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## A new technology for monitoring global disasters

by [Global Aerospace Corporation](#) Contact: [Kerry T. Nock](#)

At the annual meeting of the Global Disaster Information Network in Rome, Italy last week, Global Aerospace Corporation introduced a new type of satellite that could provide communications and remote sensing data for disasters in remote areas of the world with no technological infrastructure.

The new satellites, Stratospheric Satellites, consist of NASA-developed "super-pressure balloons" that fly at 110,000 feet, combined with steering systems and a solar array used for power. They can carry payloads up to 2000 kg, roughly the size and weight of a small truck. According to Dr. Alexey Pankine, a CalTech Ph.D and Project Scientist at Global Aerospace, "The super-pressure balloon component of the Stratospheric Satellite was flown successfully in a short NASA test flight on June 6, 2000." Since then, super-pressure balloons have been developed for larger and longer flights – advanced designs are projected to have a flight life of 3-10 years. Global Aerospace developed a trajectory control and solar array system for the super-pressure balloon, allowing it to be steered over disaster areas and powered over the course of its long life.

At a current cost of \$1.75M per unit for development, and a projected life-cycle cost of \$500,000 or less per unit in production, Stratospheric Satellites are a low-cost alternative to remote communications platforms provided by aircraft and space-based satellites. Because Stratospheric Satellites fly much closer to Earth than space-based satellites, they provide 20 times higher resolution surface images of disasters and 160,000 times higher signal radar than space-based satellites.

In addition to monitoring global disasters, Global Aerospace is considering other uses for the new technology. According to Kerry Nock, President of Global Aerospace, "Because they are relatively inexpensive, can be steered, are independently powered, and can carry a large payload, they will probably be the most cost effective way of bridging the last mile in telecommunications coverage." A constellation of 400 Stratospheric Satellites covering most of the populated areas in the northern hemisphere is projected to cost less than \$100 million – less than the cost of a single space-based satellite including its launch. Operations costs are expected to be less than \$10 million per year.

Global Aerospace Corporation is a research and development corporation located in Altadena, California. The company was founded in 1997 by former engineers and scientists from the Jet Propulsion Laboratory. Clients include NASA Goddard Space Flight Center, the NASA Wallops Flight Facility, Jet Propulsion Laboratory, the NASA Institute for Advance Concepts, and Computer Science Corporation.

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If intelligent life is found in the universe, will it be a friend or a foe?

- Friend
- Foe
- Undecided
- None of the above

**dizzy:**

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