

HVAC Decision Support System

Upgrade HVAC systems with sensors and machine learning to improve comfort and energy efficiency.



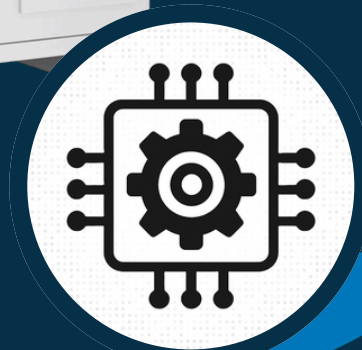
Efficient
Heating & Cooling



Improved
Air Quality



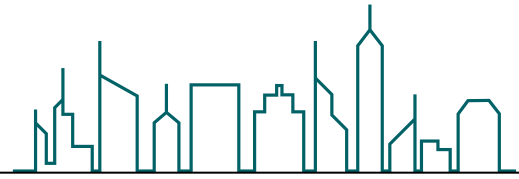
Lower
Energy Bills



TARAMICRO™



TARAMICRO™ HDS



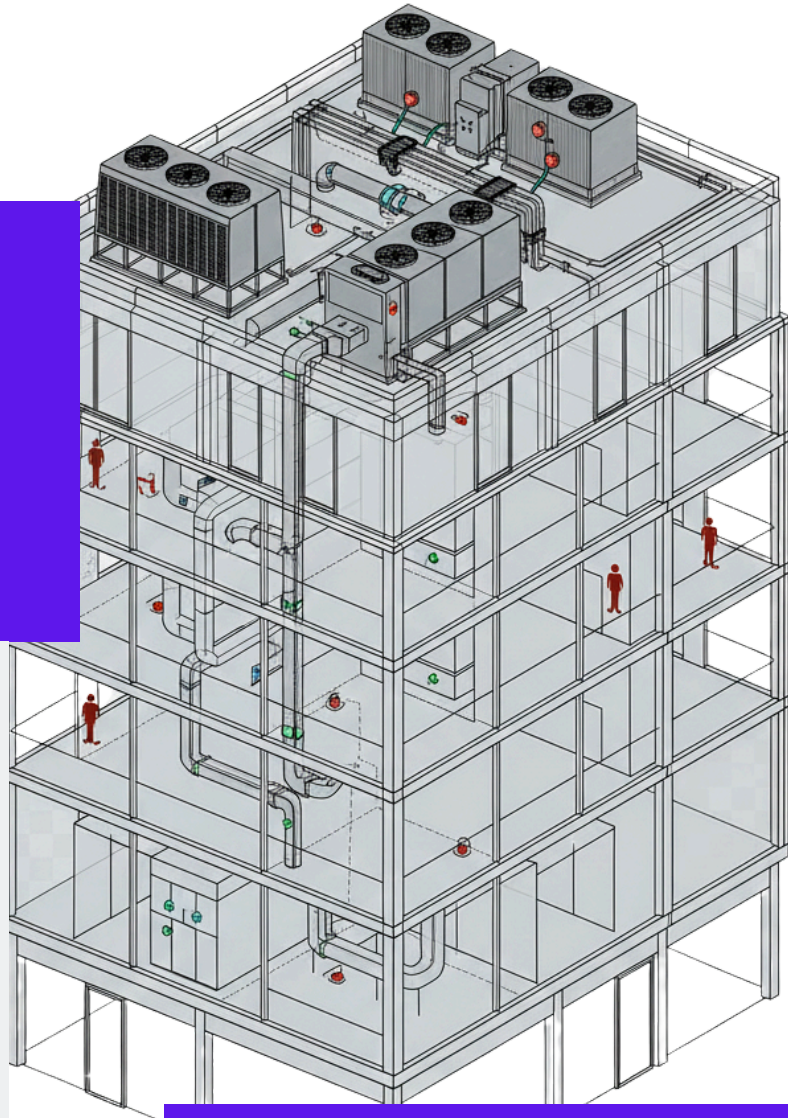
DATA-DRIVEN ENERGY SAVINGS AND COMFORT SOLUTION

HVAC DECISION SUPPORT (HDS) SYSTEM

On average, about 30% of the energy used in commercial buildings is wasted.

Taramicro™ HDS

Upgrade HVAC systems to monitor usage patterns and air-side loads with real-time sensors and machine learning.



FEATURES & SERVICES

- ✓ Monitor HVAC usage and air-side loads with real-time sensor data.
- ✓ Use machine learning to balance comfort and energy use.
- ✓ Professional designs with architects and consultants.

TECHNOLOGY



IoT-enabled

Connects to BMS, cloud, and field equipment.



Data-driven HVAC

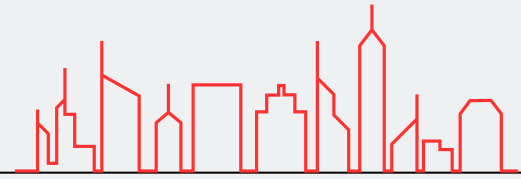
Turning building telemetry into continuous tuning and decision support.



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HVAC DECISION SUPPORT SYSTEM

Learn your building's normal behavior. Detect problems early. Prove savings with statistics. Tune HVAC systems continuously for maximum efficiency.

Flexible I/O for HVAC environments

- ✓ 100+ HVAC data-collection nodes for Node-RED, connecting to protocols like Modbus, OPC-UA, BACnet, MQTT, WebSockets and more.
- ✓ Canonical unit system with SI units.
- ✓ Connects with existing IoT, BMS, and SCADA systems.

Data processing: 4-layer stack (*actively developed*)

- ✓ Layer 1 (SPC): Statistically detects when your system goes wrong.
- ✓ Layer 2 (ML): Predicts failures and system behavior.
- ✓ Layer 3 (Graph Analysis): Optimizes system-wide dependencies.
- ✓ Layer 4 (Expert Systems): Helps technicians in operations and maintenance.

Historical data analysis

- ✓ Replay feature analyzes your existing IoT/BMS data.
- ✓ Helps detect HVAC usage and energy-consumption patterns.
- ✓ Delivers fast ROI and builds confidence in the model before going live.

Data platform integration

- ✓ Connects to BMS, cloud, and field equipment.
- ✓ Built on open standards – your data, your control.
- ✓ Flexible deployment – on-site, cloud, or hybrid.

Benefits

- ✓ Lower HVAC energy bills (~ 10% – 15%) depending on building and baseline.
- ✓ Fewer hot/cold complaints with early detection of comfort issues.
- ✓ Datasets for faster troubleshooting using replay and layered data processing.



TARAMICRO™

"If you want to find the secrets of the universe, think in terms of energy, frequency and vibration."

Nikola Tesla

Taramicro builds edge AI technologies for energy systems

