



March 16, 2021

House Appropriations Committee
Committee Chairman Jeff Delzer
2919 Fifth Street NW
Underwood, ND 58576-9603
jdelzer@nd.gov

House Appropriations - Education and Environment Division
Committee Chairman David Monson
P.O. Box 8
Osnabrock, ND 58269-0008
dmonson@nd.gov

From: Kenley Nebeker, Regional Director for Technical Programs and Training, Williston State College

Subject: Support for UAS training grant in SB 2018

To the Honorable Chairman Delzer, Chairman Monson, and Committee,

As the Director of TrainND Northwest it is my privilege to share our vision for our unmanned aircraft systems (UAS) program and express my support for appropriated funding through the Commerce Budget (SB 2018). While TrainND Northwest's UAS program is new and developing, we see great potential in the workforce training that we could potentially provide to the state.

To take full advantage of the impressive investment the state is making in the Vantis BVLOS (Beyond Visual Line of Site) network workforce training will be key. The applications of UAS for the industries of ND are near endless. The addition of the Vantis BVLOS network creates an opportunity for industry to gain efficiencies in multiple ways. To take advantage of this opportunity industry, communities, and the youth of North Dakota will need to be educated as to what those possibilities are and trained on how to safely and efficiently operate UAS. TrainND Northwest's vision is to provide this training and education to the people of North Dakota. A seamless workforce training program in UAS will allow the state to reap the full benefit of its investment in Vantis.

This grant would allow TrainND Northwest to develop and administer a rounded UAS training curriculum that meets the needs of LOS and BVLOS UAS operations as outlined below:

- UAS Careers exploration/community education
- Part 107 certification preparation (federal commercial license to operate an UAS)
- UAS Safety
- Hands on Flight training Crawl-Walk-Run approach
 - Simulation
 - Group 1 UAS (small)
 - Group 2 UAS (medium)
 - Medium Altitude Long Endurance (MALE) UAS
- Airframe and Powerplant (A&P) Mechanics
- BVLOS
 - Visual observer (visually observes flight of drone at checkpoints during mission)
 - Sensor operator (ensures BVLOS network is operating for UAS during mission)
 - Pilot & command (operators of UAS controls and legally responsible for operation of UAS)
 - Mission commander (oversees UAS mission and planning)
- Data Collection and Interpretation
- Industry specific use training
 - Oil and Gas
 - Agriculture
 - Utilities and Wind Energy
 - Public/emergency services

To make this vision a reality we are asking for a one-time appropriation of \$1 million requiring, and contingent on receiving, a 1:1 match (available from any-and-all sources including O & G, Ag, Utilities, city, county, and WSC). Appropriations will be leveraged to continue building a UAS training program that meets the stated vision utilizing the draft budget seen below:

- 40% UAS and sensors
- 20% UAS curriculum development/administration
- 10% UAS simulators
- 17% UAS operations equipment
- 7% UAS ground stations
- 6% in- and out-of-state marketing

TrainND Northwest is confident that this appropriated funding will allow us to develop a UAS training program that will provide the state with a well-trained UAS workforce that is ready to make use of the Vantis network allowing us to increase efficiencies and wealth for industry and the great citizens of North Dakota.

Please feel free to reach out to me at kenley.nebeker@willistonstate.edu with any questions.

Very respectfully,



Kenley Nebeker
Regional Director for Technical Programs and Training
Williston State College



TRAINND NORTHWEST

TrainND Northwest: Who Are We

The workforce training division of Williston State College, TrainND Northwest, serves business and industry needs in the northwestern region of North Dakota.

Since 1998, TrainND has offered customized short term and workforce training for business and industry in North Dakota, reflecting regional workforce needs, both current and emerging, to support the North Dakota Economy.



WILLISTON
STATE COLLEGE



TrainND Northwest

- TrainND Northwest Mission Statement:

TrainND Northwest is North Dakota's premier training facility delivering the highest quality of diverse safety, technical, and professional training for an evolving workforce.

- TrainND Northwest Vision Statement:

Our vision is to leverage our expertise to facilitate the expansion of knowledge, skills, and confidence to empower the achievement of personal and company objectives.

TrainND Northwest

TrainND Northwest Impact on North Dakota Workforce (2009 – 2019)

- Training Participants – **80,527**
 - Training Sessions – **10, 039**
 - Companies Served – **3,707**
 - Contact Training Hours – **1.14 Million**
- **21%** of ND University System Students (FY 20)





Bridging the Gap TrainND Northwest Vision for UAS Workforce Training in North Dakota

SkyScopes
Professional Pilots • Innovative Solutions

The Imminent UAS Workforce Shortage in ND

- ND has wisely invested in the Vantis network setting our great state up to lead the way in UAS application in the BVLOS world.
- This investment is undoubtedly going to create many jobs connected to UAS. Jobs that will require training.
- The state's investment in Vantis will not see its maximum ROI if there is no viable plan to train the workforce it will create.
- TrainND Northwest has prepared for this eventuality by establishing a LOS UAS curriculum and training program. Industry has made it clear that application will not gain momentum until BVLOS is made available to them.
- TrainND Northwest is positioned perfectly to train the future North Dakota UAS workforce.

Why TrainND Northwest?

- TrainND Northwest provides training in the region Vantis selected as it's **Key Site**
- TrainND Northwest is already the **preferred training provider** to O&G throughout ND
- TrainND Northwest has already **developed and established** a UAS curriculum and Flight Training Program (LOS)
- TrainND Northwest has **already established a presence** with outreach to HS students through a UAS career exploration course with NDCDE
- TrainND Northwest has established a **collaborative partnership** with the Northern Plains UAS Test Site and is a key partner in the Vantis test missions
- The statewide TrainND Network allows the workforce training to **grow with the network** as it expands
- Training proposed by TrainND Northwest is **unique** to any other being done in the state
- TrainND Northwest has designed this training **accessible and mobile** taking the training to wherever industry needs it!
- TrainND Northwest is **able and ready** to provide industry specific UAS training to the variety of industries in ND.
- **THIS IS WHAT WE DO!**



Collaboration / Involvement

- UAS Industry
 - Skyskopes, Inc.
 - Vantis/Northern Plains UAS Test Site
- Education
 - Williston State College
 - UND
 - Williston High School
 - Watford City High School
 - North Dakota Center for Distance Education
- Community
 - Williston Economic Development
 - Watford City Economic Development
 - Williams County
 - McKenzie County



The TrainND Northwest Vision for UAS Training

- Curriculum Outline (basic draft)
 - UAS Career Exploration and Community Education Course
 - Build pipeline of future UAS workforce
 - Educate concerned/interested community members
 - UAS Safety
 - Focus of TrainND Northwest and key focus of this program
 - Certificate required by all O & G and energy companies for UAS activity on site (GOAL)
 - Partnership with Unmanned Safety Institute
 - Insurance discounts for companies
 - Part 107 Certification Prep
 - Hands on Flight Training
 - Both LOS and BVLOS
 - Crawl-Walk-Run approach
 - Simulation
 - Small UAS
 - Medium UAS
 - MALE

TrainND Northwest Vision for UAS Training Cont.

- BVLOS Training
 - Pilot and Command
 - Visual Observer
 - Sensor Operator
 - Mission Commander/Flight plan
 - Data collection
 - Data interpretation
- A&P Mechanic Training
- Industry Specific Use Case Training
 - Oil and Gas
 - Ag
 - Renewable Energy/Utilities
 - Health/Public/Emergency services
 - Construction
- Possibilities are endless



Proposed Amendment and General Budget

- Original Amendment to SB 2018
 - \$2 million from state appropriation
 - Requires a 1-1 match
 - 1 time ask
 - With the match totals \$4 million
- Updated Amendment to SB 2018
 - \$1 million from state appropriation
 - Requires a 1-1 match
 - Available to all TrainND regions
 - With the match totals \$2 million
- Draft Budget
 - 40% UAS/payloads/sensors
 - 20% UAS curriculum development/administration
 - 10% UAS simulators
 - 17% UAS operations equipment
 - 7% UAS ground stations
 - 6% in and out-of-state marketing

Projected Impact on the ND UAS Workforce

We are currently planning our budget for this program based on the idea that the core curriculum for BVLOS will take students 3 weeks to complete. Much of this curriculum will be available via distance learning models both asynchronous and opportunities for synchronous “check-ins” with certified instructors. Once the “theory” portion of the curriculum is completed students will work in cohorts of 5 students/instructor to complete hands-on flight instruction that builds from simulation to in flight training and industry specific uses.

Under this model using the current instructors available and the budgeted for UAS and related equipment, we would conservatively be able to train 10 students every 2 weeks. We feel confident in our ability to scale this number up or down as needed. This equates to the ability to train a conservative total of 250 students each year. Currently, industry estimates a required 3-4 people trained (not all pilot) per UAS on the Vantis Network. It is plain to see that there will be a need for workforce training as the Vantis network matures and gains momentum with industry.

Early projections are that we will be able to provide this training at an affordable rate of \$5-6 thousand dollars/student.





We are excited and prepared to be a key part of the FUTURE for UAS in ND!

North Dakota will need UAS centered workforce training in order to take full advantage of the investment it is making in Vantis. TrainND Northwest is ready and waiting to provide this key training to the state and beyond!

Questions Welcome

Kenley Nebeker, Regional Director for Technical Programs and Training

kenley.nebeker@willistonstate.edu |
701.713.3780