elevāt

# CASE STUDY

IoT Solution for Agriculture:

Intelligent Farming for Higher Yields

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## Exploring Challenges in Agriculture Equipment

A leading manufacturer of agricultural equipment faced **challenges in maintaining operational efficiency and minimizing downtime during the critical harvest season.** The complexity of modern tractors and combines, along with service delays and equipment breakdowns, impacted productivity and customer satisfaction. To ensure their machines were always ready for harvest, the company partnered with Elevāt to implement IoT solutions for improved reliability and uptime.

## 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.



**Implement Status Indication:** Gain deeper insights into the performance of agricultural implements to ensure maximum machine uptime.





## **Elevāt IoT Implementation**

Elevat collaborated with the manufacturer to develop an 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 goals:

#### **Needs Assessment and Planning:**

- Conducted an in-depth analysis of operational needs.
- Identified pain points such as the need for timely diagnostics and equipment availability during harvest season.

#### **Customized IoT Solution Design:**

- Developed an IoT solution integrating sensors on critical components to capture realtime data.
- Monitored metrics like engine health, hydraulic performance, and 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:**

- Set up real-time alerts and notifications for proactive maintenance scheduling.
- Integrated digital identification and signals for auto-populating dashboards based on the type of implement.

#### **Optimization:**

 Provided service teams with tools for remote diagnostics and over-the-air (OTA) software updates.





## **Elevāt IoT Implementation**

The implementation of Elevāt's IoT solutions brought a substantial increase in equipment availability, faster diagnostics, and an improvement in overall harvest efficiency. **Elevāt's IoT solution enabled the manufacturer to validate production, monitor machine vitals, integrate subsystem monitoring, and understand implement performance**, 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 - Windrower

Engine Speed and Load			Fuel and DEF Levels		GPS Location	
			Fuel Level	Diesel Exhaust Fluid Tank Volume	Map Satellite	· []
O		0	Normai	Normal	29	£
					X	7
		Percent Load At Current	5 %	Current value: 101.60 > 100 %	4	
Engine S Windrower	peed	Speed	Throttle Position and V	Wheel Speed		
	100		The other ostion and			NAC
Signal Name	Value M2170 (Cummins 4	Updated At 07-25-2024				THE
Engine Type	cylinder Stage V)	15:17				TXS' DA
Engine Hours	4018.80 hrs	07-25-2024	0	0		M
engine nouis	4010.00103	15:47	%	km/hr		

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