# SiFe Engineering
# **PROFILE**

# Manage Faster, Smarter & Safer

# About Us

SiFe Engineering is a privately-owned high-tech SME specialized in the field of remote monitoring systems. Founded in 2009, its main market niches are in the field of energy efficiency, environmental monitoring, and industrial processes automation.

Established to deliver leading edge secure technologies and intelligent solutions, providing it's customers and business partners with robust, extensible and customizable enhanced-monitoring solutions for information sharing, data exchange, services invocations and communication.

Our highly technical enabled background and multidisciplinary professionals offer qualitative solutions for a quantitative production environment. Enabling a more sustainable and efficient future automation.

# Our Vision

With the developing world, the need for better and more reliable data communications is growing. Our ambition is to provide the world's best industrial solutions. Our passion for excellence and innovativeness drives us to be the best. Gives us the power to pursue our dreams.

There is a steeply rising demand for solutions incorporating artificial intelligence, data analytics, real time monitoring etc. Our vision is to contribute and create a more prosperous and sustainable future. Making operations safer, intelligent and more productive.

Cyber security for industrial networks will play a vital role along with the ability of the network to recover from interruptions with pre-emptive measures been taken by its most advanced features.

With a wealth of experience in industrial communications applications. Our vision is to provide a competitive products with greatest quality among the Industry giants in the Market.

# Our Mission

Our mission and our number one objective: to be our customer's best service provider. At SiFe Engineering, our top priority is service in everyway – service to customers, colleagues and community. At SiFe Engineering we are committed to engineering for a better and sustainable future.

We strive every day to put our technology to work for private companies and public sector in order to make the industry a more sustainable and energy efficient.

Our monitoring & control products and solutions have improved the current traditional processes and services in the industrial sectors such as Building Management and Controlled Energy Environment in a global marketplace.

Applying our values with respect and honesty through our commitment to teamwork and a high degree of responsibility to our customers in everything what we promise to deliver.

# Our Values

SiFe Engineering was built on a solid foundation of Values and Beliefs.  Our Values are the cornerstone of our culture.  They shape everything we do with our colleagues, customers, and partners alike.

## Teamwork:

Our greatest strength is our people.  Promoting and supporting a standardized and multi-disciplinary team, assuming that the maximum asset of a company are its employees.
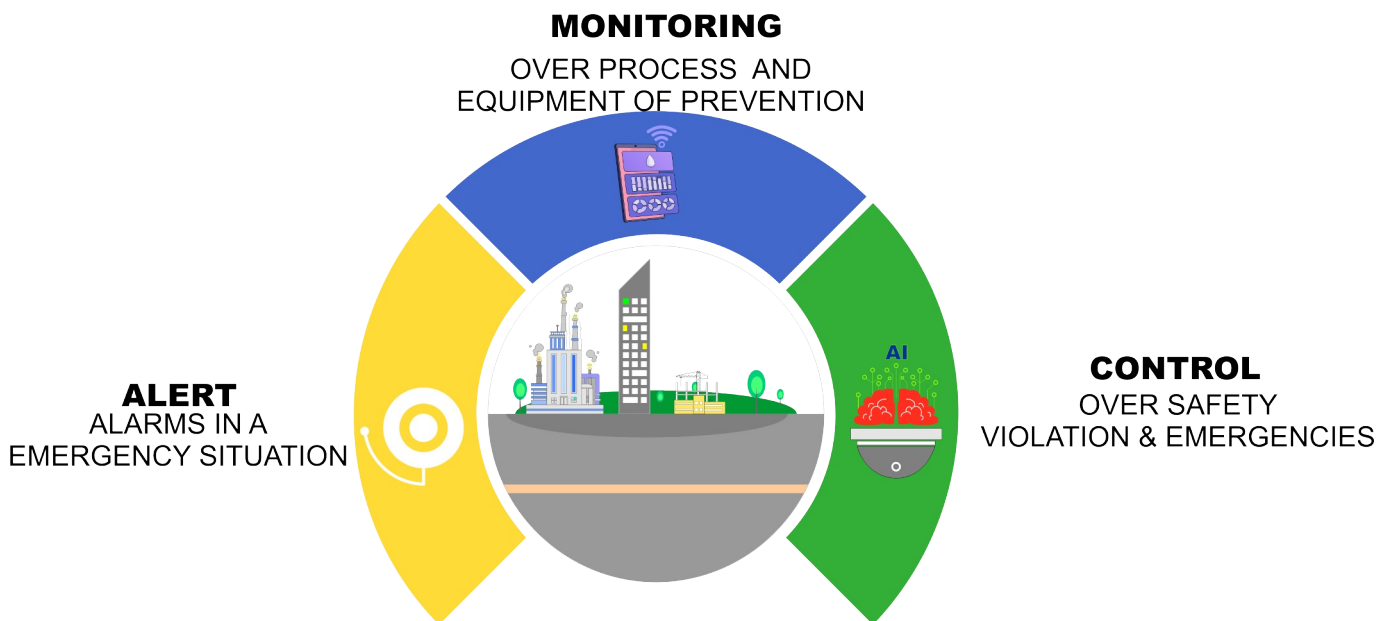
## Excellence in service:

Meeting our promises and we take responsibility for all our decisions and actions, based on high standards of excellence to our customers.

## Innovation:

Continuously improving our products and solutions by working with Innovative technologies with the ultimate goal of providing a distinctive and distinguished value to our customers.

# Expertise

Industrial Automation
Remote Monitoring System
Building Management System
OEM and System Integration

**MONITORING**
OVER PROCESS AND
EQUIPMENT OF PREVENTION

**ALERT**
ALARMS IN A
EMERGENCY SITUATION

AI

**CONTROL**
OVER SAFETY
VIOLATION & EMERGENCIES

# Manage Faster, Smarter & Safer

# Alert Architecture
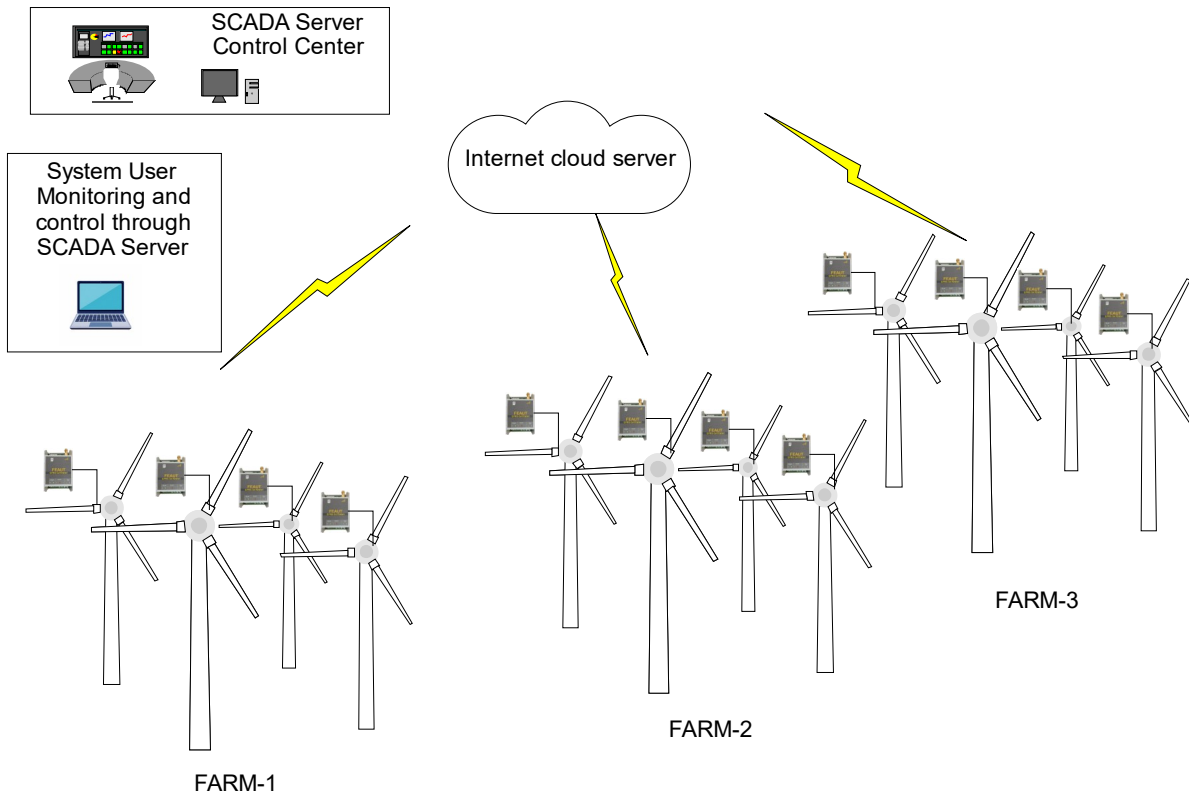


G-Alert provides new dimension in Alarm solution and a simple yet effective solution to all of your process and safety needs

Emergency Response
Passive Protection
Active Protection
Isolated Protection
Alarm & Operator Intervention
Low Level Process Control
Design

**Hazaadous Activity / Process**

Plant Engineering & Design
Basic Production Control System
Oprational Intervention
Safety Instrumented System
Relief Valve, Rupture Disc etc
Bund, Blast Wall etc
Emergency Response

Prevention Layer

Mitigation Layer

In both **process industries** and the **fire sector**, the prevention level addresses the protocols, mechanisms, and systems that aim to proactively prevent incidents. Prevention levels in alert architecture are structured to detect early warning signs, potential threats, and provide pre-emptive alerts, allowing timely interventions to avoid escalation.

# Our Solutions

## Wind Farm:



Key Objective:

- Predictive Maintenance of Equipment at Wind Farm

- Continuous Monitoring with Alerts / Alarming Feature

- Scalability for intelligent equipment control

Offered Solution:

- Smart Wind Farm Management system (MQTT System).

- Main Controller Connectivity to connect the Wind Turbines with the MQTT Monitoring Platform.

- MQTT based solution for Monitoring and Service Team Alerts.

- Admin can customize access control based the user or customer profile.

## Monitoring:

- General

- Power Output

- Wind Speed, Rotor speed, Generator speed

- Electrical

- Voltage, Current, Reactive Power, Frequency, Power Factor

- Mechanical

- Generator Temperature, Nacelle Temperature, Outside Temperature

- Vibration 1,2,3, and 4

- Pitch

- Brake Activated, Yaw Activated

## Wind Farm Functionality:

- Systems provides an Advanced Monitoring platform enabling the vendor independent solution over any deployed Wind Farm Technology.

- System provides real-time functionality for local or remote supervision, including events and alarms handling, reporting, trending as well as parameter setting.

- Compliance with Industry Standard/Proprietary Protocols and simultaneous multi-protocol support

- Web Based intuitive graphical user interface

- Highly Flexible and performing system capable of handling thousands of Gateways / Meters / Controllers.

- Integrated multidimensional tagging capability.

- History Logging with MS SQL Server or any ODBC Compliant Database State-of-the-art reporting capabilities with reports can be exported into MS Excel / PDF for better viewing and analysis.
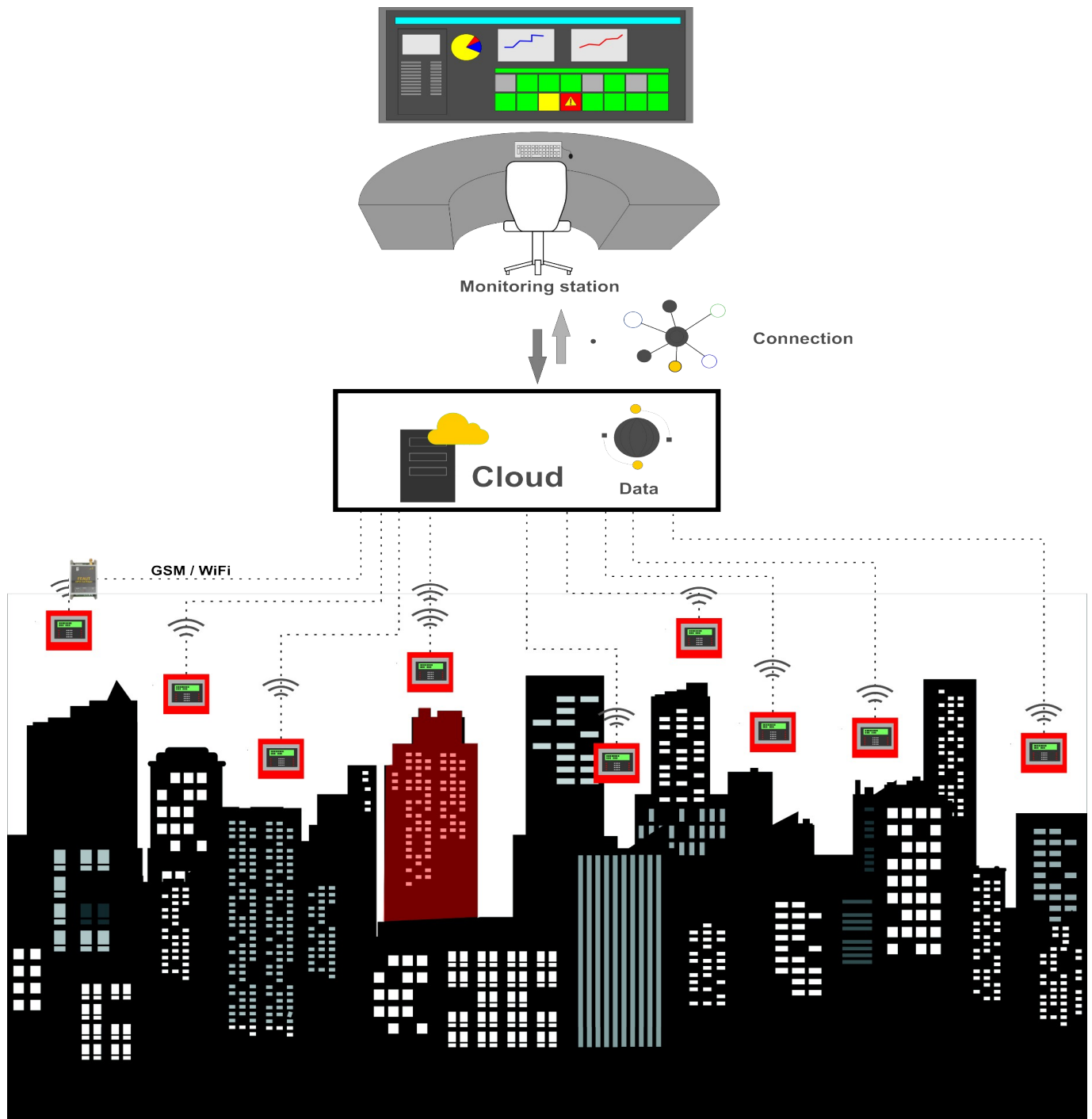
## Remarks

- Feaut Modem provides transparent secure communication to control Center over GPRS or 4G network·

- This modem shall be installed at each Turbine

- There is no local storage of information, only online communication

- USER to provide link to controller over RS232 / 485 Port

# Firewatch Suite

The *Firewatch Suite* provides a comprehensive, centralized monitoring solution for fire safety, ensuring real-time status updates and health diagnostics for fire detection systems across facilities. In the event of a fire incident, the system minimizes response time by immediately alerting relevant personnel. Furthermore, it enables detailed reporting on system health and incident logs, tracking metrics such as downtime and system responsiveness.

Architecture

The *Firewatch Suite* functions as an integrated system, utilizing a field gateway that connects fire detection systems with a remote server database and user interface. It operates by collecting data from field devices through these gateways and storing it in a MySQL database. This integration enables real-time data processing, centralized monitoring, and efficient data storage, ensuring that crucial fire safety information is readily accessible and actionable.

We offer a comprehensive, end-to-end solution that includes both hardware and software components.

Our hardware suite encompasses essential devices like gateways, converters, and power supplies, ensuring reliable system connectivity and operation.

On the software side, we provide a user-friendly interface that allows for customizable access control configurations based on user hierarchy, facilitating secure and efficient system management across all levels of an organization.

This integrated approach ensures seamless functionality and enhanced control for optimal fire safety and monitoring.

**Centralized Monitoring**: The *Firewatch Suite* provides a single interface for monitoring fire detection systems across multiple facilities, offering real-time oversight.
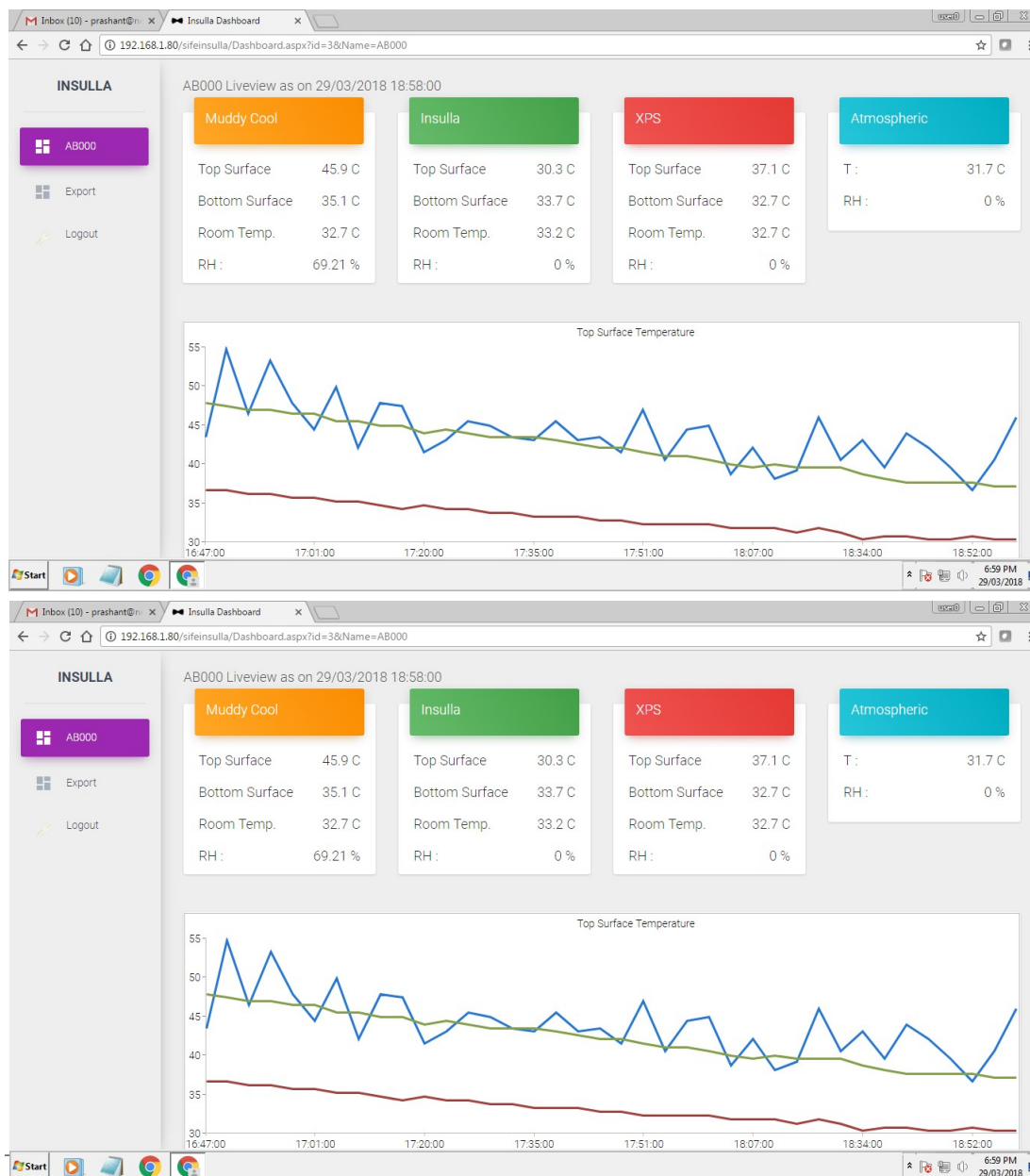
1. **Real-Time Alerts and Notifications**: Immediate notifications are sent to relevant personnel when a fire incident or system fault is detected, facilitating quick responses. Also con-fig to send alert via cellular network for quick response action.

2. **Health Diagnostics and Status Reporting**: Regular diagnostics ensure that systems are fully functional, with reports generated on system health, operational uptime, and any detected faults.

3. **Downtime Tracking and Management**: Tracks and minimizes downtime, ensuring uninterrupted fire detection and alert capabilities for maximum safety.

4. **City-Wide Protection**: Enables centralized monitoring for multiple buildings or facilities across a city, enhancing safety coverage on a large scale.

5. **Comprehensive Incident Logs**: Maintains detailed logs of all incidents, alerts, and responses for analysis, compliance, and continuous improvement.

6. **Enhanced Reliability**: The proactive monitoring system minimizes risks associated with undetected malfunctions, increasing reliability and readiness during fire emergencies.

7. **Seamless Integration with Firefighting Systems**: Compatible with various firefighting systems, allowing seamless collaboration between detection and response measures.

This robust, city-wide monitoring approach helps mitigate risks by maintaining the functionality of all fire detection systems and ensuring preparedness for any emergency.

# Roof Tile Performance Tracker

To demonstrate the efficiency of roof tiles in varying climates, we developed an IoT-based monitoring system that measures and analyses heat protection across different weather conditions and locations in India. Our system captures critical temperature metrics, including top surface temperature, under-roof temperature, and the temperature difference, providing an in-depth view of each tile's thermal performance.

Over the course of a year, this IoT monitoring solution has been deployed across multiple cities, collecting real-time data on tile performance under diverse environmental conditions. This information enables us to evaluate how well the tiles insulate against heat and maintain a cooler under-roof environment, contributing to energy savings and enhancing thermal comfort. By providing these insights, our system empowers informed decisions in roofing materials, optimized for varying climates and weather conditions across India.

# IoT Vending machine

Our company has developed an innovative IoT-based monitoring system for sanitary napkin vending machines. This solution ensures seamless operation, offering features such as real-time inventory tracking, automated alerts, and integrated payment processing.

The system monitors inventory levels in each vending machine, sending alerts when stock runs low to ensure consistent availability. Additionally, it includes a secure payment gateway for convenient transactions, allowing users to make quick, hassle-free payments. This end-to-end solution promotes accessibility, hygiene, and convenience, especially in locations where sanitary products are essential for daily needs.

# Stove IoT

Our stove monitoring system is designed to assess and enhance stove efficiency through real-time temperature tracking. Equipped with sensors that measure the temperature beneath the stove, the system transmits data periodically to a centralized server for performance analysis.

When the temperature exceeds the threshold limit of 60 degrees Celsius, the system automatically store and send this critical data to the server in defied periodic intervals. By tracking these temperature patterns, our solution enables users to optimize stove usage and maintenance, promoting safe operation and efficient energy consumption. This IoT-based approach provides valuable insights into heat management and overall stove efficiency, contributing to cost savings and improved functionality.

# Our Approach

## Product Supply

- Spec Verification
- Off the shelf Supply
- After sales Service support
- Next day supply subject to availability

## Product + Accessories Supply

- Spec and Compatibility Verification
- Accessories Procurement
- Product Supply
- After Sales Service support
- 1 week Timeline of supply subject availability

## Customized Requirement

- Understand the Needs
- Evaluation
- Techno-Commercial Proposal Submission
- PO Status
- Design and Development
- Product Supply
- Min 4 weeks Timeline subject to complexity

# Our Esteemed Client

# SiFe Engineering

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# Thank You