

Geodesic Sampling – Multi-Sensor - Directional Filtering

This technology is a “smart listening dome” built from many small, triangular panels that each contains its own microphones and electronics, allowing the system to hear sounds from almost every direction with remarkable clarity. Because of its shape and modular design, it can be built in different sizes, used on walls, poles, drones, buoys, or even worn on a person. The system can also include cameras, solar panels, GPS, and long-range communications, making it a versatile tool for many field environments.

What makes it especially powerful is how it processes sound. The dome electronically “focuses” its hearing toward specific directions—similar to zooming in with a camera, but for sound. This lets it pinpoint where sounds are coming from, filter out background noise, detect multiple moving sound sources at once, and work with AI to classify what it’s hearing (such as drones, voices, vehicles, or gunshots). Because the system combines strong listening capabilities with smart software and flexible hardware, it can be used for security, search-and-rescue, wildlife monitoring, and many other missions where understanding sound in real time matters.

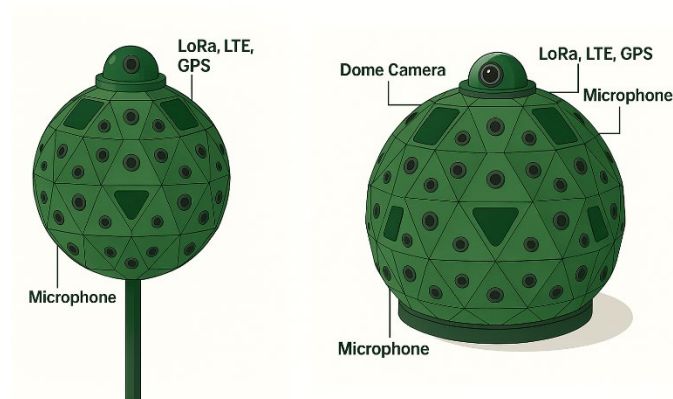
Features

- Full-sphere listening capability
- Modular and field-repairable
- Superior noise filtering
- Expandable multi-sensor platform

Ideal Applications

Any application where understanding sound in real time matters: national security, search-and-rescue, wildlife monitoring.

Stage of Development: Working Prototype



For More Information contact:

George Mason University, Office of Technology Transfer
703-993-8933 ott@gmu.edu <https://ott.gmu.edu/>