINNER

IOT PROJECT OF THE YEAR 2024

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Challenge

[Belgrade Waterworks and Sewerage](#) is one of Serbia's largest and most critical municipal utility providers, delivering clean water and maintaining the capital city's sewer infrastructure. To support these critical services, the organization operates a fleet of over 500 vehicles, including sewer cleaning trucks, water tankers, service vans, and construction machinery.

With such a large and varied fleet, day-to-day management posed serious challenges. The organization lacked centralized oversight and needed a comprehensive municipal fleet management software solution to:

- Track all vehicle locations and operations in real time
- Accurately monitor fuel consumption and prevent misuse
- Link trips to specific drivers using employee ID badges
- Measure key performance data such as mileage and engine RPM (revolutions per minute, measuring how fast the engine is spinning)
- Introduce in-cabin feedback on driving behavior to improve safety

To manage such a complex fleet effectively, the organization needed a flexible solution that could work across different vehicle types, offer real-time visibility into usage and performance, and deliver actionable insights into fuel efficiency, driving behavior, and overall service vehicle tracking — all while improving transparency and operational coordination.

Solution

The longstanding Wialon partner [Monitoring.Net](#) implemented a municipal fleet management solution tailored to the needs of Belgrade Waterworks and Sewerage. Powered by the Wialon [fleet digitalization platform](#), it provided real-time oversight, in-depth analytics, and complete visibility across a diverse fleet of 500+ service vehicles.

Implementation and hardware

To accommodate a wide variety of vehicles and operational requirements, Monitoring Net deployed a carefully selected hardware mix:

- [Teltonika FMB series trackers](#) with 125 kHz RFID readers were installed across the majority of vehicles, enabling real-time GPS tracking, CAN bus data capture (including mileage and RPM), and seamless driver identification via employee ID badges.
- [Galileosky 7x devices](#) were chosen for heavy-duty trucks and specialized machinery. These devices offered direct CAN integration and were paired with [Escort](#) BLE fuel probes to ensure accurate fuel level monitoring.
- To enhance driver accountability, Monitoring Net integrated their **custom Smart Driver Panel (SDP)** with the Galileosky units — providing real-time in-cabin alerts for violations such as speeding or harsh braking.
- For vehicles using Galileosky devices, **Iron Logic RFID readers** enabled secure and consistent driver authorization.

This flexible hardware setup ensured consistent data capture across the entire fleet, along with in-cabin audio cues that kept drivers informed in real time.

Software and system capabilities

At the heart of the solution is Wialon — the platform that brings all components together seamlessly. It enables managers to monitor vehicles in real time, analyze fleet activity, manage drivers, and stay on top of [fuel consumption monitoring](#) — all in one place.

Key capabilities of the solution include:

- **Driver identification:** Each trip is automatically linked to the correct driver via RFID login, with assignments managed directly in Wialon.
- **Fuel control:** Data from CAN sensors and BLE probes tracks consumption and flags irregular drops, helping detect theft or leaks.
- **Live GPS tracking:** Fleet managers can see where every service vehicle is, its current status, and how it's performing.
- **Driving behavior monitoring:** The Smart Driver Panel provides immediate in-cabin alerts, while Wialon analytics help supervisors respond to trends and reduce risks.
- **Engine data analysis:** Key performance indicators like mileage and RPM are logged and reviewed for better scheduling and vehicle utilization.

User onboarding and support

While the technical rollout went smoothly, introducing new monitoring tools and real-time service vehicle tracking initially raised questions among some drivers — a natural reaction when long-standing routines evolve.

Monitoring Net addressed this with clear communication and practical support, helping staff understand that the system was built not for surveillance, but for transparency, safety, and operational improvement. As trust grew, user adoption followed.

From initial deployment to ongoing support, Monitoring Net ensured a seamless experience:

- Participated in a public tender to secure the project
- Held multiple pre-launch planning sessions to align on goals and hardware setup
- Delivered tailored training sessions for each department, supported by custom-made user manuals for both desktop and mobile versions of Wialon
- Continues to provide 24/7 support via phone and email, ensuring consistent, reliable service

Results

The fleet digitalization initiative delivered fast, tangible improvements across the organization. With a centralized platform in place, Belgrade Waterworks and Sewerage gained full operational visibility and control — helping transform how their diverse 500+ municipal vehicle fleet was managed day to day.

Just months after the system went live, the company reported clear gains in efficiency, safety, and cost-effectiveness:

✓ Fuel savings

Real-time fuel tracking and better driving habits led to noticeable reductions in fuel consumption and expenses.

✓ Improved accountability

With every trip linked to a specific driver through RFID identification, employees became more mindful of how vehicles were operated and maintained.

✓ Enhanced safety

The ability to monitor speeding, harsh braking, and other risky behaviors helped reduce accidents and unnecessary wear.

✓ Data-driven decisions

Centralized data enabled the company to analyze performance by vehicle type, department, or individual driver, helping to optimize routes, service schedules, and long-term planning.

Company profile

 **IoT project of the year nomination:** Corporate or large government fleets

Country: Serbia


Industry: Public utilities

Solutions

 Wialon

Hardware

 Galileosky 7x

 Teltonika FMB125

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