UAS FLIGHT AND PAYLOAD CHALLENGE

TEAM LEADER

TOBY LANKFORD

OWNER OF RAPTOR.VISION, AERIAL VISTA, AND THE LANKFORD GROUP LLC

TECHNICAL LEAD

TOBY LANKFORD

806-517-8234

TOBY@THE.LANKFORD.GROUP

ADMINISTRATIVE LEAD

KAYLA FULLER

806-206-4326

KAYLA.FULLER03@GMAIL.COM

Introduction:

Today Raptor.Vision will introduce to you the Atlas HL. We will also discuss the ways in which the Atlas HL is a prime candidate for the UAS Flight and Payload Challenge.

What is Atlas HL?

1. 1.4 Meter, 2.5 Meter, and 3.2 Meter
2. 12 KG, 24 KG, 45 KG, 60 KG
3. Hybrid Power Systems
    A. >30minute Endurance Battery Instant Deployment
    B. >4 hour Fuel/Electric Hybrid Long Range Deployment

I. Why Atlas HL Utility Multirotor Transport?

1. Humanitarian missions
    A. Aid in Dangerous and Remote Areas
    B. Aid to Waterborne Refugees
    C. Long Distance Supply and First Aid
2. Lifeguard Beach and Lake
    A. Rapid Deployment
    B. 6-1 Rescue Ratio to Human Lifeguard
    C. Reduce Danger to Human Lifeguards
        a. Unpredictable Currents
        b. Uncooperative Victim
3. Man Overboard Rescue
    A. Offshore Rig
    B. Naval and Commercial Vessels
    C. Cruise Liners

D. Private Yachts

E. Additional Functions to Rescue

a. Ship to Ship Supply Delivery

b. Offshore Rig Mail and Medical Supply

c. Hull/Rig Inspection

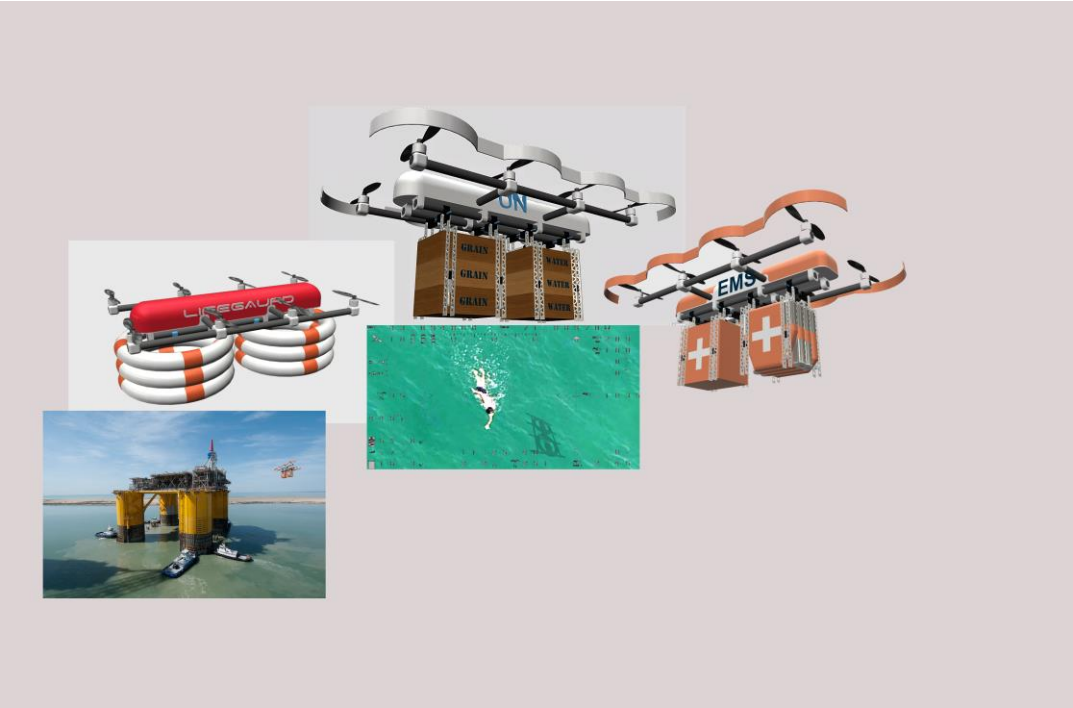
4. Long Range SAR/First Responder

ATLAS HL OVERVIEW

- 1.4 Meter
- 1.5 hour to 4 hour flight time
- Heavy Payload 12-20KG
- ADS-B Transciever
- 40 mile HD Video and Digital Control Link
- Advanced Ground Station Compatible
- Quick Mount Payload Rail System
- Embedded Advanced Robotics Computer

- Technical Data
- **Hardware**
- Fanelli Actuators
- T-Motor U-Series Motors
- Solo green cube
- SoloLink
- RasberryPi 3
- Custom 3D printed parts
- Carbon fiber tube
- Automated Charging Station
-
- **Power**
- Power System A Li-ion Batteries >30 minutes
- Power System B Li-Ion Batteries and Gasoline Motor with Custom Generator >4-6hours
- Power System C Li-ion Batteries and Hydrogen Fuel Cell >2-4hours

- Motor Bearings Changed Every 100 Hours Motors will last 2000 hour



Strategic Alignment and Technical Outcome

The Atlas is relatively inexpensive given its utility and structure. It uses readily available components and can be scaled rapidly for mass production. The product would lead to jobs for sales, training, manufacture, maintenance, and many other yet to have imagined aspects. The Atlas should be as ubiquitous for industry as it should be for humanitarian missions. Another aspect of our system that is both novel and economic is our cradle to cradle manufacturing and leasing philosophy. Our systems are only leased so that we can maintain tight controls on manufacture, production and maintenance. This ensures that the customer always has the latest technology, the best maintained and safest machines in the field at all times. All software updates are distributed automatically over the network from our systems and our machines are swapped regularly with clients ensuring strict maintenance schedules on power and avionics. This leads to less materials wasted and more upcycling of components for maximum production efficiency.

What distinguishes our solution are the commercial potentials of our platform. It can be used in terrestrial delivery and many military and industrial roles. With wider adoption of the platform the cost of each machine will be significantly reduced. The Atlas has the potential utility to be the truck of the multirotor world. This will make it even more available for humanitarian and social services.