



Bus Fleet Case Study

Background

All around the world, commuters depend on buses to run on schedule, and unexpected downtime can have a wide-reaching impact on operations and costs.

When small issues like the start of an oil leak or wear and tear on tires go unnoticed, we put passengers' safety at risk and significantly increase the costs of repairs.

The challenge for bus fleet managers is how to inspect their fleet on a regular basis without increasing off-road time. Legacy methods of inspection for hard-to-check areas like the undercarriage have traditionally meant taking the vehicle out of service, impacting operations and revenues

UVEYE Facilitates:

- Comprehensive inspections
- Scanning a fleet of 150 buses twice a day
- Predictive maintenance for mechanical issue
- Fuel efficiency improvement, 3% yearly reduction in fuel cost

The Challenge

A bus company in Asia with over 100 vehicles was experiencing mechanical issues with its buses. Twice in 2018, the issues resulted in a fully blown engine. In situations like these, a bus company will lose from multiple angles:

Financially – the cost of fixing a bus engine can exceed \$20,000 per case. Also, all the commuters who had a poor experience had to be refunded, and finally, a replacement bus needed to be hired.

\$20k 
Potential engine damage per bus

Trust and credibility – bus fleets and public transportation operators cannot afford downtime and serious mechanical faults. These kinds of situations can cause irreversible damage for a brand in a competitive market for the long term.

13% of 
Accidents caused by degraded tires

The other aspect that fleet managers experience is the trend of increasing fuel prices worldwide. It is known that underinflated tires can lower gas mileage by about 0.2% for every 1 psi drop in average pressure of all tires. By making sure all vehicles in the fleet had high air pressure, the company was increasing its yearly fuel expenditure by 3%.

It is also known that over 30% of accidents in the US are due to a vehicle issue and not human error, while 43% of those are caused by poor tire maintenance or failure to change at the right time. It is clear that properly inflated tires are safer and last longer, and the fleet managers needed to make sure in a quick and easy manner that they were protecting the safety of their drivers and passengers.

The Solution

The UVeye team conducted a site visit and together with the fleet manager decided that the best place to install the company's solutions would be its main parking lot.

UVeye deployed its Helios and Artemis systems, which connect to one holistic platform, and trained the local fleet managers. The HQ fleet manager was also defined in some of the alerts and damage exposure.

In a seamless process, the buses drove using the UVeye systems for six months, day and night, while the fleet managers received ongoing alerts on oil leakages, broken connectors, tire conditions and more.

Both Helios and Artemis are versatile pieces of hardware and can resist the harshest of weather conditions including rain, extreme humidity, hail or snow.

The Impact

The bus fleet managers wanted to receive a better layer of data in order to understand their buses' mechanical status and average amount of issues.

Since most of the buses are the same models, there were 12 cases where Helios caught an oil leakage trend early enough to prevent a serious engine issue.

The buses' tires would regularly be scanned by Artemis, and air pressure was filled to a high level on a daily basis, which assisted the bus fleet in cutting down its average fuel expenditure by 3%.

In one case, a bus's tires were changed with an older model and stolen. The system compared the DoT and writing on the tires and alerted the fleet managers while creating accountability for such cases.

3% 
savings on
fuel expenditure

Conclusions

Adopting UVeye's automated technology has provided the fleet management team at the bus company a technological edge and a new layer of data.

Predictive maintenance is now an active possibility with real-time cost reduction elements. Since many of the fleet's vehicle sub models are similar, it was easy to predict how an issue that could become serious would look early on.

UVeye's systems provide an immediate option to reduce fuel costs and ensure the safety of drivers and passengers while preventing unwanted accidents and downtime.

Over 
\$240k
Saved on potential
engine damage

