

Report 1: The State of the U.S. Drone Workforce



Two field reports on the people powering America's drone industry — the training pipelines, the certification gains, and the workforce gap closing in real time.

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Building the Drone Workforce of Tomorrow

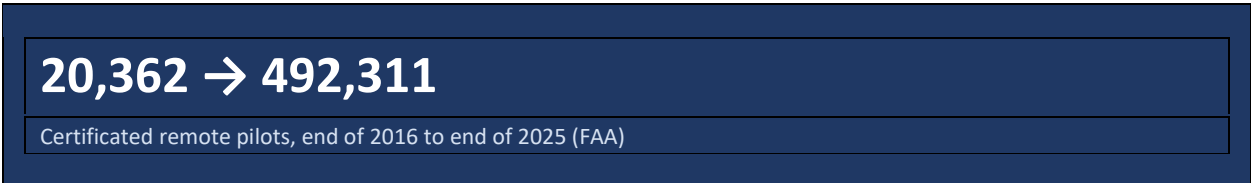
How Education and Training Are Powering the Industry's Next Phase of Growth

By Sharon Rossmark | Originally published May 8, 2026 in Vertical Space Magazine

While this article highlights a selection of programs, institutions, and training organizations, these organizations represent only a small portion of the broader ecosystem that has emerged since the introduction of Part 107. Over the past decade, hundreds of programs across industry, education, public safety, and global markets have contributed to building today's drone industry workforce. The examples shared below illustrate the wide range of approaches shaping the workforce, not the full scope of contributors.

When the Federal Aviation Administration (FAA) introduced Part 107 in 2016, it marked a turning point in U.S. aviation. For the first time, individuals could become certified remote pilots—the FAA's official title for what most people simply call a commercial drone pilot—by passing a rigorous aeronautical knowledge exam. That exam covers airspace, weather, regulations, safety, and mission planning, and it has become the gateway into one of the fastest-growing sectors in aviation.

Since then, the remote pilot workforce has expanded at a pace few other aviation sectors can match. What began with 20,362 certificated remote pilots at the end of 2016 has grown to 492,311 by the end of 2025, according to the most recently published FAA data. That surge reflects more than rising interest—it mirrors the rapid adoption of drones across commercial operations, public safety, media production, environmental monitoring, and government agencies. The momentum is real, and it underscores a broader shift: drones are no longer emerging technology. They are operational technology.



But the story doesn't end with pilot certifications. In fact, that's only the beginning. Over the past decade, a robust ecosystem of colleges, universities, training organizations, and global programs have emerged to prepare the workforce not just to fly, but to excel in the deeper technical competencies that will define the next decade of uncrewed aviation.

Today's drone workforce supports a wide spectrum of sectors including infrastructure, energy, public safety, agriculture, media, environmental science, and emerging autonomous systems, requiring specialized skills and training pathways. This is the workforce evolution now underway.

Early Accelerators of the Remote Pilot Workforce

As Part 107 took hold, a small number of early training providers played an outsized role in shaping the commercial drone workforce. Long before today's broader ecosystem matured, organizations like Drone Pilot Ground School and Pilot Institute made high-quality, self-paced aeronautical education widely accessible. Their programs helped tens of thousands of aspiring remote pilots prepare for the FAA exam, making them foundational contributors to the rapid expansion of the certified remote pilot community.

Drone Pilot Ground School

Drone Pilot Ground School was one of the earliest online Part 107 preparation programs, launching soon after the rule went into effect in 2016. Known for its structured curriculum, detailed lesson modules, and extensive practice testing, the program quickly became a trusted resource for individuals, schools, and public safety agencies nationwide. Its early presence helped establish self-paced online learning as a viable and effective pathway to certification.

Pilot Institute

Pilot Institute entered the market as the demand for remote pilot certification accelerated and rapidly became one of the most widely recognized online training providers. Their self-paced course combines clear video instruction, practice quizzes, and real-world explanations that make complex aeronautical concepts accessible to beginners. With a strong emphasis on student support and consistently high passing rates, Pilot Institute has helped a significant portion of today's remote pilots earn their certification, further expanding access to professional drone training across the country.

Higher Education: Building the Foundation for a Modern Aviation Workforce

Higher education has become one of the most powerful engines driving the evolution of the Uncrewed Aerial Systems (UAS) workforce. What began as a niche offering at a handful of aviation schools has matured into a nationwide network of degree programs, research centers, and applied learning environments. Colleges and universities are no longer simply teaching students how to fly; they are preparing them to operate in a world where drones intersect with robotics, autonomy, data science, and regulated airspace. This shift reflects the industry's rapid transition toward advanced operations and the need for professionals who can navigate both technical and regulatory complexity.

Embry-Riddle Aeronautical University

As the world's largest and most respected aeronautical university, Embry-Riddle offers one of the most comprehensive UAS degree pathways available. Their programs combine aviation fundamentals with robotics, systems engineering, data analysis, and advanced operations. Students learn not only how to fly, but how to integrate drones into complex missions, analyze sensor data, and work within regulated airspace.

Virginia Tech

Virginia Tech has become a national leader in UAS research, testing, and workforce development. Through the Virginia Tech Mid-Atlantic Aviation Partnership (MAAP), one of the FAA's designated UAS test sites, students gain hands-on experience with real-world operations. Their programs blend engineering, flight operations, and airspace integration, preparing graduates for careers in inspection, public safety, defense, and advanced research.

Community Colleges and Technical Institutions

Across the country, numerous community colleges have stepped into a critical role by offering accessible and affordable pathways into the industry. Many now provide Part 107 preparation, hands-on flight training, and certificates aligned with local workforce needs. These programs are helping thousands of students enter the field quickly and confidently.

Training Organizations: Preparing Professionals for Real-World Missions

While higher education builds foundational knowledge, specialized training organizations are shaping the professionals who must perform in high-stakes, real-world environments. These companies sit at the intersection of regulation, safety, and mission execution, equipping public safety teams, government agencies, and commercial operators with the operational discipline required for modern UAS deployments.

Influential Drones (New Jersey)

Influential Drones focuses on preparing public safety agencies, government organizations, and commercial operators to integrate drones into their missions. Their training emphasizes operational safety, regulatory compliance, and mission-specific workflows. For agencies adopting drones for the first time, Influential Drones provides a structured, safety-driven path to responsible implementation.

Sundance Media Group (Nevada)

Sundance Media Group is known for its expertise in UAS risk mitigation, night operations, and safety-critical mission planning. Their programs help organizations understand not just how to fly, but how to manage risk, document procedures, and operate within complex regulatory environments. Their work is especially valuable for industries where safety and compliance are non-negotiable.

Airversity (Missouri)

Airversity's Center of Excellence plays a growing role in developing commercial, industrial, and public safety professionals. Their programs go beyond basic flight skills, emphasizing mission-specific competencies such as mapping, thermal imaging, first-response coordination, and ground-based operational planning. Airversity's curriculum mirrors the realities of field operations, helping students build confidence with complex workflows, data-driven decision-making, and equipment selection.

Zephyr Drone Simulator (Virginia)

Zephyr has become a leading simulation platform for organizations seeking scalable, high-fidelity drone training. Designed for businesses, educational institutions, and public safety agencies, Zephyr combines accurate flight physics with structured training modules that shorten time to proficiency while reducing operational risk. Its course-building tools, performance tracking, and realistic sUAS profiles allow instructors to train larger cohorts, standardize skill development, and evaluate pilot readiness before they ever take a real aircraft into the field. With adoption across universities, government agencies, and industry partners, Zephyr is helping modernize how the drone workforce builds foundational and advanced operational skills.

Educators Who Are Shaping the Next Generation of UAS Talent

Across the country, a new generation of educators is redefining what it means to prepare students for careers in uncrewed aviation. These leaders are not only teaching technical skills, they are building pipelines that connect learners to real industry opportunities, emerging technologies, and career pathways that didn't exist a decade ago.

Professor Skip Fredricks — Grossmont College, California

A two-time, Emmy-nominated drone cinematographer, Skip Fredricks brings deep industry experience into the classroom. At Grossmont College, he has helped create a program that partners with film and media companies to place students into careers that are traditionally difficult to access.

Professor Jay Seidel — Fullerton College, California

Jay Seidel leads one of the most respected UAS programs in the country. Fullerton College has built strong partnerships with public safety agencies, environmental organizations, and commercial operators, giving students hands-on experience and direct pathways into the workforce.

Dr. LaQuata Sumter — STEAM Thru Drones

Dr. Sumter is leading efforts to create consistent, scalable curriculum frameworks for middle and high school UAS programs. By introducing aviation concepts early and aligning them with industry needs, she is helping build a long-term pipeline that begins well before college.

Rocket Drones: America's Educational Drone Racing Program

Rocket Drones brings drone racing and hands-on drone learning into elementary, middle, and high schools, using gamified instruction and school-ready kits to strengthen STEM and Career and Technical Education (CTE) engagement. Their programs emphasize teamwork as students collaborate on racing strategy, troubleshooting, and mission-style challenges, building technical confidence and the collaborative mindset needed for future aviation and robotics careers.

Workforce Development Beyond U.S. Borders

The development of the UAS workforce is a global movement, not a U.S.-only effort. Around the world, organizations are building training models that reflect their regional needs, regulatory frameworks, and operational priorities. From geospatial mapping and environmental monitoring to advanced mission planning, Beyond Visual Line of Sight (BVLOS) development, and regulatory consulting, international programs are expanding access to drone education and elevating global standards for professional readiness.

GeoNadir (Australia)

GeoNadir is democratizing access to drone mapping and geospatial data. Their platform and training resources help students, researchers, and emerging professionals build the skills needed for data-centric UAS careers.

HOVER UAV (Australia)

HOVER UAV is a leading provider of advanced drone training, regulatory support, and operational consulting across Australia. The company specializes in helping organizations navigate complex approvals, develop BVLOS and autonomous operations, and build safe, scalable UAS programs. Their work supports government agencies, emergency services, research institutions, and commercial operators—strengthening Australia's capacity for high-end, mission-ready drone operations.

Drone Space (Ireland)

Drone Space provides training, internships, and consulting for complex UAV operations. Their programs support advanced mission planning, regulatory compliance, and operational readiness for commercial and government clients.

UAV Aerial Works (South Africa)

As an aviation training organization, UAV Aerial Works offers professional training for advanced UAS operations, including mapping, inspection, and specialized mission profiles. Their programs help operators meet rigorous aviation standards.

Marine Spatial Information Solutions — MarSIS Inc. (Barbados)

MarSIS specializes in training participants to use drones for mapping and geospatial analysis. Their programs support participatory mapping, environmental monitoring, and community-driven geospatial projects, demonstrating how UAS skills can support sustainable development.

The Skills That Will Define the Future of the Drone Industry

The drone industry's early workforce gains have laid a strong foundation, but the next decade will demand a deeper, more specialized set of skills. As drones transition from manually flown tools to autonomous, data-driven systems, the

professionals who operate them must evolve as well. The future workforce will need to understand not only flight operations, but also AI-enabled analytics, airspace integration, robotics, cybersecurity, and mission-critical decision-making.

Beyond Part 107, today's workforce increasingly relies on advanced credentials, OEM training, and standards-based certifications that support specialized missions and complex operational environments.

These emerging skill areas include:

- Autonomy and BVLOS operations
- AI-enabled data analysis
- Uncrewed Traffic Management (UTM) and airspace integration
- Mission-critical operations
- Robotics and systems engineering
- Cybersecurity and data governance

These capabilities will define the next generation of UAS professionals and determine how effectively the industry can scale into more complex, autonomous, and integrated airspace environments.

The Foundation Is Strong — Now It's Time to Build Upward

The drone industry has made remarkable progress since 2016. The workforce is expanding, educational programs are multiplying, and global training organizations are raising the bar for professional readiness.

The next challenge is not starting from scratch but building on this foundation to prepare operators, analysts, engineers, and mission specialists for the autonomy-driven future ahead.

As autonomy, AI, and advanced airspace integration accelerate, the next chapter of workforce development will be defined by how effectively education, industry, and government collaborate to prepare operators for a rapidly evolving aviation landscape.

The momentum is here. The talent is emerging. And the organizations shaping today's workforce are laying the groundwork for the next decade of uncrewed aviation.

Where Women Commercial Drone Pilot Growth Accelerated in 2025

🔥 Top 5 States by Percent Growth

1. South Dakota	+27.3%
2. Indiana	+26.6%
3. Wisconsin	+25.1%
4. Alabama	+25.0%
5. Louisiana	+24.6%

Percent Growth = Momentum

Fastest Rates of Increase



↑ Top 5 States by Numeric Growth

1. California	+665
2. Florida	+602
3. Texas	+596
4. North Carolina	+310
5. Colorado	+270

Numeric Growth = Scale

Largest Number of New Pilots

Women in the Remote Pilot Workforce

A Year of Strong Gains

By Sharon Rossmark | Originally published April 19, 2026 in Vertical Space Magazine

2025 FAA remote pilot certification figures indicate sustained growth in women's participation and broader geographic distribution across the United States.

Women have contributed to aviation innovation for more than a century, from early aircraft design to today's rapidly expanding uncrewed aviation ecosystem. As drones become increasingly integrated into commercial, public safety, and STEM applications, understanding who is entering the remote pilot workforce helps illuminate how the industry is evolving.

In FAA terminology, a remote pilot refers to a certified commercial drone pilot—an individual authorized to operate drones for professional, commercial, public safety, research, and educational use.

Each year, Women and Drones® reviews FAA data to track growth trends and highlight where participation is increasing. The newly released Year-End 2025 numbers show continued expansion in the remote pilot community and meaningful gains among women earning certification.

According to an FAA report, there was a 15.1% year-over-year increase in the total number of remote pilots from 2024 to 2025. The report states that there were 492,311 FAA-certified remote pilots at the end of 2025, up from 427,598 in 2024. This growth reflects the expanding use of drones across industries such as infrastructure inspection, emergency response, agriculture, environmental monitoring, and media production.

Women Remote Pilots: A 19.3% Increase Over 2024

Women Remote Pilots also saw strong growth:

- 44,274 Women Remote Pilots (YE 2025)
- Up from 37,113 in 2024
- A year-over-year increase of 7,161, or 19.3%

Women now account for about 9% of all certified remote pilots and represent a broad cross-section of ages and backgrounds. Based on 2025 FAA data, the average age of a U.S. woman commercial drone pilot is approximately 39 years old, with the largest participation occurring between ages 25 and 44. This reflects both early-career entrants discovering drone technology through STEM pathways and mid-career professionals integrating drones into existing fields such as public safety, media, agriculture, and infrastructure inspection.

This increase reflects expanding awareness, broader access to training, and the impact of community-driven efforts that encourage more women to explore aviation and uncrewed systems.

44,274 Women Remote Pilots

Up 19.3% year-over-year — from 37,113 in 2024 (FAA, YE 2025)

Where Growth Accelerated: State-Level Increases

With full 2024 and 2025 state-level data now available, two complementary views help illustrate where participation among women remote pilots is expanding most rapidly: percent growth and total numeric growth. Looking at both provides a clearer picture of how states with smaller pilot populations can show large proportional gains, while larger states add substantial numbers even with modest percentage increases.

Top 10 States by Percent Growth of Women Remote Pilots

(Among states with ≥100 women remote pilots in 2024)

These states posted the strongest proportional gains year over year.

Rank	State	Numeric Increase	Percent Increase
1	South Dakota	+42	27.3%
2	Indiana	+173	26.6%
3	Tennessee	+162	25.7%
4	Wisconsin	+154	25.1%
5	Alabama	+103	25.0%
6	Louisiana	+96	24.6%
7	Colorado	+270	20.2%
8	Florida	+602	19.9%
9	Washington	+213	19.0%
10	California	+665	18.0%

Percent growth highlights momentum — where training access, awareness, and industry adoption are accelerating most quickly.

Top 10 States by Total Numeric Growth of Women Remote Pilots

These states added the largest number of women remote pilots between 2024 and 2025—a measure that highlights where the biggest absolute gains occurred.

Rank	State	Numeric Increase	Percent Increase
1	California	+665	18.0%
2	Florida	+602	19.9%
3	Texas	+596	18.4%
4	North Carolina	+310	20.5%
5	Colorado	+270	20.2%
6	Washington	+213	19.0%
7	New York	+229	18.9%
8	Ohio	+226	21.4%
9	Michigan	+217	24.4%
10	Virginia	+195	16.7%

Numeric growth highlights scale — where the largest numbers of women are entering the workforce.

Together, these two views show a dynamic and expanding landscape:

- Smaller states such as South Dakota and Louisiana are seeing rapid proportional growth.
- Large states such as California, Florida, and Texas continue to anchor the national workforce by adding the highest numbers of new women remote pilots.
- Mid-sized states including Colorado, Washington, North Carolina, and Michigan show strong gains on both lists, signaling broadening participation across regions.

Why These Trends Matter

The drone industry is expanding rapidly, and the workforce behind it is evolving just as quickly. Tracking year-over-year changes helps:

- Identify where training and workforce development are accelerating
- Understand which regions are emerging as hubs for drone operations
- Highlight opportunities to broaden participation across all demographics
- Support educators, employers, and policymakers in planning for future needs

The data also reinforces the importance of creating pathways that welcome new talent into aviation — from youth STEM programs to professional upskilling.

Looking Ahead

As drones continue to integrate into everyday operations, the need for a skilled and diverse remote pilot workforce will only grow. Women and Drones will continue to track these trends and share insights that help the industry understand where progress is happening and where opportunities are emerging.

The full 2025 demographic breakdown, including age-group distributions, multi-year trends, and state-level details, is available on the Women and Drones© website: womenanddrones.com/demographics

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