



SUNSPEC
— ALLIANCE —



Hardware
Meets
Software™

RELIABLE MONITORING FOR REMOTE ENERGY SYSTEMS

Stay connected. Stay in control.
Keep your assets performing—
no matter where they are.



CONNECTIVITY
ANYWHERE



REAL-TIME
VISIBILITY



RESILIENT
BY DESIGN



BUILT FOR
REMOTE



Thursday, May 28th



10am PST / 1pm EST

Antitrust and Intellectual Property Admonition



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Remote Asset Monitoring and Off-Grid Connectivity

Managing energy assets, devices,
and fleets in remote environments

Davor Tonic & Doug Flanders

HMS Networks

May 28th 2026





Hardware Meets Software™



Anybus®
BY HMS NETWORKS

Ewon®
BY HMS NETWORKS

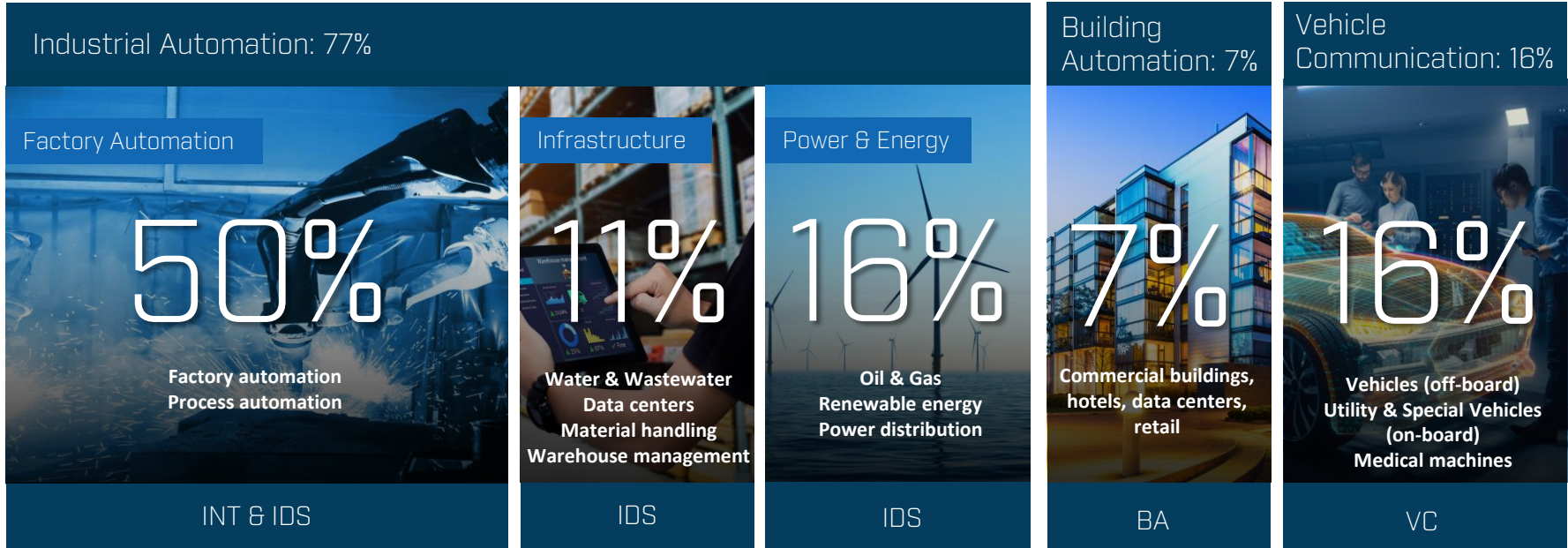
Intesis®
BY HMS NETWORKS

N-Tron®
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RedLion®
BY HMS NETWORKS

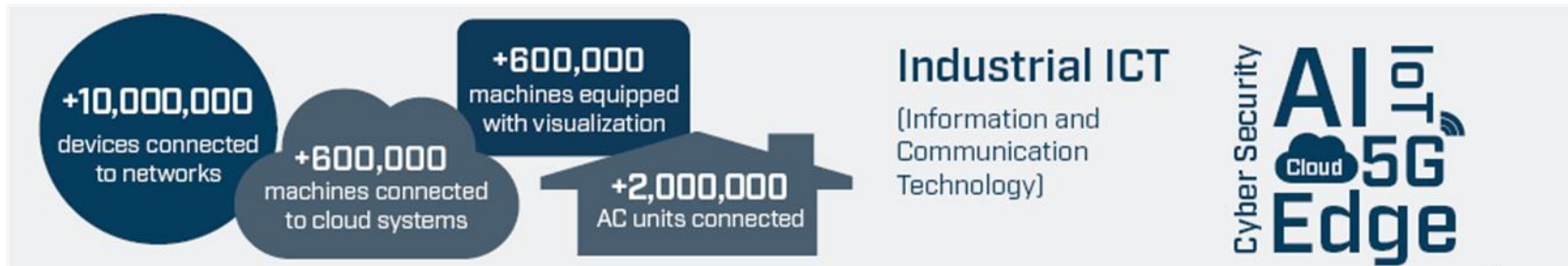
PEAK®
BY HMS NETWORKS

Our market – Industrial ICT



HMS comes from Factory Automation but has expanded into adjacent areas.

HMS at a glance



Agenda

Some statistics

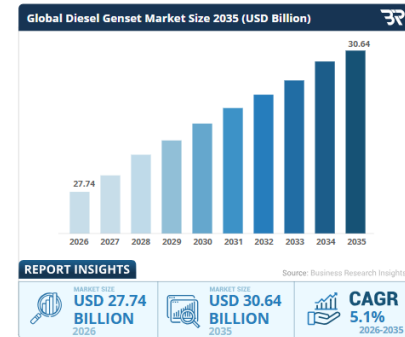
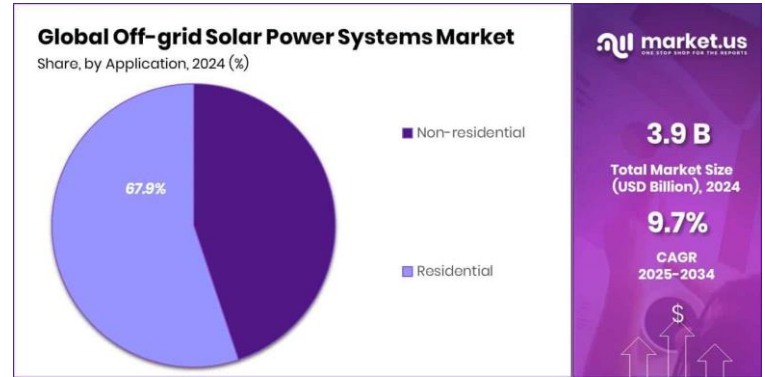
- **Global Off-grid Solar Power Systems Market**
 - **CAGR of 9.7%** (2025-2034)

(<https://market.us/report/global-off-grid-solar-power-systems-market>)

- **Global Off-grid BESS Market**
 - CAGR of 16.55% (2026-2034)
 - 24.95 BUSD

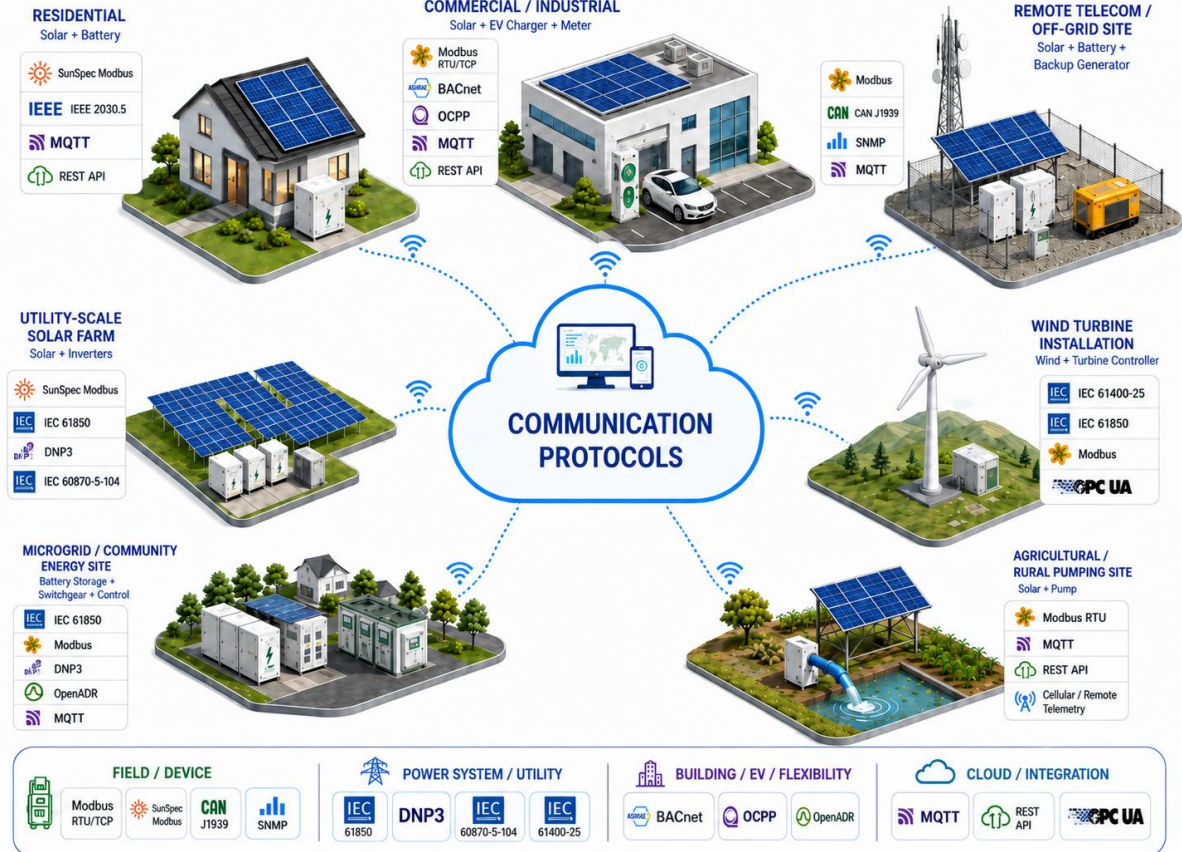
(<https://www.fortunebusinessinsights.com>)

Global Diesel Generator Market
CAGR of 5.1% from 2026 to 2033
(www.businessresearchinsights.com)



Energy sources - Fragmented communication standards

- Different types of communication protocols
- Different integration is required based on the application.



Key factors
for offgrid / remote installations

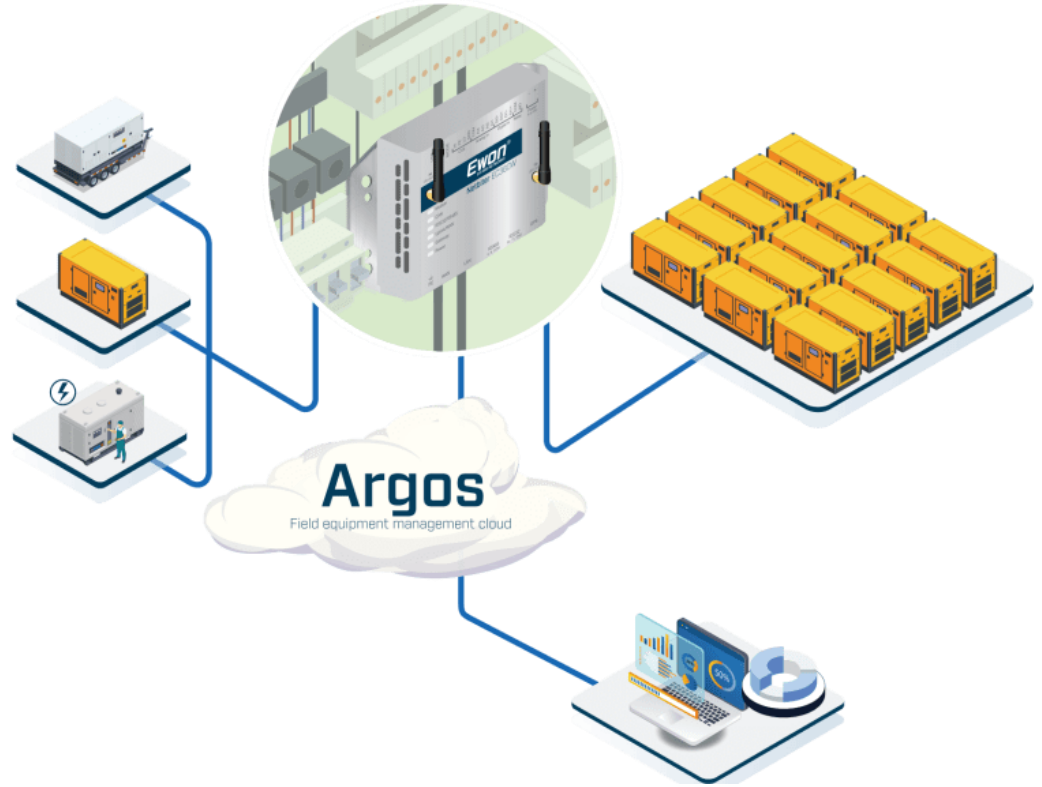
Key Factors

Standardization

Scalability,

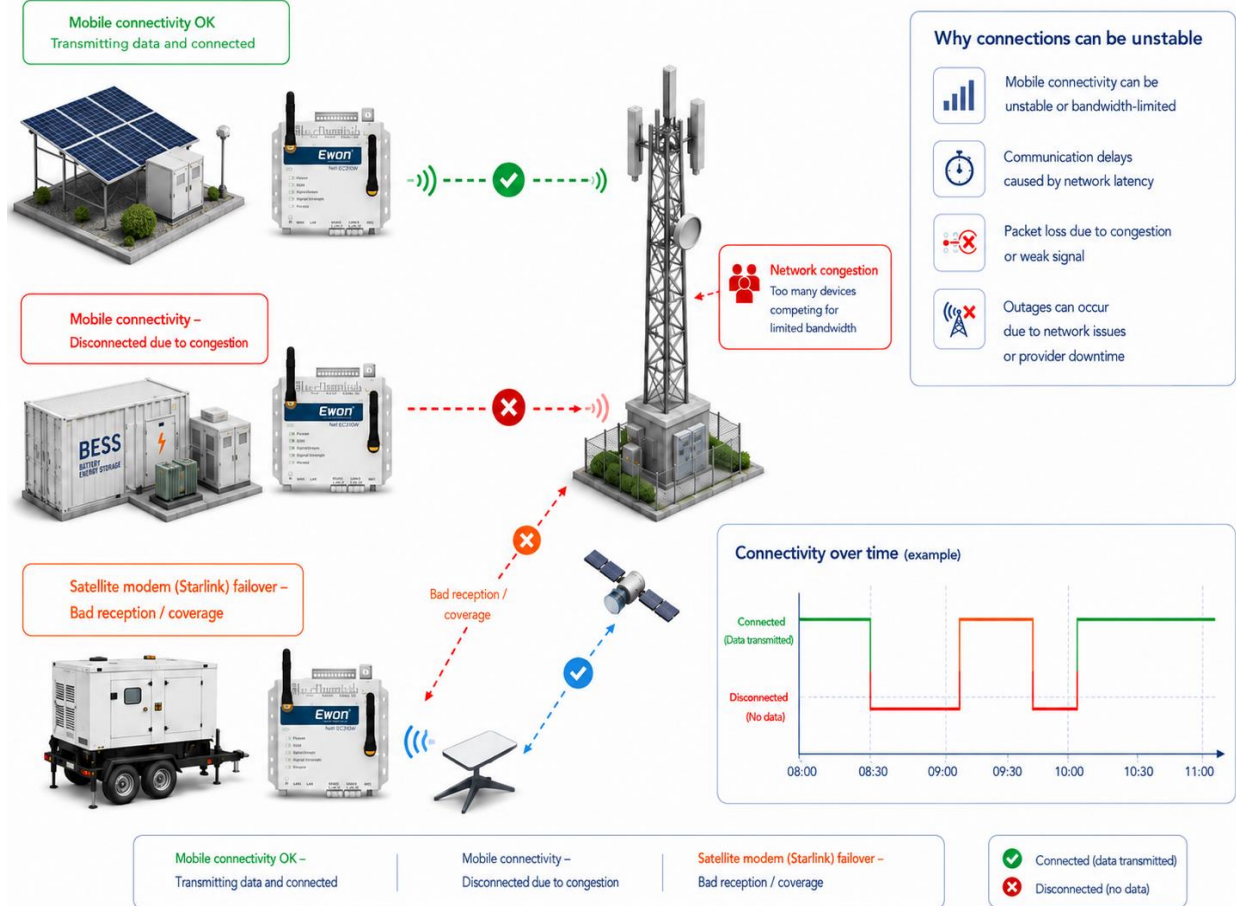
Integration

Operation costs



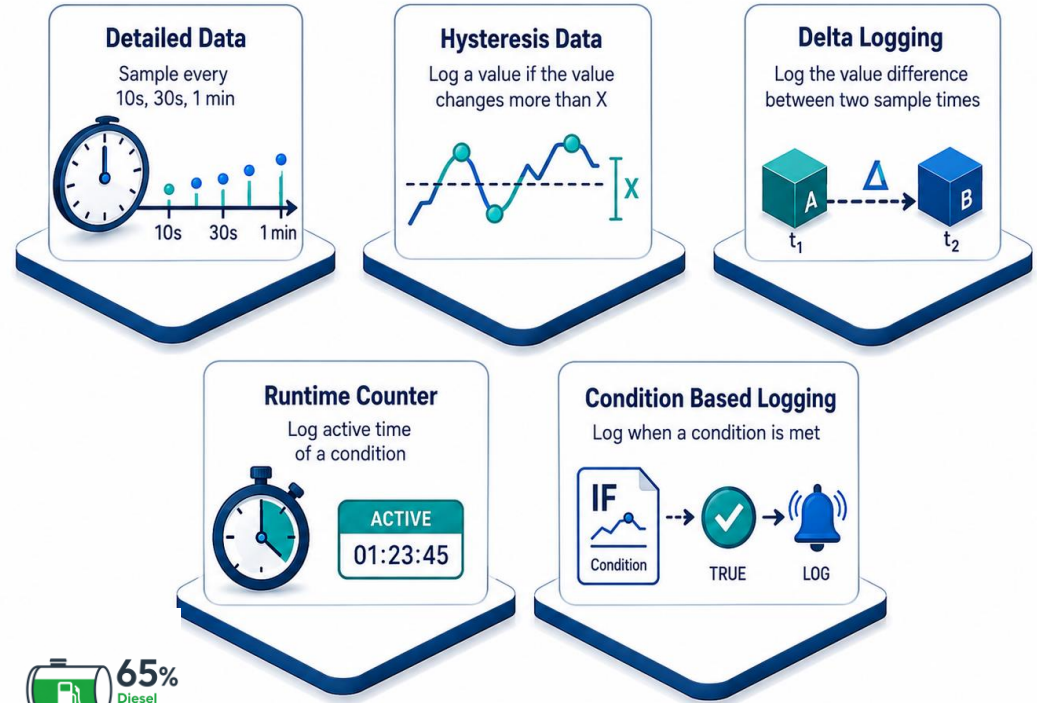
Reliable Field Connectivity

- Signal quality
- Network congestion
- Idle connection timeout
- Light weight protocols

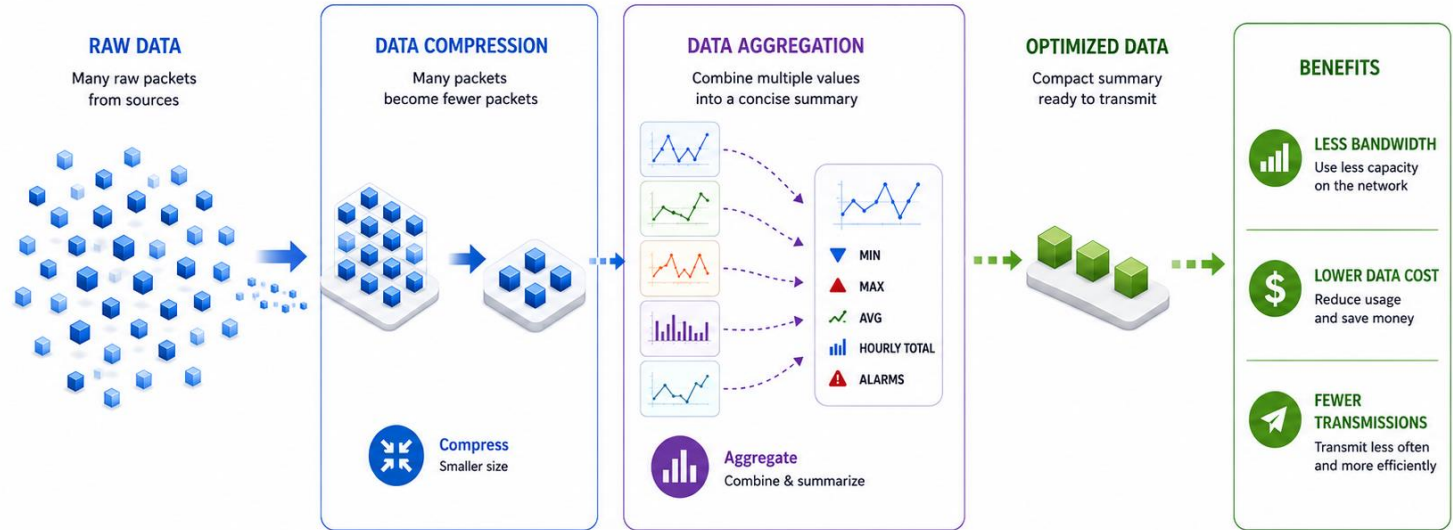


Data logging on the edge

- Smart data logging reduces the operation cost.
- Better correlation of data

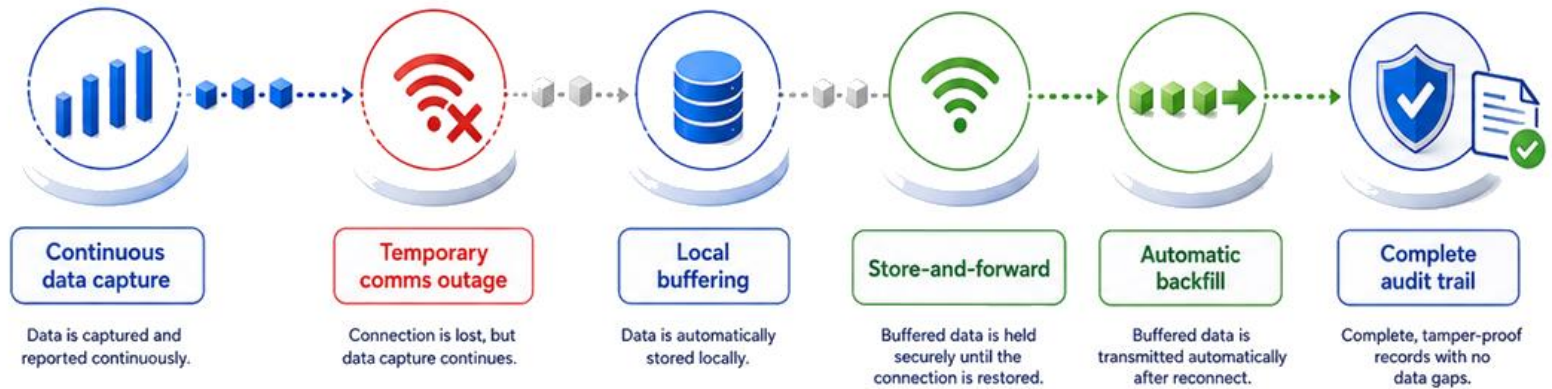


Data compression & aggregation

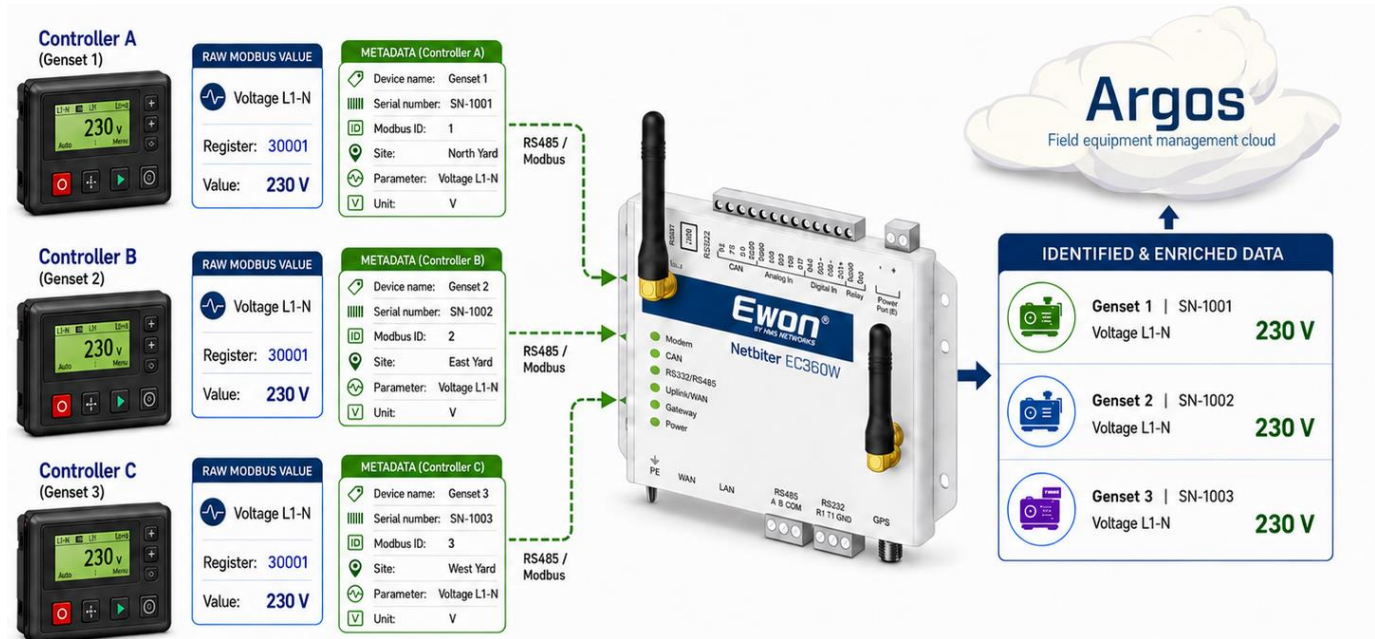


Data integrity & compliance

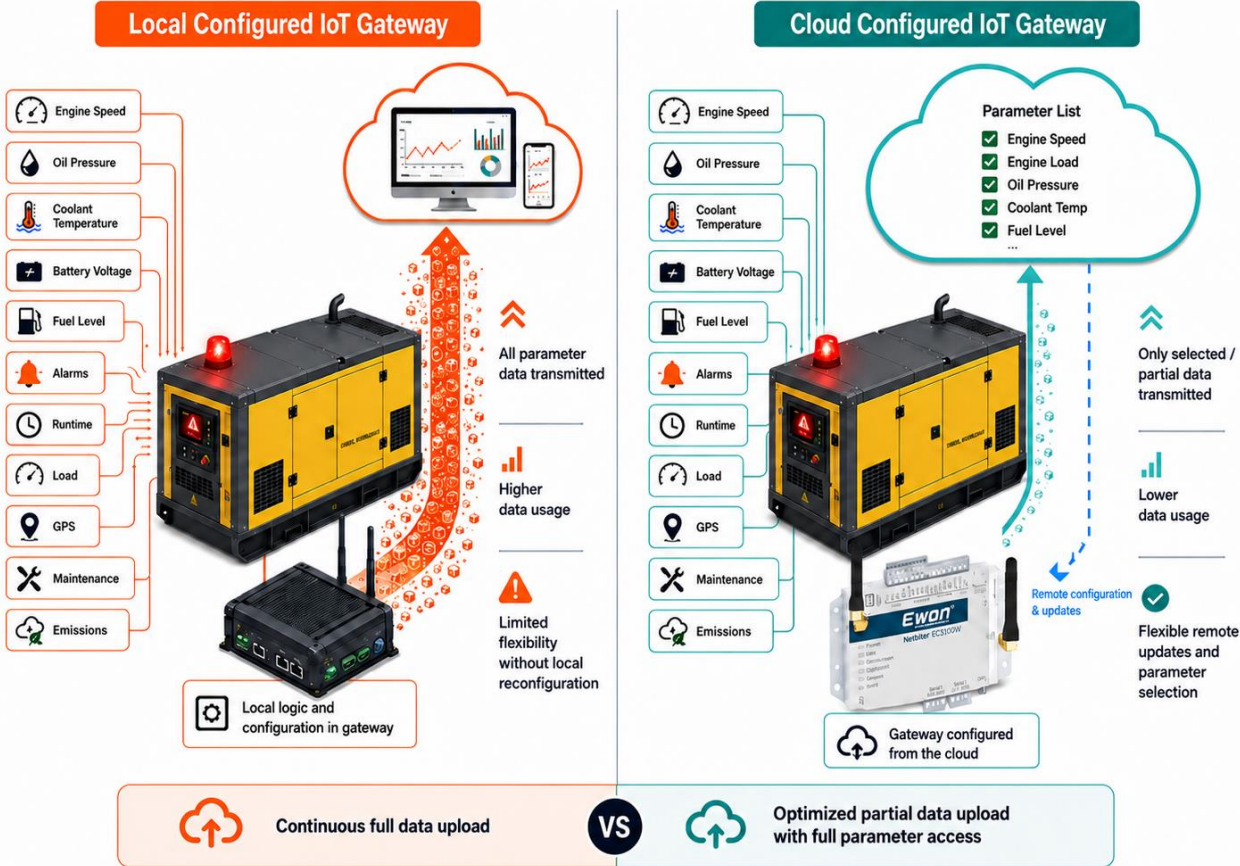
"Connectivity disruptions don't equal data loss."



Meta data



Data access



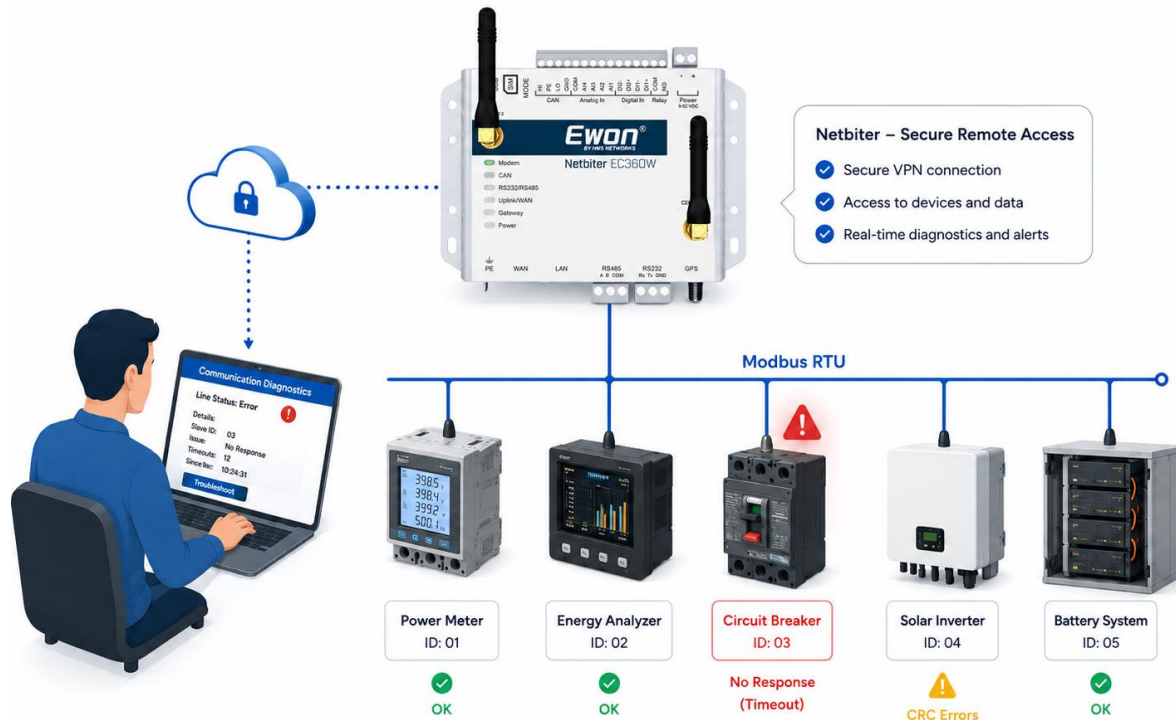
Alarms

- Having intelligent alarm management on the edge, reduces the operation cost.



Remote Troubleshooting

Detect and solve communication issues



Remote Access / VPN or data

- Extensive trouble shooting using vendor tools
 - Reconfiguration extract log files
 - Reconfiguration
- Safety



What are the Alternatives

Low Energy Alternatives

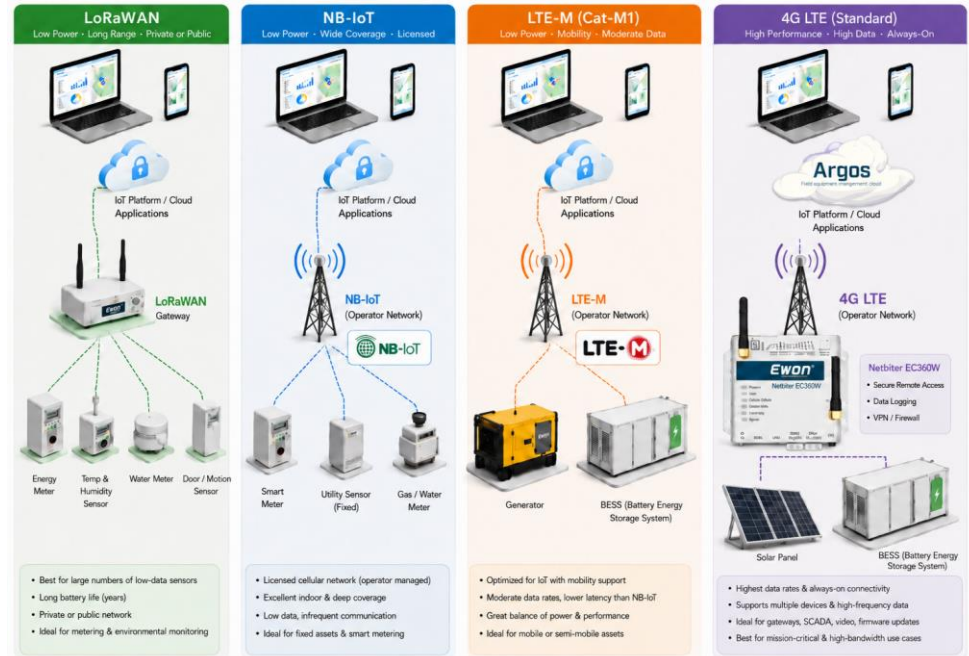
CAT M1. Lora Wan NB-IoT

Status updates or for limited data transfer

Immediate alarm delivery.

4G most common at the moment.

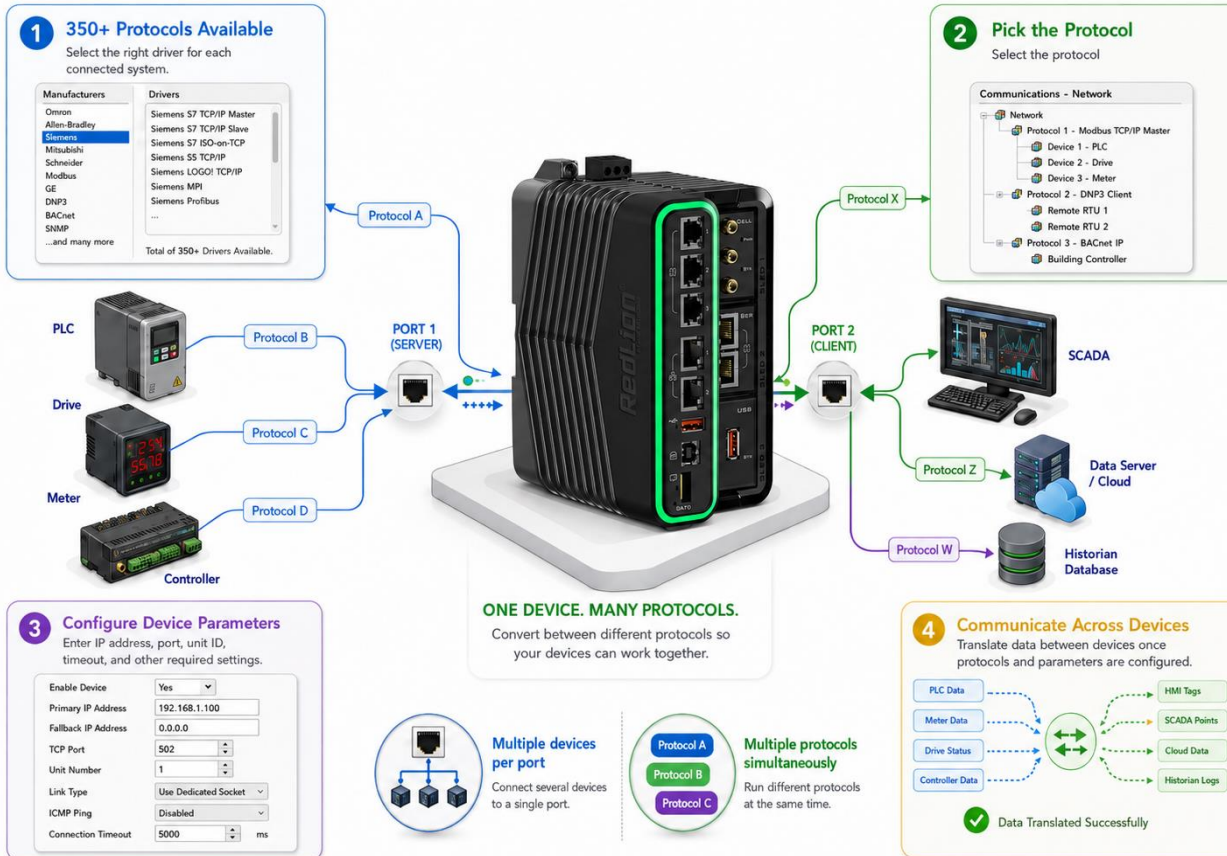
5G High cost for the moment.



Power strategies



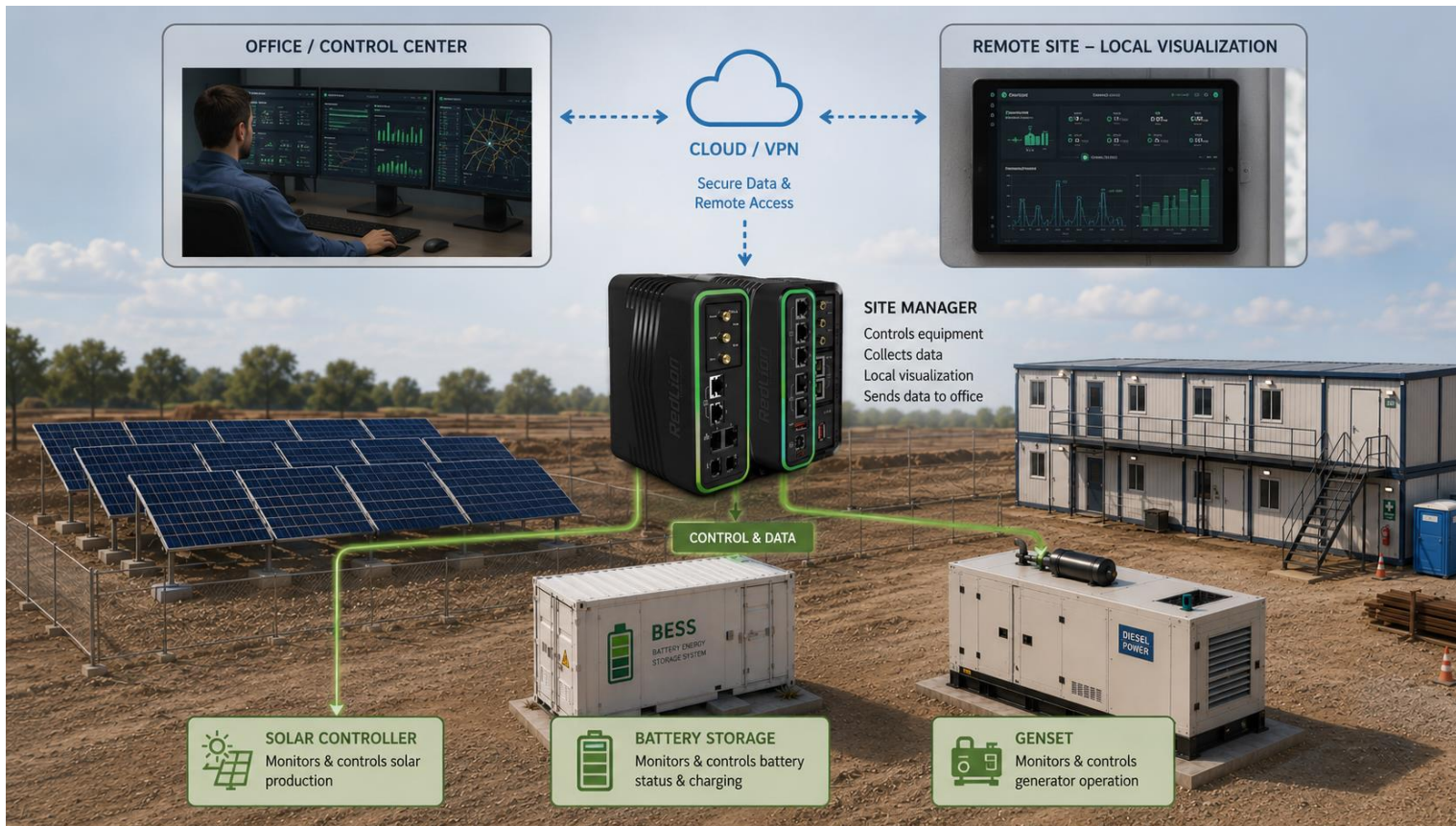
Protocol Conversation



On-device Logic and Control



Examples



HMS & SunSpec

Netbiter Argos has a Template tool for assigning Modbus Parameters.

A script can be remotely be deployed to the Netbiter gateway that scans the SunSpec enabled device for the available Modbus models.

The applicable Sunspec models are converted with the applicable offset and can be uploaded to the Argos cloud and then be deployed to the assigned to the gateway.

From there the various logging, alarms are configured



Key take-away

- Not in control of the complete data value chain, requires local data strategies.
- Ruggedized hardware for harsh environment.
- Multi-connectivity paths are required.

Q&A

Thanks for attending



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The background of the left side of the image features a blurred industrial robot arm holding a tablet. A stream of binary code (0s and 1s) flows from the tablet towards the bottom left. The HMS logo is centered over this stream.

Hms

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