

Phone Interviews with Employers of UAS Workforce Summary Notes from Interviews

Summary of selected interviewees and notes

The team recommends immediately reaching out to the employers included in this summary report. All are interested in partnering with Richard Bland College and increasing their UAS workforce.

Timmons Group – Very interested in partnership with Richard Bland College and using them to train current and future workforce. Very interested in placing internships. Hires entry level positions and pilots.

Draper Aden Associates – Recommend connection with them for support, advisement, and hiring of graduates. A leading UAS operations organization, hires a workforce all over Virginia. Strong interest in education. Potential to develop a direct train to hire partnership.

Atlantic Drone Pros - Very strong experience in so many areas, sounded interested in support RBC program. Great connection to Civil Air Patrol.

Chesterfield Fire and EMS – Strong contact for potential real-world experiences and a training environment. Looking to hire.

Dominion Energy – Great potential placement organization for graduates. Very interested in internships and supporting education. Opened the door for using their de-energized transmission lines for training.

Other Conversations

Also talked with representatives from **ERUdyne** (<https://erudyne.com/>) and **Drone Up** (<https://www.droneup.com/>) on several occasions. Strong hiring of UAS operators and technicians. These are two of the four Virginia organizations awarded a national contract to provide UAS services. <https://www.globenewswire.com/news-release/2019/08/15/1902683/0/en/State-Agencies-Gain-Greater-Access-To-Unmanned-Aerial-Systems-UAS-Services.html>

These contracts are just beginning due to COVID-19, but are likely to create a need for more remote pilots. **Draper Aden**, a third organization awarded a contract was phone interviewed and is included below. Repeated attempts to the fourth contract winner, **SkyShots**, have not been responded too. Draper Aden and Drone Up have representatives on the GeoTED-UAS advisory committee. Through the UAS Workforce Survey component of this project, we have developed a growing database of employers from a variety of sectors who have, or will have, a UAS workforce. Suggest connecting with members of this database on a regular basis for marketing of programs and updated guidance and advice.

Full transcript of Interviews

Response by Draper Aden Associates via email and a follow-up phone call

May 2020

<https://daa.com/>

Do you use UAS in your business?

Yes, every day.

How?

Surveying, Mapping, Inspection, Engineering Analysis, Marketing photos and videos. We used them for every type of Civil engineering to include but not limited to, Environmental Engineering, Geotechnical Engineering, Geophysical Engineering, Land Surveying, and Structural Engineering. You can find our drones flying over airports conducting obstruction surveys for DOAV to mapping landfills for Volume Analysis.

What are the job titles of the employees typically conducting the operations, piloting, data analysis?

Project Technician, Project Engineer, Project Surveyor

Do you hire UAS-only specific positions where that is essentially all they do?

No. Weather alone prevents a person from being able to only be focused on UAS, however our real reason is you need domain expertise about the project.

Pay range for positions that use UAS?

DOE can be hourly employees to salaried positions. The Part 107 pilot/UAS is a skill that is added to an existing career so the salary is not based on the UAS skill but the domain expertise they are being hired for. It could be a \$30,000 - \$75,000 range depending on what the person does. For example, a licensed Professional Engineer that is a lead Project Engineer would obviously make more than a field survey crew member, however both may use the UAS skill in their respective work.

How many do you have now?

We have 12 FAA licensed pilots right now.

How many do you plan to add to workforce?

We will steadily add the Part 107 skill to our existing workforce vs adding workforce specific to UAS. It is likely we will grow our pilot pool to 18-20 in 2020.

What skills/tasks do they typically do?

At a high level our folks that are in the UAS pool coordinate operations, plan missions, fly the aircraft and post process the data from the drones. Most of our team are proficient in AutoCAD so they can draft plans from the drone data. We want the folks using the drone to fully understand the purpose for the data they are collecting and more importantly what product and decisions will be derived from it.

Would you look to a two-year college for future hires?

Always, workforce development is a critical aspect for our company. We actively participate with TCC on workforce development initiatives. David Barton, Director of Aerial Services for DAA participated on the recent TNCC/VT/GeoTED DACUM panel for UAS. This is not specific to UAS either, we find a significant workforce shortage in survey crew members as well as people with AutoCAD survey drafting skills.

Are you interested in working with a two-year college to help shape the pathway?
Always!

**UAS Workforce Survey
Interview Questions
June 11, 2020**

Representative
Chesterfield Fire and EMS

Do you use UAS in your business?

Yes. Multiple facets. Preplanning work for new construction. Updating maps. Roofs and layouts of plots document access points.

Incident responses of all kinds...water, fire, flying for a shooting chasing suspect
Sky is the limit

What are the job titles of the employees typically conducting the operations, piloting, data analysis?

All operators and pilots are fire fighters

Do you hire UAS-only specific positions where that is essentially all they do?

no

Pay range for positions that use UAS?

N/A

How many UAS operators/pilots do you plan to add to workforce?

Currently 4, hoping to add six
3 aircraft---mavic dual, DJI p4, Yuneec h520
Looking for grant to fund DJI matrice series
Cheap easy to fly

What skills/tasks do they typically do?

End to end....plan mission, We vet all events and missions as much as possible.
Mavic have thermal, mostly images and video
They do it all, 2 guys do mostly all image/video editing
Put logo on all stuff
All have part 107---one guy went through week-long training, 2 selfstudy, one guy is manned pilot.

Charles Werner his help is at state and federal level...watch this and watch that. Pushing the industry forward.

Would you look to a two-year college for future hires?

Yes, depending on the course.

Trying to get thermal and infrared class, looking for that for sure. Certificates for thermal desired.

Are you interested in working with a two-year college to help shape the pathway? These partnerships could include:

- **Hosting internships**
- **Student service learning projects**
- **Reviewing curriculum and advising**
- **Training educators**
- **Others**

Actually have fair amount of leeway to do fair amount of internships and student work. Can make that happen. Do internships in other parts of dept.

Call him anytime!

UAS Workforce Survey

Interview Questions

Dominion Energy Representative

May 19, 2020

Do you use UAS in your business?

How?

Operating drones in all lines of business, power generation, renewable solar sites. Electric transmission, gas operations---mostly inspections....also applications for security. Surveying construction site monitoring. 20 state footprint, operating UAS in 16 states, in all 20 end of year. Inspections primary.

What are the job titles of the employees typically conducting the operations, piloting, data analysis?

Technicians, engineers, field service tech, no full time pilots, operators/pilots is task of many, working on building fulltime fleet of pilots,

Do have gis dedicated folks for each business unit, been there since manned aviation to collect data

Do you hire UAS-only specific positions where that is essentially all they do?

Looking to build that up soon. No pure operators/pilots now.

Pay range for positions that use UAS?

All over the place since it's an additional skill right now

How many UAS operators/pilots do you plan to add to workforce?

End of year, 4-6, beyond that to 4 yrs 16-18

What skills/tasks do they typically do?

Plan mission, dispatch to need, fly mission, do post processing of data, visual observers

Would you look to a two-year college for future hires?

Absolutely

Are you interested in working with a two-year college to help shape the pathway? These partnerships could include

Yes, advise on curric. Content, pathways, Etc.

Is familiar with the new VCCS courses and pathways, likes what he has seen.

He added some important thoughts:

In a wired environment, req certain number of hours in that environment. Incorporate transmission lines de-energized lines in training.

Dominion could offer couple of dates for access to these lines for education/training purposes.

Third party trainer right now, Worked with flight safety international, future build out will include their own training.

<https://resources.flightsafety.com/business-commercial-unmanned-systems-training/unmanned-systems-training-fact-sheets/>

Internships, we do have them and always looking.

UAS Workforce Survey

Interview Questions

Drone Six Solutions Representative

Mostly in Richmond area, some Petersburg, Charlottesville, Urbana, Deltaville

<https://www.dronesixsolutions.com>

Do you use UAS in your business?

yes

How?

Small aerial photo business, didn't quit day job, small llc, enough to pay for drones

Day job aviation program manager at fort lee, dod

Helicopter pilot in army, drone business when faa went commercial with it

Since 2017, drone photography

Do work requests from websites, like uber for drones, dronebase, and others....help insurance companies, post jobs on web and he bids

Commercial real estate in ashland, big shopping center, last job

What are the job titles of the employees typically conducting the operations, piloting, data analysis?

One man shop

Not quite enough work yet to be full time yet, probably coming soon

Do you hire UAS-only specific positions where that is essentially all they do?

Not right now

What skills/tasks do they typically do?

Virginia is a drone friendly state

Mostly imagery, took semester at local JTCC in GIS and processing, land survey and GIS

Mapped Hollywood cemetery

Does drone mapping

Drone deploy is great and pix4d esri used

Dji released newest drone, with camera over 10k

P4 pro

Would you look to a two-year college for future hires?

Absolutely, once I start hiring

Are you interested in working with a two-year college to help shape the pathway? These partnerships could include

Adjunct faculty for defense acquisition program

Would be interested in helping schools

Post 911 gi bill....took a lot of photography courses, business courses, gis, surveying, keeps up with market and back-end solutions.

More software and tech companies getting into it.

Flight testing background

Aircraft accident investigator

Interested in adjunct

Contact him anytime, share his thoughts anytime.

Representative, Atlantic Drone Pros

May 27, 2020

<https://www.atlanticdronepros.com/>

Worked for general atomics, mq9 reaper pilot. Kuwait Iraq back since may. Small micro business certified. Listed on SAM. Cage code, duns

Chief pilot for Civil Air Patrol (CAP) midatlantic. Handling Uas operations for CAP. Training programs for them

Represented CAP on national NAACE conference

Get cadets more training and 107 to do live missions when sent out

All hexacopter video etc. want to teach them gis, use agisoft, get them into fixed wing

CAP can do bvlos for missions, instant waiver

Looking for shareholders stakeholders in company. Looking for IT people.

OR partnerships with Universities, but how.

Interested in interns

Met with Richard Bland—Tyler Hart, Keith sounds interested in helping with aviation.

Faa certified flight instructor, numerous certs

3k manned hours, 1k unmanned

Pushing to get American made drones to open up business. Back and forth with Yuneec usa, he's a value added seller of aircraft, h520. Can't buy with federal money. Gut it and put in us radios and controllers, stay with them, looks good. Optics and sensors are nice. Not ultra expensive. Consulting comp in NY do certification for him. Replace all foreign parts, get 65% US, will certify it. COTS waiver too possibly. May change to require 100% American. Costs about 8500 or so.

Va beach company does uas of all sizes. Can they hit low enough cost? Prob \$11,500. HUSH aerospace.

Charles werner-drone responders, been going back and forth. Every aircraft we sell donate 250 to dronerresponders. 60 day lag to pump one out.

Nasa Langley contact is bob mcswain in uas side

Joe Allman, UAV Pros.... mostly military, landlord for Textron and aerosonde, he could design and build it to a certain point. Wants to get it out at under 10k. hexacopter

Know people, know companies, needs right people

Licensing from nasa, tracking antenna concept. Retailers are expensive. Nasa developing one under 5k.

Develop a uas for public safety funded from CIT

Cap interested bec made in Va

Looking for univ to co-develop with, finish techn, integrate it with pix4d,

Intertwine with nasa technology, license it to manufacturers,

Geofencing capabilities impt

Autonomy side---part 135, years of background with 135 certified himself. Flying for Donald trump gamblers up to nyc, took pit crews to races. Etc.

Writing manuals to get companies through certification to get 135, soup to nuts for 135. We know it's coming.

No venture capital, year since last paycheck. Building partnerships. Research into satellite communications, found supplier but pricey.

Lots of companies being funded to build, but not much funding to software. Find right partners, Bud intro him to good programmers but don't know drone programming.

Px4 and ardupilot---flight controllers, autopilots----take nasa capability and sense and avoid.multiple processors in aircraft redundancy.

CAP guy is also Sprint guy and been talking. 5g on aircraft excited Sprint.

Monthly Lease aircraft to police/fire, largest aviation trainer in the nation agreement, get aircraft and training

Talking with ups hungry for pilots, need part 61 certificate + 107. Eventually loosen belt by faa? Are we lobbying? Scott Gore good resource to discuss benefits of 2yr v. 4 yr. maybe he can work internally to reduce 135 requirements...

Ups and others can help support equipment

He knows a lot of folks at Liberty Univ

UAS Workforce Survey

Interview Questions

Timmons Inc. Representative

Do you use UAS in your business, and if so.....How?

small fleet, construction imagery, aviary nests survey, structure inspection where it's hard to do in person. Surveys and photogramerty, business plan for lidar in the works. Hard to justify lidar expense during Covid. Requests from arch and construction for building scans.

What are the job titles of the employees typically conducting the operations, piloting, data analysis?

No full time positions yet. Most like him. Construction inspection.

Pix4d. survey group or

Surveyors or environ scientists. Add on skills

Do you hire UAS-only specific positions where that is essentially all they do?

If we get lidar section built up, we will need pilots most likely
Larger construction companies have their own pilots now.

What skills/tasks do they typically do?

Depends on mission. Mission planning and coordination, all done by RPIC. Data analysis done by someone else sometimes, but sometimes by the RPIC. Deliverables and reports generally done by RPIC. Aviary surveys includes biologist

Would you look to a two-year college for future hires?

Some internal training.

2 do the flying.

We'd look to them for training and for future hires, yes.

Photogrammetry and integration with GIS very important.

Operations training on safety and compliance

Meeting client demands

Are you interested in working with a two-year college to help shape the pathway? These partnerships could include:

- **Hosting internships**
- **Student service learning projects**
- **Reviewing curriculum and advising**
- **Training educators**
- **Others**

Insurance and safety out in the field are concerns.

Has had some high school interns, had limitations.

Real world is invaluable, he stressed this and wants to work with us. Practical field applications.

He's trained several people before and the manual is not enough. Monitoring weather airspace can't be simulated.

Send him csiip and geoted-uas links, interested in UG interns. Report and link survey