



airez™ Product Catalog

The Physical Intelligence Layer™ for Uptime-Critical Environments.

Real-time contextual analysis from video and environmental sensors—on-site, at the edge.

THE REALITY

Data centers are among the most advanced environments in the world... yet their physical systems are still:



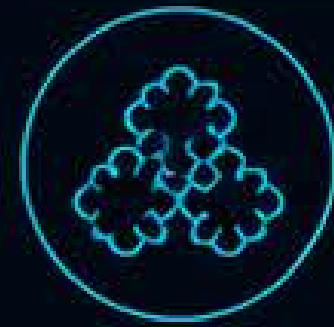
SILOED

(cameras, BMS, DCIM, access control)



REACTIVE

(alerts after thresholds are crossed)



DISCONNECTED FROM CONTEXT

(no unified understanding of events)



IN A ZERO-DOWNTIME ENVIRONMENT,
THIS CREATES RISK.



THE MISSING LAYER



AIREZ introduces a new capability:

A unified **Physical Intelligence Layer™** that connects, interprets, and responds to everything happening inside your data center... in real time.



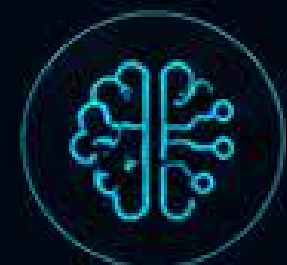
NOT MORE SENSORS.

We make sense of the ones you already have.



NOT MORE DASHBOARDS.

We unify the view across every system.



A SYSTEM THAT UNDERSTANDS THE ENVIRONMENT AS A WHOLE.

Context. Correlation. Causation. Action.



AIREZ PHYSICAL INTELLIGENCE LAYER™



DATA FUSION & CONTEXT



REAL-TIME ANALYTICS



AUTOMATED RESPONSE



HOW IT WORKS

AIREZ sits on top of existing infrastructure and integrates signals from across the facility to create a real-time operational picture.



1. CONNECT

Integrate signals from across every system.



2. UNIFY

Normalize and correlate data in real time.



3. UNDERSTAND

Apply AI and domain intelligence to detect what matters.



4. RESPOND

Automate actions and deliver prescriptive outcomes.



5. OPTIMIZE

Continuously learn and improve performance.

HOW IT WORKS

AIREZ sits on top of existing infrastructure and integrates signals from across the facility to create a real-time operational picture.



INPUTS (SENSORS & SYSTEMS)



SECURITY & ACCESS

- Door contact sensors
- Badge/access control systems
- Mantrap systems
- Perimeter intrusion (fiber / vibration)



VISUAL & THERMAL

- IP cameras (visible spectrum)
- Thermal / infrared cameras
- Low-light / night vision systems



ENVIRONMENTAL

- Temperature sensors (rack + room)
- Humidity sensors
- Airflow / pressure sensors
- CRAC/CRAH system data



FLUID & LEAK DETECTION

- Water flow sensors
- Leak detection cables
- Condensation sensors



MECHANICAL & ELECTRICAL

- Vibration sensors (racks, transformers, chillers)
- Acoustic / microphonic sensors (fan noise, anomalies)
- Power monitoring (UPS, PDUs)
- Generator and backup system signals



SPATIAL & MOVEMENT

- LiDAR / radar (movement + positioning)
- BLE / RF presence detection
- RFID asset tracking



EXTERNAL CONDITIONS

- Weather data
- Air quality / particulate monitoring



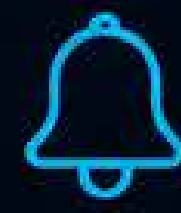
REAL-TIME VISIBILITY

See everything.
All in one place.



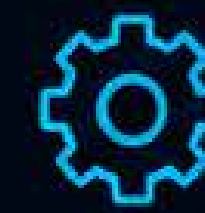
CONTEXTUAL INTELLIGENCE

Understand what's happening
and why it matters.



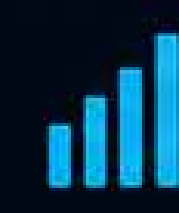
PROACTIVE ALERTS

Detect issues early.
Reduce risk.



AUTOMATED RESPONSE

Respond faster.
Minimize impact.



CONTINUOUS OPTIMIZATION

Learn continuously.
Operate at peak performance.

REAL-WORLD SCENARIOS



AIREZ connects the dots across your data center to detect what others miss — and act before it becomes a problem.

1

EARLY THERMAL FAILURE DETECTION

• Slight heat increase in a rack

• Reduced airflow pattern

• Subtle acoustic change

AIREZ detects the pattern and alerts before thresholds are breached

RESULT: PREVENTED OUTAGE

2

WATER LEAK / COOLING FAILURE

• Minor moisture detected under flooring

• Change in flow pressure

• Environmental imbalance

AIREZ correlates signals and escalates immediately

RESULT: PREVENTED EQUIPMENT DAMAGE

3

UNAUTHORIZED ACCESS + RISK BEHAVIOR

• Door opened outside scheduled window

• Movement detected near restricted racks

• No authorized badge activity

AIREZ flags contextual anomaly, not just access event

RESULT: IMMEDIATE SECURITY RESPONSE

4

MECHANICAL DEGRADATION

• Subtle vibration shift in cooling system

• Acoustic irregularity

• Slight performance drop

AIREZ identifies early failure signature

RESULT: MAINTENANCE BEFORE FAILURE

5

AIRFLOW IMBALANCE

• Pressure drop in containment

• Uneven cooling distribution

• Rack heat variance

AIREZ identifies inefficiency pattern

RESULT: OPTIMIZED COOLING + ENERGY SAVINGS



CONTEXT IS EVERYTHING.

AIREZ doesn't just collect data — it connects, understands, and acts on what matters most.



CORRELATE
All Signals



DETECT
What Others Miss



ALERT
Smarter



RESPOND
Faster



PROTECT
What Matters

WHY IT MATTERS



IN A DATA CENTER:



SECONDS MATTER
Issues can escalate in seconds.



DOWNTIME IS EXPENSIVE
Every minute of downtime costs thousands.



SMALL ISSUES BECOME BIG FAILURES
What starts small can impact the entire facility.

AIREZ PROVIDES:



EARLIER DETECTION

Identify issues before they impact operations.



BETTER DECISIONS

Unified context enables smarter, faster actions.



STRONGER RESILIENCE

Build a data center that adapts and withstands.



SECURITY



VISUAL & THERMAL



ENVIRONMENTAL



FLUID & LEAK DETECTION



MECHANICAL & ELECTRICAL



SPATIAL & MOVEMENT



EXTERNAL CONDITIONS



REAL-TIME ANALYTICS



AUTOMATED RESPONSES



CONTINUOUS OPTIMIZATION



THE OUTCOME:

A safer, smarter, more efficient data center — always in control.



REDUCE RISK

Fewer outages.
Fewer surprises.



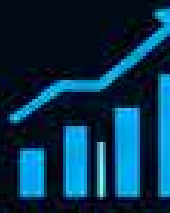
IMPROVE UPTIME

Keep critical systems running smoothly.



LOWER COSTS

Optimize operations and resource usage.



FUTURE READY

AI-driven insights for the next generation of data centers.

HIGH-LEVEL ARCHITECTURE (LAYERED)



AIREZ is built as a layered architecture that connects all systems, analyzes every signal, and delivers real-time intelligence where it matters.

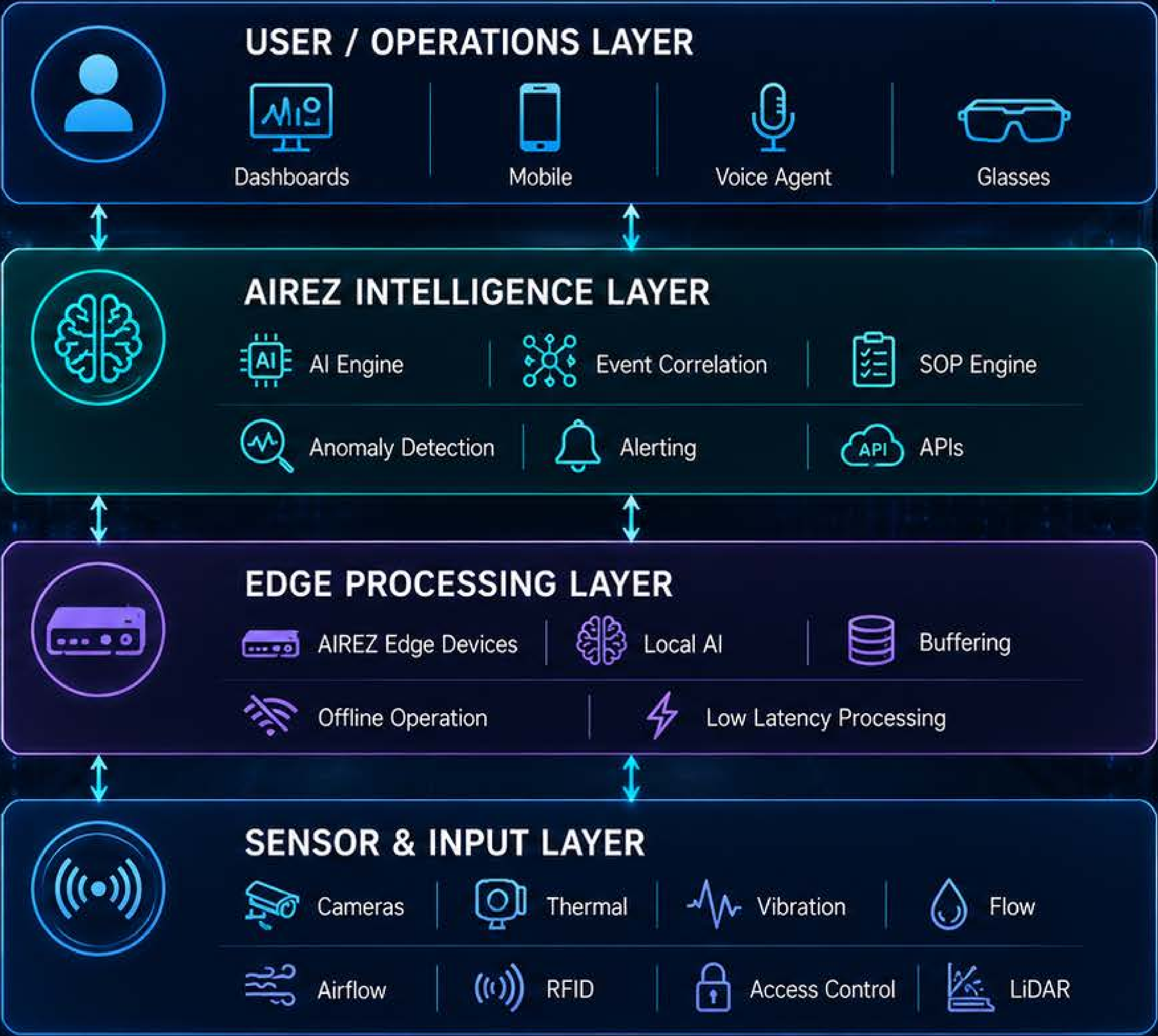
UNIFIED INTELLIGENCE
All systems. All signals.
One source of truth.

REAL-TIME RESPONSE
Detect, understand, and act
in seconds.

BUILT FOR RESILIENCE
Edge-first design ensures
uptime even during outages.

SCALABLE BY DESIGN
From single sites to global
multi-facility operations.

SECURE & TRUSTED
Designed with security, privacy,
and compliance at every layer.



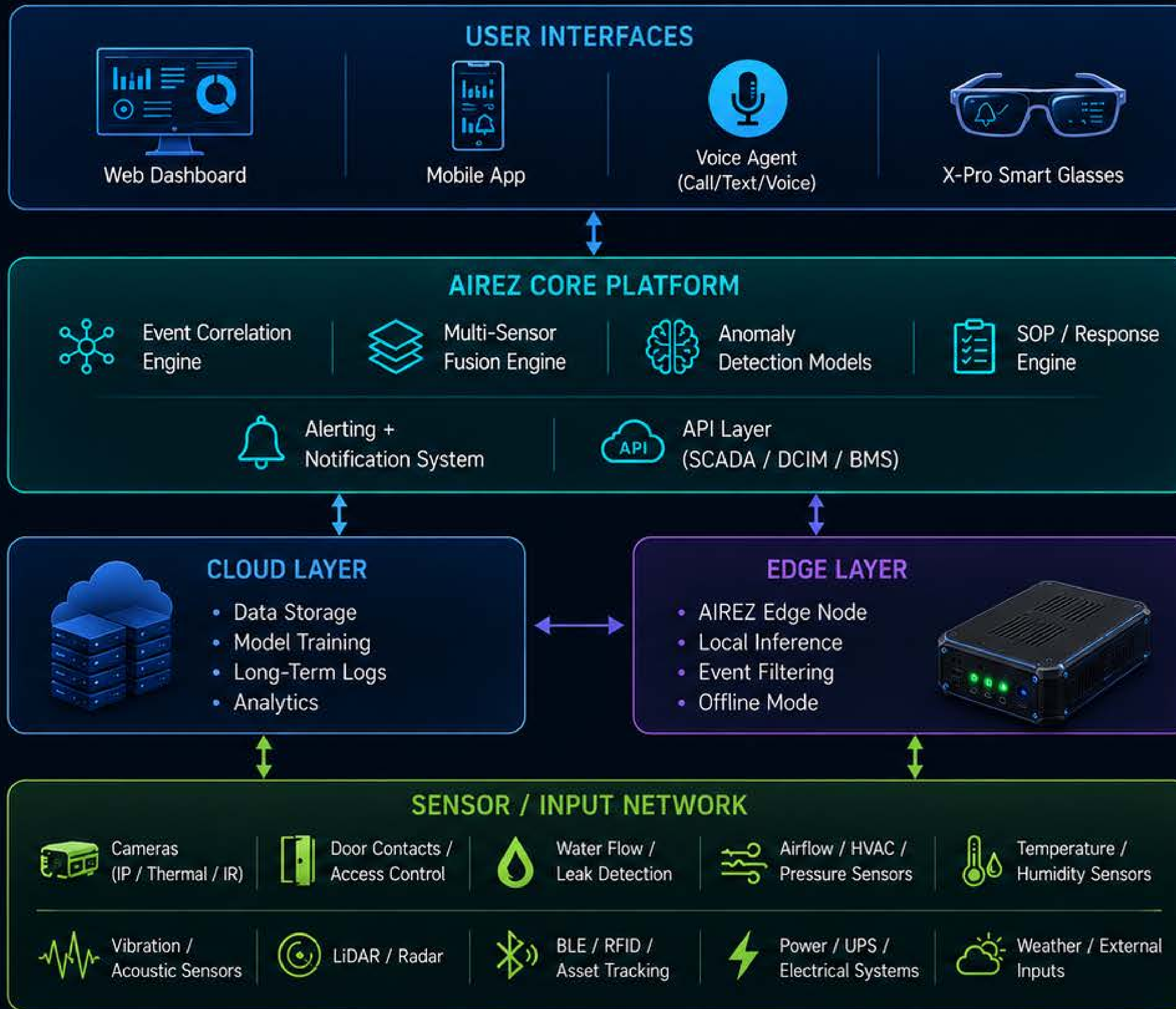
DETAILED ARCHITECTURE (WITH DATA FLOW)

UNIFIED INTELLIGENCE
Connects all systems, analyzes every signal, and delivers real-time intelligence.

REAL-TIME RESPONSE
Detect anomalies, correlate events, and trigger actions in seconds.

BUILT FOR RESILIENCE
Edge-first design with offline capability ensures uptime even during outages.

SCALABLE & SECURE
Cloud-powered analytics with enterprise-grade security and integrations.



USER ↔ CORE
Users interact with AIREZ through multiple interfaces to monitor, receive alerts, and take action.

CORE ↔ EDGE / CLOUD
Core platform sends intelligence to edge for real-time processing and to cloud for storage, training, and analytics.

EDGE ↔ SENSORS
Edge nodes collect real-time data from all sensors, process locally, and send important events upward.

CLOUD ↔ EDGE SYNC
Cloud and edge stay synchronized for models, configurations, and long-term insights.



SECURE • SCALABLE • RESILIENT • INTELLIGENT

AIREZ turns every signal into intelligence — so you can act before problems impact your business.

KEY ARCHITECTURAL ADVANTAGES

Built for real-time operations, resilience, and intelligent automation.



EDGE + CLOUD HYBRID



Real-time at the edge

- Low latency decisions
- Local processing
- Offline operation



Scale and learning in the cloud

- Analytics
- Model training
- Long-term learning



MULTI-SENSOR FUSION

Beyond individual alerts



Cameras



Thermal



Access Control



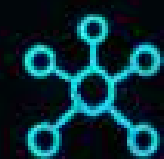
Environmental Sensors



Vibration / Acoustic



LiDAR / Radar



Unified understanding
instead of isolated
data points.



OPEN INTEGRATION LAYER

Connects with existing systems:



SCADA



DCIM



BMS



Access Control



Third-Party APIs



No rip-and-replace
required.



RESILIENT BY DESIGN

Built for mission-critical environments:

- ✓ Offline capable
- ✓ Local decision-making
- ✓ Redundant processing
- ✓ Continuous operation



Ideal for data centers
and critical infrastructure.



ACTIONABLE INTELLIGENCE

Not just alerts. AIREZ delivers:

- ✓ Recommended actions
- ✓ Automated workflows
- ✓ SOP execution
- ✓ Intelligent escalation



From detection
→ decision → action

DETECT → UNDERSTAND → DECIDE → ACT → PROTECT