WRITTEN STATEMENT FOR THE RECORD

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Introduction

Good morning, Chairs Strong and Guest, Ranking Members Kennedy and Correa, and members of the subcommittee. I am Mike Ledbetter, Chief Operating Officer for COLSA Corporation, a Huntsville, AL-based engineering services firm and drone manufacturer. On behalf of our sole proprietor and 30-year Army veteran, Mr. Frank Collazo, I am pleased to testify before your subcommittees today to discuss the importance of promoting innovation and security in the unmanned aircraft systems (UAS) industry. COLSA began designing, developing, and manufacturing small UAS in 2019 was awarded an Other Transaction Authority (OTA) through the Vertical Lift Consortium (VLC) of the Aviation & Missile Technology Consortium (AMTC). Since then, we have manufactured and delivered over 1400 UAS to the Army, developed software to swarm large numbers of UAS, and recently developed a line of commercially available UAS.

Lessons from Assessing the Threat

The concept for COLSA's original OTA was developed as lower cost systems with increasing capability began flooding the commercial market. At the same time, the threat from swarms of UAS was becoming better understood. Some of these risks include:

- Saturating air defense systems causing the use of expensive interceptor missiles on inexpensive drones
- Coordinated attacks at multiple sensitive sites simultaneously
- Distributed and redundant operations that can withstand losses of individual drones without disruption of the attack mission
- Electronic warfare capabilities, able to jam communications, disrupt radars, or spoof the location of enemy systems

Following the successful completion of the OTA, COLSA was awarded a contract that transitioned into a Program of Record pathway. Through these contracts, COLSA has designed and developed highly reliable and resilient UAS, and manufactured thousands of units currently deployed worldwide. We also developed software to coordinate UAS swarming. COLSA is now a leading provider of low-cost, non-developmental, deployable Group 1 and Group 2 Swarm UAS. As the Prime contractor, the primary objective of drone program is to provide realistic responses to emerging battlespace threats from UAS by rapidly designing, manufacturing, producing, and delivering representative threat capabilities. These systems support unit training and operations at Combat Training Centers (CTCs) and aid in testing Counter-UAS (C-UAS) technologies at Army Test and Evaluation Command (ATEC) ranges. The program also provides soldiers with a low workload, easy-to-use command and control system, enabling a single operator to control a swarm of up to 100 UAS simultaneously. This capability significantly reduces personnel workload, acts as a force multiplier for UAS operations, and enhances coverage and persistence (time-over-target).

In 2023, COLSA invested in an Internal Research and Development (IR&D) program to leverage our extensive domain expertise and talent pool to develop UAS designs that are better suited for commercial and civil agency applications such as disaster response, search and rescue, law enforcement and security, surveillance, infrastructure inspection, precision agriculture, surveying and mapping, utility and transportation monitoring, insurance assessments, and construction. We are now positioning our systems and services for commercial sales and for contracts with civil agencies in addition to our continued support of Department of Defense (DoD) clients.

In fact, we have designed our commercial systems to address a number of emergency response and border security use cases such as:

- Delivering Medical and Humanitarian Supplies – UAS are able access difficult terrain and dangerous areas with greater speed and less risk to first responders.
- Search and Rescue – Our systems can carry advanced thermal sensors to find missing people, fugitives in hiding, or illegal migrants in low visibility conditions.
- Disaster Assessment – UAS can carry LiDAR sensors to derive high-resolution 3D mapping of the environment following natural disasters.
- Communications Resiliency – UAS can carry equipment to create temporary mobile networks when infrastructure is damaged.
- Ports of Entry Security – Swarms of UAS using AI can patrol and react to threats at land, air and maritime ports.
- Nighttime Operations – UAS can deploy high-output lighting to illuminate nighttime rescue operations from overhead.

Innovation is Outpacing Legislation

One of the challenges the industry faces is balancing the availability of new UAS, components, and features that address genuine needs with the ability to obtain independent third-party compliance assessments. As the committee is aware, federal government agencies are restricted from procuring or operating UAS or UAS components manufactured by covered foreign entities. The dilemma however is that there are very few certifying bodies that can assess UAS and ensure they meet the strict security and compliance standards, including those outlined in the National Defense Authorization Acts (NDAA) and American Security Drone Act (ASDA). Further, the organizations that do exist operate with resources too limited to maintain pace with UAS innovation.

In August of 2024, the Defense Innovation Unit (DIU) held a Blue UAS Refresh Challenge with the purpose of verifying the submitted systems compliance with the supply chain restrictions and cybersecurity best practices. There were 369 submissions to participate in this once-a-year Refresh Challenge but only enough resources to accept 23 platforms and 14 other components (DIU Updates Blue UAS List, Framework With 23 Drones & 14 UAS, February 18, 2025). The Association for Uncrewed Vehicle Systems International (AUVSI) launched the Green UAS program in 2023 to address non-Department of Defense (DoD) needs. However, in two years

there have only been seven platforms cleared for Green UAS certification (IAW the AUVSI website, 24 March 2025). These rates do not match the pace that American drone manufacturers are producing new systems or developing advanced technologies that could support emergency management or border security use cases. The U.S. Customs and Border Protection, law enforcement agencies, and state and federal emergency management agencies are all examples that would benefit from reliable solutions in these areas.

The impact is that federal and state agencies who had previously invested in fleets of UAS manufactured in restricted nations now have very few and increasingly expensive options for bringing their UAS operations into compliance. COLSA and other companies like ours are well-structured to do business with these Government agencies. A company of our size with a successful track record in federal contracts makes the support to these agencies low risk. However, there is a challenging process to be evaluated and certified for sales to either defense or civil agencies.

Evolution of Industry Technology

In the coming years, major areas of technological enhancement will certainly focus on the concept of empowering autonomous mission execution. For UAS to be able to reach their potential to seek injured persons after a natural disaster, for example, technologies that support Beyond Visual Line of Sight (BVLOS) operations must mature. BVLOS requires long-range communication links to maintain control of the UAS over extended distances, potentially using cellular networks, satellite links, or high-frequency radio signals. Reliable data links are necessary for real-time data transmission, including video feeds, sensor data, and control commands to the ground station.

BVLOS relies on autonomous navigation capabilities, allowing drones to follow pre-programmed routes or respond to real-time commands without constant human oversight. To accomplish this, resilient Global Navigation Satellite System (GNSS) or alternative navigation methods, resistant to jamming, are crucial for accurate positioning and tracking.

Finally, Artificial Intelligence and on-board processing must progress so that UAS can detect and avoid obstacles, self-determine route planning, and make mission-driven decisions during BVLOS operations.

Battery technology has come a long way, but this area must also evolve. Current battery technology struggles to provide the necessary power for extended flight times without being excessively heavy. Research into new battery chemistries and materials is crucial to increasing the amount of energy that can be stored in a given volume and weight. Every ounce of weight affects flight time. More sophisticated sensors are likely to increase the overall power draw, too. China still manufactures 70-80% of the world's lithium-ion batteries. Developing faster recharging systems and batteries that maintain optimal performance across a wider temperature range are also important areas of improvement in battery technology.

Conclusion

We thank Congress for securing the UAS technology supply chain through the ASDA and other NDAA provisions. We believe it is an essential step to shore up vulnerabilities from foreign exploitation. We also acknowledge the work of DIU and AUVSI to create certification pathways by vetting UAS platforms and technologies. These actions enable agency confidence when procuring systems and enhance the domestic UAS and component manufacturing base.

To maintain capacity and allow for greater competition in the market, we must open the aperture in approving compliant UAS technologies and platforms for both defense and civil agency use. This could be achieved through streamlined evaluations, additional certifying bodies, and automation.

Finally, we hope you will support research and development in the technology areas that support BVLOS operations, improve domestic production capacity, and improve battery technology.

I greatly appreciate the opportunity to address this committee and would be happy to take questions.