Federal Aviation Administration

DRONE NORMALIZATION STRATEGY REPORT

Moving Beyond Integration

2026

WHAT IS DRONE NORMALIZATION?

- Recognizing that unmanned aircraft have evolved from new entrants to established stakeholders in the National Airspace System (NAS)

- Creating reasonable pathways for current and future unmanned aircraft to operate at scale

- Leveraging safety and efficiency benefits unmanned aircraft bring to the NAS

The FAA has been working diligently to integrate unmanned aircraft systems (UAS) — also called drones — safely and efficiently into our aviation ecosystem. As they evolved from hobbyist gadgets to essential tools, diverse industries use drones in logistics, agriculture, public safety, research, and myriad other applications. Thanks to advances in technology, autonomy, and artificial intelligence, the demand for drone services will continue to grow.

The FAA's challenge has been to meet this growing demand. We learned early on that the key to effective drone integration was incremental implementation. By relying on a crawl-walk-run approach, the FAA enabled smaller scale, early operations to gather valuable data and to avoid disrupting the aviation system each of us relies on. These early operations provided crucial insights that helped inform safety protocols.

SIGNIFICANT ACCOMPLISHMENTS

The FAA has been steadily moving from integrating new entrants to normalizing drone operations in the NAS. Some significant milestones include:

Remote ID Rule

This rule requires most drones to broadcast their identity and location, enhancing safety and accountability and allowing for more advanced operations.

Integration Pilot Program (IPP) Completion

This program demonstrated real-world drone flights, paving the way for scalable regulations and led to the BEYOND Program.

Expanded BVLOS Waivers

Companies received approvals for routine beyond visual line of sight (BVLOS) operations, showing how these can work at scale.

UAS Traffic Management (UTM) Evaluation

This tested systems for managing low-altitude airspace, crucial for scalable drone integration.

BVLOS Rule Proposal

A comprehensive proposal to allow routine BVLOS operations nationwide, instead of issuing waivers on a case-by-case basis.

Emergency and Public Safety Streamlining

The FAA improved the process for authorizing drones during critical events, providing faster access for first responders.

Stadium Flight Restrictions Modernization

Improved communication and coordination for event airspace restrictions to enhance safety and security.

These integration activities and milestones brought us to where we are today – but our work is not done. As UAS become a part of our normal, everyday life, our challenge is to create a pathway for the myriad new technologies and ideas on the horizon to operate in the NAS without compromising the U.S. gold standard for safety and efficiency.

MISSION STATEMENT

Guided by the principles of safety and efficiency, our mission is to unleash the benefits of innovative and technologically advanced drone operations in the U.S. and global aviation ecosystems.

Goals 2026-2030

Our goals and objectives for the next four years align with the FAA's three guiding pillars: People, Safety, and NAS Modernization in *Flight Plan 2026*. After all, Safety is our North Star, our People are our best asset, and NAS Modernization is crucial.

1 Leverage Technology

- Utilize artificial intelligence to increase employee efficiency. (People)
- Deploy data-driven approach to concentrate resources on complex and higher risk operations. (People)
- Harness the power of artificial intelligence to enhance safety analysis. (Safety)

2 Position the Workforce

- Transition the FAA's workforce from drone integration to normalization. (People)
- Create a specialized inspector workforce for drones. (People)
- Identify and implement training needed for routine operational oversight. (People)

3 Modernize Regulations and Regulatory Tools

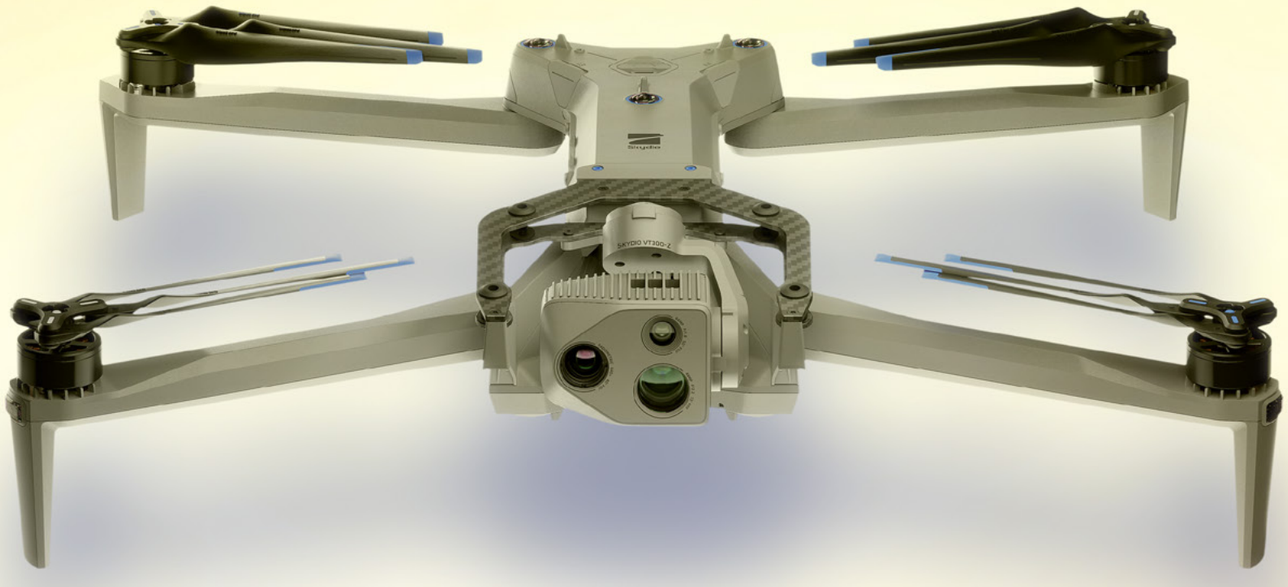
- Implement regulatory flexibility by issuing waivers under Section 927 of the FAA Reauthorization Act of 2024. (Safety)
- Engage with the International Civil Aviation Organization (ICAO) to address safe drone operations over the high seas. (Safety)
- Issue and implement the BVLOS rule. (NAS Modernization)

4 Utilize Cutting-Edge Research & New Frameworks

- Prioritize research to identify and address the benefits and risks of using counter-UAS systems in the NAS to promote safety and security. (Safety)
- Conduct research to facilitate use of technologies for air domain awareness. (NAS Modernization)
- Leverage the **Safety Framework for Aircraft Automation** to enable more complex drone operations. (NAS Modernization)

5 Accelerate Innovation and NAS Modernization

- Incubate innovative safety concepts on a modern technology cycle rather than a traditional governmental timeline. (Safety)
- Shift from a NAS that accommodates the least equipped users to a modern NAS built on electronic situational awareness. (NAS Modernization)
- Build on the success of drone normalization to accelerate emerging technology programs such as the eIPP. (NAS Modernization)



UAS Timeline: Integration to Normalization and Beyond

Drone Integration

2014
- First Section 333 Exemptions

2015
- Small UAS Registration Rule

2016
- Part 107 / Small UAS Rule

2021
- Operations over People and at Night Rule
- Remote ID Rule

2022
- BVLOS ARC Report

Shift Towards Normalization

2023
- BVLOS Exemptions Issued
- Emerging Technologies Division Established in Flight Standards

2025
- Certificated an additional Part 135 UAS Operator, bringing total to seven
- Over 2,000 UAS Agriculture Operators
- Improved Part 107 Waiver Process with AI

Drone Normalization

2026
- Issue BVLOS Final Rule
- Section 927 Waivers
- Transition workforce to normalization
- Create specialized inspector workforce
- Engage ICAO on high seas
- Use AI to increase efficiency & enhance safety analysis
- Deploy data to concentrate resources on higher-risk ops
- Incubate innovation on a modern technology cycle

2027
- Deliver research on C-UAS and air domain awareness
- Implement inspector training
- Use automation framework to enable more complex drone operations

2028
- Deliver research on electronic awareness technologies
- Accelerate adoption of emerging technology programs

2029
- Shift to modern NAS built on electronic situational awareness

2030 & Beyond
- Continue to build the modern NAS

The FAA intends to meet projected milestones by shifting and refocusing resources. In the last year, we have demonstrated we can do more with less. We are becoming more efficient at developing performance-based rules. Oversight of routine drone operations leverages existing inspector expertise while harnessing the efficiency of centralizing drone oversight resources into one division. We are also incubating new UAS Safety Specialists positions. And we're starting to use artificial intelligence to process Part 107 drone waivers more quickly and with less labor. We intend to build on that work and incorporate additional AI processes.

We have learned—as reinforced in the **Unleashing American Drone Dominance Executive Order**—that American investment in this industry thrives on less bureaucracy. With the finalization of the BVLOS rule and the implementation of the Section 927 waiver process, we are creating a pathway for industry to innovate and to continue to invest in American drones rather than shift their investments abroad.

The transition from integration to normalization prompted the FAA to ascribe overall responsibility for UAS management to the Emerging Technologies Division in Flight Standards, who will continue to work collaboratively with the appropriate FAA offices on airspace issues and NAS modernization, certification and research, hazardous materials, security issues, and airport operations, as appropriate.

Normalization is not the end goal but represents the next stage on the way to ubiquitous drone usage. FAA roles and responsibilities will continue to evolve in step with the evolution of drones in our airspace.

The Future of Aviation is Automation

The drone industry, and indeed the entire aviation industry, is undergoing a significant shift, driven primarily by automation. Automation in aviation aims to simplify operations and reduce reliance on individual decisions and actions. It leverages the strengths of both humans and machines to enhance the overall efficiency and safety of drones in the NAS. Furthermore, Safety Management Systems (SMS) will be integral in evaluating automation systems and using data-driven decision-making to proactively address issues before they arise.

It's time to move on from looking out of plexiglass windows for collision avoidance to ensuring all airborne activities—including new entrants like drones and AAM aircraft—have appropriate electronic situational awareness of each other.

We are in the infancy of true NAS transformation. Drones have played a pivotal role in revolutionizing the way we think about flight. In fact, drones have provided a vehicle for low-risk experimentation and innovation in the airspace, and ultimately, the technological leap aviation needed to accelerate.

The normalization of drones is not merely about adding new aircraft to the sky; it demonstrates that the NAS can increase in complexity while becoming safer at the same time. To realize the full potential of NAS transformation requires a comprehensive modernization of aviation infrastructure and procedures that embrace automation. We are on the cusp of a transportation revolution, and we invite the American public to join us.

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