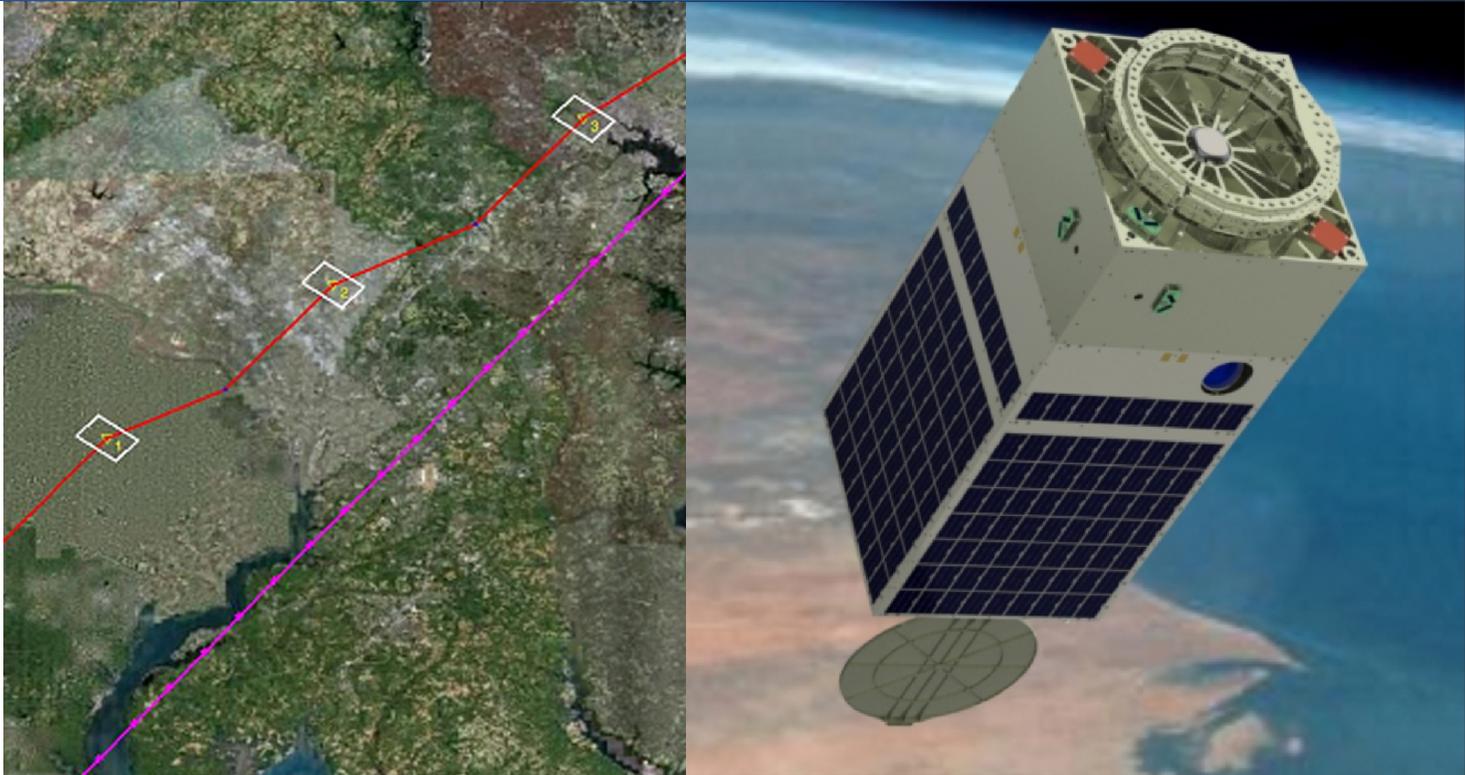




## Kestrel Eye

*Kestrel Eye Visible Imagery Microsatellite Technology Demonstration*



A small, low-cost, visible-imagery satellite providing images rapidly to the tactical-level ground Warfighter

The Technical Center is developing Kestrel Eye as an electro-optical microsatellite-class imagery satellite for tasking by the tactical ground component Warfighter. Capable of producing tactically useful imagery, Kestrel Eye's data can be downlinked directly to the same Warfighter via a data relay network that is also accessible by other Warfighters in theater without any continental United States relay. The intent of Kestrel Eye is to demonstrate a tactical space-based imagery microsatellite. A Kestrel Eye satellite constellation provides dramatically lower unit cost than typical space-based assets. With this low cost, large numbers of satellites can be procured enabling the system to be dedicated to the tactical Warfighter.

Key characteristics of Kestrel Eye include:

- Microsatellite technology demonstrator weighing about 50 kg
- Electro-optical imaging satellite with tactically useful resolution
- Low cost: <\$2M per spacecraft in production mode
- Operational life of greater than one year in low earth orbit
- Tactically responsive: ability to task and receive data from the satellite during the same pass overhead
- As revolutionary as moving from the "film bucket return" era to digital transmission: persistent availability down to the Soldier

# Kestrel Eye

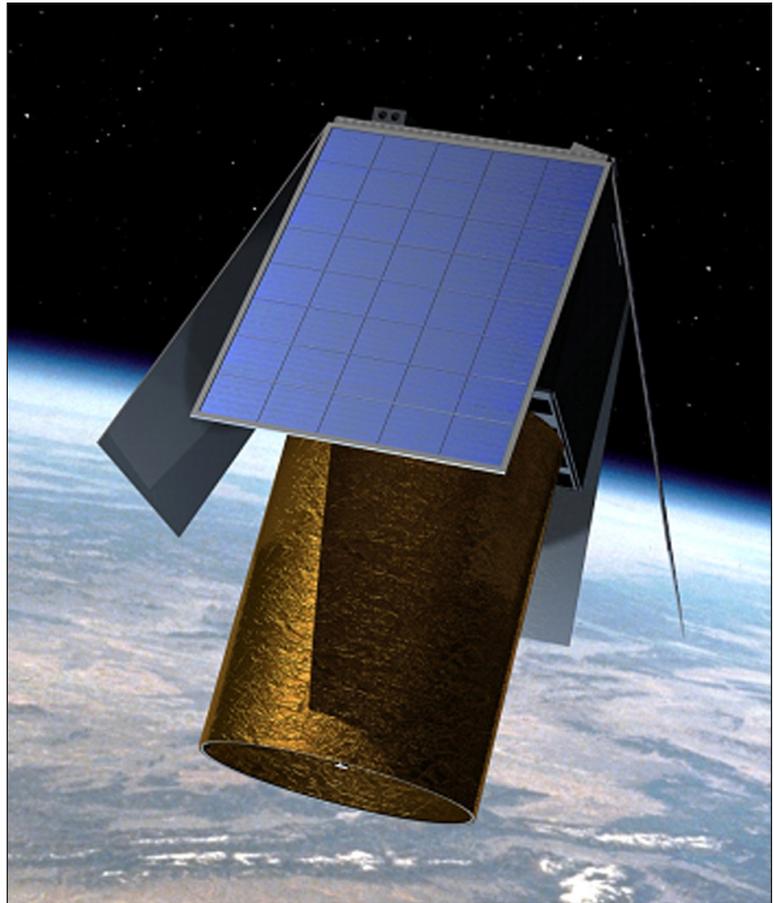
The Kestrel Eye program will extend the Unmanned Aerial Vehicle paradigm into space: a dramatically lower unit cost and proliferated numbers of satellites enabling the system to be dedicated to and operated by Warfighters who receive only parceled-out service today from more powerful, expensive and far less numerous assets.

Kestrel Eye advantages include:

- Smaller size and greater number than traditional satellites: affordable, persistent presence
- Graceful degradation: no single launch failure or satellite failure causes complete loss of service

In 2012, the Army, in conjunction with the Office of the Secretary of Defense Joint Capabilities Technology Demonstration or JCTD, program, initiated the Kestrel Eye JCTD as an electro-optical microsatellite-class imagery satellite to support the tactical Warfighter. As a JCTD, the Kestrel Eye program is teamed with Office of the Secretary of Defense, the combatant command sponsor – U.S. Pacific Command, and transition agent – the Army Program Executive Office Missiles and Space.

Currently, Kestrel Eye is scheduled to be launched to the International Space Station as a part of a cargo resupply mission in fiscal year 2017. After launch, the Kestrel Eye satellite will spend a period of time on the International Space Station awaiting Japanese Experiment Module airlock scheduling before deployment. Once on-orbit, the satellite will have the capabilities exercised in various scenarios such that the independent assessor can make a military utility evaluation. If Kestrel Eye demonstration is successful, then transition plans will be fully developed.



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