

# Revolutionizing OHE equipment care and performance management



Developing an advanced platform-based remote monitoring system for a leading off-highway equipment manufacturer

A pioneering Japanese manufacturer of agricultural and construction machinery aimed to elevate customer experience with a tailored engine diagnostic solution, offering real-time performance insights. We collaborated with them to fulfill their vision of enhancing product footprint in India and other emerging markets by developing a platform-based remote assist system. This system was not only extendable but also amplified the equipment's lifetime value for the user.

## The Challenge:

### Making real-time equipment data findings conveniently accessible to users

Our client saw an opportunity to significantly enhance their remote monitoring and communication system. The current system utilized a software suite that, while effective, stored live engine diagnostics and usage data in a distinct, dedicated legacy private cloud. This setup, combined with hardware that was not optimized for extensive analysis, presented a unique scope to upgrade and enable more profound, actionable insights and facilitate timely interventions. Moreover, addressing network connectivity could further unlock the potential for seamless real-time data processing, thereby empowering users with immediate access to critical information.

## The Objective:

### Building a scalable and extendable platform-based diagnostic and analysis solution

HCLTech partnered with the client to devise a highly adaptable cloud-based remote monitoring and analysis solution, adept at efficiently handling vast and complex sensor data. We facilitated the client to deliver the following impactful outcomes for its users:



**Live tracking:** Real-time tracking for rapid insights into equipment location, status and usage patterns



**Insights:** Providing the operational status of the machinery as a chart, and recommending maintenance to customers



**Alerts:** Triggering predictive alerts based on predefined conditions to assess engine health



**Cost-effectiveness:** Ensuring accessibility and affordability for consumers



#### **Connectivity assistance:**

Enabling uninterrupted network connectivity for accessing data in real-time

## The Solution:

# Developing a cloud-powered remote support solution with visualization applications

Our HCLTech team leveraged its extensive experience in OHE engineering, cloud engineering and consulting services to drive innovation across both software and hardware components. This approach resolved scalability and cost-related issues for the client while also enhancing the overall value for all stakeholders globally.

We designed and built a customized and adaptable smart remote assist system hosted on the AWS cloud platform, which underwent thorough testing and maintenance checks by our experts. Our solution extended the following benefits:

Empowered customers with advanced diagnostic capabilities aided by seamless integration of real-time data for informed decision-making

Enhanced accessibility with user-friendly visualization applications that displayed live performance data across web and mobile platforms

Enabled users and service engineers to proactively implement preventive actions based on real-time alert notifications

Improved data quality by augmenting embedded hardware to collect extensive and diverse data sets, thereby optimizing equipment performance and utilization

Ensured 24\*7 network connection by employing automated solutions and coordinating with M2M platform service providers



## The Impact:

# Maximizing cost efficiency and user satisfaction through personalized and sophisticated solutions

Our partnership brought substantial growth to the client's business by harnessing deeper insights into the Indian construction and agricultural sectors. The result were impressive:



~90% YoY increase in registered users



~50% YoY growth in active devices



600+ emergency SMS/email alerts shared annually



Prevented up to 30% of potential breakdowns through timely maintenance based on operational thresholds



Faster turnaround time and reduced maintenance costs

This project marked a milestone in advancing how equipment care and performance management are approached, setting new standards for user satisfaction and operational efficiency.