SOLUTIONS FROM
THE PARTNERSHIP FOR DRONE COMPETITIVENESS

U.S. Drone Manufacturing Competitiveness & Security

From the perspective of U.S. competitiveness and security, incentivizing U.S. leadership in the drone industry — the focal point of a new era of aviation — represents a strategic imperative in a market long characterized by state-subsidized companies based in China.

AUVSI believes it is essential to advance security and competitiveness in a thoughtful way that respects existing investments while building toward a more secure, sustainable future that puts U.S. interests — including security, the economy, and overarching values — first. By addressing these issues in a measured manner, we believe we can help to balance competing interests and facilitate sound policy.

LEVELING THE PLAYING FIELD FOR U.S. DRONE MANUFACTURING

U.S. drone manufacturers and their component supply chain have struggled to compete against foreign subsidized competition, which hinders the availability of American-made UAS on the market and impedes workforce growth and investment.

Accordingly, the U.S. government must foster a more competitive and fair playing field for U.S.-based drone manufacturers. AUVSI is advocating for specific proposals that would generate demand for U.S.-made drones and supply-side measures that level the playing field for U.S. drone and component manufacturers against subsidized competition and dumping practices.

Bolstering new drone manufacturing capabilities and the associated workforce will require infrastructure and capital expenditures. Providing tax incentives and other mechanisms to spur that spending would accelerate growth and development that would have otherwise been delayed or denied. Manufacturer tax credits for the production and sale of certain UAS equipment and components produced and sold in the U.S. would benefit the industry and its competitiveness and would decrease reliance on subsidized, foreign drones.

This has worked in other industries. According to the *Financial Times*, U.S. manufacturing commitments doubled — to more than $200 billion, creating 82,000 jobs — based on the success of tax incentive programs for other industries, including solar panels, semiconductors, electric vehicles, and other clean technologies.[1]

In taking action to level the playing field and promote competition, the U.S. government should coordinate activities with allied and partner nations to create a stronger, more secure supply chain.

- **Manufacturing tax credits:** To promote domestic drone manufacturing capacity, Congress needs to develop a tax incentive program for drone manufacturing. This program can leverage the language and model the frameworks of the Solar Energy Manufacturing for America Act (SEMA), the House's Bioeconomy Research and Development Act of 2021 (America Creating Opportunities for Manufacturing, Pre-Eminence in Technology and Economic Strength (COMPETES) Act of 2022), and the Senate's United States Innovation and Competition Act (USICA) on semiconductors and other technologies.

- **Loan guarantees:** In addition to tax incentives, to promote competitiveness against subsidized Chinese competition, Congress should develop a program of loan guarantees to U.S. drone and component manufacturers modeled around language included in the Advanced Technology Vehicles Manufacturing Direct Loan Program.

[1] https://www.ft.com/content/b1079606-5543-4fc5-acae-2c6c84b3a49f

- **Ensuring critical mineral access:** Access to rare earth driven components is a challenge to U.S. drone and component manufacturers. Congress should enact legislation along the lines of H.R. 8981, the Securing America's Mineral Supply Chains Act, from the 117th Congress. It would be highly beneficial to the American drone industry by helping ensure the domestic availability of critical materials that are required in the manufacturing of UAS and their components.

FEDERAL MARKET DEMAND PROGRAMS

Programs focused on U.S.-made drone acquisition incentives, specifically grants, would signal to investors the market opportunity for U.S. drones, stimulating investment into U.S. drone and component manufacturing. These programs are also fair and market-driven, maximizing public choice, as the government would not be picking winners and losers.

Federal Grants for First Responders

According to a 2019 survey by Droneresponders, 92% of first responders in the U.S. are using drones made by China.[2] This is a direct consequence of China subsidizing the drones, driving down costs, and a program to donate DJI drones to first responders.[3] The Droneresponders survey also noted that 88% of first responder agencies would prefer to use U.S. drones; however, cost is a major factor in being able to transition away from the subsidized Chinese drones to market-based U.S. drones.[4]

- Congress should enact a new program designed to help public safety agencies transition from using Chinese drones to U.S.-made solutions. This program could borrow lessons from the Supply Chain Reimbursement Program which "reimburses providers of advanced communications services … incurred in the removal, replacement, and disposal of communications equipment and services produced or provided by Huawei Technologies Company (Huawei) or ZTE Corporation (ZTE)."[5]
    - This new program should be funded appropriately to ensure sufficient annual funding to ensure that a) public safety agencies can begin to replace and upgrade drone fleets, and b) U.S. domestic drone manufacturing can meet demand in terms of both production capability and drone reliability and capability.

- Congress should enhance existing federal grant programs for first responders. Reports confirm that FEMA and other agencies have permitted federal taxpayer dollars to fund the purchase of Chinese-made drones.[6] Congress should ban that practice and ensure that federal grant programs to support first responders are adequately funded to enable state and local agencies to transition to secure, U.S.-made solutions.
    - This should include, among other programs, the Department of Homeland Security's (DHS) Urban Areas Security Initiative (UASI) Program, the Federal Emergency Management Agency's (FEMA's) Homeland Security Grant Program, and grants administered by the U.S. Department of Justice.
    - Critically, these and other federal grant programs for first responders must allow grant recipients to purchase drones. At present, the Justice Department's Bureau of Justice Assistance flatly prohibits the use of grant funds to purchase UAS,[7] as does FEMA's Assistance to Firefighters Grants (AFG) Program. Enabling these programs to support the purchase of U.S.-made drones would significantly benefit first responders.

Federal Grants for Infrastructure Inspection

[2] https://www.droneresponders.org/2019-chinese-uas-technology
[3] https://www.newsweek.com/lawmakers-request-federal-inquiry-over-concerns-drones-donated-china-are-being-used-spy-us-1504222
[4] https://www.droneresponders.org/2019-chinese-uas-technology
[5] https://www.fcc.gov/supplychain/reimbursement
[6] https://www.tabletmag.com/sections/news/articles/government-funds-chinese-spy-technology-americas-backyard
[7] *https://bja.ojp.gov/program/jag/prohibited-expenditures-associated-procedures-under-jag*

Congress should enact the Drone Infrastructure Inspection Grant (DIIG) Act, which would create a $100 million grant program for local, state, and tribal governments to use U.S.-made drones for critical infrastructure inspection and construction projects.

- The DIIG Act also provides $100 million in grant funding for workforce development programs, coupling with community colleges and four-year institutions, to enable the future workforce required for the U.S. to remain a global aviation leader.
- The DIIG Act would enhance U.S. drone competitiveness by spurring investment in the U.S. drone industry and worker training and provide tangible benefits for infrastructure resilience.

U.S. Department of Transportation (DOT) programs that enable the use of drones for infrastructure inspection, such as the Every Day Counts (EDC) program, should incentivize the use of U.S. manufactured drones.

Congress should enact a new program designed to help industrial inspection companies engaged in critical infrastructure inspection transition from using Chinese drones to U.S.-made programs, which could reflect, in part, the Supply Chain Reimbursement Program as mentioned above for first responders.

Again, the program should be funded appropriately to ensure that critical infrastructure owners and operators can begin to replace and upgrade drone fleets and U.S. domestic drone manufacturing can meet demand in terms of both production capability and drone reliability and capability.

DEPARTMENT OF DEFENSE PROGRAMS

DoD programs across all domains have identified uncrewed systems as essential tools for the future of warfare.[8] The potential for DoD investment into these systems, many of which are dual purpose commercial and defense technologies, benefits the warfighting capabilities of the United States. It also boosts U.S. industry, spurring job creation, investment, and advanced R&D.

A recent study by the Special Competitive Studies Project notes that to close the deterrence gap and to build the joint-force of the future, the U.S. should purchase "high volumes" of drones, a recommendation AUVSI strongly supports.[9]

Nevertheless, as the New York Times recently reported, drone companies, as well as other advanced technology industries "are facing a stiff challenge on another field of battle: the Pentagon's slow-moving, risk-averse military procurement bureaucracy."[10]

The DoD must work with industry to overcome the acquisition challenges to get capable tools into the hands of warfighters faster, ensuring a strong U.S. industry for defense and commercial missions.

> The DoD has established the Office of Strategic Capital (OSC) "to develop, integrate, and implement proven partnered capital strategies to shape and scale investment in critical technologies."[11] The OSC is designed to "identify and prioritize promising critical technology areas for the Department of Defense" and, importantly, "fund investments in those critical technology areas, including supply chain technologies not always supported through direct procurement."[12] Given that access to capital can be a challenge for the drone and component manufacturing industry, the OSC offers promise to the industry as a tool for overcoming limitations from the private sector. OSC should designate and prioritize drones and drone components as a critical technology and immediately work to fund investments in this area to expand U.S. capabilities and manufacturing capacity. It is imperative that DoD purchases drones of all

[8] https://www.nationaldefensemagazine.org/articles/2021/5/28/unmanned-systems-and-the-future-of-war
[9] https://www.scsp.ai/wp-content/uploads/2023/05/Offset-X-Closing-the-Detterence-Gap-and-Building-the-Future-Joint-Force.pdf
[10] https://www.nytimes.com/2023/05/21/us/politics/start-ups-weapons-pentagon-procurement.html?smid=nytcore-ios-share&referringSource=articleShare
[11] https://www.cto.mil/osc/
[12] Ibid

sizes, at scale, from U.S. companies. OSC should partner with other agencies, like the Small Business Administration, to leverage their tools in the form of loan guarantees, loans, and other mechanisms.

Further, Congress and the DoD should continue to invest in AFWERX, which is "a Technology Directorate of the Air Force Research Laboratory (AFRL) and the innovation arm of the Department Air Force."[13] Multiple AFWERX programs offer opportunities for the drone industry, including AFVentures, which, "invests in emerging technologies to scale Department of the Air Force capabilities, strengthening the US industrial base that empowers Airmen and Guardians by incentivizing private, for-profit investment in national security interests"[14] and Prime, which seeks to "accelerate emerging dual-use markets by leveraging government resources for rapid and affordable fielding."[15]

Enabling Regulations

As noted in the opening paragraph of this paper, the one segment of the aviation industry that the United States is not leading is drone manufacturing and operations. While much of this paper is focused on leveling the playing field in drone and component manufacturing, AUVSI similarly advocates for bold action by the U.S. government to enable drone operations to scale.[16]

The U.S. is falling behind other nations in the global effort to safely and efficiently integrate drones – which perform many lifesaving and critical industrial missions – into the airspace.

Accordingly, the Federal Aviation Administration (FAA) must take steps to streamline approval processes and minimize the bureaucratic barriers to successful integration. Congress can assist by giving the FAA additional tools, authorities, and resources to accomplish this mission. Such tools should include mechanisms to help the FAA implement 2023 FAA Reauthorization efforts/mandates.

Making progress on drone operational integration will spur investment into the drone industry, including manufacturing and workforce development in the United States.

Drone Cybersecurity

AUVSI, through its Trusted Cyber Program Working Group, made up of nearly forty companies in the uncrewed and autonomy industry, has developed a framework for cyber standards for drones.[17] In conjunction with the DoD's Defense Innovation Unit (DIU)[18], AUVSI brought to market the Green UAS compliance program to assess and verify commercial drones to ensure that they meet the highest levels of cybersecurity and NDAA supply chain requirements.[19]

- The FAA should incorporate voluntary consensus standards in the uncrewed systems cybersecurity arena like those developed by AUVSI to ensure trust, integrity, and availability of data collected by drones.
    - This is accomplished through a security controls assessment and vulnerability and penetration test.

- The Green UAS cleared list of drones will meet updated levels of security requirements of the DIU's Blue UAS 2.0 Program.

- Congress should continue to fund the DIU's Blue UAS program to allow the program to scale and incorporate connected drones in the future.

[13] https://afwerx.com/
[14] https://afwerx.com/afventures-overview/
[15] https://afwerx.com/prime-overview/
[16] https://www.auvsi.org/our-impact/advocacy-initiatives/auvsi-air-advocacy-committee
[17] https://www.auvsi.org/cybersecurity-working-group
[18] https://www.diu.mil/latest/auvsi-launches-green-uas-cybersecurity-certification-program-for-commercial
[19] https://www.auvsi.org/green-uas

Country of Origin Restrictions on Drones

AUVSI has developed targeted principles for legislative or executive measures designed to advance the use of trustworthy systems made in the U.S. and allied nations in a responsible, measured manner. Our principles for rational, tailored country of origin restrictions are as follows:

- Ensure any UAS restrictions are reasonably related to national security, cybersecurity, human rights concerns, and target companies whose governments provide significant subsidies and are engaged in other unacceptable practices, such as military-civil fusion.
    - This may include referencing sources such as: The Consolidated Screening List (International Trade Administration), Entity List (U.S. DOC, Bureau of Industry and Security), entities identified by the DoD as military companies from countries of concern operating directly or indirectly in the United States, and other such lists managed, maintained, and regularly updated by the U.S. government.

- With respect to components, limit any restrictions to security-critical components (and omit passive components) and push legislation that limits component restrictions to two components (communications links and the controller). These types of restrictions are best exemplified by the American Security Drone Act (ASDA), a legislative initiative that the Partnership for Drone Competitiveness heavily supported and was enacted as part of the FY 2024 NDAA. The legislation prohibits all federal agencies from purchasing or operating insecure drones, including those produced in China.

- Afford end users suitable transition periods for the use of products that may be restricted in the future. This is important operators using UAS manufactured in countries of concern, most notably China.

- Include affirmative measures designed to support a timely, low-friction transition, which may include grants or other incentives to end users or pathways designed to support the domestic manufacturing of trustworthy UAS systems.
    - Following the transition period, those mechanisms must remain in place to foster a more competitive and fair playing field for domestic, United States-based manufacturers

Tariffs

In July of 2018, the United States Trade Representative (USTR)instituted Section 301 tariffs on a broad range of Chinese goods, including drones. The 25% tariffs were reinforced in July of 2022 and specific categorizations were added for different categories of drones. [20]

- At a minimum, the Partnership supports maintaining the current 25% tariffs. USTR, however, should consider increasing the tariff amount to better blunt the dumping of subsidized Chinese drones into the U.S. market.
    - By DJI's own admission in a filing with USTR, "Market surveys show a majority of the commercial drone products purchased by U.S. residents are still manufactured outside of the U.S. In addition, the majority of drones assembled in the US still use Chinese components. Having additional duties did not have positive effects on domestic manufacturing of drones or downstream products."[21] Accordingly, the 25% tariff should be reviewed by USTR for enhancement to produce positive effects on domestic manufacturing of drones.

[20] https://www.wileyconnect.com/new-import-codes-for-drones-what-you-need-to

[21] DJI in comments to USTR on 301 Tariffs, USTR-2022-0014-00034924: https://comments.ustr.gov/s/commentdetails?rid=DYBJHKW9QR