

Unmanned Aircraft Systems in Colorado

Opportunity: There is an immediate opportunity to grow Colorado's Unmanned Aircraft Systems (UAS) R&D, launch, and operations activity, and position the state at the forefront of the UAS industry.

Background: UAS is a rapidly growing sector of the aerospace industry with great opportunity, market demand and potentially high profitability. Although commonly associated with defense capabilities, commercial and civil markets are estimated to comprise approximately 90% of the known potential markets for UAS⁽¹⁾. Congress has mandated the FAA to establish a program to integrate UAS into the national airspace system (NAS). Colorado's unique geographic characteristics and central U.S. location are magnets for attracting national and international commercial UAS development.

Economic Impact: Industry studies show that in the first three years of NAS integration more than 70,000 UAS jobs will be created, with an economic impact of more than \$13.6 billion⁽²⁾. Globally, the UAS market is expected to double during the next decade, from \$5.2 to \$11.6 billion annually, totaling more than \$89 billion in the next ten years⁽³⁾. UAS is a high-paying industry: UAS pilots earn \$85-\$115,000, and UAS manufacturing jobs in the range of \$40,000.

An economic impact study conducted by the *Metro Denver EDC* estimates the establishment of a UAS Test Site in Colorado would generate \$355 million in total cumulative output between 2014 and 2019⁽⁴⁾. An AUVSI study forecasts the sales input of Colorado UAS manufacturing for agriculture use in 2015 to be: \$7.4 million in labor; \$11.1 million in parts; \$274,696 in taxes; and 185 new jobs⁽⁵⁾.

Why Colorado?: Colorado is already a leader in UAS research and development, including a wealth of academic expertise at CU Boulder, the University of Denver, CSU, and the US Air Force Academy. The Mesa County Sheriff's Office is a national leader in the use of UAS to support law enforcement activities, through innovative and cost-effective partnerships with the FAA and industry. The state supports a strong base of existing commercial and military UAS activity. Colorado's variety of air space, environmental conditions, meteorology and terrain, provides an ideal geographic location for federal, state, and private UAS research and operations. Colorado's Advanced Industries sector excels in key technologies required for the development and operation of UAS platforms – i.e. remote sensing, software development, component design, composite manufacturing, system integration – creating an exceptionally fertile environment for UAS growth and innovation.

The state is also ideally situated to benefit from civil and commercial UAS applications. UAS are at the cutting edge of wildfire fighting efforts, increasing wildfire detection, monitoring and suppression capabilities. Other high value UAS fields for Colorado include: precision agriculture (remote sensing & precision application); forest management (early pine beetle detection); monitoring utility lines; disaster management (recent flooding event); monitoring rock slides; road construction projects; and aerial mapping.

UAS Colorado: UAS Colorado is a non-profit 501(c)(6) Corporation promoting the Unmanned Aircraft Systems (UAS) industry in Colorado for the benefit of the public. "UAS Colorado" represents a state-wide Business League of more than 100 industry, research, and economic development stakeholders, dedicated to preserving Colorado's leading role in the UAS Aerospace Industry. UAS Colorado has been a primary advocate, attracting national and international companies and potential investors to conduct UAS operations in Colorado, providing a positive economic stimulus for Colorado.

UAS Certificates of Authorization: UAS Colorado is a strong proponent and advocate of developing COAs for government use in Colorado. Since 1999, organizations in Colorado have managed over 100 FAA approved COAs covering in excess of 36,000 square miles, the most of any state in the nation. Current focus of COA applications is the 6-County area of the San Luis Valley and Chaffee County

Next Steps/Priority Action Items: UAS Colorado is currently focused on the following: On February 15, 2015, two significant Federal actions were taken regarding UAS: The White House issued a Presidential Memorandum regarding the Domestic Use of Unmanned Aircraft Systems, and the FAA issued its proposed rules governing the use of commercial small unmanned aerial systems (UAS). In addition, the Colorado Legislature is considering two bills regarding UAS, introduced in January 2015: SB15-059 and HB15-115.

UAS Colorado is committed to promoting economic opportunities, while discouraging actions that may negatively impact the development of the UAS Industry in the State.

UAS Colorado Official Position on SB15-059 and HB15-115:

We as representatives of the UAS Industry in Colorado, in both public and private sectors, oppose the passage of proposed State Legislation Senate Bill SB15-059 regarding UAS at this time for the following reasons:

1. On February 15, 2015, the White House and the FAA issued guidance regarding domestic use of UAS. To avoid contradictory guidance and impact on Federal funding of existing UAS Programs in Colorado, we recommend tabling consideration of any UAS related state legislation until the Federal Guidance is thoroughly understood. State legislation at this time will result in the following:
 - a. Potentially conflicting guidance between Federal and State statutes
 - b. The introduction of legal turmoil at the state level in an emerging industry
 - c. Severely negative consequences for economic development in Colorado involving the UAS Industry, which is projected to have significant impact to national and global economies, developing economic opportunities test site efforts, and branding Colorado as open for UAS business; and engaging state and federal legislative support on initiatives to balance UAS-related privacy concerns with support for commercial market growth.
2. There is not an urgent or compelling need for legislation at this time. Regulatory rules on privacy and safety are covered in other existing state laws and statutes
3. Those few issues that are not covered in existing state legislation are best served by technology agnostic legislation. We do not agree that these issues are unique to UAS or a specific technology and we oppose legislation such as SB15-059 that is specific to UAS

Regarding proposed House Bill HB15-115, UAS Colorado does neither object to nor actively support this bill. The bill is addressing privacy concerns regarding emerging technologies and does not at this time negatively impact the UAS industry.

2015-02-27

UAS Colorado

References:

(1) AUVSI, The Association for Unmanned Vehicle Systems International (March 2013). *The Economic Impact of Unmanned Aircraft Systems Integration in the United State.*

(2) Ibid.

(3) The Teal Group (June 2013). *World Unmanned Aerial Vehicle Systems, Market Profile and Forecast 2013.*

(4) Economic Impact Statement, prepared by the Metro Denver Economic Development Corporation for Vol. VII of Colorado's UAS FAA Test Site SIR response, May 2013.

(5) AUVSI, The Association for Unmanned Vehicle Systems International (March 2013). *The Economic Impact of Unmanned Aircraft Systems Integration in the United States.*