

USES

- Infrastructure and perimeter monitoring
- Public safety and rapid response
- Event and venue security
- Industrial and transport site coverage
- Force protection and training areas

FEATURES

- Coverage: 360° (Omnidirectional)
- Outputs: Detection, Confidence, Class
- Power: AC / DC / Battery
- Temperature: -40 to +60 °C (-40 to +140 °F)
- Networking: LoRa / WiFi / Cellular / Wired



OVERVIEW

DESCRIPTION

Bennu is an omnidirectional, single-microphone acoustic sensor node for networked detection of airborne and impulsive acoustic events.

It provides event detection, confidence, and event class outputs (not azimuth or elevation). In multi-node deployments, event reports can be aggregated for monitoring and, where configured, network-level localization (deployment geometry and communication topology dependent).

PRINCIPLE OF OPERATION

Bennu continuously evaluates acoustic measurements for event signatures. When detection criteria are met, the node generates an event report and transmits it to the network for alerting, review, and optional multi-node localization where configured.

SECURITY & DATA TRANSMISSION

All event data and control traffic are encrypted in transit to the interface with the customer network. Authentication, access control, key provisioning, and secure update mechanisms are supported (deployment-dependent; implementation details available upon request).

INTEGRATIONS

Bennu includes a web dashboard GUI for live monitoring, instant alerts, event review, and node health/status visibility. Optional interfaces support event export and alert forwarding via REST API, MQTT, webhooks, and syslog. Military/command integrations are supported where required, including TAK clients (ATAK, TAK Server or similar) via Cursor on Target (CoT), with additional C2 formats supported by configuration/adapters.

MANUFACTURING AND STABILITY

Bennu is built for outdoor field deployment with an enclosure designed to maintain stable performance across changing weather and site conditions.

- Outdoor-ready enclosure (IP66)
- Wind effects minimized by mechanical construction
- Ruggedized build for field deployment
- EMI/RFI-resilient enclosure with shielding

CALIBRATION AND TRACEABILITY

Each unit is traceable by serial number. Units are factory verified and calibrated under defined reference conditions (see Specifications). Unit-level records and field verification procedures available upon request.