modibus

INDUSTRY SOLUTION BRIEFS

How Modibus Fits Your Vertical

Seven 1-page playbooks — how the MB-213 platform deploys across Water, Energy, Machine Building, Smart Buildings, F&B, Manufacturing, and EV Charging.

INSIDE THIS BRIEF SET

Water & Wastewater	Energy & SCADA	OEM Machine Builder	Smart Building & BMS
Food & Beverage Process	Discrete Manufacturing	EV Charging & DER	✓ Your Industry? Let's Talk.

Each brief includes a sector scenario, a pain-point map, a reference topology with recommended **CM-series** modules, and a **4-tile outcomes panel** — written for sales engineers and integrators talking to vertical buyers.

WATER & WASTEWATER

Distributed Telemetry for Pump Stations, Lift Stations & Treatment Plants.

Water utilities operate hundreds of remote sites — lift stations, pump houses, reservoirs, treatment plants — typically with no IT staff on-site, often without fixed broadband, and under strict regulatory uptime expectations.

THE SCENARIO

A regional water authority operates 64 lift stations and 8 treatment plants across three counties.

Many sites have 4G as the only viable backhaul. Existing PLCs (Siemens S7-1200, Allen-Bradley CompactLogix, Schneider M340) have been running for 15+ years. Truck rolls are expensive — some sites are 200 km from the operations center. The OT team needs eyes on every site without sending a vehicle.

WHERE IT HURTS

- — 4G/LTE backhaul is the only option at most sites
- — Mixed PLC vendors across the fleet, plus legacy serial RTUs
- — Unmanned, often unsecured locations — physical and cyber
- — Regulatory compliance: audit-grade reporting required
- — Tight municipal budgets, multi-decade asset lifecycles

WHAT MODBUS BRINGS

- ✓ **MB-213-W + CM-214** at every remote site — cellular-first connectivity with SMA MIMO antennas
- ✓ **CM-215** for legacy serial RTU integration without a separate converter
- ✓ **MDS Cloud** — browser-based access, no VPN client, no Pro-tier upsell
- ✓ **Free PLC data collection** captures runtimes, flow rates, and alarm history automatically
- ✓ **Session audit logs** satisfy regulatory reporting out of the box

REFERENCE TOPOLOGY

FIELD ASSETS
- Siemens S7-1200
- AB CompactLogix
- Schneider M340
- Legacy RTUs (RS-485)
- Flow / level meters

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GATEWAY
MB-213-W
- CM-214 — 4G/LTE MIMO
- CM-215 — RS-485

→

MDS CLOUD
- PLC data telemetry
- Session audit log
- Compliance reports
- Alarm dashboards

→

USERS
- OT engineers
- Compliance officer
- On-call operator

RECOMMENDED CONFIGURATION

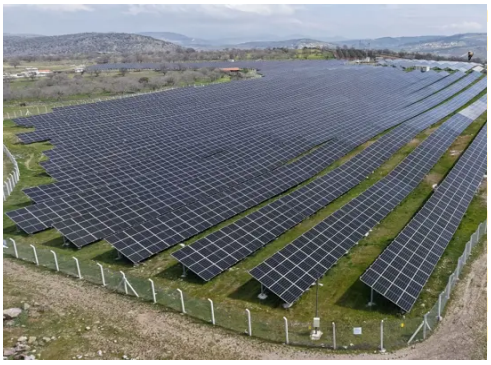
- ▸ MB-213-W — 1 per remote site
- ▸ CM-214 — 4G/LTE module per site
- ▸ CM-215 — brownfield serial-RTU sites only
- ▸ MDS Cloud — included, no portal fee

70-85%	Single-pane	Audit-ready	Lower TCO
fewer truck rolls	fleet visibility	compliance reporting	vs. Cosy + Talk2M Pro

ENERGY & SCADA

Grid-Edge Connectivity for PV Farms, Substations & BESS.

Utility-scale PV, substations, BESS, and wind sites increasingly rely on remote monitoring for performance optimization, fault diagnostics, and cybersecurity-compliant operations — all on assets with 25-year lifecycles.



THE SCENARIO

An IPP operates 14 utility-scale PV plants (5–50 MW each) across three regions.

Each plant runs inverters from multiple OEMs (SMA, Sungrow, Huawei) on Modbus TCP, met stations and tracker controllers on Modbus RTU. Data must reach the corporate SCADA, the asset manager, the O&M partner, and the grid operator — on different schedules, with different formats. IEC 62443 and grid-code reporting are non-negotiable.

WHERE IT HURTS

- — Multi-brand inverters with subtly different Modbus maps
- — Met stations + trackers on Modbus RTU (RS-485)
- — Data must reach 4+ stakeholders with different schemas
- — IEC 62443 / NERC CIP compliance pressure
- — 25-year asset lifecycle vs. 5-year IT refresh cycles

WHAT MODBUS BRINGS

- ✓ **MB-213 + CM-216** — segments inverter network from corporate / network management
- ✓ **CM-215** for Modbus RTU met / tracker fleets
- ✓ **Docker engine** on device runs custom data-normalization containers; multi-stakeholder routing without a separate integration project
- ✓ **App Store** ships brand-specific connectors (SMA, Sungrow, Huawei) — install once, deploy everywhere
- ✓ **Self-hosted MDS Cloud** for utilities requiring on-premise OT infrastructure

REFERENCE TOPOLOGY

FIELD ASSETS
- SMA / Sungrow / Huawei inverters
- String combiners
- Met station (Modbus RTU)
- Tracker controllers
- BESS / EMS

→

GATEWAY
MB-213
- CM-216 — 4× LAN
- CM-215 — RS-485
- Docker normalization

→

MDS CLOUD
- Multi-tenant routing
- IEC 62443 hardening
- Long-term price stability
- Self-hosted option

→

USERS
- Asset manager
- O&M partner
- Grid operator

RECOMMENDED CONFIGURATION

- ▸ MB-213 + CM-216 + CM-215 per plant
- ▸ Optional CM-214 for 4G fallback
- ▸ Docker normalization container per inverter brand
- ▸ MDS Cloud (cloud or self-hosted)

Single-pane	4+ stakehol.	IEC 62443	25-year
across the fleet	served from one feed	aligned posture	price stability

OEM MACHINE BUILDER

White-Label Remote Support for Machines Shipped Worldwide.

Once a machine leaves the factory, every problem becomes a flight, a hotel, and an angry customer. Machine builders need remote diagnostics on day one — and a way to monetize service over the machine's lifecycle.

THE SCENARIO

A European machinery OEM ships 600+ machines per year to 40+ countries.

They want a branded remote-access experience — "PowerLine Connect" — with their logo, their domain, and their support team in front. They want service engineers to dial in on day one without VPN gymnastics. And they want to cross-sell predictive-maintenance subscriptions on top of every machine. The end customer's IT team should never have to open an inbound port.

WHERE IT HURTS

- — Need white-label / branded customer-facing portal
- — Mass provisioning across global supply chain
- — End-customer IT teams suspicious of "another VPN box"
- — Service margins under pressure — need recurring revenue
- — Field-service flights eat margin on every warranty visit

WHAT MODBUS BRINGS

- ✓ **MB-213-W** standardized in every machine cabinet — same SKU worldwide
- ✓ **White-label MDS Cloud** — your logo, your domain, your customer experience
- ✓ **Docker on device** runs your proprietary telemetry & PdM logic
- ✓ **App Store** publishes machine-specific apps customers can opt into — recurring revenue
- ✓ **REST API mass provisioning** — flash 100 machines in a batch, no manual config
- ✓ **All outbound** connectivity — no inbound firewall changes at customer site

REFERENCE TOPOLOGY

FIELD ASSETS
- Your machine PLCs
- Servo drives
- Vision systems
- Smart sensors
- Local HMI

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GATEWAY
MB-213-W
- Wi-Fi for service tech
- Docker PdM container
- Custom apps from store

→

MDS CLOUD
- Branded portal
- Per-machine billing
- PdM subscriptions
- Mass provisioning API

→

USERS
- Your service engineers
- End customer ops
- Distributors / partners

RECOMMENDED CONFIGURATION

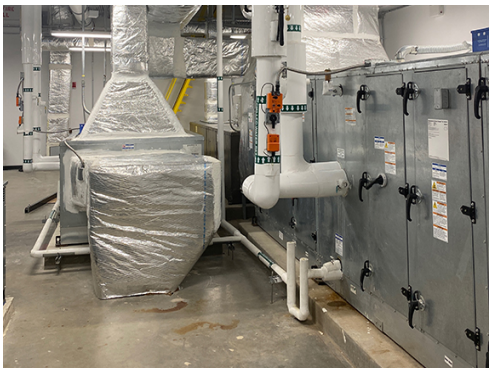
- ▸ MB-213-W — one per machine
- ▸ Optional CM-215 for legacy serial machines
- ▸ Docker telemetry container (your code)
- ▸ MDS Cloud Branded — volume licensing

Day-1	Recurring	60-70%	Sales
remote access on every machine	revenue from PdM	fewer field-service trips	differentiator vs. competitors

SMART BUILDING & BMS

BACnet, Modbus, KNX in One Gateway — Across Your Whole Portfolio.

Property managers and BMS integrators handle dozens — sometimes hundreds — of buildings per portfolio. HVAC, lighting, sub-metering, and access control speak different protocols, on aging infrastructure, with thin operational margins.



THE SCENARIO

A facilities-management company runs HVAC and energy management for 38 commercial buildings.

The portfolio mixes office, retail, and light industrial across multiple cities. Each site has BACnet/IP, Modbus TCP/RTU sub-meters, and aging serial KNX-IP gateways. They need a unified portfolio dashboard, energy benchmarking across 38 buildings, and the ability to deploy custom site-specific automation rules without writing custom firmware.

WHERE IT HURTS

- — Heterogeneous protocols at every building (BACnet/IP, Modbus, KNX)
- — Per-site customizations — every building has its quirks
- — Tenant-billing-grade energy data required
- — Lease-driven cost pressure — every euro of OPEX matters
- — Customer IT teams demand outbound-only connectivity

WHAT MODBUS BRINGS

- ✓ **MB-213 + CM-216** at each building — segments BMS network from corporate IT
- ✓ **Docker engine** runs site-specific automation rules per building — no custom firmware
- ✓ **App Store** ships BACnet, Modbus, and KNX bridge apps — install on demand
- ✓ **MDS Cloud unified dashboard** with portfolio-wide energy benchmarking
- ✓ **No portal fee** — the platform doesn't become a tax on your margin

REFERENCE TOPOLOGY

FIELD ASSETS
- BACnet/IP HVAC controllers
- Modbus TCP sub-meters
- KNX-IP gateways
- Lighting drivers
- Access control

→

GATEWAY
MB-213
- CM-216 — network isolation
- Docker rules engine
- Protocol bridge apps

→

MDS CLOUD
- Portfolio dashboard
- Energy benchmarking
- Tenant sub-metering
- Per-building rules

→

USERS
- Facilities team
- Tenants (read-only)
- Energy auditors

RECOMMENDED CONFIGURATION

- ▸ MB-213 + CM-216 — one per building
- ▸ BACnet / Modbus / KNX bridge apps
- ▸ Docker rule engine for per-site quirks
- ▸ MDS Cloud — portfolio dashboard

38 buildings on one platform	**Portfolio** energy benchmarking	**No firmware** for per-site rules	**Tenant-grade** sub-metering data

FOOD & BEVERAGE PROCESS

Recipe Telemetry, Batch Reporting, and Audit-Ready Compliance.

F&B and process plants run continuous and batch operations under strict food-safety and traceability standards (HACCP, FSMA, GFSI). When a line stops, every minute is lost product. Remote diagnostics + batch reporting are revenue-protecting, not nice-to-have.

THE SCENARIO

A multi-site dairy operates 4 production plants with mixed packaging lines.

Each line has its own PLC and HMI cluster, with OEM-supplied filling and labelling machines from three different vendors. Operations needs real-time OEE visibility, batch genealogy for traceability, and remote vendor support for the OEM machines. Auditors want every connection — who, when, what — recorded automatically.

WHERE IT HURTS

- — Mixed PLC / HMI vendors per line
- — HACCP / FSMA / GFSI audit requirements — non-negotiable
- — Multiple OEM vendors needing remote access
- — Sub-second trends needed for intermittent quality issues
- — Connection downtime = revenue loss

WHAT MODBUS BRINGS

- ✓ **MB-213 + CM-215** per line — serial-RTU equipment integrated without converters
- ✓ **MDS Cloud session audit log** records every remote connection (engineer, OEM tech, integrator)
- ✓ **Free PLC data collection** captures batch parameters automatically — no historian project
- ✓ **2FA + RBAC** enforces vendor-specific access — OEM tech only sees their machine
- ✓ **Docker container** bridges PLC data to your OEE / MES system

REFERENCE TOPOLOGY

FIELD ASSETS
- Line PLCs (multi-brand)
- HMI clusters
- Filler / labeller (OEM)
- Sub-second trend sensors
- Batch counters

→

GATEWAY
MB-213
- CM-215 — RS-232/485
- Docker MES bridge
- Session audit logging

→

MDS CLOUD
- Full audit trail
- Batch genealogy
- OEM vendor RBAC
- OEE dashboards

→

USERS
- Plant ops
- Quality / compliance
- OEM vendors (scoped)

RECOMMENDED CONFIGURATION

- ▸ MB-213 + CM-215 — one per line
- ▸ Docker OEE / MES bridge
- ▸ MDS Cloud — full audit, RBAC, 2FA
- ▸ App Store: GMP-style report templates

Full	Batch-level	Scoped	OEE visibility
HACCP / FSMA audit trail	genealogy without historian	OEM remote access	across all 4 plants

DISCRETE MANUFACTURING

Predictive Maintenance & OEE for the Factory Floor.

Manufacturers are squeezed between rising labor costs and customer demand for shorter lead times. Predictive maintenance, OEE optimization, and shop-floor visibility are no longer optional — they're competitive necessities.

THE SCENARIO

A tier-1 automotive supplier runs 12 production lines — CNC, stamping, assembly — in one 80,000 m² plant.

Each line has 6–15 machines from 4 different OEMs. The OT/IT team needs real-time OEE dashboards, vibration-based predictive maintenance models running near-line, and a way to push CNC programs to machines without walking the floor. Plant policy mandates strict IT/OT segmentation.

WHERE IT HURTS

- — 60+ machines, mixed OEM controllers (Fanuc, Siemens, Mitsubishi)
- — Mandatory IT/OT segmentation per plant policy
- — Vibration / temperature data volume overwhelms SCADA
- — Want PdM models running near-line, not in the cloud
- — Limited shop-floor IT support staff

WHAT MODBUS BRINGS

- ✓ **MB-213 + CM-216** per line — clean IT/OT segmentation, four LAN ports per machine cluster
- ✓ **Docker engine** runs PdM models locally (TensorFlow Lite, ONNX) — edge inference, no cloud round-trip
- ✓ **App Store** connectors for Fanuc FOCAS, Siemens OPC UA, Mitsubishi MELSEC
- ✓ **REST API** pushes telemetry to your existing OEE / MES dashboards
- ✓ **USB host** — deploy CNC programs from a stick, locally if needed

REFERENCE TOPOLOGY

FIELD ASSETS
- Fanuc CNC
- Siemens S7-1500
- Mitsubishi MELSEC
- Vibration / temp sensors
- Cobots / robots

→

GATEWAY
MB-213
- CM-216 — IT/OT split
- Docker PdM inference
- OPC UA / FOCAS apps

→

MDS CLOUD
- Plant-wide OEE
- PdM alerts
- Recipe distribution
- MES integration

→

USERS
- Production ops
- Maintenance team
- Plant manager

RECOMMENDED CONFIGURATION

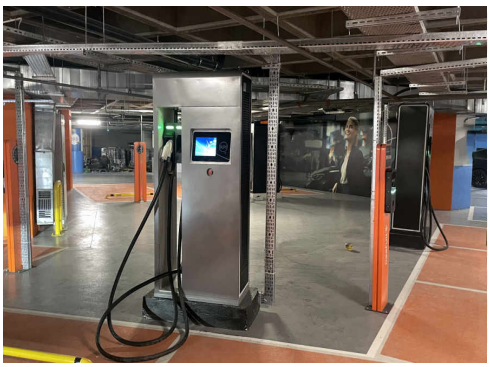
- ▸ MB-213 + CM-216 — one per line
- ▸ Docker PdM inference container
- ▸ App Store: OPC UA, FOCAS, MELSEC bridges
- ▸ MDS Cloud — OEE + alerts

15-25% OEE improvement target	**Edge AI** without separate appliance	**Audit-clean** IT/OT segmentation	**One platform** across mixed OEMs

EV CHARGING & DER

OCPP Aggregation, Asset Health, and Multi-Tenant Reporting.

Charge Point Operators and aggregators run distributed sites — fleet depots, public chargers, retail destinations — where each site has 2–20 chargers from multiple OEMs, and shared infrastructure with the host property.



THE SCENARIO

An aggregator operates 220 sites with 1,400 chargers across fleet, retail, and destination customers.

Chargers are from 7 different OEMs, all "OCPP-compatible" but with subtle quirks. Each site needs one router, one VPN tunnel, and a normalization bridge to the OCPP backend for billing. The host property's IT team requires the charger network to be segmented from theirs. And site margins are tight — per-site BOM matters.

WHERE IT HURTS

- — Mixed-brand chargers with OCPP-version quirks
- — Network segmentation from host property required
- — 4G primary or backup connectivity at most sites
- — Multiple stakeholders: CPO, host, fleet, energy supplier
- — Tight margins — per-site BOM and OPEX matter

WHAT MODBUS BRINGS

- ✓ **MB-213-W + CM-214** — cellular-first connectivity for any site
- ✓ **CM-216** — charger LAN segmented from host property network
- ✓ **Docker OCPP normalization container** — clean OCPP 1.6 / 2.0.1 to backend, regardless of charger brand
- ✓ **MDS Cloud multi-tenant routing** — host gets energy, CPO gets ops, fleet gets sessions
- ✓ **One BOM, one provisioning flow** across all OEMs — faster site activation

REFERENCE TOPOLOGY

FIELD ASSETS
- AC chargers (multi-brand)
- DC fast chargers
- Energy meter (Modbus)
- Site PV / BESS (optional)
- Local switchgear

→

GATEWAY
MB-213-W
- CM-214 — 4G/LTE
- CM-216 — charger LAN
- Docker OCPP bridge

→

MDS CLOUD
- Multi-tenant routing
- Per-OEM normalization
- Site activation API
- Asset-health alerts

→

USERS
- CPO ops
- Host property
- Fleet customer
- Energy supplier

RECOMMENDED CONFIGURATION

- ▸ MB-213-W + CM-214 + CM-216 per site
- ▸ Docker OCPP bridge from app store
- ▸ MDS Cloud multi-tenant routing
- ▸ Optional CM-215 if site has Modbus meter

One BOM	IT-friendly	Standard	Faster
across all charger OEMs	host segmentation	OCPP feed to backend	site activation