

Swarming Network for Intruder Detection

Market Need

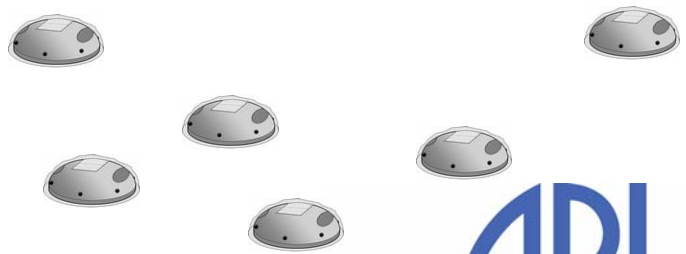
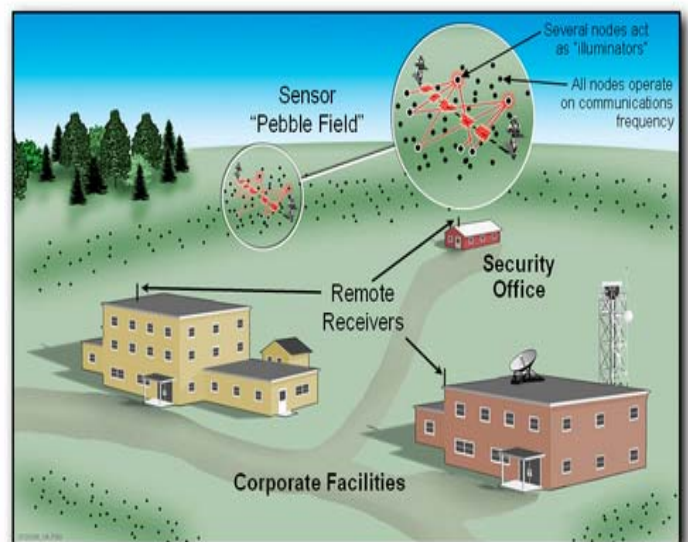
Current physical intrusion detection systems rely on fixed location sensors such as video cameras, infrared detectors, moving object sensors, trip wires, fences, etc. These methods are costly, need significant amounts of power, are easily detected, require time to set up, often require hard wired communication and have limited fields of view.

APL Solution

The Swarming Network for Intruder Detection was developed by researchers at the Johns Hopkins University Applied Physics Laboratory to address current limitations in personal, business and national security. The technology uses hundreds of small (1-2 cm diameter) sensors which are scattered randomly in an area to be protected. The sensors are disguised to resemble the terrain in which they are seeded - making them covert. In the event individual sensors are discovered and removed, the remaining sensors continue to provide uninterrupted protection.

Sensors can be seeded from airplanes or by hand, depending on the area under investigation. This versatile system can be used in large commercial buildings - such as malls and arenas - or in smaller areas like rooms and houses.

Each sensor is solar powered and is made up of various sensing elements including those to detect sound, motion, vibration, chemicals, biologics and radioactivity. Each sensor transmits its findings to near-by sensors using a very low power signal. A receiving station monitors the grouped sensors, or swarm, using directed energy. When specific levels and types of activity are indicated by the collective communications from the sensors, appropriate actions are triggered, similar to current systems.



Technology Status

Existing designs provide a practical starting point for rapid prototyping. Technology was presented at the 3rd International Conference on Intelligent Sensors, Sensor Networks, and Information Processing (ISSNIP) 2007.

Applications

Military
Commercial
Residential

Intellectual Property

US Patent Pending #60/944,199

Availability

Currently seeking a development or licensing partner.

Technical Point of Contact:

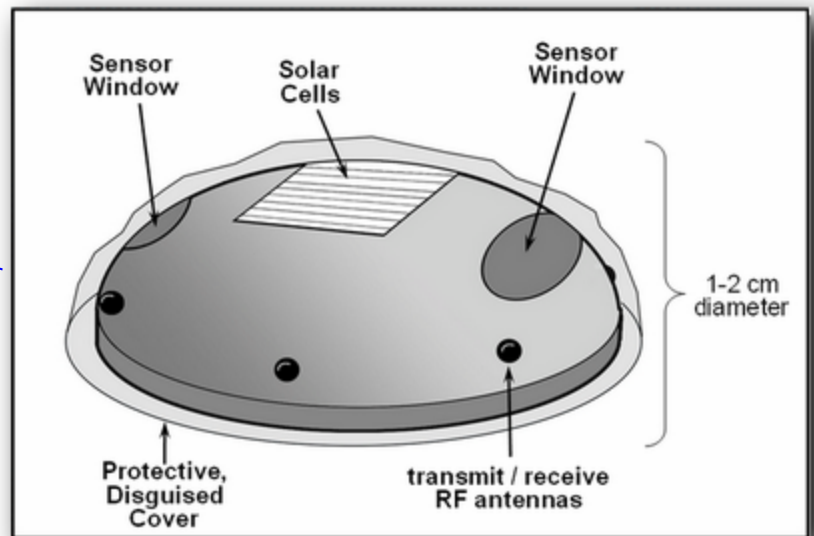
Mike O'Driscoll, Inventor
mike.odriscoll@jhuapl.edu

For Licensing Information, Contact: JHU/APL Office of Technology Transfer

John Bacon
Technology Manager
Phone: (443) 778-8309
FAX: (443) 778-5882
john.bacon@jhuapl.edu

Key Features

- Inexpensive
- Wireless
- Covert
- Energy efficient
- Rapidly deployed



The Johns Hopkins University
APPLIED PHYSICS LABORATORY