MEMORANDUM

Date: March 8, 2018

To: The Honorable Chairman and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

Re: **World View 2017 Annual Report**

Enclosed is World View's 2017 Annual Report.

World View continues to operate as a successful startup enterprise classified as a technology organization on the forefront of stratospheric space development. Their clients include defense agencies, universities and other research institutions. This client profile is typical of a startup in the new vertical envelope of space, the stratosphere. World View has successfully and continued to grow their employment at the Tucson Headquarters.

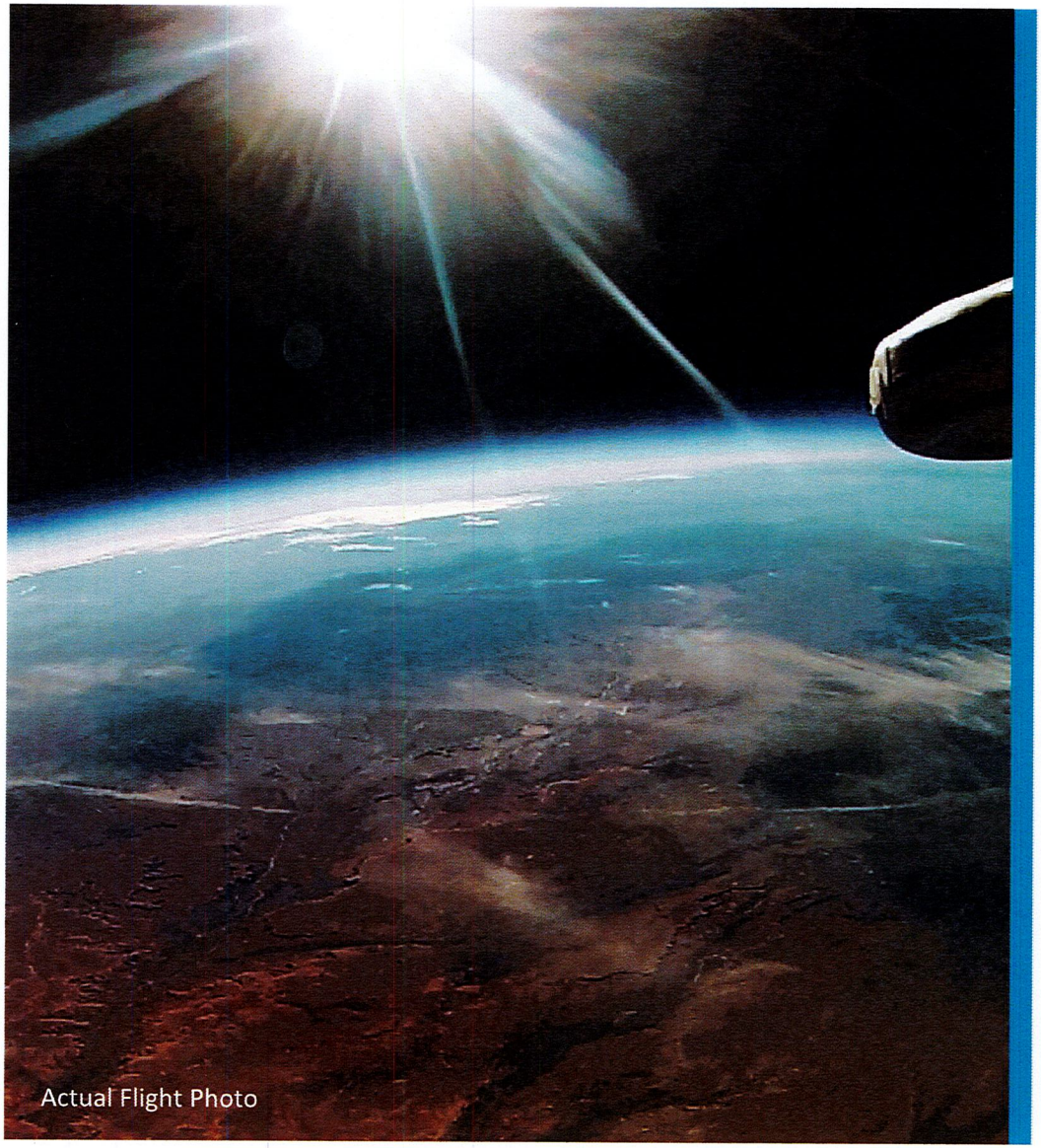
World View's greatest challenge is attracting qualified talent that fits their job profile requirements. While they have 72 employees, there are over 20 vacant positions for which they continue to try to recruit.

World View's anchoring the Aerospace Research Campus has been instrumental in attracting the attention of other space-related employers and industries such as Vector Space and others that continue to explore Tucson as headquarters for space-related entrepreneurial enterprises.

CHH/anc

Attachment

c: Maricela Solis de Kester, Director of Operations & Government Relations, World View Enterprises, Inc.
Dr. John Moffatt, Director, Economic Development Office



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Annual Report Summary for Pima County

FY 2017

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2017 – A Look Back

- World View is the global leader in stratospheric innovation and flight services, pioneering an entirely new economy in the stratosphere with the development and commercialization of its disruptive new un-crewed flight vehicle, the Stratollite. The space industry is among the most rapidly growing in the world. Bank of America Merrill Lynch estimated the global space market to reach nearly $3 trillion in just 30 years – that's more than triple the global market size of commercial aviation. Tucson, Arizona is quickly becoming a global economic hub and harbinger of this new industry, with companies like World View leading the charge. The Stratollite, the first ever navigable un-crewed stratospheric flight vehicle, is already making waves in the industry. In 2017 alone, the Stratollite was featured on the cover of the Aerospace America magazine, the top industry publication for spaceflight (see digital story here: https://aerospaceamerica.aiaa.org/features/satellite-envy/) and was hailed by Admiral Kurt Tidd, Commander of U.S. Southern Command, as a "game-changer" for the Dept. of Defense during his annual Keynote speech at GEOINT, the largest geospatial intelligence conference in the world (see video here: https://vimeo.com/243904835.)
- The amount of progress World View achieved in 2017 was truly remarkable, including bringing to market the Stratollite vehicle. With eight commercial missions in 2017, the company anticipates significantly more in 2018 for defense, civil and enterprise customers. and the Stratollite officially achieved one week of mission duration in the stratosphere in late 2017, a key milestone needed to address multi-billion dollar markets. In fact, Popular Science named the Stratollite one of its top 100 innovations of the year in 2017. In addition, World View is now operating a full-time, world-class stratospheric operations and manufacturing facility – the only fully integrated stratospheric technology facility in the world. The team launched Department of Defense and enterprise customer payloads three times from Spaceport Tucson in 2017.
- World View's Stratollite made headlines all year long, delivering over 4 billion global media impressions, making World View one of the most talked about Arizonan companies at the national and global levels, shining a spotlight on the city of Tucson in the process.
- World View also regularly contributed to the local Tucson community in 2017, generating over $2M in direct economic impact (including money spent on lodging, meals, transportation, etc.)

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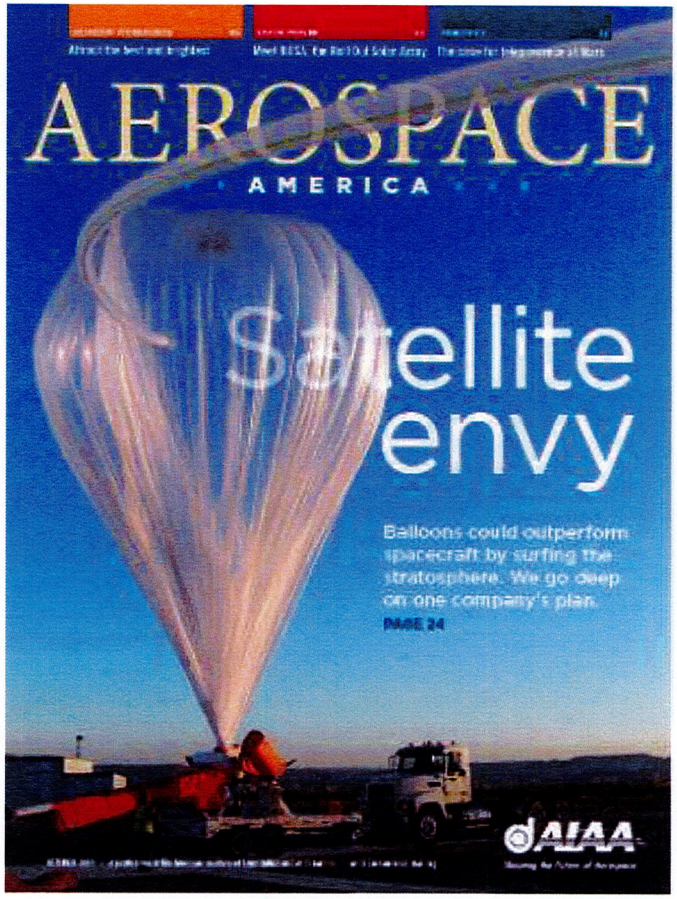
2017 Accomplishments Summary

- Cemented World View's position as the global commercial leader of stratospheric flight services.
- Conducted 9 commercial high-altitude balloon missions, including the inaugural launch from Spaceport Tucson.
- Key 2017 focus on "Stratollite" R&D – major progress made in this field (see next three slides).
- Featured on the cover of the #1 industry magazine as a major disruptive force and technology provider.
- Stratollite named a "Top 100 Innovation" of the year by Popular Science.
- Nearly doubled the size of the company in terms of full time staff.



WHAT IS A STRATOLLITE?

A Better, Lower Cost Satellite via High-Altitude Balloon:

- Persistence over specified areas
- Long Duration (days, weeks and months)
- Significant multiple payloads
- Retrievable and reusable
- Fully Navigable per customer requirements
- Watch the video HERE

HOW DOES THE STRATOLLITE COMPARE TO OTHER PLATFORMS?

Satellites

- **Long Duration**
- **Global Access** (Orbit Constrained)
- High Initial Cost, **Low Operating Costs**
- Expensive Persistence (LEO Constellation, GEO)

High Altitude Aircraft

- Short Duration **Persistence**
- Local Access, Lower Altitudes
- **Payload Recoverable, Reusable and Modifiable**
- High fuel & Maintenance Costs

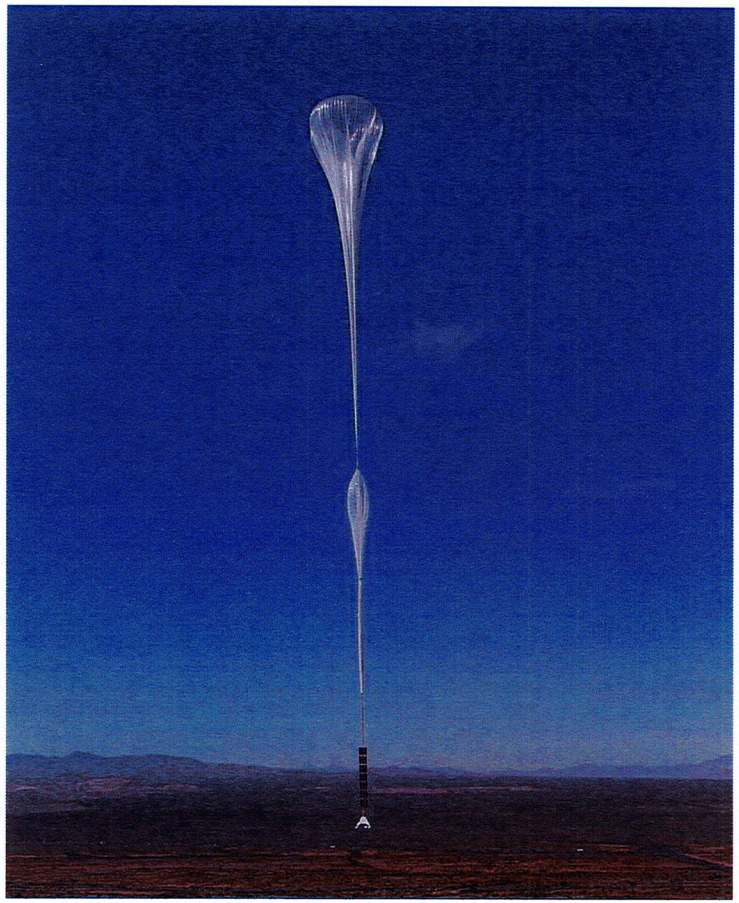
Stratollites

- **Long Duration Persistence**
- **Global Access**
- **Low Operating Costs**
- **Swift Payload Recovery, Reuse and Modification**

World View photo

2017 Stratollite Technical Progress – A Year of Major Firsts!

- 1st Ever Fully Integrated Stratollite Test in June 2017
  - 17 hour mission duration (new record!)
- 1st 24+ hour mission achieved by August 2017
  - Critical day/night technology demonstration was a success!
- 1st Spaceport Tucson (ST) launch in October 2017
  - 3 total launches from ST in 2017
- 1st week-long Stratollite mission in October 2017
  - Critical duration milestone needed for commercial applications!
  - Longer flight duration than any UAV in operation.
  - Demonstrated Stratollite navigation and station-keeping over specified areas
- 1st Commercial Remote Sensing Stratollite imagery collected in October 2017
- Intelligence, surveillance, and reconnaissance payloads demonstrated including RGB sensors, Near-IR sensors, and live-stream high-bandwidth broadband comms packages.

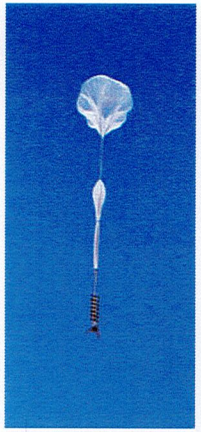


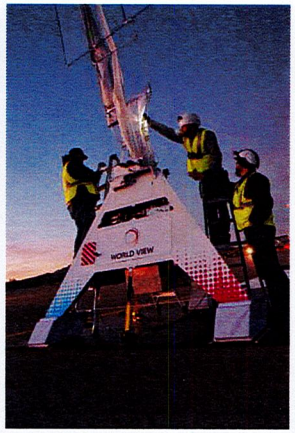
2017 Major Events

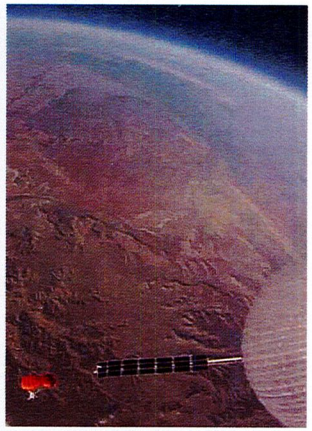
- World View co-founders Jane Poynter and Taber MacCallum invited to sit on Vice President Mike Pence's prestigious National Space Council.
- Hosted public Grand Opening of World View HQ, with participation from Sen. John McCain and the head of the FAA's commercial space office, Dr. George Nield.
- Annual Commercial Spaceflight Federation meeting held at WV HQ in 2017, with in-person participation from executive leadership from every major commercial spaceflight company in the world.
- Hosted former Mexican President Vicente Fox for an economic development meeting at WV HQ.
- Heavily participated in the recruitment of Vector Space to Tucson as its global HQ.
- Hosted Sun Corridor site selectors for annual Tucuson major facilities tour.
- Supported and hosted the Tucson Metro Chamber's annual holiday party at WV HQ.
- WV executive leaders gave multiple keynote speeches at industry conferences.
- Participated in a wide variety of local STEM-related student/educational community event and hosted multiple STEM-related tours at WV HQ for local student groups.

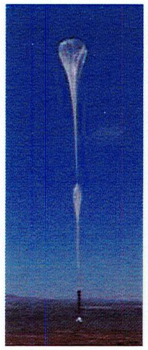
2017 Flight Manifest

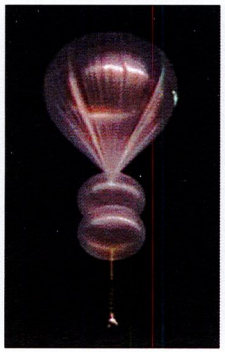
Flight #	Customer #1 Name (if non-confidential)	Customer #2 Name (if non-confidential)
1.	Enterprise	
2.	KFC	
3.	NASA	
4.	Department of Defense	NASA
5.	Department of Defense	Enterprise
6.	NASA	
7.	Department of Defense	
8.	Department of Defense	Enterprise
9.	Department of Defense	











2018 Flight Manifest & Customers

- Manifest details are confidential but World View plans to more than double its launch manifest in 2018. Customer contracts have already led to a full backlog of missions for 2018 and beyond!
  - Over 20 missions already planned for 2018! Launches will be conducted from both Spaceport Tucson and various other launch locations (per contractual obligations and mission requirements).
- Major customers include:
  - NASA, various Department of Defense agencies including U.S. Southern Command, the National Oceanographic & Atmospheric Association (NOAA), the Southwest Research Institute, Harvard, and various contractually confidential major commercial entities.

World View Team

Head Count	2017
FTE in Arizona	72
.5FTE in Arizona	1
FTE outside Pima county	4
Contractors	4
Total average wage of Arizona FTEs	$78,340
Total economic impact from salaries	$6,267,200

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