



# **DRONE AVIATION HOLDING CORP.**

**(OTCQB: DRNE)**

*TAMING ALTITUDE™*



# FORWARD-LOOKING STATEMENT

Certain information and statements in this presentation constitute forward-looking statements. Words such as forecast, project, intend, expect, should, would, could, may, will, anticipates, believes, plans and other similar expressions and all statements which are not historical facts are considered forward-looking statements or information. These statements are based on DRNE's current expectations, estimates, forecasts and projections about, among other things, the development and capabilities of its products, the operating environment, economies and markets in which the Company and its subsidiaries operate. These forward-looking statements involve and are subject to important known and unknown risks, uncertainties, assumptions and other factors that are difficult to predict, any of which could cause the Company to not achieve some or all of its goals or the Company's previously reported actual results and performance (finance or operating) to change or differ from future results, performance (financing and operating) or achievements, including those expressed or implied by such forward-looking statements.

For additional information with respect to risks and other factors which could occur, see the Company's Annual Report on Form 10-K, the Quarterly Reports on Form 10-Q and the other securities filings of the Company with the SEC. The Company assumes no, and hereby disclaims any, intention or obligation to update or revise any forward-looking statements contained in this presentation, whether as a result of new information, future events or otherwise.



# COMPANY OVERVIEW

- Drone Aviation is a leading developer of specialized, tethered aerial monitoring and communications platforms serving customers in the military and commercial markets with a full range of solutions
  - Led by a seasoned executive management team
  - Lead investor include Dr. Phil Frost, Chairman of the Strategic Advisory Board and Jay H. Nussbaum, Chairman and CEO
  - Expanded Board of Directors includes David V. Aguilar, former Commissioner of U.S. Customs and Border Protection and Lieutenant General, US Army (Retired), John E. Miller
- Unique product and technologies designed to provide cost-effective, persistent access to altitude
  - Tethered aerial platforms for tactical, mobile data collection, communications and intelligence, reconnaissance and surveillance (ISR) applications




# COMPANY SNAPSHOT

Drone Aviation Holding Corp.	OTCQB: DRNE
Fiscal Year End:	December, 31
Industry:	Aerospace / Defense Technology
Stock Price (1/22/18):	\$1.07
Shares Outstanding*:	9.2M
Market Capitalization:	\$9.8M
Inside Ownership:	47.6%
Analyst Coverage:	Dougherty & Co.
As of September 30, 2017	

- Drone Aviation is a developer of tethered aerial systems utilized by both government and commercial customers
- Drone Aviation is led by an experienced team of management and investors with a highly successful track record
- Positioned to capitalize on \$800+ million military and commercial drone market

# PRODUCT FAMILY OVERVIEW

*Drone Aviation is a premier provider of tethered aerostat and drone technology*

	WASP	WATT	BOLT
Description	 <ul style="list-style-type: none"> <li>Mobile / rapidly-configurable tactical aerostat</li> <li>ISR and wireless data / communications range extension supporting U.S. Army ground forces</li> <li>Supports electro-optical and infrared (EO / IR) imaging tactical surveillance sensors</li> <li>Long endurance, rapidly deployed, soldier operated aerial asset for military operations</li> </ul>	 <ul style="list-style-type: none"> <li>Multi-rotor Octo-X configuration uniquely designed for commercial / industrial &amp; military applications</li> <li>Power, data, telemetry transmitted via Kevlar® armored tether</li> <li>Simplified ground control station software, ground equipment and power source (can use vehicle-provided 120v / 220v)</li> <li>Ability to wirelessly share sensor data / real-time HD video to mobile devices such as tablets or laptop computers</li> </ul>	 <ul style="list-style-type: none"> <li>Coaxial helicopter with contra-rotating blade design with extremely quiet operation (&lt;20db)</li> <li>10+ hours flight time from ground power</li> <li>Setup to operation in 10 minutes</li> <li>65lb. gross lift (15lb. net lift with universal payload mount) at up to 800ft. operating altitude</li> <li>Follow vehicle flight mode</li> <li>Optimized flight control system with vision navigation</li> </ul>
Customer Challenge	Need to provide ground forces with a mobile, cost-effective, persistent in-the-field communications and ISR platform that can be operated by small (2 man) crews with light training	Need to provide cost-effective, secure and reliable aerial monitoring for extended durations (8+ hours) in an easy to transport and setup platform	Need to provide cost-effective, heavy-lift, higher altitude, long-duration (+8 hours) aerial monitoring with a wide array of payloads
Drone Aviation Solution	With its mobile, rapid deployment and modular payload capabilities, WASP provides comms range extension and ISR for long duration (days, weeks, months)	Unlike free-flying drones with limited flight time (avg. <20 min) and GoPro-type cameras, WATT supports mil-spec, high zoom / stabilized EO / IR sensors, stays aloft for long durations and securely shares data	Bolt's capabilities directly addresses customer requests for extended access to higher altitudes with heavier, more diverse payloads



# MANAGEMENT OVERVIEW

- **Jay H. Nussbaum, Chairman and CEO**

Over 40 years in sales and management, served as EVP of Oracle Service Industries and President of the Integrated Systems Operations at Xerox. Founded and served as Vice Chairman and COO at Agilex Technologies Inc., which was sold to Accenture Federal Services.

- **Kevin Hess, Board Member, Chief Technology Officer**

Co-founder and lead inventor and technology architect. Kevin has 20 years of technology experience comprising electronic systems design for DoD programs, image processing and analytics for companies such as Hughes Aircraft and Kodak.

- **Dan Erdberg, President**

Over 15 years experience in software development, telecommunications, wireless networking and unmanned systems. Leads corporate structuring, M&A, and supporting the financing of our lighter-than-air aerostat platforms and unmanned aerial systems programs.

- **Reggie Brown, Chief of Staff**

More than 35 years in high-level executive sales, marketing, management, information technology and business consulting across the public sector. Formerly served as vice president of U.S. solution sales for Oracle Corporation and Director of Federal Global Operations and Government Affairs, Integrated Systems, for Xerox Corporation as well as serving as Special Assistant to the Secretary of Defense when he was appointed to the prestigious President's Commission on Executive Exchange.

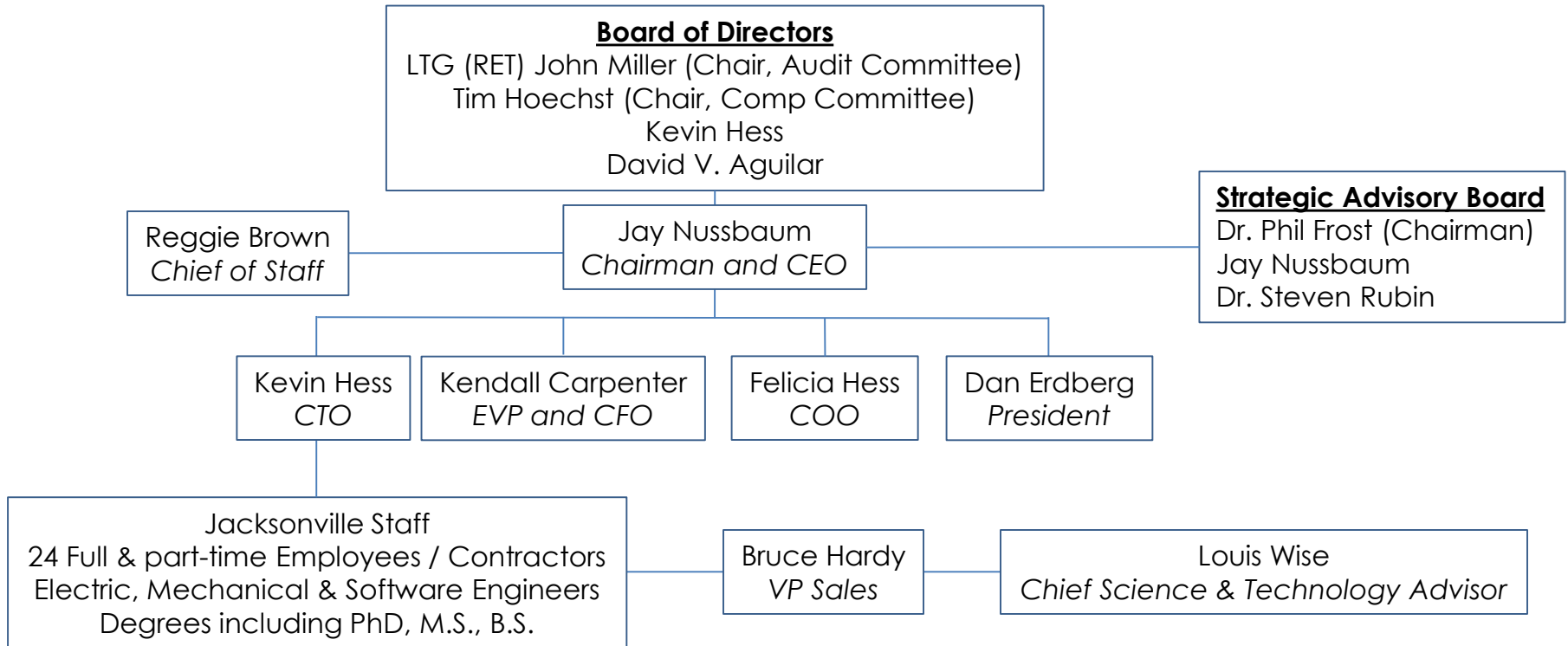
- **Louis F. Wise, Chief Science and Technology Advisor**

Nearly 40 Years of Military Intelligence, data collection and analysis and UAV technology development experience including a 36 year career as a senior intelligence officer at the CIA. Mr. Wise was a senior scientist for Raytheon's Blackbird Technologies, supporting the DoD and the intelligence community.

# ORGANIZATION

- **Drone Aviation is headquartered in Jacksonville, FL**

- Shareholder-led management team has constructed a mission-focused organization dedicated to serving its customers' requirements through multiple touch points and senior-level government and military relationships
- Multifaceted sales organization includes veteran government / military sales personnel and key channel partnerships with prominent sales, services and procurement organizations serving the DoD, including ADS, Inc., all facilitating new business development



# RECENT DEVELOPMENTS

## ■ Federal and Commercial Sales Momentum

- Drone Aviation Awarded \$800,000 Contract for Enhanced WASP Tactical Aerostat from U.S. Department of Defense
- Drone Aviation awarded \$125,000 advance sensor integration contract from DoD contractor for government-owned WASP systems
- Drone Aviation awarded \$194,000 contract from BAE Systems for WASP tactical aerostat upgrades
- Drone Aviation awarded \$780,000 DoD contract for WASP tactical aerostats
- Drone Aviation awarded aerostat and operator training package from the Environmental Protection Agency (EPA)

## ■ Corporate Momentum

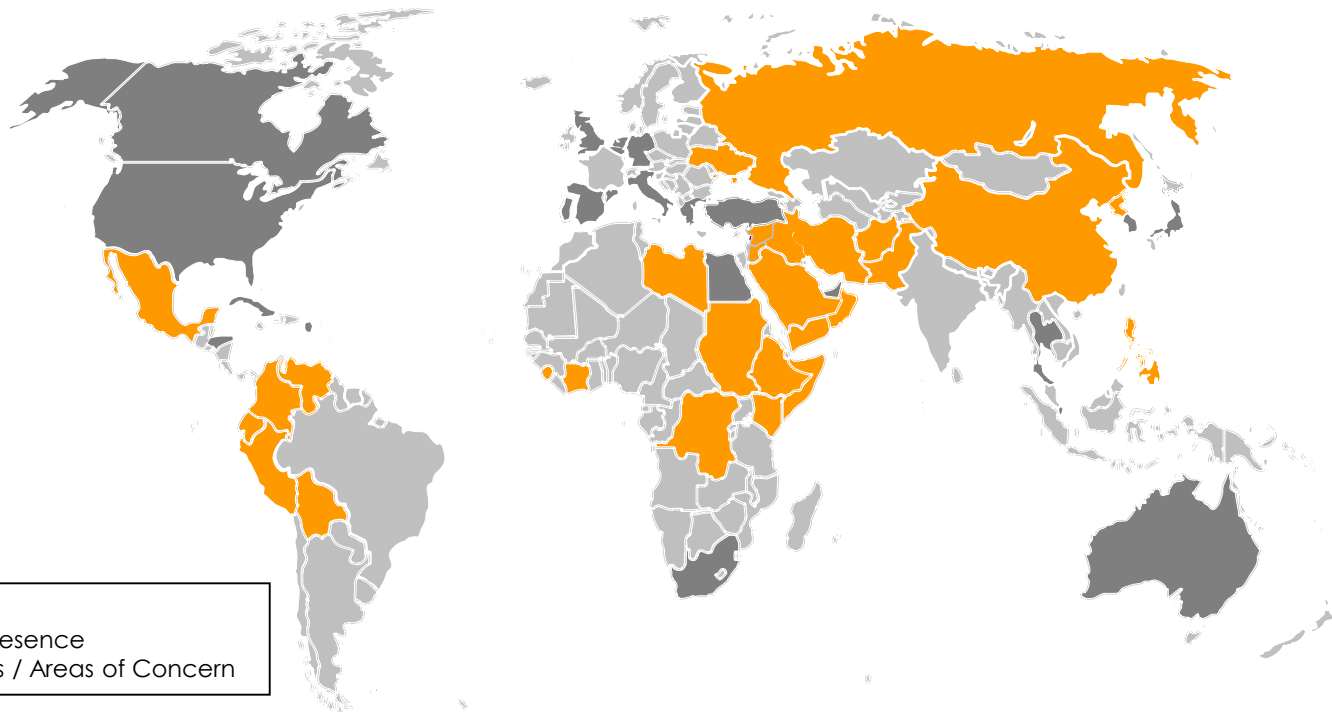
- Drone Aviation Appointments Lieutenant General, US Army (Retired), John E. Miller and Government IT Executive, Tim Hoechst, to Board of Directors
- Drone Aviation secures \$4 million in funding for increased sales and production capability as growing pipeline creates need for expansion capital
- David V. Aguilar, Former Deputy Commissioner of U.S. Customs and Border Protection named to Board of Directors
- Drone Aviation hires Bruce R.C. Hardy as New Vice President of Sales



# UNMANNED TECHNOLOGY ADDRESSING GLOBAL THREATS

## ■ Geopolitical instability-Far from Subsiding

- Instability and risks abound in the Middle East, Africa and Ukraine / Russia
  - Terrorist organizations, such as ISIS and al-Qaeda, continue to pose a threat to the U.S. and its allies
- China's continuing emergence as a major economic force has enabled the Country to invest heavily in the build-up of its military industrial base



# UNMANNED TECHNOLOGY ADDRESSING GLOBAL THREATS

- **How is unmanned technology addressing global threats?**
  - Defense / military
    - Persistent Intelligence, Surveillance and Reconnaissance (ISR)
    - Extending communications: At the tactical edge, on-the-move
    - Force / installation protection and security
    - Signals intelligence (SIGINT)
  - Homeland security
    - Border and port security
    - Critical infrastructure protection and monitoring
  - Disaster recovery
    - Law enforcement and first responder “Eye in the Sky”
    - Emergency communications (ad hoc cellular tower)
    - Situational awareness
    - Search and rescue

# WHY TETHERED TECHNOLOGY?

***Tether – a ‘smart leash’ that provides reliable, uninterrupted / un-hackable control, power and communications***

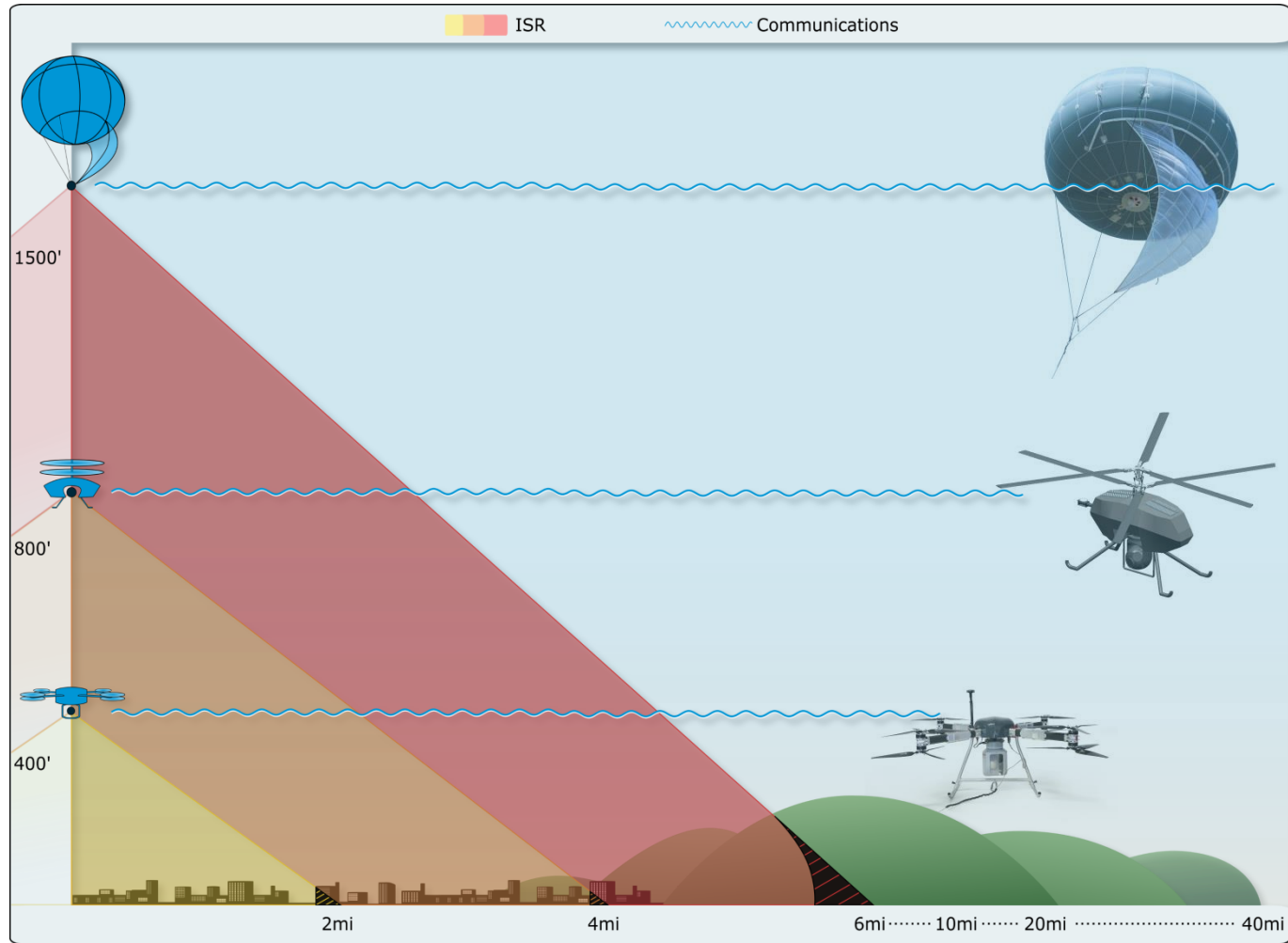
- **“Armored” / Kevlar© tether is a key differentiator and enabling technology**
  - Allows for long duration, reliable and safe unmanned flight (drone can't fly away)
  - Ensures enhanced control of unmanned aircraft due to prescribed tether length and un-hackable communications
  - DRNE's tether provides power, aircraft control and camera control over the same cable
  - Will perform 'follow-me mode' behind a vehicle and hover and relocate while in flight
- **Tether-based power delivery for electric drones provides multiple benefits for commercial operations**
  - Connects to ground-based power systems providing significantly extended flight duration (typically >8 hours)
  - Eliminating heavy batteries = increased lift capacity for payloads including advanced, stabilized HD / broadcast quality video
  - Simplified launch, flight and retrieval with advanced winch technology for both heavier-than-air and lighter-than-air platforms
  - Safety of tether system enhances FAA approval for special use cases

# TECHNOLOGY WITH BENEFITS AT ALL ALTITUDES

WASP

BOLT

WATT



# WASP SYSTEM DESCRIPTION



## Technical Description

- Envelope Diameter: 15-22 feet
- Lifting Gas: Helium (non-flammable)
- Payload Lift Capability: 20-130lbs.
- Flight Altitude: Up to 1,500 feet AGL
- Operational Cycle: Persistent (subject to weather)
- Rapid deflation device (RDD) for emergency recovery
- HMMWV / Truck deployed

## Operational Description

**Provides communications range extension beyond what normal tactical relay antennas can provide**

- Mobile / rapidly-configurable tethered aerostat
- Deploy, launch and operate in remote / austere locations
- 10X the height of the tallest U.S. Army tower system
- Supports a variety of payloads to include communications, ISR and SIGINT
- Days-duration flight time

## Current Status

- Successfully operated for thousands of hours at U.S. bases
- Working with DoD enhancing persistent ISR and communications capabilities
- Upgrades in progress to enable enhanced mission flexibility

# U.S. GOVERNMENT PUBLICATIONS

**WWW.ARMY.MIL**  
THE OFFICIAL HOMEPAGE OF THE UNITED STATES ARMY

**SMDC helps WASP fly**  
November 16, 2013  
By Jason B. Cutshaw, USASMDC/ARSTRAT Public Affairs  
G+ D f+ | Sign Up to see what your friends like.



**ARMY PUSHES TOWARD INCREASED INTEL OPERABILITY, DECREASED TECHNOLOGY LEARNING CURVE**  
By Kristian Kushiyama, CERDEC Public Affairs

**ABERDEEN PROVING GROUND, Md. (September 29, 2015)** - U.S. Army researchers joined other Defense Department agencies, Army contractors and coalition partners to further develop, integrate and test architectures and technologies for intelligence systems throughout July at Fort Huachuca, Arizona.

The Army Intelligence Center of Excellence, or ICoE, hosted its annual Enterprise Challenge, or EC-15, to address how Soldiers can collect intelligence information and get it to the tactical edge.

EC-15 satisfied enterprise objectives such as emerging sensors interoperability, enhancing international partners' interoperability, advancing DOD's cloud computing strategy, supporting the Defense Intelligence Information Enterprise, and conducting Distributed Common Ground System-Army, or DCGS-A, enterprise interoperability assessments.

The U.S. Army Communications-Electronics Research, Development and Engineering Center, or CERDEC, is the Army's lead for the research and development of intelligence systems.

CERDEC maintains close ties to the U.S. Army Training and Doctrine Command's centers of excellence—to include the Intelligence Center of Excellence and operational units to stay in touch with the evolving realities of the Soldier environment, anticipate challenges, refine requirements and inform operational tactics, techniques and procedures. Enterprise Challenge provides an operationally realistic environment for these capabilities to be assessed," said Gene Frantz, CERDEC Intelligence and Information Warfare Directorate liaison officer to ICoE.

CERDEC participates in events like the Enterprise Challenge as a way of helping to inform military requirements to include the need to move to smaller, multi-mission, multi-application enabled systems.

"Events like EC-15 allow us to develop, test and demonstrate systems that are intuitive for our younger Soldiers who grew up in the era of video games and smartphones," said Dr. Paul Zablocky, CERDEC I2WD director. "They expect that ease of use and systems that are capable of handling more than one application at a time."

Military, civilian and contract personnel recreated multiple scenarios that a Soldier might see in an area of operation, allowing Soldiers to test intelligence systems in a similar manner to how they could be used in the field.

"With these systems, we can train Soldiers as if they were at war, but there aren't any of the threats associated with war. Training the tactics, techniques and procedures greatly reduces their learning on the fly," said Tom Somers, I2WD TROJAN branch chief.

CERDEC I2WD oversaw a variety of intelligence technologies at EC-15 and brought their command and control trailer to Fort Huachuca to support the event.

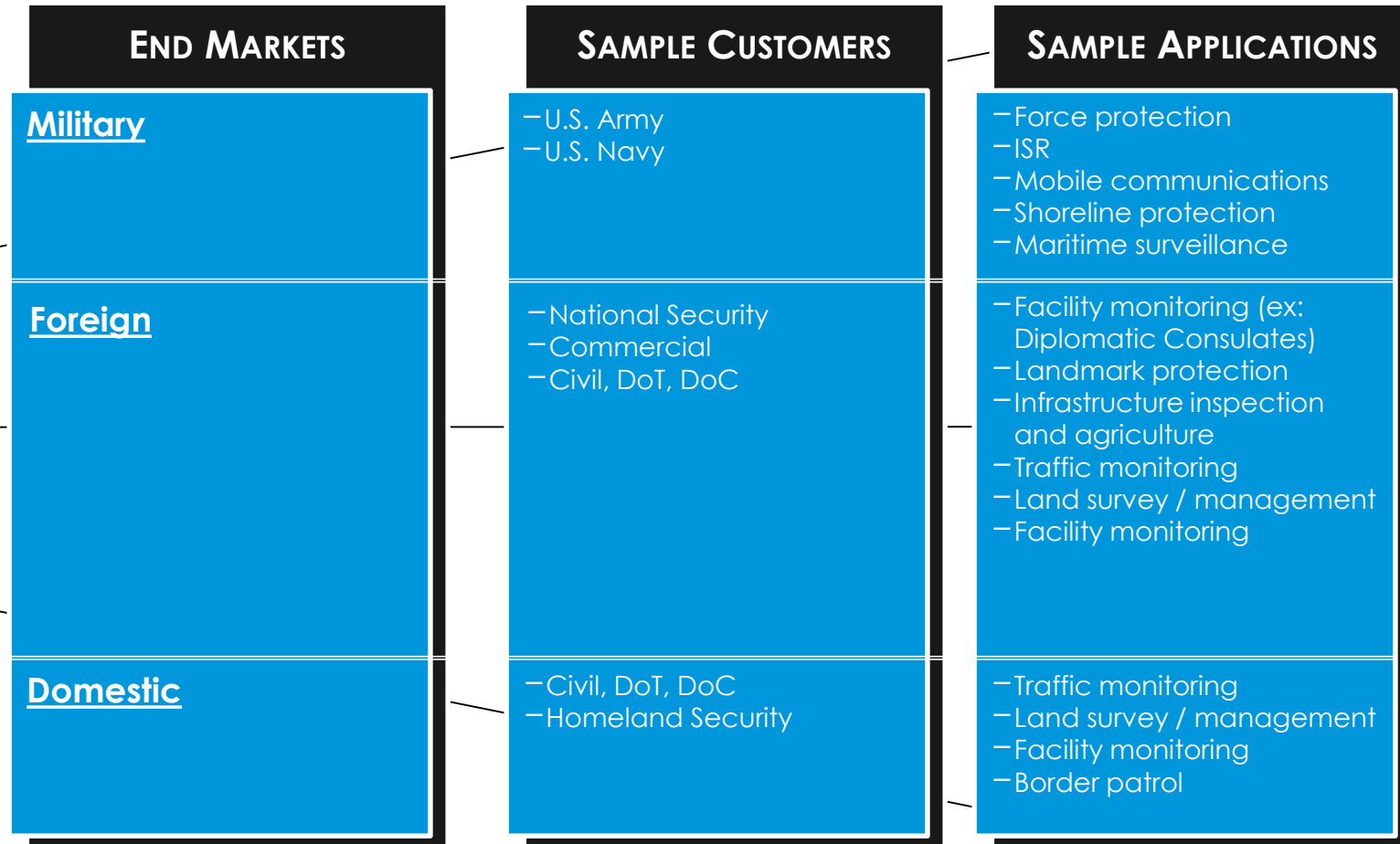
The G2 trailer allowed CERDEC I2WD to see essential data being transmitted throughout the exercises, allowing engineers to trouble shoot remotely if they saw problems such as a loss of radio frequency data.

"This trailer reduced the time it took to troubleshoot. It is more repeatable than a pot up in the field, holes with loose ground and..."

*"One scenario included Soldiers at a Forward Operating Base using the mobile, tactical-sized Winch Aerostat Small Platform, or WASP, and Full Motion Video, or FMV, to conduct video surveillance and provide reports to their teammates on patrol."*

*"We were trying to get different information to one location so the analysts have a better chance of being able to use it - making it actionable," said Sgt. 1st Class Ian Watterson, a Soldier with the 111th MI Brigade under 305th MI Battalion who was operating WASP and FMV from the scenario's Forward Operating Base.*

# TARGET MARKETS – WASP



# BOLT & WATT SYSTEM DESCRIPTIONS



## Why BOLT & WATT?

- Fly more safely and reliably than free-flight unmanned aircraft
- Carry heavier payloads for longer durations
- Transmit power, data and telemetry from the ground via the Kevlar® armored tether
- Launch from ground-based power for extended flight time
- Rely on redundant safety systems to fly incident-free
- Simplify flight control with one lightly-trained operator
- Enable tactical deployment and rapid response

***BOLT & WATT DELIVERS HIGHLY EFFECTIVE COVERAGE FROM LOW ALTITUDES,  
PROVIDING EXCELLENT SURVEILLANCE CAPABILITY OVER A WIDE AREA***

## Technical Specifications

- BOLT
  - Tethered coaxial helicopter with two contra-rotating blades
  - Heavy lift capability, 15lbs. to 800-1000ft. AGL
  - Aircraft: 29lbs. + 15lbs. payload
- WATT
  - Tethered multi-rotor with robust X8 rotor design
  - Aircraft: 22 lbs. + 5lbs. payload
  - Flight operations up to 300ft. AGL
  - Smart winch and ground systems shared with Bolt
  - Both share the same laptop-based GCS

## Features

- Both platforms provide very mobile and quick set-up ISR
- Power and IP communications up the tether allow for secure link and protected information transfer
- Ground system can be integrated into trailers or ATV for “following-me” mode allowing on the move surveillance
- WATT's redundant design allows for very reliable operations and quick in the field part change out
- BOLT's simple two rotor and unique coaxial design allows for reliable operations and heavy lift
- Up to eight hours of persistent coverage
- High payload power available for SIGINT and other power consuming payloads



# TETHERED DRONE TECHNOLOGY COMPARISON

Attribute	BOLT & WATT Tethered Drones	Typical Consumer Drone <sup>1</sup>
Continuous Operations (Flight Duration >8 Hrs.)	✓	✗
Broadcast Quality / HD Zoom Stabilized Imager	✓	✗
Securely Transmits HD Video in Real-Time	✓	✗
Un-hackable / Not susceptible to Interference	✓	✗
Redundant On-Board Power Systems	✓	✗
Enhanced safety of tether eliminates potential of "fly-away"	✓	✗

# TARGET MARKETS – BOLT & WATT

## END MARKETS

### Surveillance

### Broadcast

### First Responders

### Data Analytics

## SAMPLE CUSTOMERS

- Military (U.S. & Foreign)
- Border Patrol
- Commercial / Residential Property Owners

- News Networks
- 200+ Sports Stadiums / Venues
- Movie Studios

- 12,000 Police Departments<sup>1</sup>
- 30,000+ Fire Departments<sup>2</sup>
- FEMA

- Agricultural
- Infrastructure, Oil & Gas, Insurance
- Theme Parks
- Outdoor Events (Festivals, etc.)

## SAMPLE APPLICATIONS

- Enhanced field surveillance
- Early threat identification
- Commercial & residential security applications

- News event coverage
- Sporting events
- Music concerts
- Unique cinematography

- Riot control
- Crowd management
- Strategic coordination
- Fire fighting aerial view
- Disaster response management

- Crop monitoring & analytics
- Inspection & monitoring
- Crowd analytics
- Event coordination



# OTHER KEY PARTNERS & CUSTOMERS



# FAA REGULATIONS SUMMARY – NEW MARKET OPP.

## New FAA drone regulations expands use of commercial drones and the addressable market

- **Part 107 operational rules favor tethered technology as opposed to other unmanned aerial systems**
  - Small Unmanned Aircraft Systems (sUAS) must remain within the Visual Line-Of-Sight (VLOS) of the drone operator, under 400ft. and fly during daylight hours
  - Flight ban over persons not involved with operations in effect
  - sUAS can be operated from a moving land-based or water-borne vehicle so long as the drone is flown over sparsely populated areas
- **The FAA regulations have enabled new customers and markets for Drone Aviation**
  - State and local opportunities
  - Professional sport league security
  - Commercial facility and large venue Security

AS OF AUGUST 29, 2016, THE NEW FAA PART 107 SMALL UAS RULES PROVIDE EASIER ACCESS TO DRONE FLIGHTS FOR COMMERCIAL AND CIVIL OPERATION.



**STEP 1** **DRONE PILOT TRAINING CLASS**  
Staff members with a drivers license can take a Drone Pilot training class on Part 107. Classes are offered online and in person.  
[http://www.faa.gov/uas/getting\\_started/](http://www.faa.gov/uas/getting_started/)



**STEP 2** **PASS THE FAA TEST**  
Take the FAA test at a nearby testing center to acquire a Remote Pilot Airman Certificate. Then it's a short wait for a TSA background check.



**STEP 3** **REGISTER YOUR WATT WITH THE FAA**  
Go online to the FAA web site and register your drone. You can download and print an instant certificate of registration at <https://registermyuas.faa.gov/>  
Apply registration number to your WATT tethered drone.



**STEP 4** **PRACTICE**  
Practice with your drone in a clear location until you are comfortable with its operation. Observe the rules you learned in your FAA Part 107 training.



**STEP 5** **SAFELY LAUNCH & FLY WATT**  
Mark off a safety zone on the ground. Launch and fly WATT while safely and securely live streaming video to all necessary personnel from dawn until dusk.



# FAA REGULATIONS BENEFICIAL FOR TETHERED DRONES

- Ability to fly in urban environments
- Safely fly with non-participants outside of drone zone



## *Technologies that can power tomorrow's drones and autonomous vehicles with intelligent vision-based navigation without relying on GPS*

### ■ **Exclusive commercial license to Georgia Tech Technology**

- DARPA / ARMY / NASA funded programs
- GUST software (Georgia Tech UAV Simulation Tool)
- Neural networking technology
- Vision-aided navigation



### ■ **Additional internally developed IP**

- Tension control winch system
- Power distribution and management system
- Additional software and hardware systems
- Tethered drone patent(s) granted



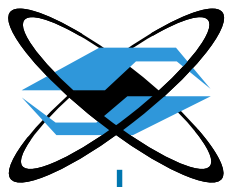
# INVESTMENT SUMMARY

## ■ **Pure-Play Drone Market Investment Opportunity**

- Completed recapitalization (2015) creates simplified, clean capital structure
- Investor-led management team focused on accelerating transition from development into commercialization
  - Expanded production capability
  - Expanded sales organization including Washington, D.C. presence
  - Expanded Board of Directors and Sales team
- Sales momentum building in Government sectors
  - 2016 sales surpassed \$1.4M vs. FY 2015 sales of \$450,000
  - Gen 2 products moving Company from development phase into a commercialization stage focused on aerial products designed for the military and civilian commercial markets

## ■ **Key Relationships to Drive Future Growth**

- CEO Jay Nussbaum developing a sales organization, new partnerships, and capital markets strategy
- David V. Aguilar, Former Deputy Commissioner of U.S. Customs and Border Protection appointed to Board of Directors



**DRONE**  
AVIATION CORP

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