Bliss Flow Systems

WIRELESS BATTERY MONITORING SYSTEM

Enhancing performance and safety

Bliss Flow Systems

Bliss Flow Systems is a diversified supplier of Engineering products to Chemical, Petrochemical, Oil & Gas, Marine, Off-Shore Platform, Power Generation, Water and Waste Water industries etc.

We are introducing both wired and wireless Battery Monitoring Systems to Oil & Gas, Data Centre, Airports, Banks and Hospitals etc. to decrease down time of the process and increase productivity & efficiency.

Bluewave Technologies

WIRELESS BATTERY MONITORING SYSTEMS

Bluewave Technologies provides smart measurement solutions to customers who need to have confidence in their emergency backup power supplies.

Battery Monitoring System is designed to address catastrophic failure of these systems in Oil & Gas, Airport, Banks, Data Centre and Hospitals etc.,. Bluewave developed a product range to satisfy even the harshest environments in a highly regulated industry.

Now the product range has evolved and can be economically scaled for application in Industries like Oil & Gas, Airports, Banks, Data Centre and Hospital applications etc.

Who are We..

Bliss Flow Systems is the sole authorized distributor to **Bluewave Technologies** for their business in India, Middle-East & South-East Asia.

Bluewave Technologies has been doing its business in Europe, Australia and Newzealand.

Importance of UPS

- UPS is the key component in every industry to make sure the power back up.
- When electricity cuts off, UPS is the only power supply for emergency equipment.
- Battery failure is directly lead to UPS powered down, then key business will be effected and cause economic and political damage.
- It is said that one hour powered down in data center will cause loss as per OECD (Organization for Economic Co-operation and Development):

  Financial Industry: INR 14,95,13,400 loss/hr

  Telecommunication: INR 20,66,24,500 loss/hr
- So more and more Organizations install Battery Monitoring Systems solution as top priority.

What happens to a battery cell ?

Thermal Runaway

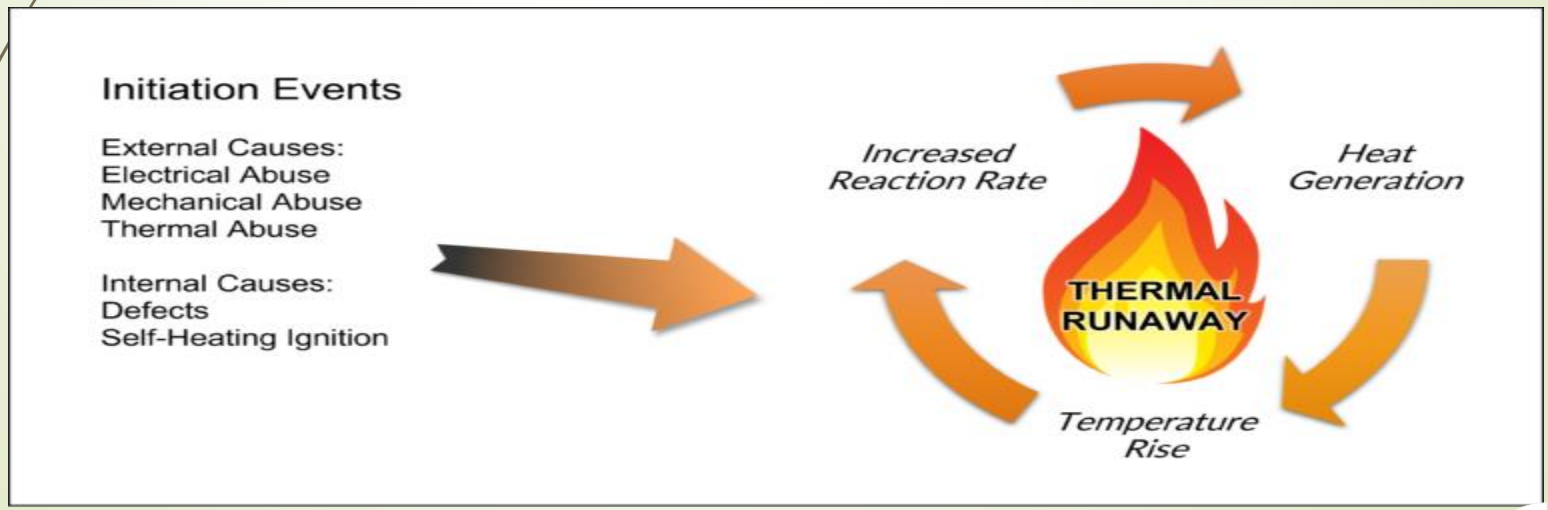
Pole Corrosion

Battery Bulging

What is Thermal Runaway?

Thermal runaway begins when the heat generated within a battery exceeds the amount of heat that is dissipated to its surroundings.

If the cause of excessive heat creation is not remedied, the condition will worsen. Internal battery temperature will continue to rise - causing battery current to rise - creating a domino effect. The rise in temperature in a single battery will begin to affect other batteries in close proximity, and the pattern will continue, thus the term "runaway."



What is Pole Corrosion ?

The chemical reaction that takes place as hydrogen gas collides with the air, moisture and salt causes corrosion. The most common cause of battery corrosion is when the battery acid causes a chemical reaction with the metal terminals.

Corrosion is fairly easy to spot: It's a white, blue or greenish powder typically surrounding one of the battery terminals, posts or cables. It has a granular, powdery texture.

What is Battery Bulging?

Swollen batteries, while not common, are a significant risk. They are the result of too much current inside a cell of the battery, which causes a build-up of heat and gas. This can be caused by several factors, however, the most common are overcharging, manufacturing defects, deep discharge, or damage to the battery.

Puncturing a swollen lithium-ion battery may lead to fire and explosion. Even if your device still works, if the battery is swollen, the battery must be replaced immediately, using the device or leaving it connected to power can be dangerous.

Battery Monitoring System

A Battery Monitoring System is a critical component used in various applications to manage and monitor the performance of batteries. Its primary function is to ensure the safe and efficient operation of batteries by continuously monitoring key parameters such as voltage, current, temperature and state of charge.

Voltage Monitoring

Current Monitoring

Temperature Monitoring

State of Charge (SoC) Estimation

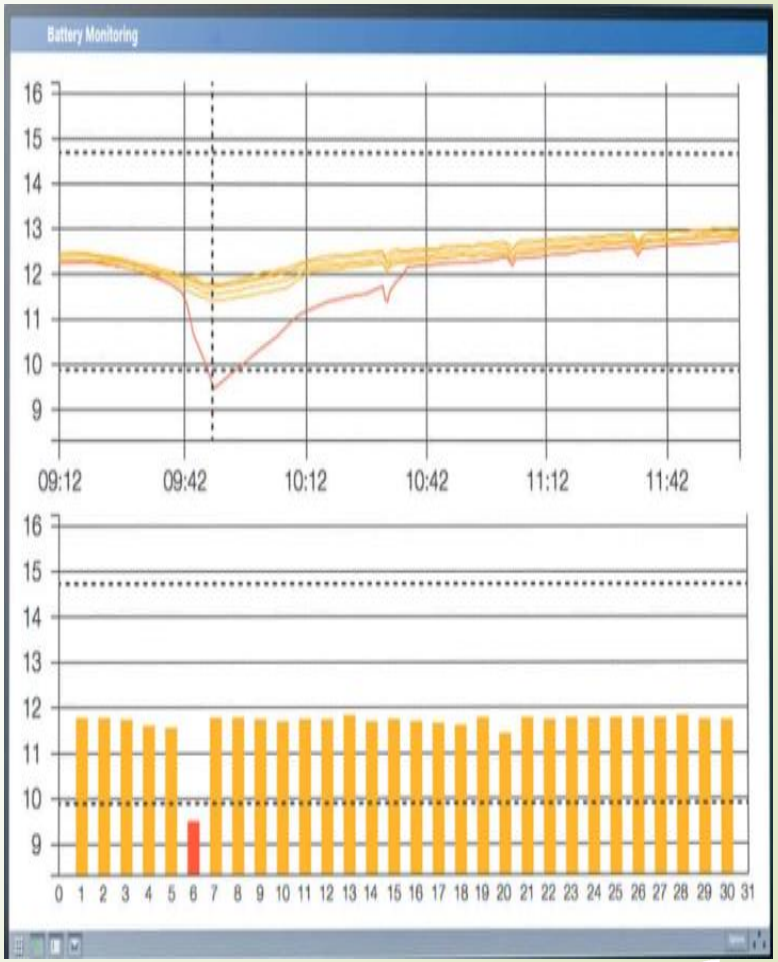
State of Health (SoH) Monitoring

Integration with Control Systems

Fault Detection and Diagnostics

Bluewave Battery Monitoring System

Senscell

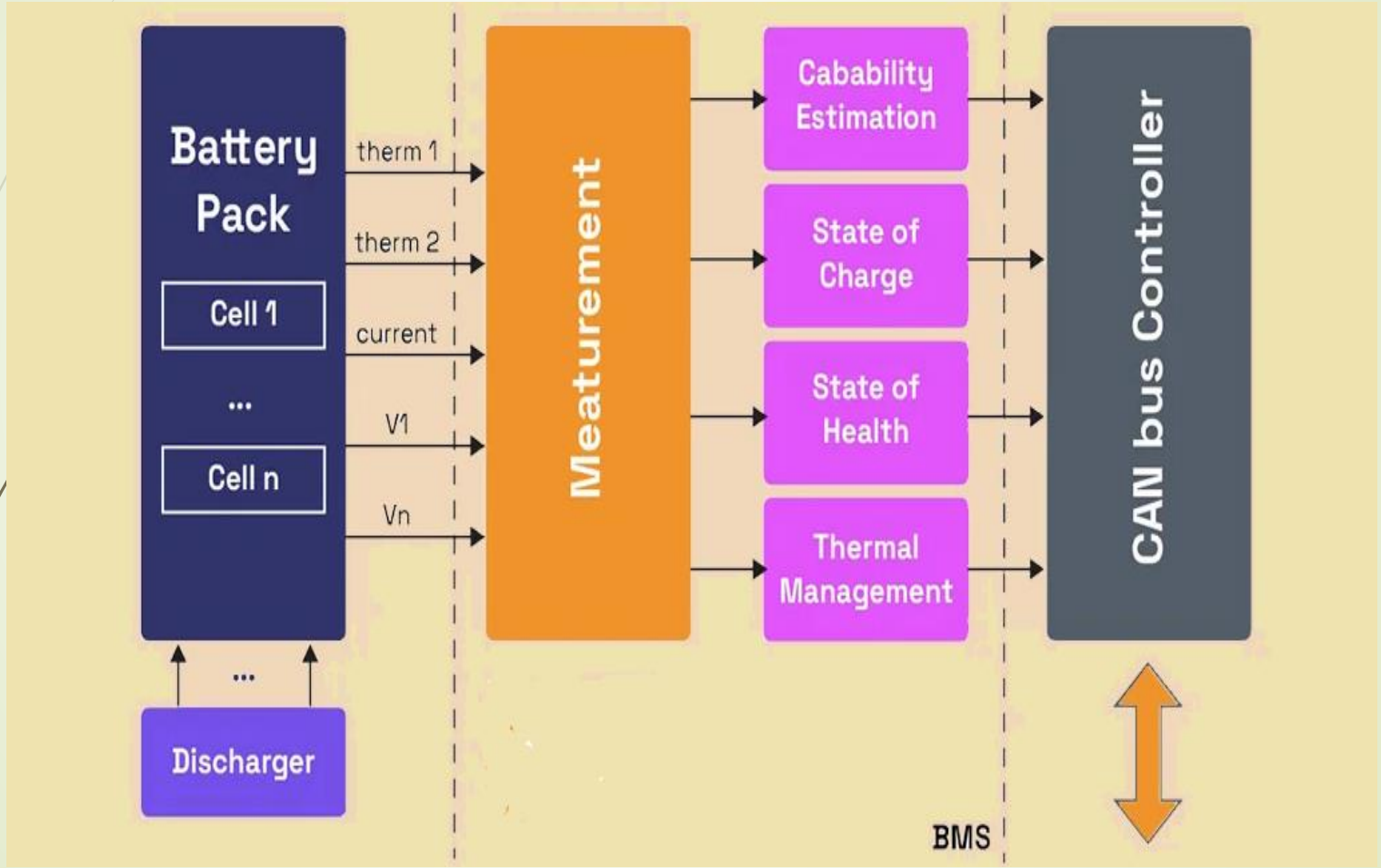


Bluewave Battery Monitoring System

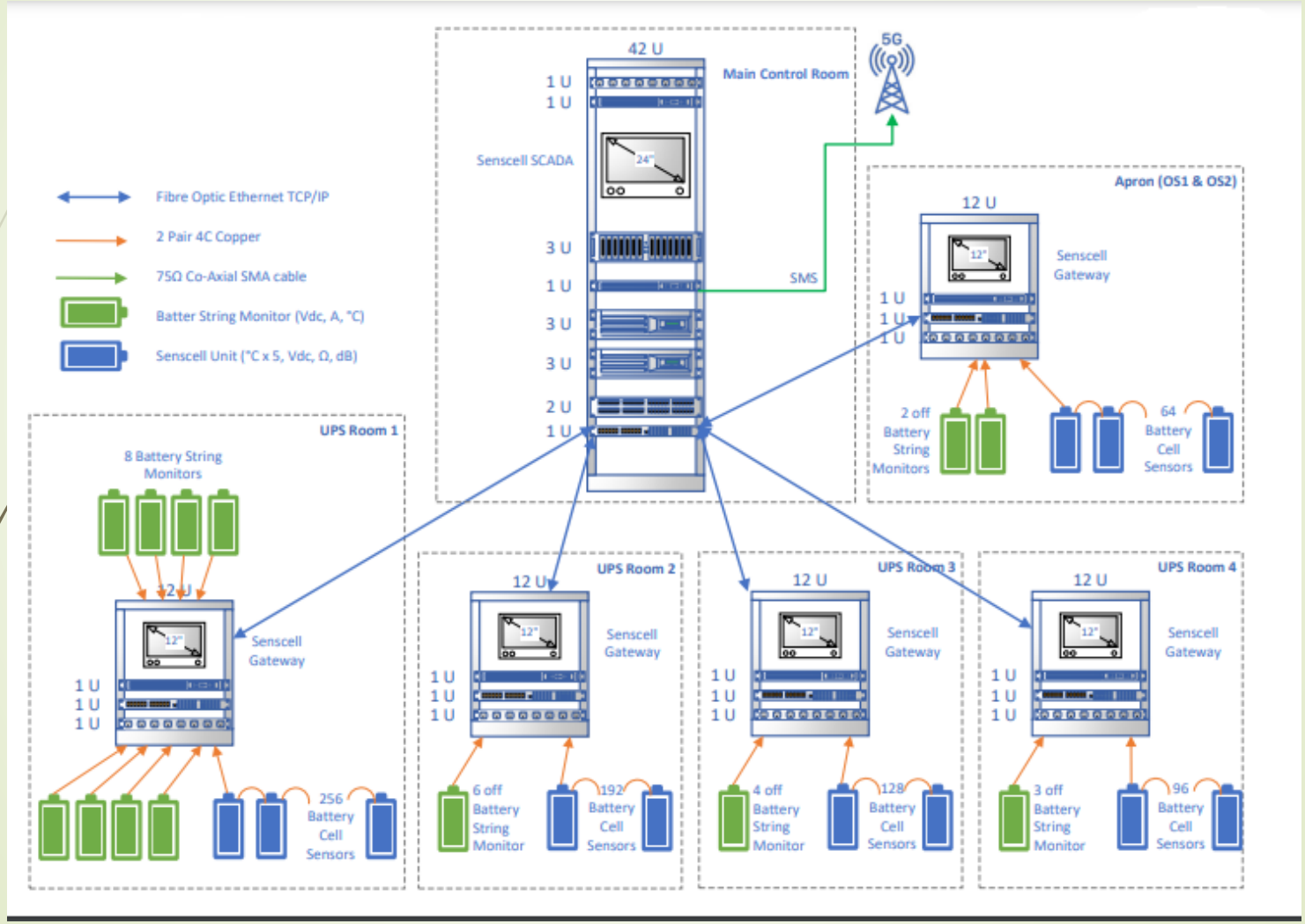
Key features:

1. **Accurate Real-Time Data:** Our advanced monitoring technology provides precise information on battery voltage, current, temperature, and impedance to make informed decisions regarding battery maintenance and replacement.
2. **Early Warning Indication:** Easily visualise battery abnormalities long before catastrophic failures that happen all-to-often in unmanned battery rooms. By analysing and predicting potential issues before they occur, you can take proactive measures to prevent downtime and mitigate risks.
3. **Remote Monitoring and Notifications:** Our systems offer several connectivity capabilities, allowing you to access critical battery information including MODBUS, OPC UA, CANBUS and many other industrial protocols.
4. **Seamless Integration:** Integrate seamlessly with your existing UPS infrastructure, regardless of the brand or model. They can be retrofitted to older brownfield installations with limited service disruptions.
5. **Customized Reporting and Analytics:** We provide comprehensive reports of your battery fleet's performance over time. These insights enable you to optimize maintenance schedules, plan for replacements, and demonstrate compliance with regulatory requirements if required.

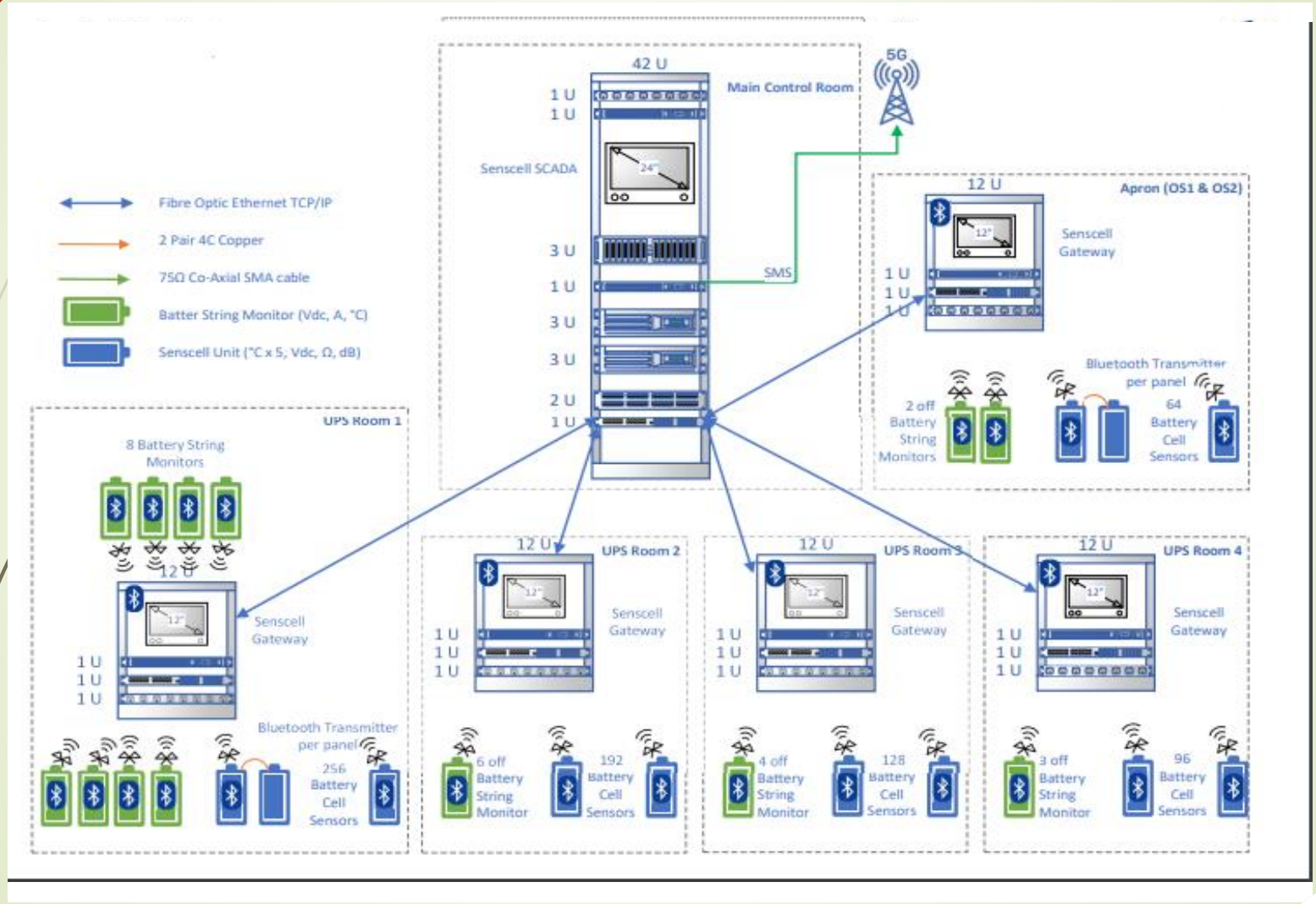
BMS Block Diagram



Typical wired BMS Architecture



Typical wireless BMS Architecture



Importance of BMS

- Ensuring Safety and Reliability
- Maximizing Battery Life
- Optimizing Performance
- Preventing Downtime and Failures

Applications of BMS

- Airport Terminals
- Hospitals
- Oil & Gas
- Petro Chemical Industries
- Chemical Industries
- IT Infrastructure
- Aerospace and Defense
- Telecommunications Infrastructure

Benefits of BMS

- Improved Safety
- Enhanced Performance
- Cost Saving because of Early Fault Detection
- Can be integrated with existing infrastructure and integrate with MODBUS, OPC UA, CANBUS and many other industrial protocols

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THANK YOU…

BLISS FLOW SYSTEMS

BLUEWAVE TECHNOLOGIES