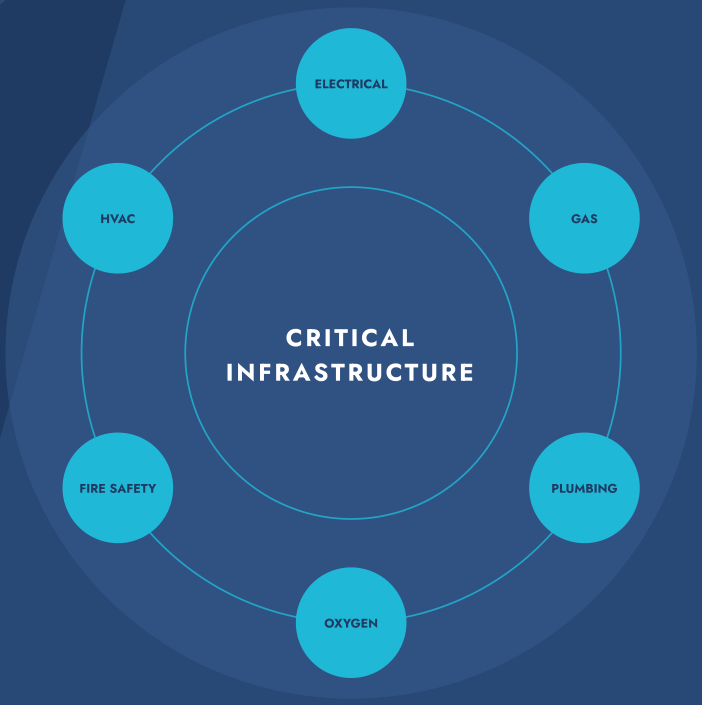
MOBIUS
THE RISK MANAGEMENT COMPANY



SOLUTION FOR HOSPITALS AND MEDICAL FACILITIES

MOBIUS OEAM
Hospitals

Energy continuity · monitoring of critical infrastructure · specialized interventions

Built on the associated letter of intent and extended with a model hospital building — a technical basement and five levels — the architecture for data collection and representation, and intervention management for electrical, gas, plumbing, oxygen and fire safety.

Includes the effiPower partner solution for public and private hospitals — N1/N2/N3 energy monitoring and seismic protection with specialized equipment. · 17 September 2026

MOBIUS SOFTWARE · TECHNICAL PRESENTATION

LETTER OF INTENT · ADAPTED FOR HOSPITALS AND MEDICAL FACILITIES

Energy continuity and predictive maintenance for critical medical infrastructure

To	Hospital Management / Technical and Administrative Directorate
Reference	Energy continuity and predictive maintenance for critical medical infrastructure
Objective	Assessment and phased implementation of the MOBIUS OEAM platform, integrated with MOBIUS UEAM
Date	17 September 2026

Dear Manager / Dear Director,

In a hospital, energy is not just a cost line — it is what keeps operating rooms, ICUs, the medical gas chain, sterilization and the air-conditioning systems that maintain the conditions required for medical care running. Any unannounced interruption or degradation can turn into a risk for patients and a hard-to-accept unavailability.

MOBIUS Software SRL proposes the MOBIUS OEAM platform — Operational Energy & Asset Management — integrated with MOBIUS UEAM, for continuous monitoring of energy and utilities, correlating deviations with technical assets and automatically turning an alarm into a traceable intervention. The approach makes use of existing equipment and gradually adds the missing measurement points.

The central benefit

Reduced downtime of vital equipment, increased technical resilience, clear cost allocation and early identification of abnormal consumption. The manufacturer reports an indicative potential reduction in energy costs of 25–35%, 35% fewer unplanned interventions and an indicative ROI of under six months for the MVP; actual results are validated through assessment, baseline and pilot.

Proposal

An initial assessment of the infrastructure, an inventory of sources and assets, defining a pilot on the operating theater, the ICU or the technical basement, and establishing indicators for continuity, performance and response.

1 · THE HOSPITAL'S OPERATIONAL CONTEXT

A complex building, in continuous operation, with different levels of criticality

The platform must simultaneously offer an executive view, a technical picture by system and the detail needed by the intervention team. The proposed model organizes data along the hierarchy hospital → building → level → system → asset → measurement point.

CRITICAL DOMAIN	EXAMPLES OF ASSETS AND SIGNALS	RISK TRACKED
Electrical	Transformer substation, MDB, floor boards, UPS, generator set, ATS, network analyzers	Interruption, overload, imbalance, THD, insufficient autonomy
Natural gas	Boiler room, burners, valves, detectors, pressure and flow	Leak, incorrect combustion, heating unavailability
Plumbing	Pumps, booster sets, hot water, recirculation, sewerage, tanks	Leak, insufficient pressure, abnormal operation, hygiene
Medical oxygen	Manifold/storage, regulators, network, sector valves, pressures and alarms	Pressure drop, loss of reserve, impact on clinical areas
Fire protection	Fire alarm panels, detectors, pumps, hydrants, dampers and backup sources	Alarm, system unavailability, need for evacuation/escalation
Medical HVAC	Chillers, air handling units, filters, differential pressures, temperature, humidity, CO_2	Environmental deviation, excessive consumption, loss of special conditions

MANAGEMENT OBJECTIVES

- Continuity of supply to vital consumers and verification of reserves.
- Visibility of consumption and cost by building, level, system and cost center.
- Prioritizing alarms by clinical impact, not just by the size of the deviation.
- A single dispatch flow for internal teams, contractors and emergencies.
- A verifiable history of the asset's condition, the intervention and the post-remediation result.

2 · THE BUILDING MODEL AND THE COLLECTION SYSTEMS

A conceptual hospital with a technical basement and five levels

Each level has a monitored electrical distribution board, and the basement concentrates the main distribution board, the backup sources and the main installations. Energy data is correlated with water, gas, oxygen, HVAC, fire and environmental conditions.

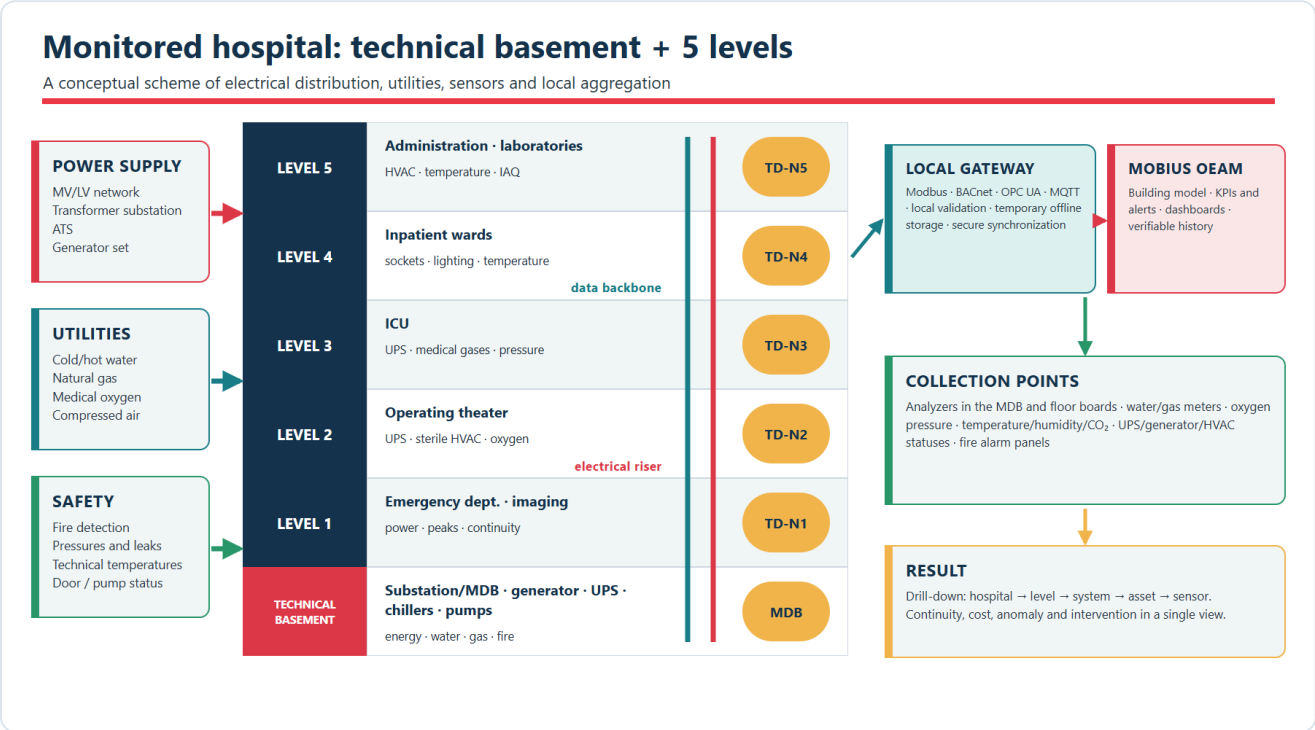


Figure 1. Hospital building: technical basement, five levels, distribution boards and collection points.

LEVEL	EXAMPLE FUNCTIONS	PRIORITY MONITORING POINTS
Level 5	Administration, laboratories	Floor board N5, lighting, sockets, HVAC, temperature and air quality
Level 4	Inpatient wards	Floor board N4, ward circuits, temperature, water, out-of-profile consumption
Level 3	ICU	Floor board N3, UPS, oxygen, medical pressures, HVAC and environmental conditions

LEVEL	EXAMPLE FUNCTIONS	PRIORITY MONITORING POINTS
Level 2	Operating theater	Floor board N2, critical circuits, UPS, sterile HVAC, differential pressure, oxygen
Level 1	Emergency department and imaging	Floor board N1, instantaneous power, peaks, continuity, temperature
Technical basement	Substation/MDB, generator, UPS, chillers, pumps, boiler room	Main and backup energy, fuel, water, gas, statuses and efficiencies

3 · MEASUREMENT POINT DETAIL

What is measured, and why

ZONE / SYSTEM	RECOMMENDED MEASUREMENTS	CONTEXT AND USE
MDB / incomer	kW, kWh, kVAR, power factor, voltages, currents, THD, events	Overall balance, power quality, peaks and reconciliation with the bill
Floor board	Three-phase power and energy, breaker statuses, alarms	Allocation by level, comparison between zones and locating the deviation
UPS and generator	Load, autonomy, battery SoH, bypass status, hours, fuel, test	Continuity, backup capacity and predictive maintenance
HVAC	Consumption, temperatures, pressures, flows, statuses, filters, setpoint	Correlating energy with thermal load and medical conditions
Water and sewerage	Flow, pressure, level, domestic hot water temperature, pump operation	Specific consumption, losses, recirculation and leak detection
Natural gas	Flow, pressure, valve and detector status	Boiler consumption, safety and operating diagnosis
Medical oxygen	Pressures before/after regulation, level/stock, valves and local alarms	Continuity by sector and rapid escalation to the authorized team
Fire	Panel status, zones, pumps, sources, dampers and events	Monitoring availability; fire alarms follow dedicated procedures
Indoor environment	Temperature, humidity, CO_2, pressure difference	Comfort, special conditions and context for HVAC consumption

Design principle

The platform does not replace protections, certified automation, medical alarm systems or emergency procedures. It integrates data, provides context and orchestrates the response flow within approved limits.

Protocols and integration

Depending on the existing equipment, acquisition can use Modbus TCP/RTU, BACnet, OPC UA, MQTT, IEC 61850, APIs and connectors to BMS/SCADA/PLC. The edge gateway provides local collection, filtering, aggregation, timestamping, buffering when the connection is lost and automatic synchronization.

4 · FUNCTIONAL ARCHITECTURE — COLLECTION AND REPRESENTATION

Field, local collection, analytics, representation and decision — clearly separated

This separation allows phased extension and keeps local operation going when the link to the platform is temporarily unavailable.

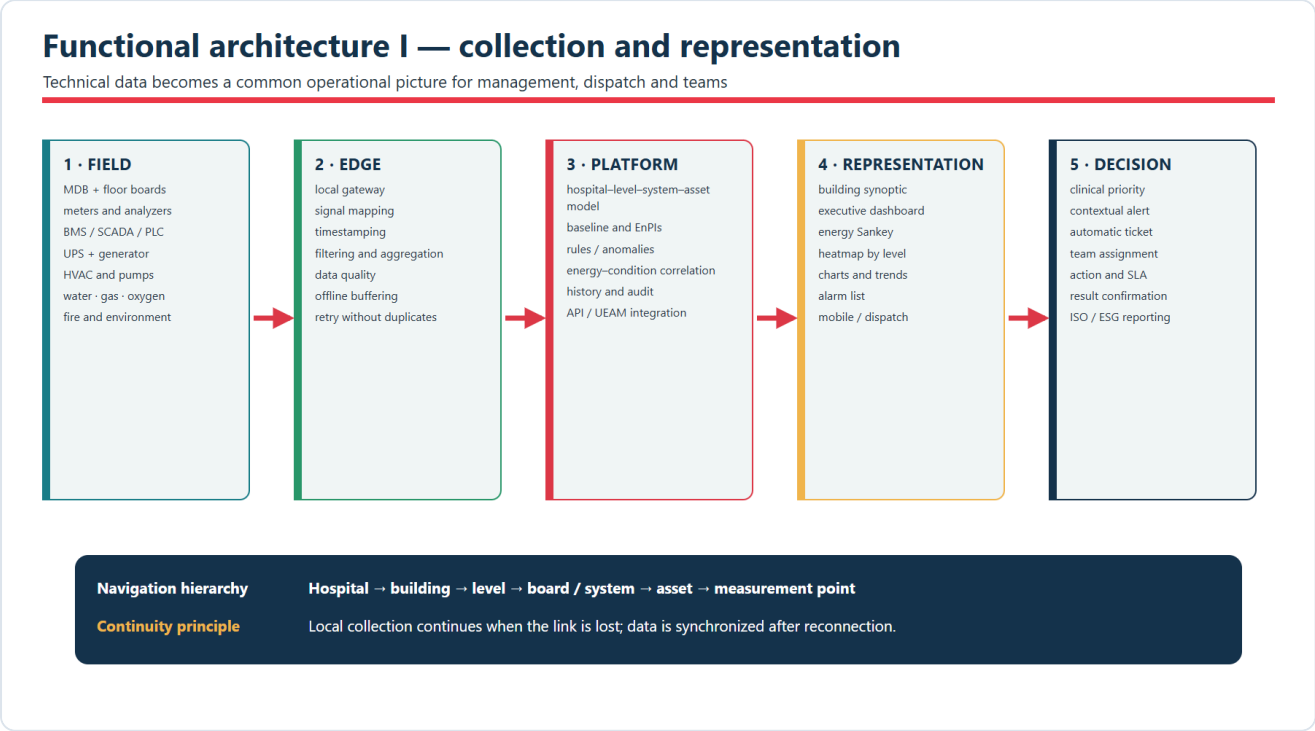


Figure 2. The functional flow from field equipment to decision and intervention.

QUALITY AND CONTINUITY RULES

- Each signal has a source, unit, frequency, timestamp, physical limit and owner.
- Missing values, jumps, sensor freezes and delays are explicitly flagged.
- Local data is buffered and retransmitted without duplication once the connection is restored.
- The model keeps the relationship between the measured point, the asset, the system, the level and clinical criticality.
- Alerts are issued only after the validation and persistence rules established in the pilot.

5 · DATA REPRESENTATION AND THE OPERATIONAL EXPERIENCE

A single platform serving different roles

Management tracks consumption, cost, availability and risk; dispatch sees alarms and deadlines; the technician receives the asset, its history, the diagram, recent values and the applicable procedure.

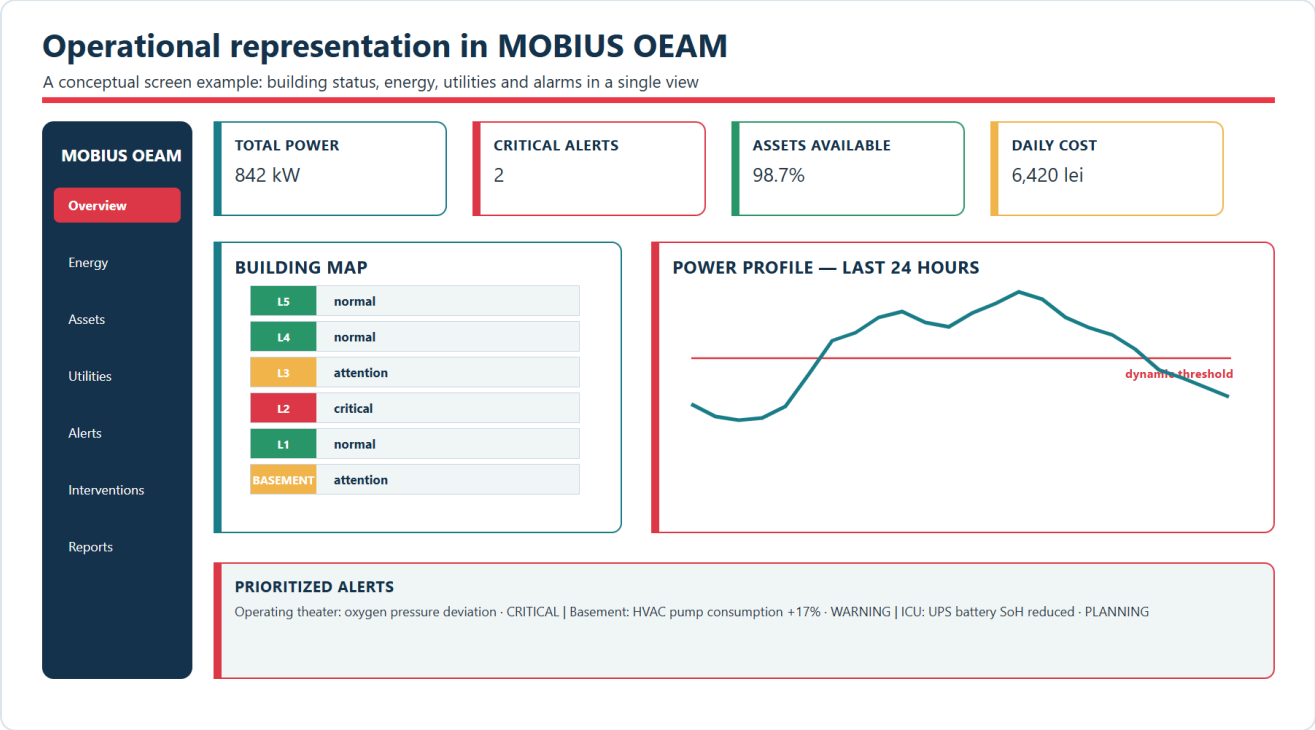


Figure 3. A conceptual example of a MOBIUS OEAM dashboard for a hospital.

VIEW	CONTENT	AUDIENCE
Executive	Cost, maximum power, performance against baseline, availability and incidents	Manager, CFO, administrative director
Building	Synoptic by level, color-coded status, drill-down and utilities	Technical director, dispatch
System	Electrical, HVAC, water, gas, oxygen and fire; relationships and alarms	Specialist engineers
Asset	Trends, energy signature, history, documents and tickets	Maintenance team / contractor

VIEW	CONTENT	AUDIENCE
Compliance	EnPIs, audit trail, reports and verification of measures	Energy manager, audit and management

6 · FUNCTIONAL ARCHITECTURE — INTERVENTION MANAGEMENT

From detection and triage to the specialized team, remediation and audit trail

A validated anomaly is completed with the location, system, asset, recent chart and clinical criticality. The rules engine sets the severity, and MOBIUS UEAM creates the ticket and routes it to the competent team, with a deadline, escalation and mandatory evidence.

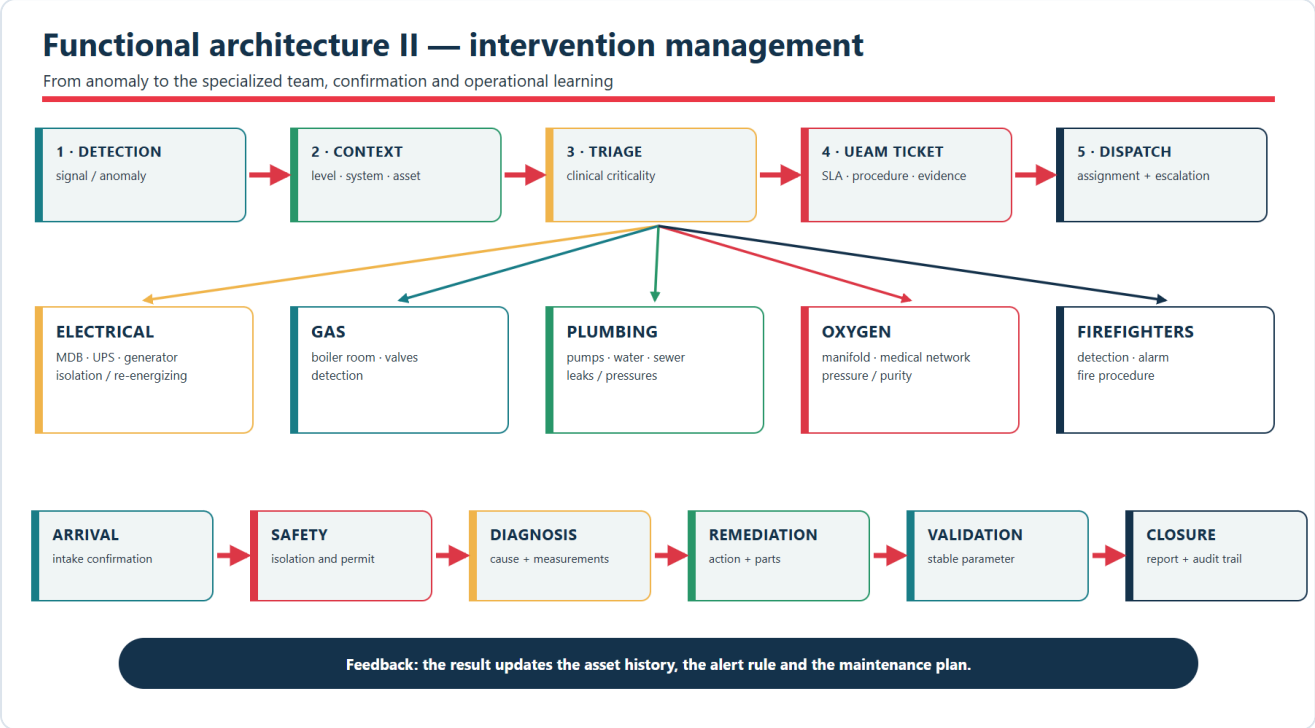


Figure 4. From detection and triage to the specialized team, remediation and audit trail.

MINIMUM TICKET CONTENT

- Time, source, parameter, value, threshold, duration and data quality.
- Building, level, technical room, system, asset, diagram and criticality.
- Potential impact on the medical service and the applicable safety measures.
- The responsible team, competences/authorizations, SLA, escalation and contact person.
- The action, measurements, materials, photos, downtime and cause.
- Post-intervention verification and confirmation of return to the accepted range.

7 · SPECIALIZED TEAMS AND THE RESPONSE MATRIX

Each event reaches the team authorized to handle it

TEAM	EXAMPLE EVENTS	INITIAL ACTION AND ESCALATION
Electrical	Voltage drop, overload, THD, UPS fault, generator start, board unavailable	Confirms the backup supply, locates the zone, applies isolation and the re-energizing procedure; escalates to technical management
Gas	Gas detection, abnormal pressure/flow, burner off, unconfirmed valve	Applies the safety procedure, checks the zone and valves; involves authorized personnel and emergency services according to the plan
Plumbing	Leak, low pressure, pump in abnormal regime, tank level, hot water temperature	Protects the area, isolates the circuit if approved, checks the pump/fittings and ensures continuity of service
Medical oxygen	Low pressure, reduced reserve, manifold alarm, deviation in a sector	Immediately notifies clinical staff and the authorized team, checks the reserve and sectorization; follows the dedicated medical procedure
Firefighters / fire safety	Fire alarm, fire pump unavailable, panel/zone in fault, unconfirmed damper	The intervention and evacuation plan is applied without delay; the platform informs and documents, without delaying the call to emergency services

EXAMPLE CLASSIFICATION

LEVEL	INDICATIVE CRITERION	RESPONSE
Information	Deviation with no immediate impact	Monitoring and scheduled analysis
Warning	Persistent deviation, degradation or increased cost	Ticket within the set deadline; technical check
Critical	Risk for a clinical area, redundancy or an essential asset	Rapid confirmation, escalation and specialized team
Emergency	Danger to people, fire, gas or loss of a vital service	The emergency procedure takes priority; parallel information and traceability

The essential rule

For fire, gas leaks and medical gas incidents, the platform does not replace certified panels, local alarms, calling the emergency services or the legal responsibilities of authorized personnel.

8 · EXAMPLE SCENARIOS

How the platform behaves in real situations

Scenario A — an electrical deviation in the operating theater

The N2 floor board analyzer detects a voltage variation and an increase in harmonic distortion. The platform correlates the event with circuit loading and UPS status, classifies the alarm according to the operating theater's criticality and opens an electrical ticket. Dispatch confirms the backup supply; the electrician checks the source, connections and loads. Closure takes place only after the parameters have stabilized and the measurements are attached.

Scenario B — oxygen pressure below the threshold in the ICU

The sector sensor reports a persistent drop. The local alarm and the medical procedure remain the priority. MOBIUS OEAM adds the location, trend, available reserve and affected systems; MOBIUS UEAM notifies clinical staff and the authorized medical gas team. The intervention records the cause, the operations performed and confirmation of stable pressure.

Scenario C — a degraded HVAC pump in the basement

At the same thermal load and flow, the pump consumes 17% more than the baseline. The rule generates a warning, not an emergency. The installations team checks the filter, valve, bearing and operating point. After remediation, the platform compares the new profile with the reference and documents the savings.

Scenario D — a gas detector / fire event

The critical signal triggers local procedures independently of the platform. MOBIUS takes the status, location and associated systems, notifies the approved roles and creates the operational log. Authorized teams and firefighters act according to the intervention plan; no software automation delays safety measures.

9 · MOBIUS OEAM MODULES RELEVANT FOR HOSPITALS

Seven modules, activated in phases

MODULE	APPLICATION IN A HOSPITAL
01. Acquisition & integration	Meters, analyzers, IoT, BMS, SCADA, PLC, medical utilities and existing systems
02. Real-time monitoring	Power, energy, quality, temperatures, pressures, statuses, cost/hour and navigation by level
03. Alerts & dispatch	Thresholds, persistence, clinical severity, notifications, tickets and escalation
04. Analysis & diagnostics	Balance, baseline, specific consumption, EN 50160, rules and comparisons between assets
05. Optimization & control	Peak reduction and HVAC optimization scenarios, only with interlocks and approvals
06. Reporting & compliance	ISO 50001, ESG, cost centers, audit trail and exports
07. AI/ML intelligence	1–72 hour forecast, anomalies, energy signatures, SoH, RUL and human-reviewed recommendations

PROPOSED PHASES

PHASE	CONTENT	RESULT TO BE ACCEPTED
1. Diagnosis	Inventory of assets/sources, diagrams, protocols, criticality, security and data map	Scope and responsibilities confirmed
2. MVP	Technical basement + one critical level; dashboard, alerts and complete ticket flow	Stable data and tested scenarios
3. Extension	Boards on all levels, utilities and team integration	Complete visibility of the building

PHASE	CONTENT	RESULT TO BE ACCEPTED
4. Modeling	Baseline, EnPIs, costs, diagnostics and reports	Verifiable indicators and savings
5. Optimization	Advanced rules, predictions and assisted control where safe	Demonstrated benefit and governance

10 · THE EFFIPOWER SOLUTION: ENERGY AND SEISMIC PROTECTION

A partner solution delivered turnkey, in the same dashboard

MOBIUS OEAM integrates existing data and orchestrates the intervention. For public hospitals and for private hospitals and clinics, the platform is complemented in the field by the effiPower partner solution, which brings turnkey capabilities as a monthly service (Opex): leased equipment, installation, maintenance and support provided by the partner, on the same communication infrastructure and in the same dashboard — and CAPEX for seismic detection.

MODULE	WHAT IT DOES	DIRECT BENEFIT
A. Energy monitoring	Measures and analyzes electricity consumption on the main distribution board, floor / pavilion boards and critical installations (HVAC, chiller, sterilization, imaging)	Lower energy cost, monitored power quality, ANRE compliance, ROI-based decisions
B. Seismic detection	Detects the earthquake and puts hazardous utilities into a safe state in a controlled way, with different rules per utility	Patient safety, prevention of fires and explosions, operational continuity, reduced exposure and liability

The two components can be activated together or separately, as they are stand-alone.

POSITIONING IN THE MOBIUS OEAM ARCHITECTURE

LAYER	EFFIPOWER CONTRIBUTION
1 · Field	Certified network analyzers in the MDB and the N1...N5 floor boards; the certified seismic device at the fuel gas supply inlet, in the technical basement
2 · Edge	Reading parameters over Modbus RTU / RS-485; timestamping, validation, temporary storage when the link is lost and resynchronization without duplicates
3 · Platform	N1 (visibility) parameters, N2 (diagnostic) and N3 (economic) indicators become signals in the hospital → level → system → asset model; seismic protection and the event log are attached to the "gas supply / technical basement" asset
4 · Representation	An energy and cost view by level and installation; a status indicator (normal / alarm) in the building synoptic

LAYER	EFFIPOWER CONTRIBUTION
5 · Decision	N2 alerts are taken up by the rules engine and turned into MOBIUS UEAM tickets for the electrical, gas, oxygen and fire safety teams

MODULE A — SMART ENERGY MONITORING (N1 / N2 / N3)

PM5330 analyzers measure voltages, currents, active, reactive and apparent power, energy, power factor and total harmonic distortion (THD). The data feeds directly into the "MDB / incomer" and "floor board" points of Section 3. Value is delivered on three levels, activated gradually:

LEVEL	ANSWERS THE QUESTION	WHAT THE HOSPITAL RECEIVES	USE IN MOBIUS OEAM
N1 — Visibility	What is happening now?	Real-time consumption, history, proof of ANRE compliance	Module 02 — real-time monitoring; balance by level
N2 — Diagnostics	Why, and what comes next?	Alerts for power quality (distortion, imbalances) and installation problems	Modules 03 and 04 — alerts, triage, UEAM ticket
N3 — Savings	How much does it cost and how much is saved?	Cost breakdown, avoidable penalties (reactive energy, power factor), ROI per intervention	Module 06 — reporting, cost centers, verified savings

MODULE B — SEISMIC DETECTION AND TRANSITION TO A SAFE STATE

The seismic device is a DASS (automatic interception device activated by seismic loading) manufactured in Italy, CE-marked and IMQ / IQNET certified. The sensor, the decision logic and the command outputs are in the same device that triggers the response.

- **Detection:** its own accelerometer, analysis in the 1–10 Hz band (128-point FFT), a configurable threshold of 0.1 g (Asce 25-16 type) or 0.0875 g, response in under 5 seconds.
- **Action:** when the threshold is exceeded, the relays switch to the alarm state and simultaneously trigger the safety sequence for each utility.
- **Locking:** the safe state is maintained until manual reset (RESET pressed for at least 5 s), so the installation does not restart before a human check.

UTILITY	M95 XL INTERVENTION MODE	MOBIUS OEAM / UEAM ROLE
Fuel gas (methane / LPG)	Immediate automatic shut-off of the whole supply (solenoid valve relay, positive safety)	Gas team ticket: tightness check before RESET and return to service

UTILITY	M95 XL INTERVENTION MODE	MOBIUS OEAM / UEAM ROLE
Liquid fuel (boilers / generators)	Automatic or supervised shut-off on the dedicated valve via the alarm contact, keeping the emergency generator where it is vital	Correlation with generator status and UPS autonomy; Electrical team ticket
Seismic alarm	Automatic start of the siren (auxiliary alarm relay)	Notifying approved roles; opening the operational log
Evacuation doors with electric locks	Automatic fail-open unlocking: the relay cuts power to the locks	Confirming door status in the synoptic; fire safety / evacuation ticket
Non-critical electrical circuits	Selective load shedding via alarm contact → contactor, keeping UPS / generator for the ICU and operating theater	Displaying shed circuits on the MDB and floor boards; re-energizing plan
Medical oxygen and other medical gases	Not shut off globally or automatically. An alarm and, optionally, a command to compliant zone valves for supervised zonal isolation; the shut-off decision remains human, according to protocol	Immediate notification of clinical staff and the authorized Oxygen team; pressure trend by sector
Panic / emergency stop button	The same sequence, triggered manually via the DIG IN input (normally closed contact)	Event marked distinctly (manual vs. seismic) in the log

Why oxygen is not cut off like gas

Automatically and globally shutting off oxygen during an earthquake would endanger exactly the patients who cannot be evacuated: those on ventilation or oxygen therapy. Life support (ventilation, ICU, operating rooms) remains supplied; zonal isolation is designed together with the hospital's technical service and the supplier of the medical gas installation.

RELEVANT FUNCTIONS OF THE SEISMIC DETECTOR

CAPABILITY	USE IN MOBIUS OEAM
3 output relays (solenoid valve, alarm / siren, fault), with positive safety	On alarm or power failure, the outputs switch to a safe state; the fault relay becomes a protection availability signal

CAPABILITY	USE IN MOBIUS OEAM
Output for a configurable interception device (dry contact) and RS485	Progressive addition of actuators (valves, doors, circuits, zone valves) without modifying the certified device
RS485 Modbus RTU output (all parameters) and a 4–20 mA output proportional to the seismic level	Acquisition in the Edge layer: status, seismic level, alarms; displayed in the same dashboard as energy
Event recording (alarms and background noise), with RTC	A verifiable log for reporting, audit and the insurer, linked to the UEAM audit trail
Background noise monitoring at installation	Reducing false alarms caused by machinery, air conditioning or traffic
Backup battery input (AUX IN); IP66 enclosure, -20...+60 °C	Keeping the lock and safe state without mains power; installation in exposed technical spaces
RESET / TEST button	Trigger test at commissioning, documented as an acceptance scenario in the pilot

Scenario E — an earthquake exceeding the seismic threshold: M95 XL detects the seismic loading and, independently of the platform, shuts off the fuel gas, starts the siren, releases the evacuation doors and sheds non-critical circuits; medical oxygen remains supplied, with an alarm by sector. MOBIUS OEAM takes the alarm status, the seismic level and the PM5330 statuses from the MDB and floor boards through the gateway, and MOBIUS UEAM simultaneously opens tickets for the Gas, Electrical, Oxygen and Fire Safety teams. Return to service takes place only after a documented check of the installations and a manual reset of the device; the platform records the whole sequence in the audit trail.

The scenario follows the principle of Section 7: the safety action is local and certified, while the software informs, coordinates and documents, without delaying safety measures.

REGULATORY COMPLIANCE OF THE SEISMIC DEVICE

The device was developed by analyzing compatibility with reference standards for seismic protection and regulated areas: Asce 25-16 and UNI/CT 114/GL04 (seismic switches), EN 81-77 (behavior of installations under seismic conditions), NTC 2018 (Italian technical construction standards), Directive 2012/18/EU Seveso III (sites with major accident risk), UNI/TS 11816-1:2021 and Linee Guida CIG no. 13 (gas installations).

ADAPTED FOR PUBLIC AND PRIVATE HOSPITALS

The technical solution is the same; what differs is the main objective, the decision argument and the recipient of the reporting.

ASPECT	PUBLIC HOSPITAL / HEALTHCARE UNIT	PRIVATE HOSPITAL OR CLINIC
Central message	Lower energy bills and automatic transition of utilities to a safe state in an earthquake, without endangering life support	Protecting margins, continuity of service and patients in an earthquake
Energy problem	A large bill with no breakdown; justifying consumption and savings to management and the supervisory authority without measured data	Energy costs erode margins; efficiency or expansion decisions made “by estimate”, with no demonstrable ROI
Seismic risk	A catastrophic incident in a building with immobilized patients; limiting damage and a rapid return to operation	Risk to patients, legal liability, business interruption and reputational damage
Financial model	No CAPEX and no equipment tender; a predictable monthly cost, easy to budget	Capital not tied up; a predictable monthly cost, scalable across a network of clinics
Recipient of the compliance argument	Management, the supervisory authority and the insurer	The insurer and the accreditation file
Reporting	Measured data for consumption and savings, ANRE compliance, a log of seismic events	ROI per intervention, sustainability / accreditation reporting, a single picture for the whole network
Scaling	Several pavilions of the same unit	Several locations, replicated in the same platform

INTEGRATION IN THE PILOT

- **Energy (Module A):** effiPower on the MDB and on the board of the chosen clinical level; within 30–60 days, a clear picture of consumption, avoidable penalties, power quality problems and an estimate of monthly savings (quantified, with ROI, for private operators).
- **Seismic protection (Module B, optional in the pilot):** installing M95 XL on the fuel gas supply, with a trigger test (RESET / TEST: the solenoid valve closes, the siren starts, the 4–20 mA output rises to 20 mA).
- **Liquid fuel and medical gases:** a design assessment with the appropriate, supervised isolation solution, together with the technical service and the installation supplier.

- **Integration:** the trigger test is taken up by MOBIUS OEAM and generates the complete UEAM ticket flow, validating scenario E.

Compliance note

For a real installation in a healthcare unit, the automatic shut-off of fuel gas, unlocking of evacuation doors, shedding of electrical circuits and any intervention on fuel or medical gas lines are checked against local standards (gas, medical gases, electrical, fire prevention / evacuation, ISCIR, the approval of the supplier and the insurer) and coordinated with the hospital's continuity plan before commissioning. Interventions on medical gases are carried out exclusively with compliant components and together with the hospital's technical service.

11 · INDICATORS, SECURITY AND GOVERNANCE

What is measured, and how the system is protected

CATEGORY	EXAMPLE INDICATORS
Energy	kWh/m², kWh/bed, maximum power, power factor, THD and deviation from baseline
Continuity	Critical asset availability, UPS autonomy, successful generator tests and minutes of unavailability
Utilities	m³ of water, m³ of gas, specific HVAC consumption, oxygen pressure and alarms by sector
Interventions	Time to confirmation, arrival, remediation, recurrence, SLA and percentage of post-intervention validation
Data quality	Completeness, latency, invalidated values and duration of offline operation
Financial	Cost per building/level/system, cost of incidents and verified savings

SECURITY AND GOVERNANCE REQUIREMENTS

- Separation of operational, medical and administrative networks; controlled and logged access.
- Role-based rights for viewing, configuration, assignment, validation and control.
- Encryption, authentication, backups, restore and monitoring of integrations.
- No automatic command to a critical system without risk analysis, interlocks, testing and approval.
- A single asset nomenclature and a clear owner for every sensor, rule and procedure.
- Periodic review of thresholds to avoid both false alarms and omissions.

Data and compliance

The final configuration must be checked against the hospital's technical, medical, fire safety, cybersecurity and data protection standards and internal requirements.

12 · PILOT PROPOSAL

Demonstrating value without disrupting medical activity

We recommend a limited pilot, with indicators and acceptance criteria defined before connection. A suitable configuration can include the technical basement, the MDB, the UPS/generator set and one critical clinical level — the ICU or the operating theater.

DELIVERABLES

- A technical inventory and data map for the pilot scope.
- A digital model of zones, systems, assets and measurement points.
- effiPower Module A (on the MDB and the chosen clinical level) and, optionally, the earthquake detector with a trigger test, according to Section 10.
- A gateway and connectors configured for the approved sources.
- An executive dashboard, a building synoptic and technical views.
- Alert rules and at least five tested intervention scenarios.
- The MOBIUS UEAM flow for all five specialized teams.
- Baseline, indicators, a data quality report and a final pilot report.
- Training for dispatch, technical teams and administrators.

ACCEPTANCE CRITERIA

AREA	EXAMPLE CRITERION
Data	Completeness, latency and synchronization exceed the agreed thresholds
Functional	The synoptic, dashboards and alerts reproduce the approved scenarios
Operational	Each team receives, confirms, documents and correctly closes the ticket
Continuity	Buffering and resynchronization are validated by a controlled test
Security	Roles, logging and segregation are accepted by those responsible
Benefit	A measurable improvement or technical conclusion is demonstrated

13 · CONCLUSION AND NEXT STEPS

A complete circuit, from validated data to audit trail

MOBIUS OEAM can create a coherent picture of a hospital's energy, utilities and assets, from the main distribution board and the basement installations to every floor board and clinical area. The main value is the complete circuit: validated data → clinical and technical context → prioritized alarm → competent team → intervention → confirmation and audit trail.

Together with the effiPower partner solution, the circuit extends from detailed energy measurement (N1–N3) to the automatic, certified transition of utilities to a safe state in an earthquake, with the same traceability in MOBIUS UEAM — for public hospitals as an argument for budget, compliance and safety, and for private operators as protection of margins, continuity and reputation.

The recommended next step is the initial assessment: a technical visit, collection of diagrams, an inventory of assets and sources, choosing the pilot scope and defining the result criteria. The production configuration is designed together with the client's technical, medical, fire safety, IT and security officers.

A note on the examples

The building, systems, values, alarms, scenarios and indicators in this document are conceptual examples. The real solution is adapted to the hospital's infrastructure, procedures and applicable obligations. The published benefits are indicative and do not constitute contractual guarantees.

Source of product information

The description of the concept, modules, protocols, edge functions, the alert–ticket flow and indicative benefits was summarized from the official MOBIUS OEAM page, consulted on the date of this document.

14 · GLOSSARY / LIST OF ABBREVIATIONS

Terms used in this document

AAR / ATS	Automatic transfer switch — automatic changeover to the backup source
AI / ML	Artificial Intelligence / Machine Learning
ACM	Domestic hot water (Romanian abbreviation)
ANRE	The Romanian Energy Regulatory Authority
API	Application Programming Interface — a programming interface for integrations
Asce 25-16	Reference standard for seismic switches (typical threshold 0.1 g)
ATI	Anesthesia and Intensive Care (ICU)
AUX IN	Auxiliary input for a backup battery
BACnet	Communication protocol for building automation
BMS	Building Management System
CAPEX	Capital Expenditure — initial investment in equipment
CE / IMQ / IQNET	European conformity marking / the manufacturer's quality certifications
CO_2	Carbon dioxide (an indicator of indoor air quality)
CTA	Air handling unit (Romanian abbreviation)
DASS	Automatic interception device activated by seismic loading (seismic switch)
DIG IN	Digital input for an emergency button (NC contact)
EN 50160	European standard on voltage characteristics in public networks
EN 81-77	Standard on the behavior of installations under seismic conditions
EnPI	Energy Performance Indicator (ISO 50001)
ESG	Environmental, Social, Governance — sustainability reporting

Fail-open	A lock that releases on alarm or loss of power
Fail-safe	Safe behavior on failure
FFT	Fast Fourier Transform — frequency analysis of a signal
g	Standard gravitational acceleration (~9.81 m/s^2), the unit for seismic thresholds
GPL	Liquefied petroleum gas (LPG)
HVAC	Heating, Ventilation & Air Conditioning
IAQ	Indoor Air Quality
IEC 61850	Communication standard for electrical substation automation
IoT	Internet of Things — connected devices
IP66	Enclosure protection rating (dust-tight and protected against water jets)
ISCIR	The Romanian State Inspection for Boilers, Pressure Vessels and Lifting Equipment
ISO 50001	Standard for energy management systems
KPI	Key Performance Indicator
kW / kWh / kVAR	Active power / active energy / reactive power
Linee Guida CIG no. 13	Italian guideline for gas installations
Modbus RTU / TCP	Industrial communication protocol over a serial line / over Ethernet
MQTT	Lightweight messaging protocol for IoT
MT / JT	Medium voltage / low voltage
MVP	Minimum Viable Product
N1 / N2 / N3	Level 1 (visibility) / Level 2 (diagnostics) / Level 3 (economic)
N_2O	Nitrous oxide (a medical gas)
NC	Normally Closed contact

NTC 2018	Norme Tecniche per le Costruzioni — the Italian technical construction standards
O_2	Oxygen
OEAM	Operational Energy & Asset Management
OPC UA	Open Platform Communications Unified Architecture — an industrial protocol
Opex	Operational Expenditure — recurring operating cost
PLC	Programmable Logic Controller
PM5330	Schneider Electric network analyzer, PowerLogic PM5300 series
PSI	Fire prevention and extinguishing (fire safety)
PT	Transformer substation
RESET / TEST	M95 XL button for the trigger test and manual unlocking
ROI	Return on Investment
RS-485 / RS485	Industrial serial bus standard
RTC	Real Time Clock — internal clock for timestamping events
RUL	Remaining Useful Life
SCADA	Supervisory Control and Data Acquisition
Seveso III	Directive 2012/18/EU on sites with major accident risk
SLA	Service Level Agreement — agreed response / remediation time
SoH	State of Health of batteries
TD-N1…TD-N5	Distribution boards of levels 1…5
TDG	Main distribution board (MDB)
THD	Total Harmonic Distortion
UEAM	The MOBIUS module for asset and intervention management (ticketing)

UNI/CT 114/GL04, UNI/TS 11816-1:2021	Italian reference technical specifications for the device and gas installations
UPS	Uninterruptible Power Supply
UPU	Emergency department (Romanian abbreviation)
4–20 mA	Analog current loop output (M95 XL: 4 mA = 0, 20 mA = alarm)

MOBIUS
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