

GENERATOR MONITORING

Studies show that MNOS and TOWERCOS can have substantial savings if they implement best practices for Generator Monitoring



Challenges faced by MNOs and TOWERCOs

Increased Operational Costs: Lack of diesel generator monitoring can lead to increased operational costs due to inefficiencies in fuel consumption. When diesel generators are not monitored, it is difficult to track fuel consumption and the generators may run longer than needed, resulting in higher operational costs.

Reduced Site Availability: Lack of generator monitoring can lead to unexpected power outages, which can reduce site availability and impact the quality of service provided to customers. This can lead to customer dissatisfaction, reduced revenue, and damage to the company's reputation.

Delayed Maintenance: Monitoring diesel generators is important for identifying problems early, which ensures that maintenance and repairs can be carried out promptly.

Difficulty in Planning and Supply Chain Management: Lack of diesel generator monitoring can make planning difficult as it's harder to estimate when generators will require fuel. This can make it challenging to manage the supply chain of diesel and other consumables for generator operations

Environmental Concerns: Diesel generators contribute to carbon emissions and negatively impact the environment when they operate inefficiently, so it is essential to monitor them to control fuel consumption and generator operations.

With Invendis Technology MNOs and TowerCos can have substantial savings

Multiple factors add costs to your generator operations such as size of the site, number of generators installed, average fuel consumption, fuel cost and efficiency of generators.

We have helped our customers achieve several costs savings.



REDUCTION IN FUEL CONSUMPTION

By monitoring generator usage, MNOs & TOWERCOs can analyse fuel usage patterns and adjust them to reduce fuel consumption. Our customers estimate saving 15% on fuel costs, which translates to substantial annual savings



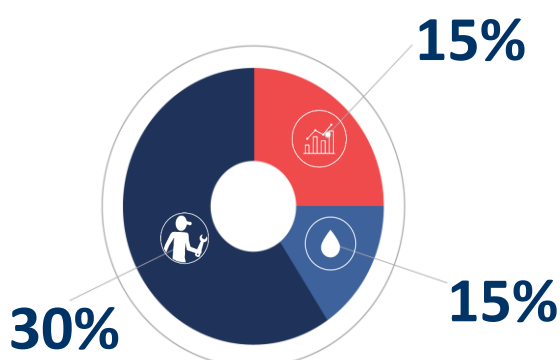
MAINTENANCE COST

By monitoring generators, MNOs & TOWERCOs can identify potential issues early, reducing maintenance costs, and minimizing downtime. Our customers estimate reducing maintenance cost by 30%, which translates to substantial annual savings.



IMPROVED OVERALL EFFECIENCY

Monitoring generator usage can help identify areas for improvement in overall system efficiency by enabling them to fine-tune the system to maximize its usage. Our customers point out that their overall efficiency savings could range between 10-15%.



Invendis brings best practices of Diesel Generator Management with Generator Monitoring Technology

Solution Highlight

- Tracking of generator – Run time, load, performance.
- Alert Users on Maintenance dues.
- Enhance generator life by advising customer on right usage measures.
- Track Measure and Validate fuel filling and consumption.

The customer gains

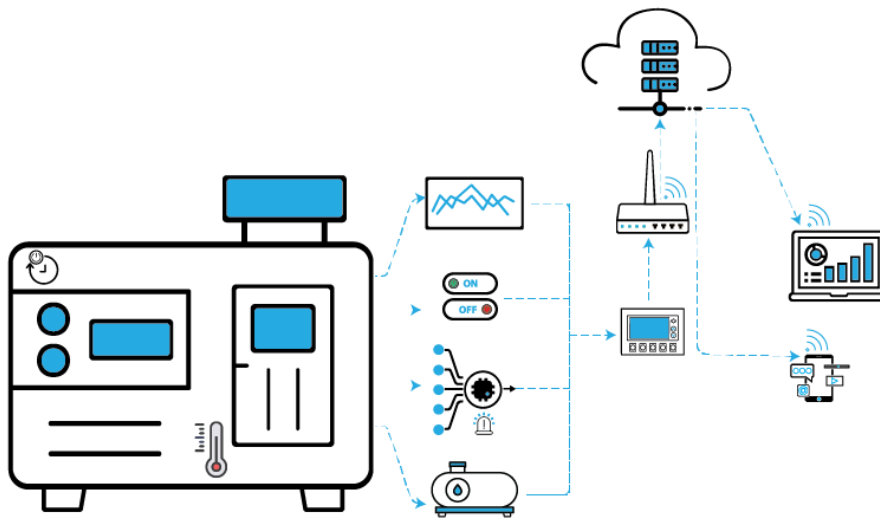
- Real-time update on generator status.
- Timely maintenance ensures optimized running cost and availability of generator.
- Right practise helps enhancing life of generator.



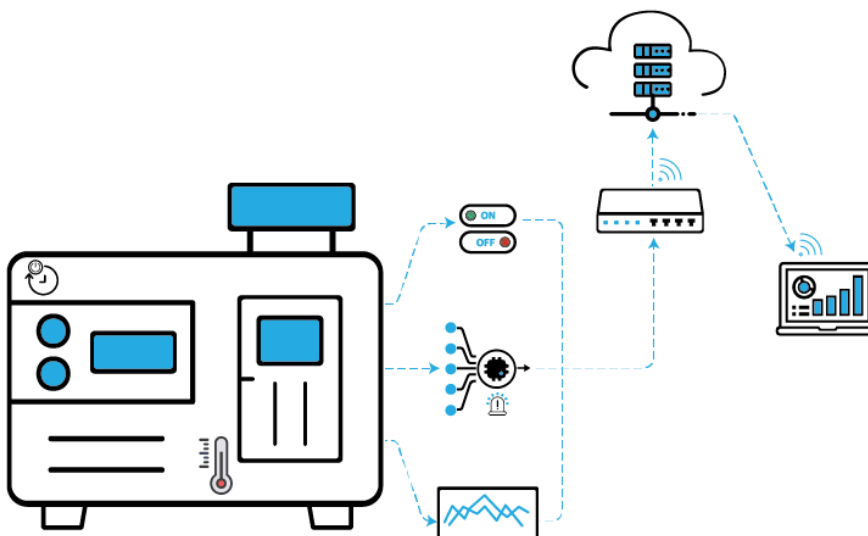
Solution Overview

Our diesel generator monitoring solution is designed to cater to a wide range of generator types and configurations, including old generators or those with controllers that do not support communication

Capturing data from intelligent generator controller



Capturing data without interfacing with generator controller by using sensors and dry contacts



Unique Features of solution

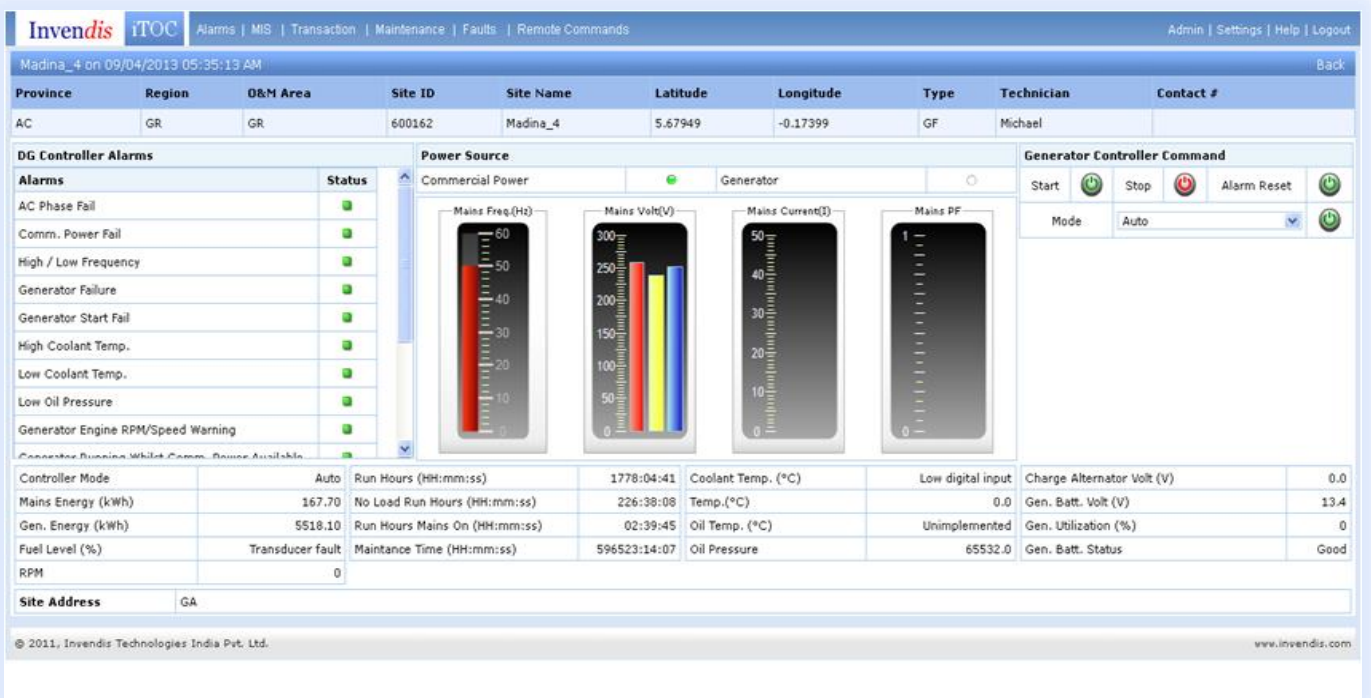
- Cloud based design, which can be deployed either on prem or offered on SAAS model.
- Multi Login and Concurrent user's support. Allows multiple users to access the solution at a time and perform their actions.
- Varied user profile support – multiple user profiles with permission restriction to access all or certain areas of solution.
- Supports live map, open-source maps to enhance user experience on the map view.
- Scalable – Solution capable of onboarding a few generators to thousands of generators in the same deployment just by adding additional licenses.
- Server architecture is scalable – No need to invest on servers for large deployment, the servers can be added based on the need basis.
- Easy navigation through pages to get the real time details of Telecom Passive infra parameters.
- Multi OEM ATS Controller brand support.
- Support over serial interface like RS485, RS232.
- Supports OTA – Over The Air Configuration, modification of thresholds to control generator at sites. Eliminates site visit requirement for performing such taska.
- Supports extended monitoring of other elements of Telecom if required. Providing a single roof solution for monitoring entire passive infra of sites.
- Multi – OEM generator / ATS controller interface support.

Innovative and Comprehensive Software

Our innovative and comprehensive software is the perfect solution for generator monitoring, providing a complete suite of features including alarm management, dashboard, GIS, trouble ticketing, and OTA functions.

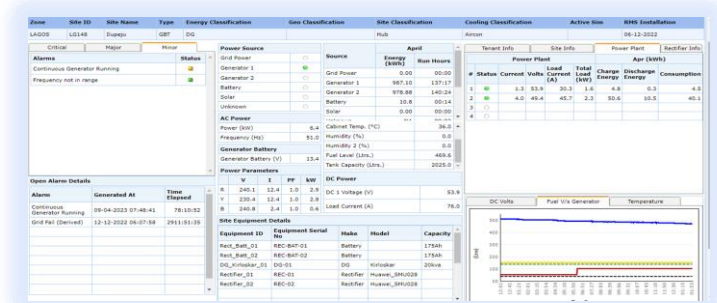
DG Controller Dashboard

The landing page and alarm page view allows users to traverse to detailed dashboards available in textual and graphic representation

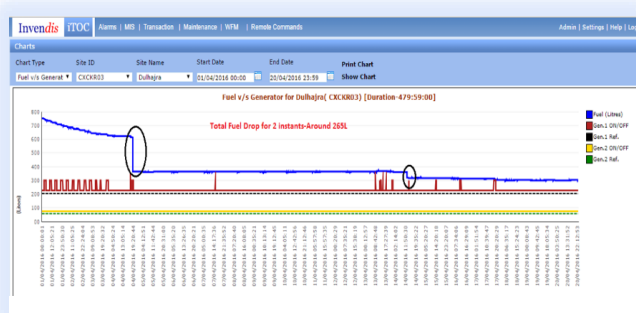


With our alarm management feature, users will be promptly alerted of any potential issues or malfunctions in their generators, allowing swift actions to be taken to avoid downtime and costly repairs. The dashboard function provides real-time monitoring, allowing for better decision-making and proactive maintenance.

Detailed Dashboard



Fuel Abnormal/Fuel Pilferage Dashboard



The GIS feature allows for easy visual representation of the location of generators and the surrounding infrastructure, while the trouble ticketing function enables efficient management and tracking of maintenance and repair issues. Our OTA (over-the-air) function enables remote control, software updates, enhancing reliability, and functionality.

Overall, our software provides an integrated approach to generator monitoring, simplifying operations, reducing costs, and ensuring maximum uptime. Our software is adaptable to various generator types and configurations, making it the perfect choice for generator monitoring solutions in various industries.

Fuel Filling & Consumption Dashboard



About Invendis

Invendis designs, develops and markets most widely usable remote monitoring systems and services to global infrastructure companies to enable them to monitor, control, maintain and manage their distributed infrastructure assets efficiently.

Invendis experienced IIoT hardware and software engineers deeply understand systems integration and enhanced user experiences and create integrated IIoT solutions using state-of-the-art architectures, development, and thorough testing facilities.



118,000+
Telecom Towers



30,000+
Routers



15+
Global
MNO/Tower CC



26+
Countries



500,000+
Connected Assets



20,000+
Enterprise Users

