Preparing for Unmanned Aircraft Systems (UAS) in Minnesota

“Welcome” and “Why UAS?”

Al Palmer
April 30, 2014
The New Kitty Hawk
Revolutionary change is dramatic and immediate
Revolutionary Change

Jeff Bezos. CEO Amazon
Drone technology developed for military and intelligence purposes is making its way into the civilian market with the potential for creating thousands of jobs and boosting the economy, according to USA Today.

The buzz about drones — or unmanned aerial vehicles — has gotten even louder since Jeff Bezos told 60 Minutes on Sunday that in the near future his Amazon.com would be using drones to deliver packages.

Proponents of the fledgling drone industry say that within a few years drones could pump $13 billion into the economy — and that the sky is the limit. They forecast more than 70,000 new jobs, over 30,000 in manufacturing, just over the horizon.
Manie Kohn, 43, founder and CEO of Don't Tell Me Show Me, with his RC Quadcopter at a home in Hillsborough, Calif. (Photo: Martin E. Klimek for USA TODAY)
The drone economy is booming abroad and an underground version is growing fast in the U.S. The FAA plans to draw up regulations by 2015, but that's not quick enough, according to drone entrepreneurs.

Established drone industry could boost economy by $14B or so in first three years, group estimates

One hitch: FAA has yet to draft regulations

'I walk down the street and see drone dollars everywhere'
UAS Technology is Here to Stay

- Immerging technology
- Economic Growth and Development
- Leadership Role
- Jobs!

- Integration into the NAS
- Lack of Regulations and Standards
- Lack of Training Standards
- Lack of Certification Standards

Opportunities  Challenges
Drones Can Be Your Friend

- Precision Agriculture
- Sports Photography
- Wildlife Research
- Disaster Relief
- Energy Industry
- Package Delivery

- Real Estate Sales
- Highway Monitoring
- Atmospheric Research
- Environmental Compliance
- Forestry Service
Precision Agriculture

Lake Region State College

- Training Next-gen Producers
- Industry Impact
- Timeline for Integration
Vision

To establish a world renowned Center for Unmanned Aircraft Systems Research, Education, and Training.

Mission

Working together, we will be leaders in creating, preserving, and delivering the highest quality education, research, and services in aerospace and related sciences for our university, our state, and the worldwide aerospace community.

UND UAS Center of Excellence
VISION:
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Innovation + Integration = Opportunity
Research Partners

NASA
UND
North Dakota State University
MITRE
AFRL
Air Force Research Laboratory
Rockwell Collins
L3
BSA, Major in UAS

- Officially Offered as a Major in the 2009 Fall Semester
UND/L3 com UAS Training Center
Grand Forks AFB
Complementary Family of UAS Simulators
Team Members

- UND
- NDSU
- NDAC
- OTAG
MISSION:
Collaborate with FAA and industry partners to develop equipment, systems, rules, and procedures to safely integrate unmanned aircraft into the NAS without negatively impacting existing general or commercial aviation.
Governor/CODEL Approved Organization

Northern Plains Unmanned Systems Authority

- University of North Dakota Aerospace*
- ND Aeronautics Commission*
- ND Department of Commerce
- ND Aviation Council (General Aviation)
- State Office of the Adjutant General
- North Dakota State University

* Executive Board

Director, NP UASTS

Safety - UND

Operations Division
UND Sub-Contract

Airspace Management Division
UND Sub-Contract

Research, Engineering & Technology Division
UND/NDSU Sub-Contract

Validation & Certification Division
UND Sub-Contract

Business Finance Division
ND DoC

Funding:
- $1 M to hire a TS Director and begin standup process
- $4 M ($2 M/year) to operate TS
National Test Site Opportunities

- Provide a Large, Safe, All-Weather Flight Airspace Site
- Provide Test Airspace for Technologies and UAV Platforms Needed to Safely Integrate UASs into the National Airspace System
- Attract the Major Aircraft Manufacturers to North Dakota
- Capture Additional Research Funding
- Develop Commercial Applications for UASs (Amazon.com – 60 Minutes)
- Develop National Standards for UAS Research, Education, Training and Operations
- Develop Security and Privacy Measures and Regulations
Nowhere but North Dakota

- Unlimited-uncontested Airspace
- Cold Weather Operations
- Low Population Density
- Northern Border Proximity
- FAA, NDAC and Local Communities
- Federal and State Legislative Support
- Existing UAS Missions: USAF, NDNG and CBP
- Two Major Research Universities (UND and NDSU)
- Two Premier Community Colleges (NCTC and LRSC)
- Large Collegiate Aviation Program
Clear Skies and Open Airspace
Thank you for your attention