

Vertically Integrated Applications

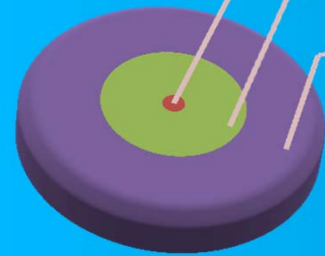
Horizontal Applications

- Firefighting
- Urban Planning/Smart Cities
- Border Control
- Farm Management
- Asset Tracking

- Smart Cities
- Precision Ag

- Ubiquitous surveillance
- Global SCADA

Space-Based Platforms



- Advanced Sensors
- Network Infrastructure
- Engineering Issues
- Multi-spectral
- Ultra HD visual
- LiDAR
- Thermal
- LWIR
- GPS-RO

GOES-R database

- GPS-denial alternatives

Market Implications

- M2M communication
- "Coop-etition": BEAM forming
- "Network System" standards requirements: IPv6
- Blanket licensing of Ka terminal

- Heat Islands
- Ecological
- Ag
- DOD

UAV Platforms

The three largest markets for sensors for UAVs are expected to be; Visual Camera for viewing live footage, Electro-Optic/Infra-Red (EO/IR) for day and night surveillance and thermal imaging, and RADAR, usually two types; Synthetic Aperture Radar (SAR), for large area scans and/or motion/direction indication (MTI) RADAR.

- Ultra HD visual
- Multi-spectral
- Passive RF

- Autonomous Operation

- Gravity Sensors
- DARPA "REVEAL" non-line-of-site imaging

- Spectrum allocation
- MIMO standards
- Partnership formation
- FAA certification of technology
- ADS-B position notification

- Industrial
- Environmental
- Consumer
- Infrastructure
- Embedded

IoT

- Motion
- Visual
- Multi-spectral
- Sound
- Gas

- Gravity Sensors
- 3D Printed embedded
- GaN sensors(water)
- SyNAPSE enabled

- Microbial Gas Sensors
- Single photon detection

- Standards development coordination
- More Robust RTOS capabilities

Now

2-5 yrs.

5+ yrs.