



CASE STUDY

IoT Solution for Construction:

Advanced
Equipment for
Reliable
Construction



Exploring Challenges in Construction Equipment

Construction vehicles are essential for building and maintaining critical infrastructure. A leading manufacturer faced **challenges in maximizing vehicle uptime and efficiency due to a lack of connectivity and data integration**. To address these issues, they partnered with Elevāt to implement IoT solutions for proactive maintenance and enhanced asset management.

Key Transformation Objectives:

Elevāt partnered with the manufacturer to achieve a comprehensive set of objectives aimed at transforming their business operations:



Production Validation: Monitor vehicles post-sale to ensure they operate within nominal ranges based on engineering test data.



Machine Vital Reporting: Continuously monitor vehicle performance, ensuring visibility into machine operations at all times.



Subsystem Monitoring: Integrate monitoring for key subsystems, including the engine, electronics, and hydraulics.



Remote Service Tool Integration: Enable remote access to vehicle service tools over cellular networks for troubleshooting, addressing the shortage of certified field technicians.



Elevāt IoT Implementation

Elevāt collaborated with the excavator to develop and implement a IoT solution that addressed their specific challenges. The partnership focused on key steps to ensure the solution was effective and aligned with the company's operational goals:

Needs Assessment and Planning:

- Conducted an in-depth analysis of operations and fleet management needs.
- Identified pain points such as inefficient service, subsystem complexity, and the need for remote troubleshooting.

Customized IoT Solution Design:

- Designed an IoT solution integrating sensors on critical components to capture real-time data.
- Monitored metrics such as engine health, hydraulic performance, and electronic subsystem status.

IoT Integration:

- Deployed a secure cloud platform for data aggregation, storage, and analysis.
- Enabled centralized monitoring and remote diagnostics for real-time communication.

Deployment:

- Integrated the IoT system with Elevāt Insight to monitor subsystem performance using a FIFO buffer.
- Set up real-time alerts and notifications for proactive maintenance scheduling.
- Implemented Elevāt Virtual Technician for remote access to vehicle service tools.

Optimization:

- Equipped service teams with remote access tools to diagnose issues and perform over-the-air (OTA) software updates, minimizing the need for on-site visits.

Elevāt IoT Implementation

The implementation of Elevāt's IoT solutions brought the manufacture an increase in vehicle uptime, faster issue resolution, and a notable improvement in overall fleet efficiency. **Elevāt IoT enabled the manufacturer to validate production, monitor machine vitals, integrate subsystem monitoring, and provide remote service tools**, resulting in enhanced productivity, reduced downtime, and improved customer satisfaction.

Discover how Elevāt's IoT solutions can transform your business. Contact us today to learn more about our IoT solutions and how we can help you achieve your operational goals.



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Elevāt Web Application - Subsystem Monitoring

