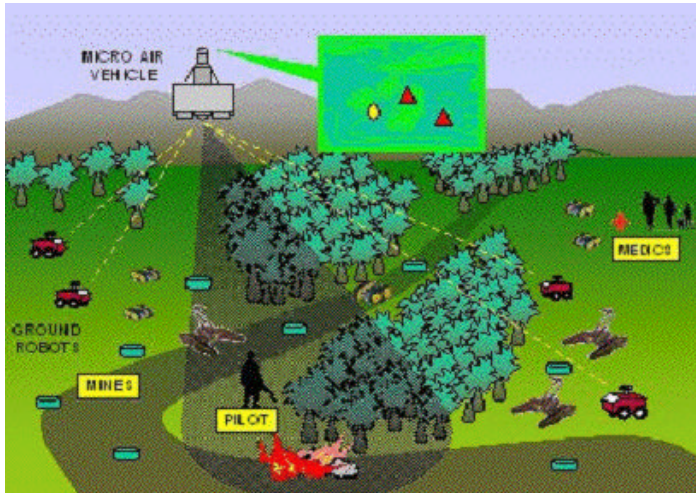




LEAP: Low Elevation Aerial Platform

Drexel Autonomous Systems Lab • Philadelphia PA, USA



Persistent RSTA Example: Search and Rescue

Situation Awareness Need

- Rapidly deployable
- Portability
- Easy-to-Fly
- Persistent Stare and RSTA
- Day and Night Operations
- Adverse weather, obscurants

Problems

- Crippled runways
- Satellite scheduling
- Training and skills

Approach

- Tethered Winged Aerostat
- Wireless 1-mile range video
- Pan-tilt-zoom camera



Prototype Generation 1



Ground Station View

Successes

- 1000-foot view
- Deploy 10-min
- 5-25 MPH wind
- Payload variety
- GPS overlay
- 3D Modeling
- Ad hoc network
- Web casting