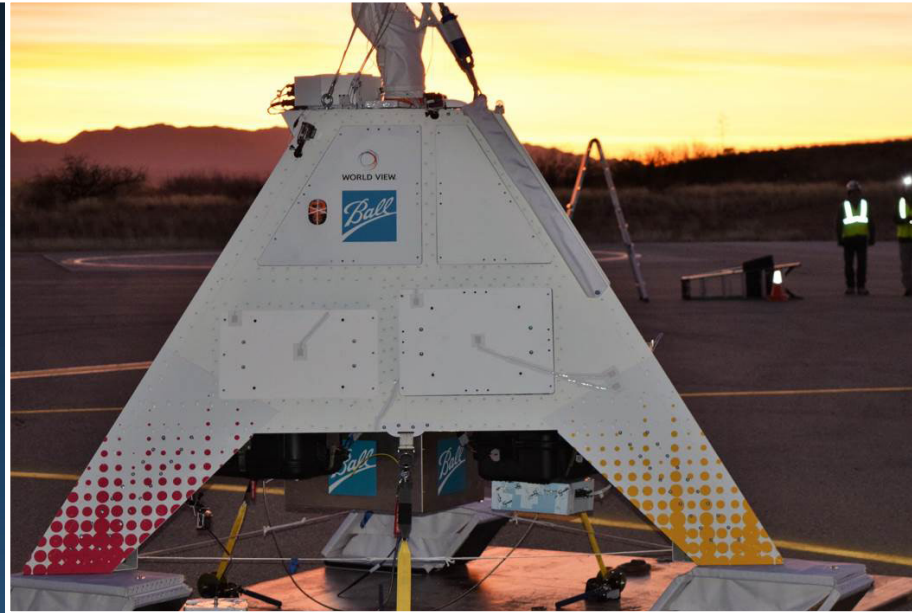


PERSISTENT IMAGING FROM THE STRATOSPHERE



© 2017 Ball Aerospace & Technologies Corp.
Captured onboard the World View Stratollite

GO BEYOND WITH BALL.®

Ball Aerospace is taking border monitoring to new heights with stratospheric persistent imaging, delivering high-resolution data on a more persistent basis and at a lower cost than conventional border monitoring technologies.

OVERVIEW

When you need persistence surveillance, Ball Aerospace is your eye in the sky. We deliver the on-demand coverage customers need to monitor and protect our borders, offering low-cost, persistent, high-resolution imagery and data from the stratosphere.

Offered as a commercial service, we fly multispectral sensors aboard commercial stratospheric balloons and exploit collected data using advanced machine learning algorithms running in the Amazon Web Services cloud - giving border agents the actionable information they need in near real-time to respond to threats and suspicious activity.

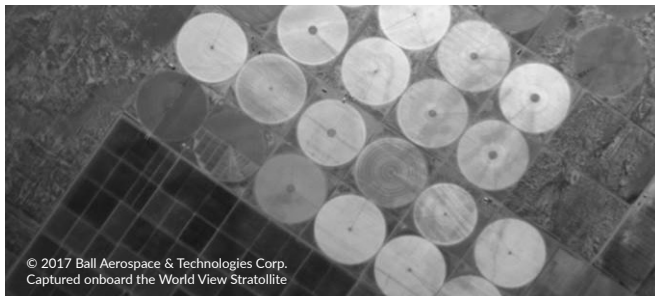
Unwarned. Unobservable. Untethered. Unconventional. Stratospheric balloons and sensors offer unique advantages over traditional border monitoring technologies, including increased persistence, higher resolution data and unobservable flight patterns - all at lower costs.

OUR ROLE

Ball is an industry leader in remote sensing technologies. We have more than 60 years of experience developing high-quality remote sensing instruments and sensors for a variety of platforms from air to space and more than 30 years of data analytics expertise. We are leveraging this heritage to actively develop and demonstrate applications for stratospheric persistent imaging.

In 2017, Ball successfully conducted two demonstrations of remote sensing and data analytics from the stratosphere, capturing gimballed high resolution imagery at less than 30 cm and wide field of view imagery at 1-5 meters.

Discover how Ball can provide you an information advantage with stratospheric persistent imaging.



5m panchromatic imagery - fields with healthy vegetation

ADVANTAGES

**UNWARNED. UNOBSERVABLE.
UNTETHERED. UNCONVENTIONAL.**

Stratospheric persistent imaging solutions provide unique advantages over current border monitoring technologies.

- **High resolution:** With <30 cm resolution, stratospheric persistent imaging provides higher-quality data/images than satellites
- **Low cost:** Stratospheric persistent imaging is more affordable than satellites and comparable to aircraft
- **Persistence:** Stratospheric platforms can hover over an area for weeks/months at a time, providing greater persistence than aircraft or satellites
- **Wide field of view:** Flying at higher altitudes than UAVs and aerostats, stratospheric platforms can cover a larger area of regard at one time, providing greater coverage
- **Unobservable:** Flying at altitudes of 50,000-100,000 feet, stratospheric balloons are unobservable, unlike current tactical aerostats, towers and low flying UAVs
- **Fuel independence:** Stratospheric balloons are powered by wind and solar power, which means they can stay in flight for longer periods of time, enabling greater persistence
- **Flexible sensor suite:** Offering a range of sensors (EO/IR, NIR, Radar, Lidar, MSI, HSI), Ball can easily and quickly customize the sensor suite to your mission

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