Autonomous Situational Awareness

Under any Environmental Conditions

A new Digital Tunable Filter in hardware provides the ability to recognize targets, without false alarms, thousands of times more accurate and faster than the fastest and most powerful algorithms in existence.

Identification of targets and their speed

The new Digital Tunable Filter is a ground breaking new technology for Digital Signal Processing (DSP), towards DOD's goals of detection and identification with much clarity and speeds for Intelligence, Surveillance, and Reconnaissance platforms. The new scheme for detection and identification is posed to open a new window of opportunities for empowering war fighting soldier with *quickly putting promising capabilities in their hands, for his/her safety.*

- Cost effective technology to reduce volume, weight, mass, and power of equipment in support of Soldier and Squad.
- Equipment Modernization for the development of spacecraft and land based instrument systems that provide revolutionary new capabilities for DOD's successes in International Arm race.
- Readily achievable, without resorting to costly and long term chase of new discoveries in electro optic or other devices.
- Higher resolutions for detection and identifications

✓ Capturing of more targets in a single frame of video and differentiation of a target from a high level of noise, (avoiding false alarms).

✓ For the same system of camera, this technology offers the ability of the aerial vehicle, to fly in a much higher ranges to cover bigger number of target.

- Higher speeds of processing to allow receiving, and processing video data from many different sensors (multiplexing) for shortest possible time.

✓ Real-time interpretation of images in terrestrial, aquatic or atmospheric environments.

- Lower costs for deployment of smaller satellites.

✓ Significant reduction in the size and weight of a payload.

✓ Significant reduction in the power consumption of a payload.

✓ Significant reduction in the number of data bits to be transmitted (or processed by an operator) for detection and tracking of targets.

Calibration

Another characteristic of the new technology is a method of calibration due to system imperfections and adverse atmospheric conditions that is far more effective than the present calibration technology.