

# Graduate Spotlight Series – Rob Hannaford

an insight into a UVU graduate's journey in the drone industry



## 1. Which program did you study here at Unmanned Vehicle University?

- a. UAS Fundamentals course, sUAS design and operations, UAV pilot training, UAS Project Management Professional Certificate, Flight test engineering.

## 2. Are you working as a freelance operator, own your own company, or work full time for a company within the unmanned systems industry? Is your day-to-day work related to your studies at UVU?

- a. I was already planning on starting my drone company in South Africa and I took all of those programs in order to add credibility to my newly formed business.
- b. I needed to position my company as a thought leader to the CAA in South Africa.
- c. I was only planning on doing real estate photography and possibly some mapping work.
- d. However, UVU opened up my eyes to security and surveillance applications and really expanded my view of the industry and the capabilities of drones.

## 3. Could you provide an overview of the type of work you do? Are you a service provider, consultant, manufacturer etc.?

- a. My company is a flight service provider AND a manufacturer.
- b. These dual capabilities make my company unique in Africa.

## 4. What types of customer verticals do you, or your company, service?

- a. I Initially didn't know exactly what type of applications we would specialize in.
- b. Thought they would do video capture for news and real estate photography.
- c. We were then approached by a large wildlife reserve in South Africa to experiment with the use of drones in order to fight illegal poaching.
- d. First customer was Kruger national park- and the anti-poaching surveillance was so successful that we eventually grew to 3 teams.
- e. We then began to work with a large Steel company with massive steel yard which was 56 square kilometres and had a very high crime rate.
- f. We would utilize drones to assist teams on the ground in order to prevent theft.
- g. This was their first commercial customer for security and surveillance and it now accounts for around 80% of total revenue.
- h. We now fly these security and surveillance missions for railway lines, container depots, mining sites, and the South African police.
- i. Doing security for mines then led into engineering services like; 3D modelling, stockpile measurements, mapping, and radiometric thermography.
- j. Our business operations turned into nightly security service missions and daily engineering service missions.
- k. We also try to put money from our commercial operations back into our conservationist operations.

## 5. Please highlight the major challenges you faced while getting started working in this industry. These could be either individual or industry related challenges. How did you overcome these challenges?

- a. We initially Needed to go to the US to meet with regulatory bodies in order to try and import auto-pilot technology that didn't end up working.
- b. Geography, and regulations for importing, really brought about the need for us to design and manufacture our own equipment.
- c. CAA grounded us for 6 months due to new regulations after we had been operating for the national park.
- d. The CAA decided that our drone operators needed to get a PPL.

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## Side Summary Topics

### Student Name

Rob Hannaford

### Company name

UAV and Drone Solutions

### Program of Study at UVU

UAV Pilot Training Program, Professional Certificate in UAS Project Management, Flight Test Engineering

### Location

South Africa, Austin, Texas

### Verticals served

- Wildlife Conservation
- Industrial Security and Surveillance
- Engineering Services
- Mining, Mapping
- Custom Manufacturing

### Summary

Rob Hannaford was one of the original UVU students.

He has had one of the most unique and trailblazing careers in the commercial drone industry.

He got his start flying surveillance missions to stop Rhino poaching in South Africa.

He now owns a bustling business of almost 100 people flying missions for a wide variety of customers.

His story is fascinating and truly unique!



- e. There were also challenges from the CAA because we were crossing international borders with their flights, as the wildlife refuge crossed national borders.
- f. We needed funding for our conservation efforts as it was not a sustainable business model but a massive humanitarian effort. We needed to rely on donors. These humanitarian operations did not make us any money but it was a great marketing tool for the company and eventually led to Beyond Visual line of Sight waivers which led to all of our commercial work (only company in South Africa that is capable of doing this).

**6. Please provide an overview of specific successes you have had in this industry, please also highlight any interesting, exciting, or unique projects you have had an opportunity to work on.**

- a. Rail infrastructure that runs very close to the airport in Cape Town, had to fly within 2 kms from the airport in controlled airspace with massive airliners. To mitigate this they integrated a small ADS B into the aircraft so these airliners can recognize their UAS and fly the UAS mission as if they are an airliner themselves, CAA is very happy with their procedures but need to run ops very often because crime is so high.
- b. Human elephant conflict depending on a season and food sources Malawi, elephants wander out of park into human contact and elephants will destroy crops, livelihood, and even kill people and used rotor wing UAS in order to drive elephants to areas away from local villages – increasing safety for humans in the village and the elephants because human response is to kill elephants.

**7. What are your plans for your career moving forward in the unmanned systems industry? How do you see yourself adapting with the emergence of new technologies, regulations, etc.?**

- a. We are growing at a tremendous rate.
- b. We are now conducting underground missions for mining companies and are now developing collision resistant indoor flight drones and are currently beta testing that technology.
- c. We will build local products “African solution for African problem” much cheaper than importing and can build tech specific to our unique issues.
- d. We will be doing indoor inspections of silos and mining shafts.
- e. I have recently moved to the US in order to bring our tactical BVLOS operational experience to the US and to be ready for when those regulations change in the US.
- f. Overall, we are looking to grow in the US market.

**8. Upon reflecting on the aforementioned information, please provide a detailed overview of how Unmanned Vehicle University prepared you for a career in the unmanned systems industry.**

- a. Learning to fly drones and attending a hands-on flight training through UVU was paramount for success and for learning the discipline of developing as a drone pilot.
- b. Learning discipline in UAS operations- taking this from a toy in the park to a tool and to treat this like a commercial aircraft. This was instilled in the UAV pilot training program at UVU and we took that philosophy back to South Africa and created that framework within our company.
- c. Learning about the various industries and applications, along with flight test engineering and payload design directly influenced the development of our new platforms, sensors, and auto-pilots. I also use the flight test engineering principles I learned every time I go out and test new tech and new solutions for my business.
- d. Without training, competitors haven't even been able to get started – no importance on record keeping, maintenance, flight testing, documentation and the CAA shuts them down. This has led to a huge competitive advantage in South Africa.
- e. We treat our company like an airline – same audits and administrative burdens as a commercial airliner. We subject ourselves to a BARS reference audit which is an international standard, but not yet in place for drones, it is almost a level above the CAA audit. This is needed to operate on large mining sites.
- f. You can reference our company UAV and Drone Solutions by visiting our website today! [www.uavdronesolutions.com](http://www.uavdronesolutions.com)

