



# MACHINE MONITORING SOLUTIONS

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MICROLOGIX, BANGALORE

WWW.E-MICROLOGIX.COM

# EXECUTIVE SUMMARY

- Machine Monitor Hardware and Web Portal Software Suite to help customer
- Configurable, Multifunction, GPS enabled, Remote Monitoring controller with Cloud Connectivity
- In-built Telematics with 2G Modem and GPS
- Special Purpose Analog and Digital I/Os with Machine Communication Ports
- Ethernet Port / RS485 MODBUS to Connect PLCs
- Cloud-based Dashboard with Configurable Web Portal
- Machine owners can reduce costs, prevent downtime and optimize efficiency with intelligent analytics, real-time alerts and warnings directly from their computer or mobile device with an easy-to-use web portal.

# EXECUTIVE SUMMARY

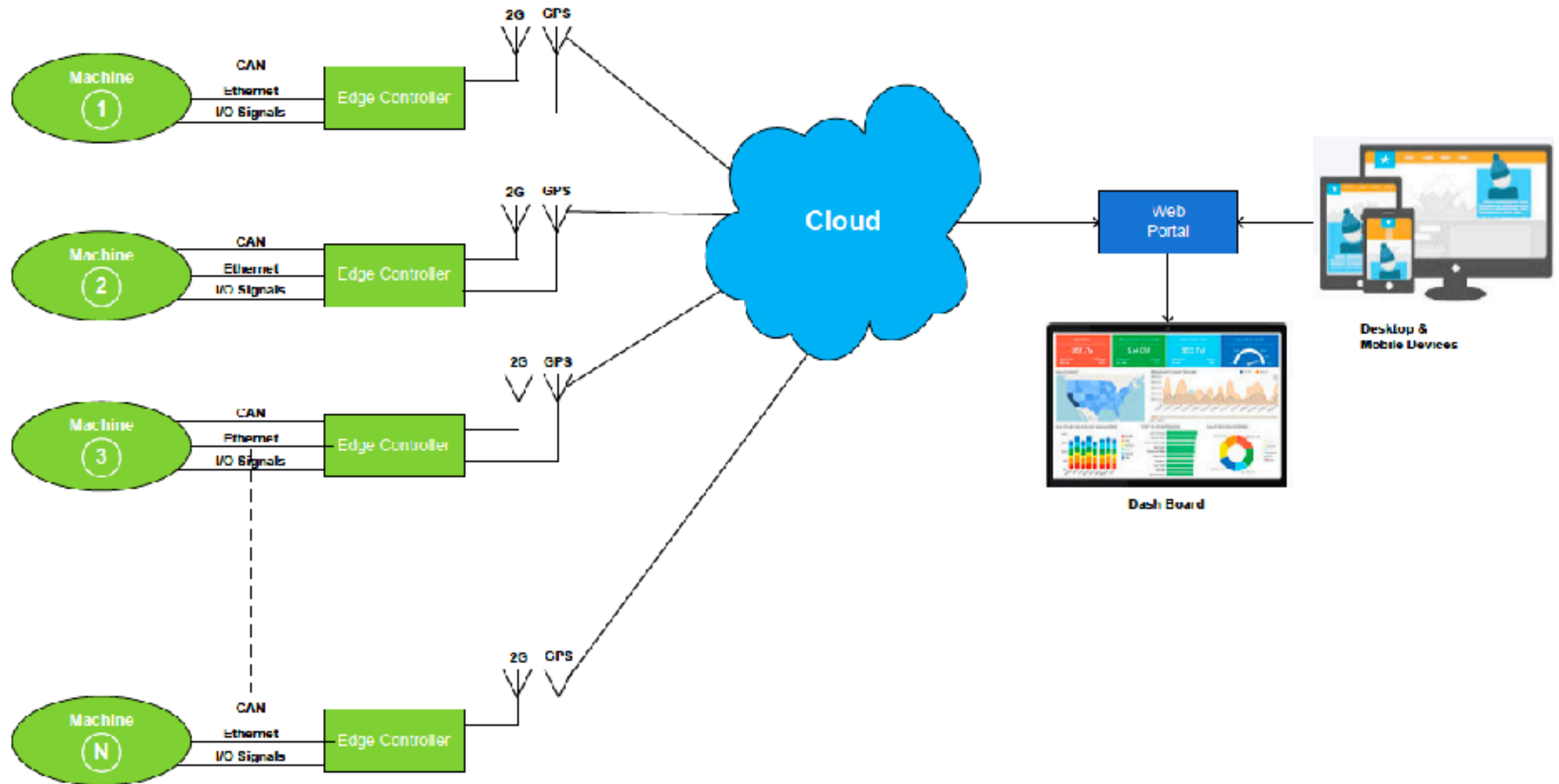
- Google Map Integrated Location Tracking for moving applications
- Compatible to all major manufacturers' ECUs with J1939 Protocol
- Machine Health Monitoring through I/Os, Location Tracking with Hourly Usage Monitoring
- Data logging when there is no GSM signal with Time
- 3 LEDs to Indicate GSM Signal Level and 3 LEDs to Indicate Internal Battery Level (Future)
- Water and Dust-proof ABS Enclosure



# MACHINE MONITORING SYSTEM



# MULTIPLE MACHINES MONITORING – OVERALL SCHEME



# APPLICATIONS



Fork Lift Truck



Wheel Loader



Rigid Dump Truck



Reach Stacker



# APPLICATIONS



Deep Drilling Compressor



Dump Truck



Rotary Drilling Machine

## CASE STUDY

# DEEP DRILLING COMPRESSOR AND ENGINE MONITOR





# PRODUCT DESCRIPTION

- Leading Manufacturer of Borewell Compressors
- Buys and Uses Engines from Multiple Manufacturers
- Addressing Multiple Market Segments with different Capacity Engines
- Uses both Mechanical and Electronic Engines
- Measures directly from the engine sensors and calculates the various parameters
- Also acquires data from the CAN Bus if Electronic Engine
- Determines the Engine Location with the built-in GPS
- Transfers the data to Cloud through the Built-in 2G GSM Modem
- Front End Web Based Dash Board Displays all the parameters
- Historical Data Analysis when needed
- Email and SMS Alerts to Owners, Dealers and Headquarters

# REMOTE MONITORING & DASHBOARD

- Compressor ON & OFF Status
- Compressor Run Hours - Calculated by Authenticating Ignition Switch, Machine RPM together
- Machine RPM Display
- Compressor Model No and Machine Serial Number Entry for Compressor ownership and location tracking
- Date and Time Stamp for all parameters
- Visualisation - Historical Graph Plotting of Critical Parameters (Under Development)
- Compressor service status reminders and warranty expiry reminders based on Compressor Hour Meter Reading
- Status & reminders notifications in SMS/Email for Maintenance to the people listed in website to receive SMS/Email

# CAN BUS DATA ACQUISITION

➤ J1939 Protocol Implemented on CAN Bus to collect data from EURO4 Machines' ECU

➤ Display of 14 Parameters collected through J1939

1. Air Discharge Pressure (psi)

2. Regulator Pressure (psi)

3. Air Discharge Temperature (Celsius)

4. Oil Filter Switch

5. Battery Voltage (V)

6. Boost Pressure (psi)

7. Machine Oil Pressure (psi)

8. Coolant Temperature (Celsius)

9. Hydraulic Oil Level

10. Machine Trip Fuel (ltrs)

11. Machine Total Fuel (ltrs)

12. Machine Load (%)

13. Machine Speed (rpm)



# REMOTE MONITORING & DASHBOARD

- Web Portal with Multi-Level Login Control for
  - Compressor Owner
  - Dealer
  - Service In-charge
  - Company Head Quarters
- Multi-lingual (Hindi/English/Tamil) User Interface
- Management+Service Team Database and Login Capabilities
- Compressor Owner Database and Login Capabilities
- Dealer Database with Contact Numbers and Login Capabilities
- Geo fencing with Google Map Interface
- Compressor Location Identification
- Nearest Dealer Locating for Service
- Push Notifications/SMS Alerts

# WEBSITE – LOGIN PAGE

DOOSAN

EMAIL: webmaster2@doosan.com



**MACHINE MANAGEMENT**

Login

Sign in

Login Page

# WEBSITE – HOME PAGE – FOR MONITORING MULTIPLE COMPRESSORS



Machine Management



Monitoring



Analysis



Configuration



Alerts



Complaints

UserAdminTypeadminSelect LanguageSpare Parts EnquiryLogout

8888

Model8888

PowerOFF

Out Of BoundsNo

BIAJ187004

ModelPA187VH

PowerOFF

Out Of BoundsYes

BIAJ188003

ModelPA187MH

PowerOFF

Out Of BoundsNo

Test

ModelTest

PowerOFF

Out Of BoundsNo

All Machines Monitoring Page



# WEBSITE – MACHINE PARAMETERS (ENGLISH)

User: Admin Type: admin Select Language LOGOUT

OFF PA415PLUS BIAJ187004

Details More

00062:6  
RUN HOURS

Service Due Date 12/12/19

Warranty Expiry Date 12/12/20

FIND DEALER Register Complaint

Parameters

Ignition Switch OFF

Engine RPM 2000

Engine Oil Pressure LOW

High Air Temperature ON

Battery Voltage 24.0

Map Satellite

Geofence Clear Submit

Google Map data ©2019 Terms of Use Report a map error

# WEBSITE - MACHINE PARAMETERS (HINDI)

Google Translate: Hindi | Show original

बंद

PA415PLUS

BIAJ188003

विवरण

अधिक

00001:8

रन घंटे

सेवा नियत दिनांक

12/12/19

वारंटी समाप्ति की तारीख

12/12/20

FIND डीलर

रजिस्टर शिकायत

पैरामीटर

इग्निशन बटन

बंद

इंजन RPM

0

इंजन तेल दबाव

कम

उच्च वायु तापमान

बंद

बैटरी वोल्टेज

24.02

नक्शा

उपग्रह

BIAJ188003

geofence

स्पष्ट

जमा करें

Translation

# WEBSITE – CONFIGURATION MANAGEMENT

The screenshot displays the DDOOSAN website configuration management interface. The top navigation bar includes links for User, Admin, Type (admin), Select Language, Spare Parts Enquiry, and Logout. The left sidebar contains icons for Machine Management, Monitoring, Analysis, Configuration, Alerts, and Complaints. The main content area features a tabbed interface with ASM, Dealers, Machine, Customers, and Users. The Machine tab is active, showing a table of compressors with columns for ID, Name, and Actions (Users, View, Delete). The table contains four rows: 8888, BIAJ187004, BIAJ188003, and Test. The Configuration tab is highlighted in the sidebar.

**DDOOSAN**

User Admin Type admin Select Language Spare Parts Enquiry Logout

ASM Dealers **Machine** Customers Users

Get List of Compressors Add Compressor

8888	8888	Users	View	Delete
BIAJ187004	456789999123457	Users	View	Delete
BIAJ188003	456789999123456	Users	View	Delete
Test	Test	Users	View	Delete

Configuration

Alerts

Complaints

Configuration Page to add/modify Dealers, Customers, New Machines and Users of Website




# WEBSITE – COMPLAINTS REGISTRATION



COMPLAINT REGISTRATION FORM 

Complaint Number	<input type="text" value="00000001"/>	Date of Complaint	<input type="text" value="31/07/2019"/>
Machine Sl.No	<input type="text" value="BIAJ187004"/>	Date of Breakdown	<input type="text"/>
Dealer Name	<input type="text" value="▼"/>	Complaint Type	<input type="text" value="3. High Oil carryover"/>
Complainant Name	<input type="text" value="Enter Your Name"/>	Complaint	<div>Register Complaint</div>
Complainant Contact Number	<input type="text" value="Enter Your Phone Number"/>		
Complainant Email ID	<input type="text" value="Enter Your Email ID"/>		

# WEBSITE – COMPLAINTS SUMMARY



Machine Management

Monitoring

Analysis

Configuration

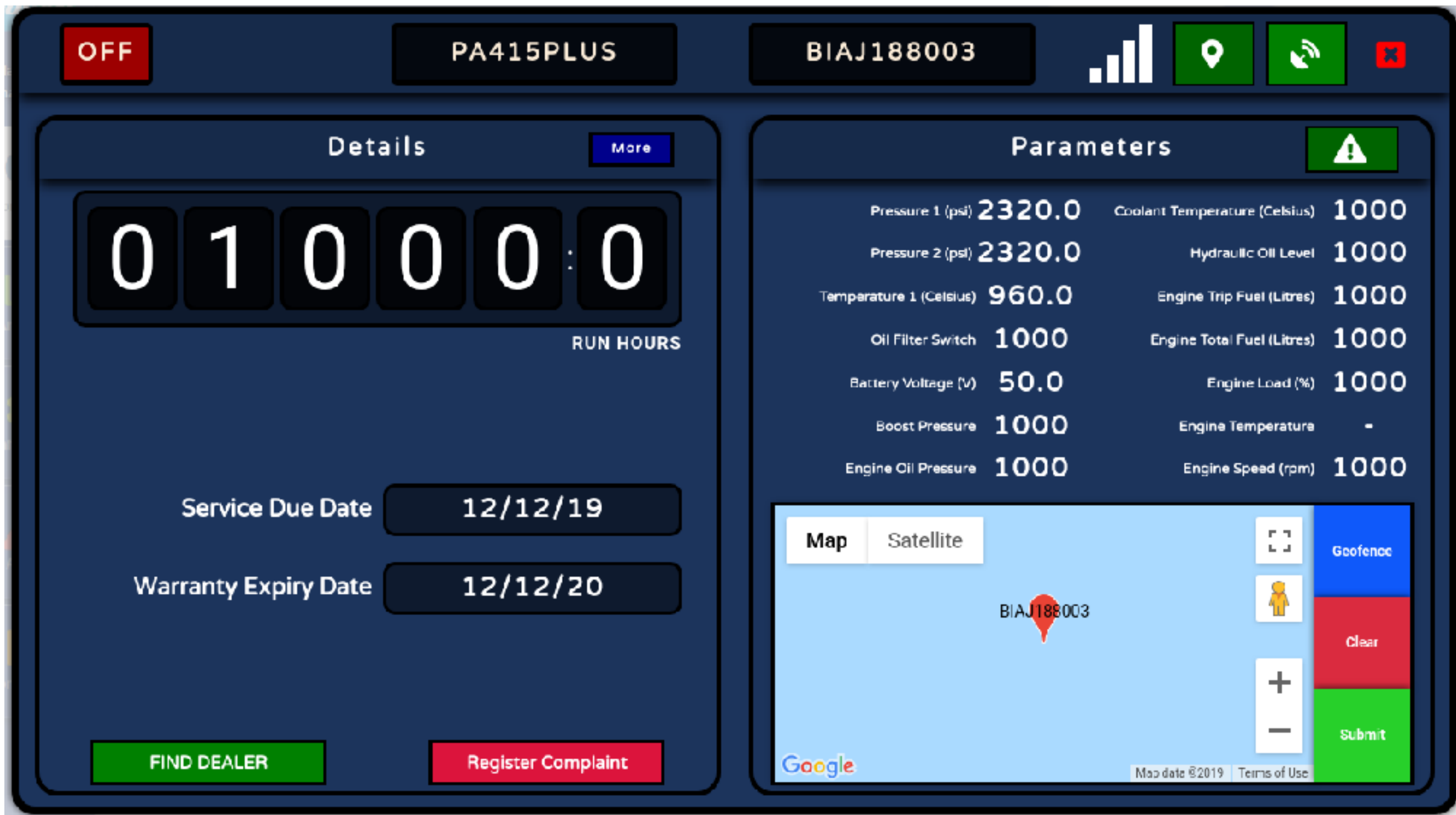
Alerts

Complaints

UserAdminTypeadminSelect LanguageSpare Parts EnquiryLogout

Machine Sl.No.	Alert	Time
BIAJ187004	Engine Problem	2019/07/29 20:23:30
BIAJ187003	Battery Drain	2019/07/30 20:23:30
BIAJ187004	Low Oil Pressure	2019/07/31 20:23:30

# WEBSITE – CAN J1939 DATA PAGE



# WEBSITE – SPARE PARTS ENQUIRY

Select Language ▼



## SPARE PARTS ENQUIRY FORM

Machine Model

Machine Sl.No

Dealer Name

Enquirer Name

Enquirer Contact Number

Enquirer Email ID

Spare Part

Select Spare Part ▼

Enquiry Details

Preview

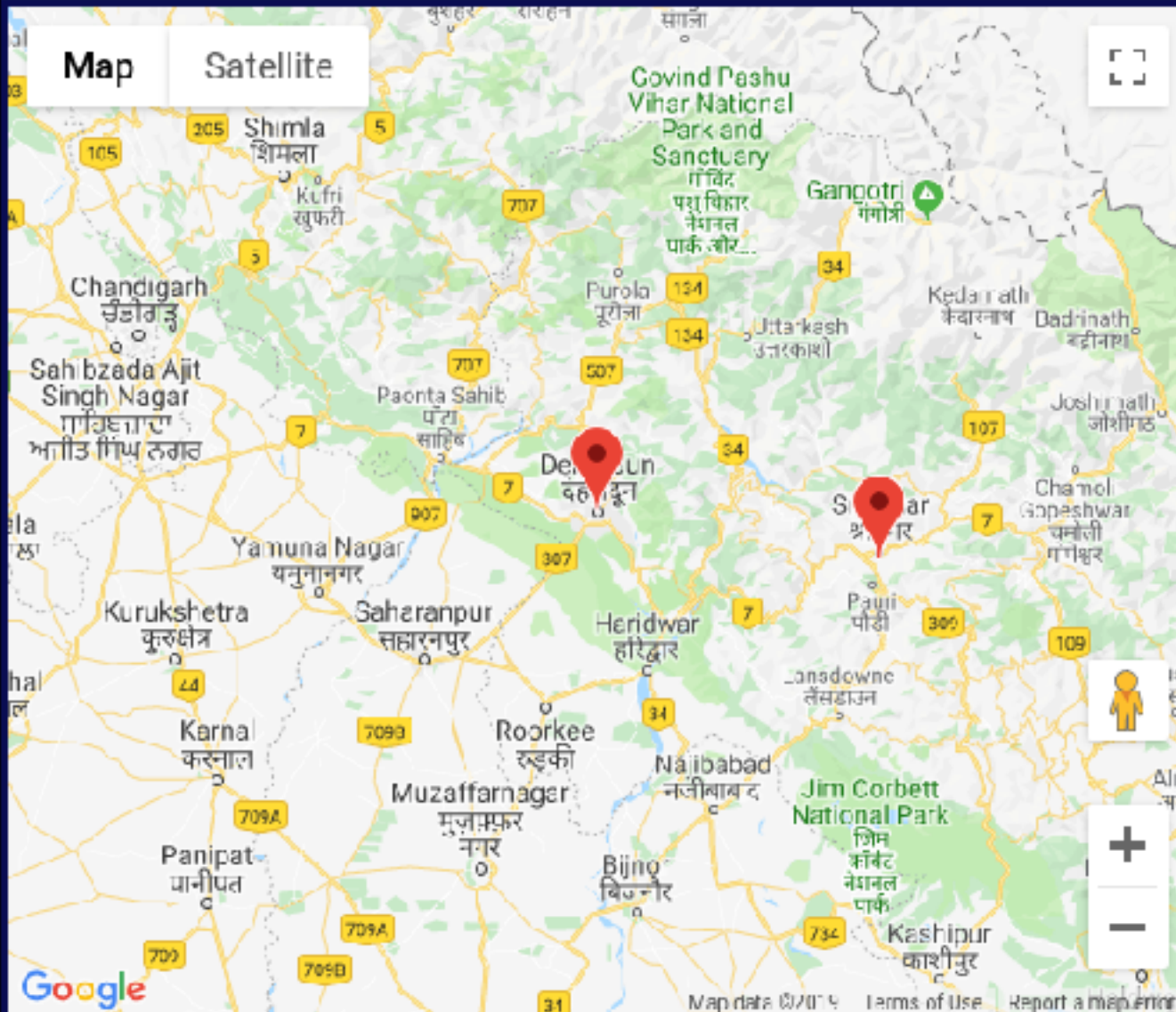
Submit

Reset



# WEBSITE – DEALER SEARCH

## DEALERS



Dealer Name

**ALPHA TEKNISK  
PVT LTD**

Dealer Phone No.

**8349738527**

Dealer Email

**alphatek@gmail.com**

Dealer Address

**Uttarakhand**