**Tactical Short Ranged Drone System Overview**

Good \_\_\_\_\_\_\_\_\_\_\_\_ ladies and gentlemen, My name is Horace Cunningham and I am here to do a short presentation on my Jamaican based startup Ace Robotics and Avionics’ bid to provide the Unmanned Surveillance Platform required by the Ministry to fulfill its aim to find a low cost option to reduce the amount of illegal fishing and poaching in our national waters.  
  
We are a group of young Jamaican entrepreneurs, who owns and operates businesses ranging from mobile ecommerce and digital media to agriculture and food processing. I am one of the co-founders of Ace RA and I am a web developer and owner of Tickitme, a mobile e-ticket platform due to launch officially in the coming months, my fellow co-founder Patrick George could not make it due to exams, he is a student at the Caribbean Maritime Institute and a medium sized scotch bonnet pepper producer, other members of Ace RA are Andrew Henry, operator of Jam Indian Foods and Dwayne Williams who is an aircraft engineer who studied at [George T. Baker Aviation School](https://www.facebook.com/pages/George-T-Baker-Aviation-School/114449605238413?ref=br_rs) based in Miami Florida.

The Tactical Short Ranged Drone System is an Unmanned Aerial System(UAS) that has been proposed to the government by Ace Robotics and Avionics as a possible solution to the massive problem of piracy and illegal fishing in Jamaican waters by foreigners.

**What is the Tactical Short Ranged Drone System?** The Tactical Short Ranged Drone System(or TSRDS for short)is an indigenously developed and assembled Unmanned Aerial Surveillance Platform that combines some of the best components from drone manufacturers in the United States and Europe to provide a system tailor-made for the problems faced by Jamaica in it’s fight against illegal fishing and piracy in it’s waters. One of the components in the TSRDS is the Techpod flight vehicle which is a drone designed for long endurance flights in excess of 3 hours. The Techpod, designed and manufactured by US civilian drone maker Wayne Garris for his company HobbyUAV LLC, is being tested in Belize and Kenya for use against illegal fishermen and poachers, the vehicle is also being tested by the world renowned Massachusetts Institute of Technology(MIT), The Swiss Federal Institute of Technology and 18 other universities worldwide for use as a high endurance platform for the building of short ranged, long endurance surveillance drone systems. The vehicle is also being tested by a National Geographics team in the area of ocean conservation , the program runs under the banner of SoarOcean and is being leveraged as an option for poor coastal communities who seeks to protect their coastal wetlands and fishing reserves.

Our unique partnership with Wayne Garris will allow us to not only leverage the years of experience he has in the field, but also for us and the country on a whole to benefit from priceless direct technology injection and innovation coming from this venture.

The Techpod is only a small part of the platform however, the remaining components, all essential, are the best in the class of components available to civilian drone manufacturers globally.

The rest of the system includes a long ranged video receiver with a range of up to 14 km for live video, the Ground Navigation System which consists of a simple click to plan map interface to control the aircraft, and a radio with a range of over 50 km which allows a single aircraft to patrol a square of 100 sq km in under 3 hours.

The system is modular and will allow for quick upgrades whenever upgraded components become available, removing the need to purchase whole systems to upgrade single components.  
  
The system is not complex by any means, the Mission Planner which dictates to the drone where to fly, can be operated by anyone with a week’s training. The aircraft itself requires rudimentary training to operate and maintain, it only requires an individual with a Heart Level 3 training in electrical engineering and a few weeks of technical training in the parts of the aircraft, to maintain and operate the flight vehicle.

In effect, the Fisheries Department of the Ministry of Agriculture and Fisheries will be able to operate these systems effectively and with relatively little additionally training or instruction.  
  
Being a low cost indigenous platform, we will be able to carry out major repairs and replacements here in Jamaica, without the need to ship whole systems abroad to repair, we only need to import the parts which will take a couple weeks at most. The system is also very cheap and easy to run and maintain, for example one 3 hour flight uses as much power as two(2) 100 watt light bulbs for both the drone aircraft itself and the Ground Navigation System which controls the aircraft. Essentially you can patrol the most crucial areas of the Pedro Banks doing 3 missions with 3 drones for 3 days for as much as it would cost you to operate a relatively large refrigerator over the same period.

Maintaining a single system for one year, with no major accidents is expected to be just around 700 USD dollars, it is this low mainly because the cost to maintain is kept local as it would be done by a local company, leveraging our relatively low labor costs and injecting the money directly into our local workforce.

Keeping it local also has the added ability to benefit from massive technological innovations that may come through this newly created industry, with us looking to partner with tech savvy and innovative young Jamaicans who are looking to build on the platform.

This system will allow fishermen and the law enforcement officials in Jamaica to cooperate in a manner never before seen in the effort to stamp out the illegal act of the piracy and poaching of over 19 million US dollars of our resources annually.

I will make available booklets after this conference to those interested in going through the basic specifications of the system and to view images, we are also working on getting a non flying example of the techpod component of the platform in the coming weeks to allow the various departments and individuals with vested interest to view and comment.

I would like to thank the Fishermen Association and the Ministry of Agriculture and Fisheries for giving us the time out of such an important meeting to make our intent and our work known.