

FieldEZ

IoT Use-Cases



Current Challenges



Predicting Plant / Machine Condition & Performance

Variabilities in machine degradation / wear and tear due to external and unforeseen effects – leading to different predictive maintenance schedules plans

Preventing Unplanned Downtime

The ability to anticipate unplanned machinery downtime is crucial to reduced long term costs. Unplanned downtime of a machinery is 1.5 to 5 times costlier than a scheduled downtime.



Equipment Operator Efficiency Tracking

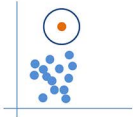
The operator performance has an important impact on the resolution time and fix rates of machines. Tracking the operator efficiency can help in assigning the right engineer for the right technician for the right job.

Monetization of Equipment

SMEs and organization providing product-as-a-service or into rental services face major difficulties in monitoring and ensuring efficient monetization of their services.



IoT Use-Cases for Industrial Applications



Anomaly Detection

Any variation in the main parameters of the asset (temperature / pressure / level ,etc.) can be immediately identified. The IoT sensor would then instantly alert the concerned team members, as well as auto-generate a ticket in the FieldEZ system. The FieldEZ FSM software further automatically schedules this ticket to the best technician for immediate diagnosis and possible repair.



Predictive Maintenance

Beyond the regular periodic asset maintenance which happens at a pre-defined frequency, inspection visits can be conducted based on any irregular vital signs of the device (captured via the IoT sensors). Again with auto-scheduling, one can immediately dispatch the technician to check out and avert costly downtime.



Pattern Recognition

Assets and equipment exhibit certain 'signatures' or patterns based on the type of issue. Along with heuristics and ML algorithms, one can predict the type of issue (and thus, subsequent diagnosis approach and spare parts required) based on these patterns. These typically are vibration patterns, temperature / pressure trends and profiles, noise levels and signatures, etc.



M2M Automation

Machine to Machine interactions can greatly help in redundancy and ensuring network and data availability between FieldEZ and the field assets.



OTA Firmware Upgrade

Over-the-air updates can reduce costly visits to remote assets, and extend lifespan of assets, at the same time plug any security or communication flaws that may existing in the assets installed

IoT Use-cases for Commercial Applications



Real-time update to stakeholders

With IoT implementations of assets, all stakeholders can get real-time view of the current operational and business state and show metrics and KPIs with dynamic update frequency. This not just ensures the engineer utilization is optimized, but managers and CXOs have instant data and analytics to realize further top-line growth and identify more business opportunities.



Integrated Marketing

IoT sensor information fixed to consumer assets like fridges and washing machines, can help in providing targeted marketing campaigns sent to the consumers. Eg: Update consumer on stocking detergent / food / servicing of AC's etc. based on activity and data captured by the IoT device. This can then further be extended to include scheduling and appointment fixing as well.



Resource Balancing and Forecasting

IoT sensors placed against high-value and/or high-volume assets can greatly help in reducing the amount of unplanned jobs and visits made by the technicians. This can also help in better forecast of jobs weeks and months ahead, thus assisting managers in rostering and resource planning.



Tracking Product Usage

Product-as-a-service is a potentially big business, but has been stymied because of lack of control and visibility into operations. Examples of such businesses would be for Medical (CT/MRI) scans, Printing services, etc. True remote operations of such product services can be achieved through IoT integration, and hence remove any human / manual supports and costs.



Automatic and TOD billing

IoT implementations can automate the billing system itself, and remove the need of manual meter reading for utilities, usage, etc. This can then also be integrated to other systems for time-of-day and dynamic pricing models, to optimize load management and usage.

Target Industries for FSM + IoT Use Cases

Industrial



- Telecom :** Towers & Related Assets | Cabling & Networks
- Utilities :** Transformers, Reclosers & Related Distribution Assets | Meter Reading
- Earth Movers, Cranes :** Vehicle Condition Monitoring
- Manufacturing :** Monitoring across various industries like Textiles, Automobiles, Tools manufacturing
- Oil & Gas :** Pipeline monitoring, Tanker tracking and management

Commercial



- Consumer Durables :** White Goods, Electronics, HVAC
- Home Services :** Air-Conditioning, Heating, Plumbing
- Real Estate :** Facility Management, Diesel Generators, HVAC
- Security :** CCTV Maintenance, IoT based incident reporting
- Healthcare :** Medical Equipment condition monitoring
- Printing Services :** Product-as-a-service – remote asset usage management