A HYBRID PARTNERSHIP FOR COMPREHENSIVE AVIATION AND UNMANNED SYSTEMS LIFELONG EDUCATION IN SUPPORT OF GOVERNMENT, INDUSTRY AND ACADEMIA

Joel D. Anderson
Development Director, Office of Research and Sponsored Programs
Kansas State University

R. Kurt Barnhart, Ph.D., and Staff
Executive Director, Applied Aviation Research Center and
Aviation Department Head
Kansas State University Salina

Tom Aldag
Director, Research and Development
National Institute for Aviation Research
Wichita State University

Colonel Chris Stratmann
Chief Information Officer
JFHQ, Kansas National Guard

CW4 Samuel Kleinbeck
G3 UAS 150 U
Fort Riley, Kansas

July 2013

SUMMARY STATEMENT

The exponential growth associated with the emerging unmanned systems industry requires a holistic approach to lifelong training and education, critical in developing and sustaining a highly skilled and technical workforce across government, industry and academia.

Key Terminology- STEM, Learning, Accredited, Technical, Undergraduate, Graduate, Degree and Certification Training and Education, Pilot Program.

PROPOSAL

The intent of this abstract is to lay the foundation for a proposed pilot program between Kansas Academic Institutions and our military and government partners in residence within the state of Kansas. Potential benefactors from this hybrid and focused approach include entities under the purview of the Kansas Adjutant General: (Kansas National Guard {Army and Air}, Kansas Homeland Security, and Kansas Emergency Management), and active duty and civilian personnel at Ft. Leavenworth and Ft. Riley to name a few. In gaining lessons learned from the pilot program, additional opportunity and growth into a wider sector of government and industry can be phased in over time.

The DoD Unmanned Systems Integrated Roadmap FY2011-2036, the roadmap identifies that “…an overall DoD strategy is needed to ensure continuation and Joint training requirements are in place against which training capabilities can be assessed. Such a strategy will improve basing decisions, training standardization, and has the potential to promote common courses resulting in improved training effectiveness and efficiency…”

Government, industry and academia equally are realizing needs across a wide cross section of applications within the realm of unmanned systems for a technically skilled workforce. These needs range from the accession of entry level personnel, focused and progressive career level training and education, to sustained long term lifelong professional and personal learning. This sustained lifelong learning approach requires new, innovative and collaborative approaches to science, technology, engineering, and math (STEM) educational opportunities across government, industry and academia. Opportunities that will build on existing foundation and that ensure and support maintaining US technological competitive advantage.

Fiscal realities necessitate assessing more effective and efficient approaches to educating our workforce through a hybrid approach to lifelong learning. In developing an
executable and sustainable framework we must enhance our collective educational opportunities across technical, undergraduate, graduate levels and associated lifelong opportunities for targeted certification programs. Individually, we cannot sustain isolated and disjointed efforts to meet this critical need. Rather, we must identify responsive and economically sound approaches to enhance opportunities through implementation of a hybrid collaborative approach to lifelong learning.

From a STEM perspective, the influence of unmanned systems is becoming increasingly pervasive across the local, regional, state, national and international levels. Our educational institutions from k-12, technical colleges, community colleges, undergraduate and graduate level institutions provide critical focus and synergy in developing our future contributors across government, industry and academia. Equally, they can support and sustain the necessary collaboration of government and private sector approaches to lifelong learning. As we execute this hybrid approach, synergies and efficiencies will be gained in executing collaborative efforts that enhance the implementation of a sustained and transformational educational opportunity.

Our educational institutions at KSU, WSU, KU, and the National Center for Aviation Training (NCAT) provide focused and accredited training opportunities that can be leveraged for maintenance, engineering, technology and aviation related needs of the workforce. Opportunities for specialized training, certificates, and bachelor, masters or PhD degree programs are available within these institutions.

From a DoD perspective for example, it can take anywhere between 12-24-36 months to go through the standardized initial training, depending on individual service training programs. In looking at the unmanned systems degree program at Kansas State Salina for example, there is an opportunity to partner with entities like the FAA, DoD, DHS, USGS, NASA, and others who have a need for pilots or technically skilled contributors to work collaboratively. Industry has the same needs. In developing future contributors that support recruitment of a skilled workforce, we should maximize foundational throughput from our educational institutions at all levels to directly and indirectly support the entities that need these highly skilled and trained individuals. A resultant benefit for DoD, would be entry level personnel who enter the standardized training already credentialed (i.e. Pilots trained and degreed) which would reduce the cycle time in training from 12-24-36 months, theoretically to a matter of four to five months and at significant cost savings.

In addressing our nations “Grand Challenges”, developing and executing a hybrid partnership for comprehensive aviation and unmanned systems lifelong education supports the needs of government, industry and academia now and into the future. We are committed to effectively and efficiently supporting our national priorities, sustaining and enhancing a highly skilled and technical workforce, and maintain US competitive advantage.

REFERENCES

1 Unmanned Systems Integrated Roadmap FY 2011-2036