General Aviation Manufacturers Association

2017 ANNUAL REPORT

General Aviation:

- Includes over 446,000 general aviation aircraft flying worldwide today, ranging from two-seat training aircraft and utility helicopters to intercontinental business jets, of which over 211,000 aircraft are based in the United States and over 136,000 aircraft are based in Europe.
- Supports $219 billion in total economic output and 1.1 million total jobs in the United States.
- Flies over 24.8 million flight hours, of which two-thirds are for business purposes, in the U.S.
- Flies to more than 5,000 U.S. public airports, while scheduled airlines serve less than 400 airports. The European general aviation fleet can access over 4,200 airports.
- Is the primary training ground for most commercial airline pilots.

General aviation is defined as all aviation other than military and scheduled commercial airlines.

GAMA is an international trade association representing more than 100 of the world's leading manufacturers of general aviation airplanes and rotorcraft, engines, avionics, components, and related services. GAMA's members also operate repair stations, fixed-based operations, pilot and maintenance training facilities, and manage fleets of aircraft. For more information, visit GAMA's website at www.GAMA.aero and look for us on Facebook, Twitter, Instagram, LinkedIn, and YouTube.

Welcome from GAMA's Chairman

Since its inception in 1970, GAMA has been the only trade association in the world to provide quarterly and annual updates on the health of the global business and general aviation industry. As GAMA's Chairman this year, I'm proud to present to you our annual report, which provides a look at how the industry performed in 2017, a review of the most exciting developments that took place in the legislative, regulatory and policy arenas last year as well as relevant industry data for the United States, Europe, and several other regions.

In the next few pages, you'll find highlights of GAMA's activities in 2017. It's clear from this review that GAMA works tirelessly every day to advance the priorities of its member companies, and ensure global leaders, the public and the press understand the importance and value of our industry. As you'll read, our work resulted in aviation agencies and policymakers around the world taking steps to streamline certification validations and safety recognitions, with more planned for next year. We also successfully fought efforts in the U.S. Congress to privatize the nation's air traffic control system, while continuing to push for meaningful certification and regulatory reform, and saw revisions to the EASA basic regulation adopted, providing a scalable framework for general aviation. Additionally, we added a dozen new members, including several more associate members, which represent the burgeoning segment of the general aviation market and its evolution towards simplified operations. These are just a few examples of the industry advancements GAMA's work contributed to in the past year.

Looking ahead, this year GAMA will continue to be the premier advocate for general aviation manufacturers, their suppliers, and those who maintain, repair and overhaul general aviation aircraft around the world. Guided by our organizational mission and vision, listed below, we will also continue to be a global resource for industry data, utilizing our redesigned website that houses important statistics such as the information in this report, government resources, career information for the next generation of general aviation leaders and more.

As a leader in the general aviation manufacturing industry and a member of the aviation community for over 20 years, I see the value of my GAMA membership every day, and this report reflects that. I'm so proud of GAMA's accomplishments in 2017 and enthusiastic about what lies ahead in 2018. Thank you for your support.

Best,

Philip Straub

Phil Straub
Executive Vice President and Managing Director, Garmin Aviation

GAMA Mission and Vision

MISSION

The General Aviation Manufacturers Association (GAMA) exists to foster and advance the general welfare, safety, interests, and activities of the global business and general aviation industry. This includes promoting a better understanding of general aviation manufacturing, maintenance, repair, and overhaul and the important role these industry segments play in economic growth and opportunity, and in serving the critical transportation needs of communities, companies, and individuals worldwide.

VISION

Our vision is to be recognized as the most effective trade association in business and general aviation, aerospace manufacturing, and in the maintenance, repair, and overhaul domain through:

- Enhancing safety through innovation and the promotion of quality training
- Facilitating improvements in certification, audit, and regulatory processes
- Fostering sustainable general and business aviation growth
- Promoting the economic impact and societal benefits of general and business aviation
- Achieving organizational excellence

GAMA Celebrates Long-Awaited Acceptance of Single-Engine Commercial Aeroplane Operations in Europe

In March, GAMA welcomed the European Union (EU)'s adopted rules for Commercial Air Transport (CAT) operations using Single-Engine Turbine aeroplanes at night or in Instrument Meteorological Conditions (SET-IMC) in Europe.

Marking the end of a 20-year effort by industry and regulators, the publication of these rules opens new markets and stands to improve connectivity across the continent. Europe is now aligned with the International Civil Aviation Organization's (ICAO) standards for CAT operations.

Work on the regulatory framework for single-engine commercial operations began in the early 1990s. Common around the world, such operations are based on ICAO standards issued in 2005. GAMA, and several of the association's members, participated in a rulemaking group created by EASA in 2012 to help develop the agency's regulatory framework.

"The EU's acceptance of CAT operations has been a long-awaited moment for general aviation," GAMA President and CEO Pete Bunce said. "We are very pleased to see Europe joining other regions in permitting this important form of transport."

The new regulation is based on rigorous safety analysis, and contains all the necessary safeguards to facilitate this form of passenger transport. It will greatly facilitate overnight cargo delivery and help provide connectivity to Europe's most remote regions.

"We applaud the leadership shown by the European Aviation Safety Agency (EASA) in guiding this important safety framework forward, along with many dedicated individuals who helped forge this rule over many years," continued Bunce. "It will be a welcome development for those underserved by commercial routes to date."

ICAO's final approval today of aviation's first CO2 emission standard for airplanes is a milestone that enshrines aviation manufacturers' commitment to mitigate our industry's impact on climate change.

GAMA Welcomes New ICAO Standard to Reduce Carbon Emissions from Aircraft

GAMA also welcomed in the spring of 2017 the Council of the International Civil Aviation Organization's (ICAO) approval of the first international carbon dioxide (CO2) emission standard for aircraft. This step means that ICAO's 191-member states can now adopt and implement the new standard in their national regulations.

"ICAO's final approval today of aviation's first CO2 emission standard for airplanes is a milestone that enshrines aviation manufacturers' commitment to mitigate our industry's impact on climate change," said GAMA President and CEO Pete Bunce. "We are proud of the important leadership role that general aviation manufacturers played in developing the new standard over the past six years through collaboration with global authorities and civil society stakeholders."

The standard applies to new-design large airplanes starting in 2020, and to smaller new-design airplanes, including business jets, from 2023 onward. All covered in-production airplanes must meet the standard by 2028, marking the first time an international environmental standard in aviation will apply to in-production airplanes. Small turbine-powered airplanes under 5,700 kilograms (12,500 pounds) maximum take-off mass (MTOM) are exempted, as are piston-engine airplanes and turboprops below 8,618 kg (19,000 pounds) MTOM.

The ICAO Council's decision follows a February 2016 recommendation by ICAO's Committee on Aviation Environmental Protection (CAEP) regarding the technical aspects of the new standard.

GAMA member companies contributed significant resources to the technical discussions that resulted in the development of the new standard.

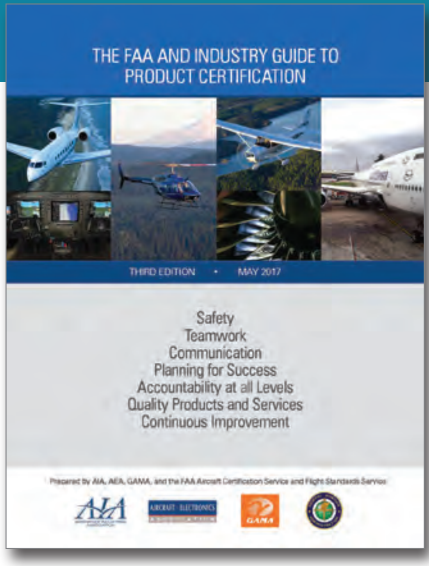
Along with alternative fuels, the CO_2 standard forms part of the technology pillar of climate action by the global aviation industry. The other pillars are infrastructure improvements (air traffic control modernization), operational efficiencies, and market-based measures.

GAMA Announces FAA and Industry Update to Product Certification Guide

In May, GAMA, along with the Aircraft Electronics Association (AEA), Aerospace Industries Association (AIA) and the United States (U.S.) Federal Aviation Administration (FAA), announced an updated third edition of *The FAA and Industry Guide to Product Certification*. The last version of the guide was published in 2004.

A group comprised of representatives from 12 organizations worked over 18 months to improve the guide and produce the third edition. The organizations are: AEA, AIA, ALOFT AeroArchitects, Bell Helicopter, FAA, GAMA, Garmin, GE Aviation, Gulfstream Aerospace, Honeywell Aerospace, Textron Aviation and The Boeing Company. AEA, AIA, GAMA and FAA sponsor the guide.

The updated guide will help institutionalize best practices and a new operating norm for FAA, companies and applicants that will prove to be foundational in reaching the next level of safety and certification process effectiveness and efficiency. It incorporates changes based on lessons learned and the most recently published FAA policy guidance. The guide also establishes principles and guidance for how an applicant and the FAA can transition to a state where there is progressively less direct involvement of the FAA in detailed compliance activities, increasing the efficiency of the process while maintaining the same high-level of safety.



In May, GAMA joined the industry and FAA in announcing an updated third edition of **The FAA and Industry Guide to Product Certification.** *The last version of the guide was published in 2004.*

There have been significant changes in type certification over the last 10-to-15 years that improve the efficiency and effectiveness of certification and design approval processes and enhance product safety. The revised guide addresses the impact of those changes and assists the stakeholders in taking full advantage of the benefits they offer.

We're proud to work with the FAA and industry to update this guide, and help implement these improvements to ensure the certification process becomes more efficient and consistent, while keeping safety as the number one priority.

"Clarifying the roles and responsibilities of industry and FAA oversight offices and facilitating a shift to a systems approach to product certification and safety oversight was a recommendation of the FAA Aircraft Certification Process Review and Reform report to Congress and the Part 21/Safety Management Systems Aviation Rulemaking Committee," said GAMA President and CEO Pete Bunce. "We're proud to work with the FAA and industry to update this guide, and help implement these improvements to ensure the certification process becomes more efficient and consistent, while keeping safety as the number one priority."

The revised guide introduces some significant changes to the Partnership For Safety Plan (PSP), a written agreement to define a working relationship between an applicant for a product certification or approval and the applicable organizations of the FAA. The PSP will now provide high-level agreements on how the FAA and applicant will conduct business, instead of providing specific details on how the parties will work together on specific issues, creating a more efficient, more consistent process.

GAMA's Membership Continues Growing

Throughout the course of the year, GAMA proudly added several new member companies and associate member companies. Full member companies include CAMP Systems International, CiES, FlightAware, Meiya Group Global, Pipistrel, Siemens AG, Tamarack Aerospace Group and Unitech Aerospace.

New associate member companies include Ascent Vision Technologies, Empirical Systems Aerospace, Inc., Piasecki Aircraft, SmartSky Networks, Lilium and Uber. GAMA created the associate member category in 2015, to facilitate coordination of the associate members' technical expertise and GAMA's policy experience to enable the development, growth and airworthiness certification worldwide of hybrid and electric propulsion technology to benefit general aviation.

GAMA Hosts the Fifth Annual Aviation Design Challenge

2017 marked the fifth annual GAMA Aviation Design Challenge, which helps promote U.S. high school students' knowledge of science, technology, engineering and mathematics (STEM) skills through aviation. Over the course of the winter and spring, students in 93 high schools spanning 31 states and Washington, DC, learned the basics of aerospace engineering and aviation flight using Fly to Learn curriculum and software powered by X-Plane. They then applied what they learned to modify a Cessna 172SP virtual airplane, using simulator software, and took part in a virtual fly-off.

In May, GAMA judges declared Olney High School, located in Olney, Texas, the winning team. Olney, Texas, is also home to GAMA member company Air Tractor. When Air Tractor President and GAMA Board Member Jim Hirsch heard that the winning team was based in his company's hometown, he went to the high school and personally delivered the good news to the team and their teacher. One month later, students Amber McCutcheon, Kodee Scott, Michael Gomez and Bryant Castro, along with their teacher Sabrina Laurent, made the trip to Arlington, Washington to claim the prize: experiencing general aviation manufacturing firsthand.

"Over the past five years, I've watched talented and enthusiastic young students develop their skills and increase their confidence in just two weeks as they build an airplane," said GAMA President and CEO Pete Bunce. "Not only do they learn how to build a plane, but they also learn valuable life skills in public-speaking, teamwork, and critical thinking, as well as about general aviation manufacturing professions they may not have otherwise known they could pursue. This is all made possible by our tremendous sponsors, who I cannot thank enough for their support.

From June 20 to July 1, the students worked side-by-side with staff from Glasair Aviation and GAMA, along with the builder Ken Baur, and his son, Dennis, to help build a Glasair Sportsman. Starting at 7 a.m. each day, their tasks included bucking rivets, fabricating metal and composite brackets, running control cables, sanding the airframe, fabricating and attaching fuel lines, mounting gear and attaching the propeller. Before the students left, they saw the airplane taxi for the first time. The team was also fortunate enough during their two-week experience in Arlington to have two of the sponsoring GAMA member companies, Click Bond Inc., and Siemens, send members of their executive teams and staff to the build to see the students in action and talk to them about aerospace manufacturing.

The Aviation Design Challenge has a great track record of inspiring young people to get involved in aviation or enter the aviation field—regardless of whether the team they were on won. The 2017 winning team was the first ever to include two girls on it, one of whom has gone on to study pre-engineering at South Plains College in Lubbock, Texas, with plans to transfer to Texas Tech University to study architecture and engineering. One of the students from a 2017 competing team based in Orange, Florida, is now attending Embry Riddle Aeronautical University. He plans to join the Army and become a helicopter pilot. Sophomores on the 2017 competing team from Dunlap High School in Illinois were so excited about aviation after competing in the Aviation Design Challenge that they started an aviation club at their school. The club now has over 35 members who have reached out to community groups and formed partnerships for activities and field trips to increase student awareness of opportunities in the aviation field.

GAMA thanks the following companies for their generous sponsorship in making the 2017 Aviation Design Challenge possible: BBA Aviation, Bose Corporation, Click Bond, Inc., Embraer, Garmin International, Glasair Aviation, Gulfstream Aerospace Corporation, Jeppesen, Jet Aviation, Jet Support Services International, Redbird Flight Simulations, Siemens, Textron Aviation and Wipaire, Inc.

ABOVE: Siemens Government Technologies President and CEO Barbara Humpton (center) with the students, their teacher (far right) and chaperone (far left) on day three of the build.

LEFT: Click Bond, Inc. sent a team of staff to visit the build.

Implementation of Global Rule Rewrites for Small Airplanes

One of the most significant rule rewrites the aviation regulatory agencies have ever performed was accomplished in the summer of 2017. The change will allow manufacturers and suppliers of products and technologies for small airplanes to develop and deliver innovative products to their customers more quickly and better leverage new technologies.

GAMA's efforts to reform the design criteria for general aviation airplanes recently came to fruition with the United States and Europe implementing foundational rule changes, in the Federal Aviation Administration (FAA) Part 23 and European Aviation Safety Agency (EASA) CS-23, respectively. Rather than having to comply with overly prescriptive design requirements, manufacturers can now more nimbly respond in a cost-effective manner through performance-based airworthiness safety rules and consensus standards for compliance. Because these amended rules rely upon global certification standards, the overall result is the elimination of regulatory barriers and the acceptance of safe and modern airplanes and products worldwide.

Leading to the implementation date of the Part 23 rule rewrite, GAMA worked with the FAA to host a series of training sessions throughout the U.S., including one as part of the first-ever Uber Elevate Summit in April. The training sessions were widely attended, indicating the high-level of interest in what the amended rule means for the industry.

"GAMA is proud to continue championing this industry-changing rule through our training sessions," said GAMA President and CEO Pete Bunce. "They will help ensure the aviation community understands the full and immediate benefits of the new regulatory environment in August, and highlight the possibilities of what could be, if this same type of risk based international certification rulemaking approach is extended in the future to rotorcraft and transport category fixed wing aircraft."

Other leading aviation authorities are expected to follow suit and implement similar rules as Part 23 and CS-23, creating a truly global framework. GAMA also intends to support similar training sessions in Brazil, Canada, China and Europe in 2018.

ABOVE: EASA Certification Director Trevor Woods (right), joined Piper Aircraft's Simon Caldecott (left), Flight Design Germany's Matthias Betch (second from left) and Pipistrel's Ivo Boscarol (second from right) in announcing the CS-23 rule finalization. Caldecott is a former GAMA Chairman.

LEFT: U.S. FAA Administrator Michael Huerta (second from left) was joined by Hartzell Propeller's Joe Brown (left) Piper Aircraft's Simon Caldecott (second from right) and GE Aviation's Brad Mottier (right) in announcing the Part 23 rule finalization. Brown, Caldecott and Mottier are former GAMA Chairmen.

The Dawn of Hybrid and Electric Propulsion and Automation

2017 was a remarkable year for electric propulsion and increased automation in aviation. From the world's first all-electric airshow in Aero Friedrichshafen, Germany, to the birth of the electric vertical takeoff and landing industry, the emergence of this exciting revolution is brought about by the convergence of technology, regulatory flexibility and evolving public attitudes.

Rapid advances in microelectronics, software, battery capabilities and electric motors have awakened a new era of aircraft design. With the added degrees of freedom these technologies bring to aerospace design, these are truly exciting days to be in aerospace manufacturing!

Global regulatory reforms are allowing designers to begin certifying innovations which would have been mired in paperwork and process just a year ago. The U.S. Small Airplane Revitalization Act of 2013 and the implementation of the global aviation regulatory reforms like FAA Part 23 and EASA CS-23 now allow for electric propulsion, increased automation and a range of important new safety and technological innovations.

GAMA is proud to help lead the way in this growing area of the industry through the work of its Electric Propulsion and Innovation Committee (EPIC), assuring the hybrid and electric propulsion sector can shepherd innovation into

Continued on next page

GAMA Vice President of Global Innovation and Policy Greg Bowles discusses the progress electric propulsion has made with aviation authorities around the globe at an EPIC meeting in Germany.

the traditional regulatory regimes governing the design and operation of aircraft. GAMA created the EPIC and an associate member category of the association in late 2015 to facilitate and represent the general aviation industry's hybrid and electric propulsion efforts as well as focus its ongoing safety improvement initiatives toward simplified aircraft operation. Committee membership has quickly grown, with over 50 companies now represented on it, which is collaboratively working toward establishing global standards for the industry. In 2017, the EPIC produced "GAMA Publication No. 16," a standard developed to aid manufacturers and operators in the common determination of hybrid and electric aircraft performance measurements.

As pilot numbers reach historic lows, public acceptance of increased automation on the road is expected to enable an entirely new generation of pilots who interface with aircraft that are more highly integrated and automated. In 2018, GAMA will continue working closely with the emerging industry and the global authorities to define new and exciting operational concepts that will increasingly democratize aviation.

Bilateral Aviation Safety Cooperation Makes Global Progress

Manufacturers around the globe seek ways to work with regulators to facilitate the introduction of new general aviation products and technologies to market. Notable efforts in 2017 include two new bilateral agreement implementation procedures among leading aviation regulators to increase safety, certification and validation cooperation, as well as the signing of an expanded bilateral safety agreement between transatlantic regulators.

GAMA Applauds Landmark Bilateral Aviation Safety Procedure Agreements

In September, the European Aviation Safety Agency (EASA) and its partner regulators, the U.S. Federal Aviation Administration (FAA) and Transport Canada Civil Aviation (TCCA), signed two new implementation procedure agreements forming the first major steps in the implementation of the Certification Management Team (CMT) Collaboration Strategy. The strategy, published in 2016, seeks to increase the level of safety cooperation among aviation safety regulators from Brazil, Canada the European Union and the United States.

"These are landmark agreements that significantly improve the acceptance of aviation products and approvals among our industry's key safety regulators," said GAMA President and CEO Pete Bunce. "The global general aviation manufacturing industry will benefit from these new provisions, which will reduce costs and delivery lead-times for aircraft exports in both directions across the Atlantic, while maintaining the highest levels of safety."

Revision 6 of the EASA-FAA Technical Implementation Procedures (TIP) for airworthiness and environmental certification is a significant milestone toward a risk-based approach to reduce and further eliminate redundant authority involvement. It establishes a three-tiered approach for all projects based on mutual confidence and safety risk: reciprocal acceptance, including all Technical Standard Orders for equipment, maintenance repair data and alterations on import aircraft; streamlined validation for basic design approvals, including all piston engine and propeller type certificates; and introduction of a new validation work plan approach to manage projects that focus Validating Authority technical involvement only in appropriate areas defined up front, based on risk.

Revision 3 of the EASA-TCCA Technical Implementation Procedures for airworthiness and environmental certification was also signed during the September CMT meeting. This agreement increases cooperation during certification and validation projects, and increases data sharing for in-service aircraft operations.

> *These are landmark agreements that significantly improve the acceptance of aviation products and approvals among our industry's key safety regulators.*

"GAMA looks forward to working with regulators to ensure a smooth and effective transition to the new processes during the six-month implementation period," said Bunce. "We also look forward to seeing these provisions enacted with other bilateral partners, such as Brazil's National Civil Aviation Agency."

GAMA Praises Progress in EU-US Bilateral Aviation Cooperation

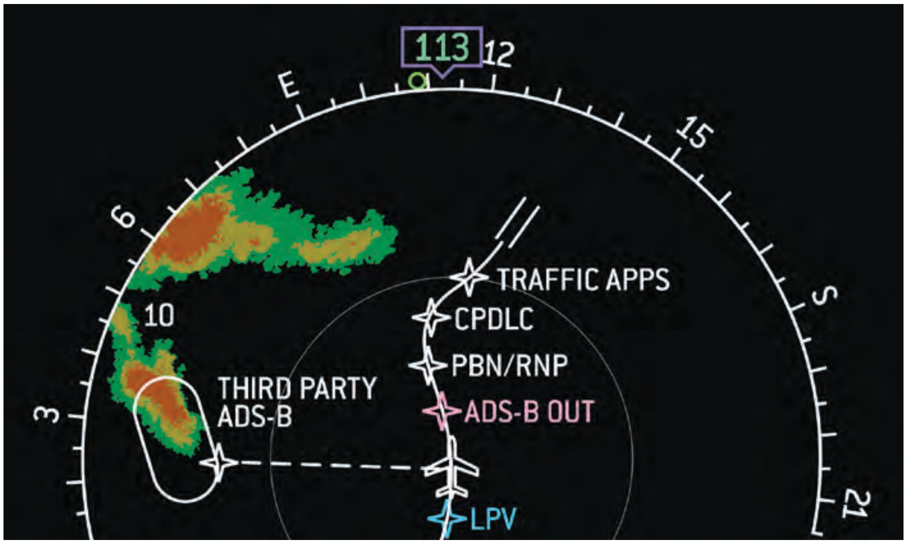
At the end of the year, the top regulators from the European Union (EU) and the United States (U.S.) approved an update to their Bilateral Aviation Safety Agreement (BASA) to further promote and expand transatlantic cooperation and efficiency.

U.S. Federal Aviation Administration (FAA) Administrator Michael Huerta signed an amendment to the existing agreement, alongside Permanent Representative of Estonia to the EU Ambassador Kaja Tael, representing EU Member States, and European Commission Directorate General for Mobility and Transport (DG MOVE) Director General Henrik Hololei.

The amendment paves the way to expand cooperation to cover pilot licensing and Flight Simulator Training Devices in the future—two key areas where reciprocal acceptance will deliver pragmatic, safety-enhancing improvements for pilots and the industry. The next step in the process is to conclude negotiations on both the technical annexes, which have already been prepared.

"We welcome this long-awaited broadening of the EU-US partnership to enable collaboration on simulators and pilot licensing," said GAMA President and CEO Pete Bunce. "Both sides must now reach agreement and begin implementing these two annexes in the very near future so that the tangible benefits can be realized without delay."

"In particular, there is an urgent need to allow private pilots to easily transfer their existing skills between authorities without undue burden," Bunce continued. "Similarly, improving the availability of simulators to facilitate their expanded use will directly contribute to general aviation safety."



General Aviation Fleet Makes Strides Towards ADS-B Equipage

With air traffic control system modernization activities accelerating worldwide, it is vital that aircraft owners begin to make informed decisions about how to comply with emerging and existing regulatory mandates immediately by selecting the right equipment for their aircrafts' typical missions.

Automatic Dependent Surveillance-Broadcast (ADS-B) equipment, a linchpin of the FAA's NextGen air traffic modernization program, will allow pilots to communicate their aircraft's position using satellite-based technology, providing pilots more information about what's going on the airspace around them. Since the FAA announced in 2010 the ADS-B mandate deadline of Jan. 1, 2020, general aviation manufacturers have worked to design, develop, certify, and make available ADS-B products that enhance safety for operators at reasonable costs.

In September, GAMA marked the news that as of the first of the month, over 40,000 aircraft flying in the U.S. had been equipped with rule-compliant ADS-B equipment, a milestone in the progress of fleet equipage.

"By choosing to equip now, operators are investing in their safety and ensuring they meet the 2020 deadline before installation lines grow long," said Bunce. "We are very pleased with the continuous growth in equipage, and manufacturers will continue working with the FAA and operators to facilitate equipage as the deadline approaches."

As 2017 came to a close, the FAA reported that nearly 50,000 U.S.-registered aircraft were equipped with rule-compliant ADS-B. The FAA also reported that 12,482 aircraft owners took advantage of the $500 ADS-B rebate the agency offered to single-engine piston airplane operators who equipped by September 2017. The object of the incentive program was to entice operators to equip earlier to avoid the risk of constrained maintenance and manufacturer capacity in 2018 and 2019.

Around the world, other operators face similar ADS-B equipage mandates. Australia's mandate went into effect in February 2017, whereas Europe's mandate, which extends to broader surveillance, involves a transponder mandate for certain aircraft to be compliant with Mode S Elementary or Mode S Enhanced by June 7, 2020. Canada is also considering establishing a requirement for ADS-B equipage.

2017 IN REVIEW

GAMA and General Aviation Industry Oppose Air Traffic Control Privatization Attempts in the U.S.

GAMA, and the broader general aviation industry, strongly engaged in the fight against efforts to privatize the U.S. air traffic control system in 2017.

In March, the Trump Administration published its Fiscal Year 2018 Budget, which formally proposed shifting the air traffic control function of the U.S. Federal Aviation Administration (FAA) to an independent, non-governmental organization. In response, GAMA issued a press release citing concerns about this shift.

"Removing the U.S. air traffic control system from the FAA could create negative impacts for aviation safety, rural and small communities, national security, and air traffic control modernization as well as for other important regulatory reform efforts," the statement said The FAA air traffic control system is the safest, most efficient, largest, and most complex in the world. To a degree not found in other countries, the economic health and vitality of numerous businesses and communities, small and large, depend on the U.S. aviation system. We must not weaken this strong foundation."

Many of the challenges associated with this type of change were thoughtfully outlined by Members of Congress on a bipartisan basis throughout the year, including one letter by U.S. Senators Jerry Moran (R-KS) and Amy Klobuchar (D-MN). Specifically, in January of 2017, the two suggested a dialogue with the new Administration among all stakeholders, including civil and defense users of the National Airspace System, to achieve national consensus on any potential changes to the U.S. air traffic control system.

In May, GAMA Hill Day attendees devoted a strong focus to sharing individual board members' perspective on the ramifications these reforms would have on general aviation manufacturers and the broader aviation marketplace. At the same time, Hill Day participants articulated how such a transition could impede air traffic modernization under the FAA's NextGen program and shared how this debate has delayed other important reforms sought by the broader aviation sector.

On the heels of GAMA's Hill Day, former GAMA Chairman and Hartzell Propeller President and Tailwind Technologies Chief Operating Officer Joe Brown testified before the U.S.

During GAMA's 2017 Hill Day, participants met with members of Congress to discuss key issues, like air traffic control privatization. From left to right: Mike Clayton of ULTRA-ICE, Doug May of Textron Aviation, Congressman Ron Estes (R-KS), Chuck Perkins of Aero-Mach Labs, Randy O'Boyle of ULTRA-ICE, Phil Straub of Garmin Aviation and current GAMA Chairman, and Steve Logue of Lycoming Engines.

House Transportation and Infrastructure Committee at a hearing focused on air traffic reform proposals. Brown provided the committee with a unique perspective as a private pilot, citizen and leader of a 100-year-old company with origins linked to the Wright Brothers.

In June, following its budget proposal, the Trump Administration released a set of principles for privatizing the U.S. air traffic control system. Rejecting these principles, GAMA issued a statement outlining concerns it had previously raised but also noted, "The U.S. Congress, working with stakeholders and FAA, has implemented equitable solutions to challenges like rural and small community service, fair access for all aviation users, environmental impacts of noise and traffic, infrastructure and funding mechanisms. The FAA has also managed the safe integration of new technologies into the National Airspace System because it is chartered to serve a broader public purpose. There is no guarantee that this new entity could run the safest, busiest and most complex airspace in the world, while simultaneously increasing the pace and impact of modernization and assuring the American people that it will, first and foremost, serve the public interest."

Later that month, the House Transportation and Infrastructure Committee passed the "21st Century

Joe Brown testifies before the House T&I Committee in May.

During his testimony, Brown posed the question to the Committee: *"Are the public interests better served if Congress gives our wealth and skies to a small group of special interests, operating outside of democratic oversight, so that they can serve their own ends?"*

Aviation Innovation, Reform, and Reauthorization Act," which included a title that would shift oversight of air traffic control from the FAA to a private entity. The same week, the U.S. Senate Commerce, Science, and Transportation Committee considered the "Federal Aviation Administration Reauthorization of 2017" that contained significant reforms to the FAA and its policies, but omitted efforts to privatize air traffic control. Though both the House and Senate bills passed out of committee, neither was debated on the floor of its respective body during 2017.

GAMA maintained its advocacy against air traffic control privatization during the summer and fall, utilizing public outreach and education, and grassroots advocacy. A significant moment in GAMA's public outreach came in July, when GAMA President and CEO Pete Bunce joined the leaders of the Aircraft Owners and Pilots Association (AOPA), Experimental Aviation Association (EAA), and the National Business Aviation Association (NBAA) at a town hall at EAA AirVenture Oshkosh, organized to educate the airshow attendees about the risks of privatizing the nation's air traffic control system.

During the event, Bunce stated, "We can work with Congress and the FAA to make improvements to our system and leverage the new air traffic control technology that has recently been deployed, but we do not support handing the system over to a small board of private interests that will reduce access and harm investment in general aviation, and rural and small communities."

Throughout the year, these general aviation associations and others repeatedly raised concerns about air traffic privatization with Congress, sending 10 letters to Congress in total, with the number of groups signing on to the letters starting at 16 on the first, and over 200 signing on to the last sent in 2017.

When September arrived, GAMA, along with AOPA, EAA, the Helicopter Association International (HAI), the National Air Transport Association (NATA) and NBAA, sent congressional transportation leaders a letter, urging them to focus on a consensus driven, bipartisan FAA bill given authorization authority for the agency was slated to lapse at the end of the month.

"There is a lack of consensus in the aviation community for Title II of H.R. 2997, the 21st Century AIRR Act, which seeks to effectively hand over control of our nation's air traffic system to the airlines and special interests," the letters stated. "Removing Title II would ensure consensus and allow for our aviation system to continue to serve the traveling public and the aviation industry."

Thirteen days later, with the broader FAA bills unable to pass due in large part to issues surrounding air traffic control privatization, Congress passed a six-month extension, until March 2018, for FAA's programs and policies.

As discussions addressing various critical aviation and transportation policies advance in the 115th Congress, GAMA will continue to push for a long-term FAA reauthorization bill and oppose attempts to privatize the U.S. air traffic control system.

As part of GAMA's public education and advocacy efforts, Garmin International President and CEO **Cliff Pemble** authored an opinion piece, "The Case Against Air Traffic Control Privatization" that was published in *The Hill* in October.

"Aviation was born in the United States and rapidly developed into the amazing system of transportation it is today because of fair access to the nation's airspace. Dismantling our current air traffic control system and placing it under the control of the airlines threatens jobs, the economy and fair access to the nation's airspace. Congress should be running away from H.R. 2997."

GAMA President and CEO Pete Bunce (right) discusses the pitfalls of air traffic control privatization during a town hall at EAA AirVenture, alongside EAA Board Chairman and CEO Jack Pelton (left), AOPA President and CEO Mark Baker (second in from left) and NBAA President and CEO Ed Bolen (second in from right).

Aircraft Certification Reform Continues to Make Progress in the U.S.

One of GAMA's top advocacy priorities is streamlining aircraft certification around the globe, including the U.S. Federal Aviation Administration's aircraft certification reform process. Making the process more efficient would address market and regulatory challenges the industry faces. In 2017, GAMA saw broad, bipartisan support for this reform.

In June, the U.S. Senate Commerce, Science, and Transportation Committee passed a bipartisan FAA reauthorization bill with language that would have reformed the process for certifying general aviation aircraft products in the U.S. and addressed other regulatory barriers for manufacturing and maintenance organizations.

"We applaud the Senate and thank Commerce Committee Chairman John Thune (R-SD), Ranking Member Bill Nelson (D-FL), Aviation Subcommittee Chairman Roy Blunt (R-MO) and Ranking Member Maria Cantwell (D-WA) for including provisions addressing the broader certification and regulatory changes needed to improve safety, provide more consistency in regulatory interpretation, and keep the U.S. aviation industry competitive in the global economy," said GAMA President and CEO Pete Bunce, in a press release the association issued about the legislation. Bunce additionally praised the strong support of the 27 Senators, led by Senators Blunt, Cantwell, Moran (R-KS), Klobuchar (D-MN), Gardner (R-CO), and Peters (D-MI), who wrote Chairman Thune and Ranking Member Nelson asking for the inclusion of the provisions.

"A good idea can be squandered if the implementation of that solution is not timely. As one solution is being certified, others may enter the market, and for many different reasons get to market faster if their certification program is completed more efficiently."

Greg Fedele, Former GAMA Board Member and Sabreliner Aviation President and Innova Aerospace Executive Vice President of Corporate Development, testified before the Senate Commerce, Science and Transportation Subcommittee on Aviation Operations in March about the FAA regulatory and certification processes and reforms to improve U.S. competitiveness in the global marketplace for aviation products and manufacturing.

GAMA Board Member and Textron Aviation executive **Michael Thacker** testified before the House Transportation and Infrastructure Committee in February about the state of American aviation manufacturing.

GAMA also saw broad support for certification in the U.S. House of Representatives. Shortly after GAMA's Hill Day in May, a Washington, DC, publication, The Hill, published an opinion piece by Representatives Sam Graves (R-MO) and Rick Nolan (D-MN) in which the two members of the House of Representatives Transportation and Infrastructure Subcommittee on Aviation made the case for congressional passage of aircraft certification reform. In June, the House Transportation and Infrastructure Committee included the certification title in its FAA Reauthorization bill, for which GAMA thanked Committee Chairman Bill Shuster (R-PA), Ranking Committee Member Peter DeFazio (D-OR), Aviation Subcommittee Chair Frank LoBiondo (D-NJ), and Aviation Ranking Member Rick Larsen (D-WA).

GAMA saw further progress on certification in July, when the U.S. House of Representatives and the U.S. Senate Appropriations Committees each passed their fiscal year 2018 transportation bills. Each bill supported general aviation through the inclusion of language improving aircraft certification reform.

"We are extremely pleased to see the Committee put teeth into their direction to the FAA to better utilize the Organizational Designation Authority," said GAMA President and CEO Pete Bunce, upon passage of the House Appropriations Bill on July 18. "GAMA has advocated for this for some time, and we appreciate the Committee's support in making this a reality, which will benefit the U.S. economy, aircraft sales and create jobs."

"We thank members of the Committee, particularly Transportation Subcommittee Chairman Mario Diaz-Balart (R-FL) and Ranking Member David Price (D-NC), and Appropriations Chairman Rodney

Frelinghuysen (R-NJ) and Ranking Member Nita Lowey (D-NY), for this critical funding measure," continued Bunce.

GAMA also praised the Senate, particularly Transportation Subcommittee Chairman Susan Collins (R-ME) and Ranking Member Jack Reed (D-RI), as well as Appropriations Chairman Thad Cochran (R-MS) and Ranking Member Patrick Leahy (D-VT), for including language facilitating the flow and safety of aviation products globally, and rejecting the Trump Administration's proposal to separate the U.S. air traffic control system from the federal government.

"The Senate Appropriations Committee showed strong support for our industry in its unanimous vote for this comprehensive and ambitious bill," said GAMA President and CEO Pete Bunce, in a press release issued on July 28. "They addressed our key certification priorities and they clearly conveyed they do not support the Administration's request to privatize America's air traffic control system, which we firmly believe would harm general aviation and small and rural communities."

As discussions addressing various critical aviation and transportation policies advance in the 115th Congress, GAMA will continue to push for meaningful certification and regulatory reform.

U.S. FAA Administrator Michael Huerta speaks to general aviation leaders at the General Aviation Safety Summit in October, which GAMA hosted at its headquarters in Washington, DC.

General Aviation Safety Continues Improving in 2017

The general aviation industry's multi-pronged efforts to improve safety, technologies and procedures are paying off, with the fewest number of fatal accidents ever recorded in the United States.

The 2016 fatal accident rate was 0.89 per 100,000 flight hours and the preliminary data for 2017 shows further improvement, putting the year on track to be the safest year recorded in general aviation.

"This is a significant accomplishment," FAA Administrator Michael Huerta said about the accident rate, in his remarks to general aviation industry leaders in October 2017. "When we identify issues that need to be addressed, no one ever says, 'That doesn't concern my members,' or 'That's someone else's problem.' Instead, each of you has been willing to roll up your sleeves and ask, 'How can we fix this— together?'"

The completion of the Part 23 rule rewrite and the streamlining of the FAA's approval process for non-required safety enhancing equipment, combined with collaborative government-industry, data-driven safety efforts of the General Aviation Joint Steering Committee and U.S. Helicopter Safety Team, have contributed significantly to improving the general aviation accident rate. The focus in 2018 remains on mitigating the risk of loss-of-control and power plant accidents while investigating the causes of controlled flight into terrain.

GAMA is encouraged by Europe establishing its own safety program for general aviation airplane and rotorcraft operations, which should help further improve safety.

FAA, GAMA and AIA Establish ODA Performance Scorecard

FAA, GAMA and AIA established an Organization Designation Authorization (ODA) Metrics Continuous Improvement Team (CIT) to establish reliable performance measures and a collaborative review process to enhance ODA effectiveness. An annual Scorecard process has been established for individual companies and local FAA certification offices to assess quantitative and qualitative data and develop improvement action plans. The CIT reviews a national roll-up of ODA and certification system performance to identify appropriate opportunities to further improve the utilization of ODA and FAA risk-based level of involvement. This is a collaborative initiative for ensuring continuing progress toward the effective and efficient certification processes that are needed to ensure the health of the general aviation manufacturing industry in the U.S.

How GAMA Members Gave Back in 2017

GAMA members worked hard to improve safety, innovate and bring new products to the market in 2017. But they also worked hard to give back to their communities, help those in need and invest in the industry's future workforce.

Astronautics Corporation of America employees volunteered to work with middle school STEM students from Junior Achievement of Wisconsin's JA Finance Park Golda Meir School; supported the first Aerospace Jam with the Milwaukee Bucks to help high school students learn about potential aerospace industry careers and college students to connect with aerospace industry employers; and demonstrated the company's RoadRunner™ electronic flight instrument at a Girls & STEM event at Discovery World Science + Technology Center in Milwaukee.

Bombardier Business Aircraft held its sixth Inspiring Future Aviators Program, an educational partnership with the New England Air Museum that encourages young people to pursue aviation careers through interactive tours of the museum and Bombardier Business Aircraft's Hartford Service Center. During the 2016-2017 school year, the program served over 180 local technical and vocational high school students at no cost to them or their schools. To date, the program has reached over 500 middle and high school students.

Mooney International hosted a blood drive for its employees at its South Texas factory to help hurricane victims, especially those in Texas. Employees donated a total of 24 pints of blood, equating to 72 lives saved. Nine employees were first-time donors.

As part of company-sponsored events and individual efforts, **Gulfstream Aerospace Corporation** employees logged over 25,000 hours of community service in 2017. Gulfstream also continued its workforce and educational outreach through its Savannah-based Student Leadership Program, established in 2008. The program is now a collaborative partnership between Gulfstream, the public-school system and the business community designed to expand learning beyond the classroom and provide opportunities to help high-school students develop leadership skills and prepare for careers after graduation.

Click Bond, Inc. sponsored the FIRST Young Robotics Engineers 5480 team with monetary and parts donations. The Reno, Nevada, area high school team participated in a six-week program that challenged them to conceptualize the design of a robot and build and program the robot to do various tasks. After two intense days of competition, fixing mechanical breakdowns and reprogramming robots, the team made it to the last round of the semifinals.

GE Aviation employees, through the company's volunteer arm 'GE Volunteers', donated 158,000 hours in more than 50 communities around the globe through 1,267 projects.

For over 15 years, the **Embraer Institute** has annually given 960 low-income students in Brazil a full scholarship to attend two exceptional high schools, which focus on academic excellence and professional development. The Embraer Institute also established in April 2017 a sister foundation, the Embraer Foundation, to consolidate the company's U.S. social investments. During its first year, the Foundation devoted over 880 hours to volunteering and community engagement activities, and its entrepreneurship program reached over 400 students. Additionally, the Embraer Foundation awarded 11 mini-grants to nonprofit organizations in nine communities around the U.S., where Embraer has operations.

True Blue Power hosted a drive for the Kansas Food Bank and Hope of the Valley Rescue Mission. Employees donated 9,119 pounds of food.

Williams International raised $18,640 to help the victims of Hurricanes Harvey, Irma and Maria; two Williams employees volunteered their time, fuel and airplanes to help deliver over 19,000 gifts throughout Michigan in support of Operation Good Cheer, an annual, all-volunteer gift-giving program of Michigan Child and Family Services.

Additionally, the broader general and business aviation industry helped communities and those in need by:

- Bringing help by air when flooding and debris prevented ground transportation from assisting those affected by the devastating hurricanes in Texas, Florida and Caribbean Islands. Non-profit and volunteer organizations such as Aerobridge, Seaplane Crossings and the Eagles Wings Foundation took supplies to the Caribbean Islands destroyed by Hurricanes Irma and Maria and helped evacuate pets and people who were in desperate need of going to a place with available medical services.
- Organizing relief efforts overnight. Pilots from general aviation organizations, such as Angel Flight South Central, transported patients out of Hurricane Harvey devastated areas near Houston. A group called Operation Airdrop organized hundreds of pilots to get involved in relief efforts overnight, putting together a general aviation fleet consisting of everything from Cessna 152s to Pilatus PC-12s.
- Providing free air transportation to, primarily, post 9/11 combat wounded and their families through Veterans Airlift Command (VAC). In 2017, VAC flew 1,600 passengers through its generous network of 2,600 volunteer pilots and aircraft.
- Flying cancer patients, both children and adults, to treatment at no cost on private and corporate planes' empty seats through Corporate Angel Network (CAN). Thanks to the generous cooperation of 500 of America's top corporations, including half of the top 100 in the Fortune 500, CAN has, as of February 2018, flown 55,000 patient flights since its founding in 1981.

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GAMA's 2017 Annual Report, previously named the Statistical Databook and Industry Outlook, covers aircraft shipments from 39 aircraft manufacturers with details from the past decade in its first chapter.

This year the report also contains expanded fleet data about key general aviation markets in North America, Latin America, and the Asia Pacific region. Courtesy of Japan's Civil Aviation Bureau, this report includes an updated 10-year overview of the Japanese fleet.

Europe is one of the most diverse general aviation regions with an active community across all segments of the industry. This year the report includes standardized fleet data from 37 countries within Europe. At the end of 2017, over 136,000 aircraft comprised the European fleet.

Aircraft Shipment and Billings

General aviation manufacturers delivered over $23.9 billion in new aircraft in 2017, a decline from $24.8 billion in new aircraft in 2016.

The rotorcraft segment stabilized after several years of declining deliveries. Piston rotorcraft experienced the largest increase of all segments at 264 unit deliveries compared to 224 in 2016, a 17.9 percent increase. Preliminary rotorcraft(*) data also indicates an increase of 3.9 percent, to 662 aircraft delivered.

Business jet airplane deliveries grew slightly by 1.3 percent, rising from 667 to 676 units. Several new aircraft models entering into service in 2017 drove this growth.

Turboprop deliveries slowed to 563 airplanes, compared to 582 deliveries in 2016; a 3.3 percent decline.

Piston airplane shipments strengthened by 6.5 percent, to 1,085 units.

North America remains the largest market for piston airplanes, turboprops, and business jets. The second largest market for piston airplanes was the Asia Pacific region at 13.4 percent of shipments. The second largest market for turboprops was Latin America, at 15.5 percent of shipments. Europe remains the second largest market for business jets, with 17.0 percent of airplanes delivered.

Aircraft Fleet Continues Growing

The business airplane fleet continues expanding worldwide. According to JETNET, LLC., the business jet fleet reached 22,002 airplanes worldwide in 2017, an increase from 21,544 in 2016 and an increase of 5,762 airplanes from one decade ago. The worldwide turboprop fleet reached 15,280 airplanes at the end of the year.

The worldwide rotorcraft fleet expanded to 21,486 turbine helicopters and to 9,723 piston helicopters.

The fractional fleet grew slightly to 818 airplanes, but the number of fractional share owners declined slightly from 4,100 in 2016 to 3,894 at the end of 2017.

Pilot Population

The U.S. pilot population reached 609,306 active pilots. The year-end pilot population data is not directly comparable to prior years, because of a change in how the FAA identifies active certificates, but indications lean positive. The number of female pilots reached a new record, totaling 42,694 at the end of the year; 7.01 percent of the population. The number of active pilots includes 162,455 private pilots and 149,121 student pilots.

You may find additional data on GAMA's website, www.GAMA.aero. If you have questions about the data in this report, please contact GAMA staff by telephone, at +1-202-393-1500 or by email, at info@GAMA.aero.

(*) Leonardo Helicopters Q4 data was not available at the time of publication. Leonardo Helicopters will release year-end results in March 2018. GAMA will update the online 2017 report then. For the purpose of comparison, GAMA excluded 2016 Q4 data for Leonardo.

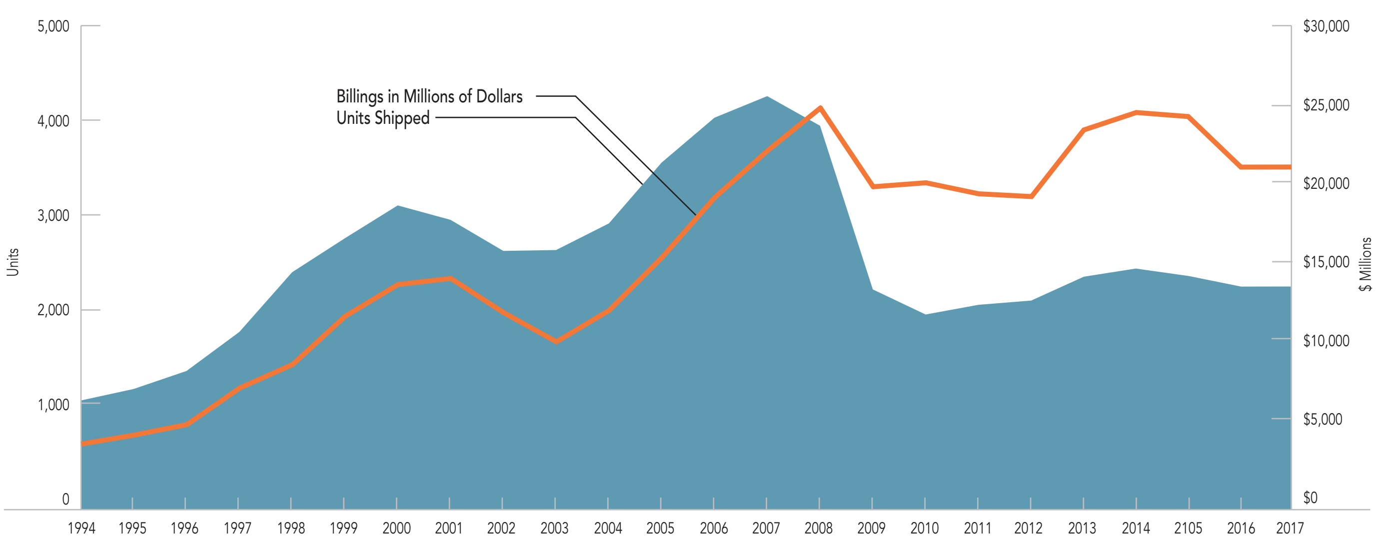
General Aviation Shipments and Billings

1.1 General Aviation Airplane Shipments by Type of Airplane Manufactured Worldwide (1995–2017)

Year	Grand Total	Single-Engine Piston	Multi-Engine Piston	Total Piston	Turboprop	Business Jet	Total Turbine
1995	**1,251**	605	61	**666**	285	300	**585**
1996	**1,437**	731	70	**801**	320	316	**636**
1997	**1,840**	1,043	80	**1,123**	279	438	**717**
1998	**2,457**	1,508	98	**1,606**	336	515	**851**
1999	**2,808**	1,689	112	**1,801**	340	667	**1,007**
2000	**3,147**	1,877	103	**1,980**	415	752	**1,167**
2001	**2,998**	1,645	147	**1,792**	422	784	**1,206**
2002	**2,677**	1,591	130	**1,721**	280	676	**956**
2003	**2,686**	1,825	71	**1,896**	272	518	**790**
2004	**2,962**	1,999	52	**2,051**	319	592	**911**
2005	**3,590**	2,326	139	**2,465**	375	750	**1,125**
2006	**4,054**	2,513	242	**2,755**	412	887	**1,299**
2007	**4,277**	2,417	258	**2,675**	465	1,137	**1,602**
2008	**3,974**	1,943	176	**2,119**	538	1,317	**1,855**
2009	**2,283**	893	70	**963**	446	874	**1,320**
2010	**2,024**	781	108	**889**	368	767	**1,135**
2011	**2,120**	761	137	**898**	526	696	**1,222**
2012	**2,164**	817	91	**908**	584	672	**1,256**
2013	**2,353**	908	122	**1,030**	645	678	**1,323**
2014	**2,454**	986	143	**1,129**	603	722	**1,325**
2015	**2,331**	946	110	**1,056**	557	718	**1,275**
2016	**2,268**	890	129	**1,019**	582	667	**1,249**
2017	**2,324**	936	149	**1,085**	563	676	**1,239**

Source: GAMA

FIGURE 1.1 General Aviation Airplane Shipments and Billings Worldwide (1994–2017)



Source: GAMA

1.2 Estimated Billings (in Millions) for General Aviation Airplane Shipments by Type of Airplane Manufactured Worldwide (1994–2017)

Year	Grand Total	Single-Engine Piston	Multi-Engine Piston	Total Piston	Turboprop	Business Jet	Total Turbine
1994	**3,749**	n/a	n/a	**111**	714	2,924	**3,638**
1995	**4,294**	n/a	n/a	**169**	774	3,351	**4,125**
1996	**4,936**	n/a	n/a	**191**	864	3,881	**4,745**
1997	**7,170**	n/a	n/a	**238**	913	6,019	**6,932**
1998	**8,604**	n/a	n/a	**377**	1,011	7,216	**8,227**
1999	**11,560**	n/a	n/a	**440**	930	10,190	**11,120**
2000	**13,496**	n/a	n/a	**512**	1,323	11,661	**12,984**
2001	**13,868**	n/a	n/a	**541**	1,210	12,117	**13,327**
2002	**11,778**	n/a	n/a	**483**	868	10,427	**11,295**
2003	**9,998**	n/a	n/a	**545**	837	8,616	**9,453**
2004	**12,093**	n/a	n/a	**692**	997	10,404	**11,401**
2005	**15,156**	n/a	n/a	**805**	1,189	13,161	**14,350**
2006	**18,815**	n/a	n/a	**857**	1,389	16,555	**17,958**
2007	**21,837**	n/a	n/a	**897**	1,593	19,347	**20,940**
2008	**24,846**	n/a	n/a	**945**	1,953	21,948	**23,901**
2009	**19,474**	n/a	n/a	**442**	1,589	17,443	**19,032**
2010	**19,715**	n/a	n/a	**415**	1,300	18,000	**19,300**
2011	**19,042**	n/a	n/a	**441**	1,365	17,235	**18,600**
2012	**18,895**	n/a	n/a	**428**	1,359	17,108	**18,467**
2013	**23,450**	n/a	n/a	**571**	1,821	21,058	**22,879**
2014	**24,499**	n/a	n/a	**635**	1,849	22,015	**23,864**
2015	**24,129**	n/a	n/a	**601**	1,651	21,877	**23,528**
2016	**21,092**	n/a	n/a	**661**	1,705	18,727	**20,432**
2017	**20,197**	n/a	n/a	**718**	1,490	17,990	**19,479**

Starting in 2011, the data includes the addition of agricultural airplanes, new piston airplane manufacturers, and some helicopter manufacturers. The data cannot be directly compared to 2010 and earlier entries. Refer to Tables 1.4b and 1.4c for make and model detail.

Source: GAMA

1.3 Customer Delivery Region (in Percent of Total) for General Aviation Airplane Shipments by Type of Airplane Manufactured Worldwide (2007–2017)

Year	Piston					Turboprop					Business Jet				
	North America	Europe	Asia-Pacific	Latin America	Middle East & Africa	North America	Europe	Asia-Pacific	Latin America	Middle East & Africa	North America	Europe	Asia-Pacific	Latin America	Middle East & Africa
2007	66.5	16.3	9.2	5.4	2.7	57.2	16.3	8.6	14.4	3.4	58.3	24.9	4.2	7.5	5.2
2008	68.1	15.2	7.5	7.3	2.0	57.3	21.9	6.0	7.4	7.4	53.8	25.9	4.7	9.4	6.3
2009	59.4	21.2	9.5	6.8	2.8	57.8	17.5	8.7	8.1	7.8	49.4	26.3	8.6	9.2	6.4
2010	53.4	18.6	13.7	8.8	5.5	43.2	15.2	16.8	14.7	10.1	42.1	22.8	11.8	14.3	9.0
2011	57.7	12.0	15.6	10.0	4.6	52.6	14.1	14.4	13.6	5.3	50.0	20.2	12.9	10.1	6.8
2012	50.4	19.6	16.3	9.7	4.1	48.6	12.6	17.4	14.5	6.9	49.7	20.8	11.8	11.6	6.1
2013	52.8	17.2	15.1	10.0	5.0	57.1	10.5	14.0	13.2	5.3	52.4	15.6	11.9	11.1	9.0
2014	55.1	19.7	12.1	8.9	4.3	51.3	7.7	19.4	15.3	6.3	52.2	19.5	10.9	9.4	7.9
2015	66.7	11.4	13.5	6.3	2.2	56.2	6.6	16.3	14.5	6.3	60.8	18.0	9.2	7.1	4.9
2016	69.6	10.1	10.2	5.8	4.3	57.8	10.6	13.2	9.9	8.4	62.0	18.8	7.7	6.2	5.3
2017	65.6	9.5	13.4	5.9	5.6	54.2	12.8	14.1	15.5	3.4	63.8	17.0	9.9	5.3	4.0

Source: GAMA

1.4a **Worldwide Business Jet Shipments by Manufacturer (2004–2017)**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Airbus	**0**	**9**	**11**	**13**	**11**	**13**	**15**	**10**	**9**	**6**	**5**	**4**	**1**	**0**
Airbus Corporate Jet (all models)	0	9	10	12	9	11	-	-	-	-	-	-	-	-
ACJ318	-	-	-	-	-	-	2	2	2	1	0	1	0	0
ACJ319	-	-	-	-	-	-	8	6	6	4	1	1	0	0
ACJ320	-	-	-	-	-	-	3	1	0	0	4	1	0	0
ACJ321	-	-	-	-	-	-	-	-	-	1	0	0	0	0
ACJ330	-	-	-	1	1	1	1	1	1	0	0	1	1	0
ACJ340	-	-	1	0	1	1	1	0	0	0	0	0	0	0
Avcraft (prev. Fairchild)	**9**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Envoy 3	9	1	-	-	-	-	-	-	-	-	-	-	-	-
Boeing Business Jets	**3**	**4**	**13**	**7**	**6**	**6**	**12**	**8**	**12**	**7**	**10**	**11**	**4**	**7**
Boeing Business Jet	2	3	12	7	3	3	4	8	2	5	3	4	1	0
Boeing Business Jet 2	1	1	1	0	1	0	2	0	2	1	2	1	0	0
Boeing Business Jet 3	-	-	-	-	2	1	4	0	0	0	0	1	0	0
Boeing 737–800	-	-	-	-	-	-	-	-	-	-	-	-	2	0
Boeing Business Jet 747	-	-	-	-	-	-	-	-	8	0	0	0	0	1
Boeing Business Jet 767	-	-	-	-	-	1	0	0	0	0	0	0	0	0
Boeing Business Jet 777	-	-	-	-	-	1	2	0	0	0	1	1	1	3
Boeing Business Jet 787	-	-	-	-	-	-	-	-	-	1	4	4	0	3
Bombardier Business Aircraft	**130**	**188**	**213**	**224**	**247**	**173**	**150**	**182**	**179**	**180**	**204**	**199**	**163**	**140**
Learjet 31A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Learjet 40/XR	17	21	26	57	48	33	16	24	24	1	-	-	-	-
Learjet 45/XR	22	28	30								-	-	-	-
Learjet 60/XR	9	18	15	23	26	13	12	19	15	10	1	-	-	-
Learjet 70/75	-	-	-	-	-	-	-	-	-	18	33	32	24	14
Challenger 300/350	28	50	55	51	60	33	29	37	48	55	54	68	62	56
Challenger 604/605/650	29	36	29	35	44	36	38	43	34	32	36	25	26	23
Global 5000	4	17	18	46	52	51	49	53	54	62	80	73	51	45
Global 6000/Express	20	13	22											
CL 850/870/890	1	5	18	12	17	7	6	6	4	2	0	1	0	2
Cirrus Aircraft	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**22**
SF50	-	-	-	-	-	-	-	-	-	-	-	-	3	22
Dassault Aviation	**63**	**51**	**61**	**70**	**72**	**77**	**95**	**63**	**66**	**77**	**66**	**55**	**49**	**49**
Falcon 50EX	5	5	5	2	1	-	-	-	-	-	-	-	-	-
Falcon 900C	3	1	-	-	-	-	-	-	-	-	-	-	-	-
Falcon 900EX	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Falcon 900DX	-	2	4	10	4	1	3	-	-	-	-	-	-	-
Falcon 900EX EASy	14	16	16	18	19	17	17	1	-	-	-	-	-	-
Falcon 900LX	-	-	-	-	-	-	4	11	7	11	8	-	-	-
Falcon 2000	11	6	6	1	-	-	-	-	-	-	-	-	-	-
Falcon 2000DX	-	-	-	-	3	1	-	-	-	-	-	-	-	-
Falcon 2000EX	10	-	-	-	-	-	-	-	-	-	-	-	-	-
Falcon 2000EX EASy	19	21	30	33	24	3	-	-	-	-	-	-	-	-
Falcon 2000LX	-	-	-	-	-	23	30	20	22	8	-	-	-	-
Falcon 2000LXS	-	-	-	-	-	-	-	-	-	3	18	-	-	-
Falcon 2000S	-	-	-	-	-	-	-	-	-	12	13	-	-	-
Falcon 7X	-	-	-	6	21	32	41	31	37	43	27	-	-	-
Falcon 2000S/2000LXS/900LX/7X/8X	-	-	-	-	-	-	-	-	-	-	-	55	49	49
Embraer	**13**	**20**	**27**	**36**	**38**	**122**	**145**	**99**	**99**	**119**	**116**	**120**	**117**	**109**
Phenom 100/E	-	-	-	-	2	97	100	41	29	30	19	12	10	18
Phenom 300	-	-	-	-	-	1	26	42	48	60	73	70	63	54
Legacy 450	-	-	-	-	-	-	-	-	-	-	-	3	12	14
Legacy 500	-	-	-	-	-	-	-	-	-	-	3	20	21	15
Legacy 600/650	13	20	27	36	36	18	11	13	17	21	18	12	9	7
Lineage 1000/E190 Head of State	-	-	-	-	-	5	5	3	2	4	3	3	2	1
Shuttles (ERJs and E-Jets)	-	-	-	-	-	1	3	0	3	4	0	0	0	0
Emivest (prev. Sino Swearingen)	**0**	**0**	**1**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
SJ30-2	-	-	1	1	0	2	0	0	0	0	0	0	0	0
Gulfstream Aerospace Corporation	**78**	**89**	**113**	**138**	**156**	**94**	**99**	**99**	**94**	**144**	**150**	**154**	**115**	**120**
G100/G150 (prev. IAI Astra)														
G200 (prev. IAI Galaxy)	22	26	42	59	68	19	24	21	11	23	33	34	27	30
G280														
G300/350/400/450 (prev. GIV/GIVSP)	56	63	71	79	88	75	75	78	83	121	117	120	94	90
G500/G550 (prev. GV/GVSP), G650, G650ER														
Honda Aircraft Company	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**23**	**43**
HA-420 HondaJet	-	-	-	-	-	-	-	-	-	-	-	2	23	43
ONE Aviation Corp. (prev. Eclipse Aero)	**0**	**0**	**1**	**98**	**161**	**0**	**0**	**0**	**0**	**0**	**12**	**7**	**8**	**6**
Eclipse 500	-	-	1	98	161	-	-	-	-	-	-	-	-	-
Eclipse 550	-	-	-	-	-	-	-	-	-	-	12	7	8	6
Textron Aviation (Beechcraft)	**115**	**141**	**140**	**162**	**160**	**98**	**73**	**52**	**32**	**6**	**0**	**0**	**0**	**0**
Premier I/A	37	30	23	54	31	16	11	11	3	-	-	-	-	-
Hawker 400XP	28	53	53	41	35	11	12	1	-	-	-	-	-	-
Hawker 750	-	-	-	-	23	13	5	7	-	-	-	-	-	-
Hawker 800XP	50	58	8	-	-	-	-	1	-	-	-	-	-	-
Hawker 850XP	-	-	56	35	15	3	1	0	-	-	-	-	-	-
Hawker 900XP	-	-	-	32	50	35	28	22	17	-	-	-	-	-
Hawker 4000	-	-	-	-	6	20	16	10	12	6	-	-	-	-

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1.4a Worldwide Business Jet Shipments by Manufacturer (2004–2017) *Continued*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Textron Aviation (Cessna Aircraft)	**181**	**247**	**307**	**388**	**466**	**289**	**178**	**183**	**181**	**139**	**159**	**166**	**178**	**180**
CE-510 Citation Mustang	-	-	1	45	101	125	73	43	38	20	8	8	10	7
CE-525 Citation CJ1	20	14	-	-	-	-	-	-	-	-	-	-	-	-
CE-525 Citation CJ1+	-	4	25	34	20	14	3	2	-	-	-	-	-	-
CE-525 Citation M2	-	-	-	-	-	-	-	-	-	12	46	41	38	39
CE-525A Citation CJ2	27	23	1	-	-	-	-	-	-	-	-	-	-	-
CE-525A Citation CJ2+	-	-	36	44	56	21	17	15	19	15	2	-	-	-
CE-525B Citation CJ3	6	48	72	78	88	40	20	22	21	15	6	-	-	-
CE-525B Citation CJ3+	-	-	-	-	-	-	-	-	-	-	10	23	25	26
CE-525C Citation CJ4	-	-	-	-	-	-	19	48	44	33	28	33	29	23
CE-550 Citation Bravo	25	21	18	-	-	-	-	-	-	-	-	-	-	-
CE-560 Citation Encore	24	13	12	-	-	-	-	-	-	-	-	-	-	-
CE-560 Citation Encore+	-	-	-	23	28	5	5	4	-	-	-	-	-	-
CE-560 Citation Excel	23	-	-	-	-	-	-	-	-	-	-	-	-	-
CE-560 Citation XLS	32	64	73	82	72	7	-	-	-	-	-	-	-	-
CE-560 Citation XLS+	-	-	-	-	8	37	22	27	31	31	22	21	19	18
CE-680 Citation Sovereign	9	46	57	65	77	33	16	19	22	5	-	-	-	-
CE-680 Citation Sovereign+	-	-	-	-	-	-	-	-	-	8	28	18	11	9
CE-680A Citation Latitude	-	-	-	-	-	-	-	-	-	-	-	16	42	54
CE-750 Citation X	15	14	12	17	16	7	3	3	6	-	-	-	-	-
CE-750 Citation X+	-	-	-	-	-	-	-	-	-	-	9	6	4	4
Total Number of Airplanes	**592**	**750**	**887**	**1,137**	**1,317**	**874**	**767**	**696**	**672**	**678**	**722**	**718**	**667**	**676**
% Change	14.3%	26.7%	18.3%	28.2%	15.8%	-33.6%	-12.2%	-9.3%	-3.4%	0.9%	6.5%	-0.6%	-7.1%	1.3%
Total Billings for Airplanes ($M)	**10,404**	**13,161**	**16,555**	**19,347**	**21,948**	**17,443**	**18,000**	**17,235**	**17,108**	**21,058**	**22,015**	**21,877**	**18,727**	**17,990**
% Change	20.7%	26.5%	25.8%	16.9%	13.4%	-20.5%	3.2%	-4.2%	-0.7%	23.1%	4.5%	-0.6%	-14.4%	-3.9%

Source: GAMA

1.4b Worldwide Turboprop Airplane Shipments by Manufacturer (2004–2017)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Air Tractor	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**130**	**168**	**174**	**145**	**113**	**112**	**133**
AT-402A	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	1	0	0	0	0	5
AT-402B	n/a	n/a	n/a	n/a	n/a	n/a	n/a	9	21	33	20	11	10	15
AT-502A	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3	1	2	1	0	8	17
AT-502B	n/a	n/a	n/a	n/a	n/a	n/a	n/a	57	81	70	61	36	22	32
AT-504	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4	6	2	3	3	1	5
AT-602	n/a	n/a	n/a	n/a	n/a	n/a	n/a	10	10	18	14	14	16	7
AT-802	n/a	n/a	n/a	n/a	n/a	n/a	n/a	26	18	9	10	8	5	6
AT-802A	n/a	n/a	n/a	n/a	n/a	n/a	n/a	21	30	40	36	29	40	39
AT-802AF	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	10	3	6
AT-802F	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2	3	1
AVIC General	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**2**
Y12 Series	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6	2
Daher	**31**	**31**	**42**	**46**	**60**	**36**	**38**	**38**	**38**	**40**	**51**	**55**	**54**	**57**
TBM 700	31	31	-	-	-	-	-	-	-	-	-	-	-	-
TBM 850	-	-	42	46	60	36	38	38	38	40	-	-	-	-
TBM 900	-	-	-	-	-	-	-	-	-	-	51	55	8	-
TBM 910	-	-	-	-	-	-	-	-	-	-	-	-	-	29
TBM 930	-	-	-	-	-	-	-	-	-	-	-	-	46	28
Extra Aircraft	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**2**	**0**	**0**	**0**
EA500	-	-	-	-	-	-	-	-	2	1	2	-	-	-
Maule Air Incorporated	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
M-7-420AC	0	0	0	0	1	0	0	0	0	0	0	0	0	0
MT-7-420	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Pacific Aerospace Corporation	**8**	**10**	**5**	**10**	**15**	**12**	**11**	**10**	**10**	**6**	**4**	**5**	**8**	**7**
PAC 750XL	8	10	5	10	15	12	11	10	10	6	4	5	8	7
Piaggio Aerospace	**16**	**14**	**19**	**21**	**30**	**24**	**11**	**14**	**5**	**2**	**2**	**3**	**3**	**2**
P.180 Avanti	16	13	-	-	-	-	-	-	-	-	-	-	-	-
P.180 Avanti II	-	1	19	21	30	24	11	14	5	2	2	-	-	-
P.180 Avanti Evo	-	-	-	-	-	-	-	-	-	-	-	3	3	2
Pilatus	**70**	**80**	**90**	**98**	**100**	**105**	**84**	**69**	**67**	**69**	**76**	**74**	**100**	**86**
PC-6 Porter	n/a	n/a	n/a	6	3	5	5	6	5	4	10	4	9	1
PC-12	70	80	90	92	97	100	79	63	62	65	66	70	91	85
Piper Aircraft, Inc.	**26**	**40**	**49**	**53**	**52**	**29**	**25**	**32**	**32**	**34**	**36**	**27**	**34**	**47**
PA-46-500 TP Meridian/M500	26	40	49	53	52	29	25	32	32	34	36	27	12	12
PA-46-600 TP M600	-	-	-	-	-	-	-	-	-	-	-	-	22	35
Quest Aircraft Company	**0**	**0**	**0**	**1**	**7**	**24**	**14**	**13**	**15**	**28**	**30**	**32**	**36**	**31**
Kodiak 100	-	-	-	1	7	24	14	13	15	28	30	32	36	31
Textron Aviation (Beechcraft)	**102**	**114**	**140**	**157**	**172**	**119**	**90**	**92**	**89**	**135**	**127**	**117**	**106**	**86**
King Air C90	27	35	52	46	66	44	28	29	27	27	21	15	11	13
King Air B200 / B250	39	37	42	58	54	37	24	25	22	36	35	28	32	28
King Air 350	36	42	46	53	52	38	38	38	40	72	71	74	63	45
Textron Aviation (Cessna Aircraft)	**64**	**86**	**67**	**79**	**101**	**97**	**95**	**93**	**107**	**105**	**94**	**102**	**84**	**69**
CE-208 Caravan 675	13	11	8	11	12	12	8	10	11	11	13	9	13	10
CE-208B Grand Caravan	51	75	59	68	89	85	87	83	96	94	81	93	71	59

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1.4b **Worldwide Turboprop Airplane Shipments by Manufacturer (2004–2017)** *Continued*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Thrush Aircraft, Inc.	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**35**	**51**	**51**	**36**	**29**	**39**	**43**
S2R-T34	n/a	n/a	n/a	n/a	n/a	n/a	n/a	30	39	20	10	8	10	15
S2RHG-T65	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1	0	1	0	0	2	1
S2R-T660	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1	0	1	1	7	17	6
S2R-G10	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3	3	2	1	0	0	0
S2R-H80	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	9	27	24	14	10	21
Total Number of Airplanes	**319**	**375**	**412**	**465**	**538**	**446**	**368**	**526**	**584**	**645**	**603**	**557**	**582**	**563**
% Change	17.3%	17.6%	9.9%	12.9%	15.7%	-17.1%	-17.5%	n/a	11.0%	10.4%	-6.5%	-7.6%	3.4%	-3.3%
Total Billings for Airplanes ($M)	**997**	**1,189**	**1,389**	**1,593**	**1,953**	**1,589**	**1,300**	**1,365**	**1,359**	**1,821**	**1,849**	**1,651**	**1,705**	**1,490**
% Change	19.1%	19.3%	16.9%	14.6%	22.7%	-18.7%	-18.2%	n/a	-0.4%	33.9%	1.5%	-10.7%	3.3%	-12.6%

Source: GAMA

1.4c **Worldwide Piston-Engine Airplane Shipments by Manufacturer (2004–2017)**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Adam Aircraft	**0**	**2**	**4**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
A500	-	2	4	3	-	-	-	-	-	-	-	-	-	-
Air Tractor	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**1**
AT-401B	-	-	-	-	-	-	-	-	1	0	1	1	0	1
Alpha Aviation	**0**	**0**	**5**	**13**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
120T	-	-	-	2	-	-	-	-	-	-	-	-	-	-
160A	-	-	5	9	1	-	-	-	-	-	-	-	-	-
160Ai	-	-	-	2	0	-	-	-	-	-	-	-	-	-
American Champion	**94**	**89**	**60**	**70**	**54**	**26**	**37**	**29**	**18**	**26**	**30**	**19**	**19**	**15**
7EC Champ	-	-	1	21	7	1	0	3	0	3	1	1	2	0
7ECA Aurora	2	3	2	4	3	2	2	1	0	0	2	1	0	0
7GCAA Adventurer	12	12	6	6	2	1	2	0	0	0	0	0	0	0
7GCBC Citabria Explorer	24	26	16	8	8	4	4	6	3	1	3	0	1	2
8GCBC Scout	18	9	14	8	10	8	15	13	7	6	7	6	10	8
8KCAB Super Decathlon	38	39	21	23	24	10	14	6	8	10	14	6	6	5
8KCAB Xtreme Decathlon	-	-	-	-	-	-	-	-	-	6	3	5	0	0
Aviat Aircraft	**42**	**47**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
A-1B Husky	30	41	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Husky Pup	3	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S-2C Pitts	9	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AVIC General	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**26**	**22**
Y5B	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4	5
LE500	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	11	5
A2C	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	11	12
Columbia Aircraft (prev. Lancair)	**78**	**114**	**185**	**152**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Columbia 300	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Columbia 350	28	25	39	34	-	-	-	-	-	-	-	-	-	-
Columbia 400	50	89	146	118	-	-	-	-	-	-	-	-	-	-
Cirrus Aircraft	**553**	**600**	**721**	**710**	**549**	**266**	**264**	**255**	**253**	**276**	**308**	**301**	**317**	**355**
Cirrus SR20	91	116	150	112	115	28	42	48	84	32	31	31	35	46
Cirrus SR22	459	475	565	588	427	238	165	105	81	112	117	128	133	135
Cirrus SR22T	-	-	-	-	-	-	57	102	88	132	160	142	149	174
Cirrus SRV	3	9	6	10	7	-	-	-	-	-	-	-	-	-
CubCrafters	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**47**	**58**	**63**	**60**	**52**	**26**	**13**
CC11-100 Sport Cub S2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2	0	2	0	0	0	1
CC11-160 Carbon Cub SS	n/a	n/a	n/a	n/a	n/a	n/a	n/a	38	57	52	53	47	24	6
CC18-180 Top Cub	n/a	n/a	n/a	n/a	n/a	n/a	n/a	7	1	9	7	5	2	6
CC19-180 XCub	-	-	-	-	-	-	-	-	-	-	-	-	8	14
Daher	**5**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TB-9 Tampico	0	1	-	-	-	-	-	-	-	-	-	-	-	-
TB-10	3	4	-	-	-	-	-	-	-	-	-	-	-	-
TB-20	0	1	-	-	-	-	-	-	-	-	-	-	-	-
TB-21	2	3	-	-	-	-	-	-	-	-	-	-	-	-
TB-200	0	0	-	-	-	-	-	-	-	-	-	-	-	-
Diamond Aircraft	**261**	**329**	**438**	**471**	**308**	**163**	**130**	**185**	**156**	**139**	**202**	**144**	**132**	**137**
HK-36	-	-	-	-	-	13	10	3	3	1	0	1	0	0
DA-20	58	54	55	58	69	14	31	40	32	14	16	22	20	8
DA-40	203	207	220	232	154	98	57	72	93	102	136	75	48	60
DA-42	-	68	163	181	85	38	32	70	28	22	50	44	34	36
DA-62	-	-	-	-	-	-	-	-	-	-	-	2	30	33
Discovery Aviation (prev. Liberty)	**0**	**2**	**29**	**38**	**33**	**13**	**14**	**3**	**0**	**0**	**0**	**0**	**0**	**0**
XL2	-	2	29	38	33	13	14	3	0	0	0	0	0	0
Extra Aircraft	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**27**	**29**	**31**	**27**	**27**	**25**
EA300	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	27	29	31	27	27	25
Flight Design GmbH	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**89**	**76**	**89**	**88**	**59**	**23**	**32**
ASTM CT Series	n/a	n/a	n/a	n/a	n/a	n/a	n/a	89	76	89	88	59	23	32
ICON Aircraft	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**10**
A5	-	-	-	-	-	-	-	-	-	-	-	-	5	10

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1.4c **Worldwide Piston-Engine Airplane Shipments by Manufacturer (2004–2017)** *Continued*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Mahindra Aerospace (prev. GippsAero)	**20**	**22**	**20**	**17**	**19**	**11**	**14**	**10**	**14**	**12**	**17**	**14**	**9**	**9**
Airvan 8	20	22	20	17	19	11	14	10	14	12	17	14	9	9
Maule Air Incorporated	**25**	**27**	**38**	**36**	**27**	**7**	**4**	**4**	**9**	**6**	**2**	**13**	**3**	**0**
M-4-180A, V	-	1	7	5	-	-	-	-	-	-	1	-	-	-
M-7-235, A, B, C	8	11	8	6	7	1	3	-	1	-	1	-	1	n/a
M-7-260, C	3	4	2	4	4	4	-	1	3	4	-	-	1	n/a
MT-7-235	1	2	9	2	6	2	-	-	1	-	-	-	-	-
MT-7-260	-	2	4	-	-	-	-	-	-	-	-	-	-	-
MX-7-180, A, B, C, AC	5	3	4	6	4	-	1	1	1	1	-	12	1	n/a
MXT-7-160	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MXT-7-180, A, AC	8	4	4	12	6	-	-	2	3	-	-	-	-	-
M-8-235	-	-	-	1	-	-	-	-	-	-	-	-	-	-
M-9-235	-	-	-	-	-	-	-	-	-	1	-	1	-	n/a
Mooney International Corporation	**37**	**85**	**75**	**79**	**65**	**19**	**2**	**0**	**0**	**0**	**1**	**11**	**7**	**7**
M20M Bravo	9	20	5	1	-	-	-	-	-	-	-	-	-	-
M20R Ovation	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M20R Ovation 2	28	65	63	20	21	4	0	0	0	0	0	3	1	2
M20R Ovation Ultra	-	-	-	-	-	-	-	-	-	-	-	-	-	1
M20S Eagle 2	-	-	-	-	-	-	-	-	-	-	-	8	-	-
M20TN Acclaim	-	-	7	58	44	15	2	0	0	0	1	0	6	1
M20TN Acclaim Ultra	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Pacific Aerospace Corporation	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CT/4E Airtrainer	6	-	-	-	-	-	-	-	-	-	-	-	-	-
Piper Aircraft, Inc.	**163**	**193**	**189**	**168**	**216**	**61**	**135**	**104**	**126**	**154**	**136**	**111**	**93**	**108**
PA-28-161 Warrior III	18	37	19	27	23	8	23	15	20	2	3	20	5	0
PA-28-181 Archer III	19	16	29	16	7	1	21	2	4	48	45	25	42	72
PA-28R-201 Arrow IV	12	9	5	8	1	0	4	0	2	1	8	5	7	9
PA-32-301FT Piper 6X	24	18	10	12	0	-	-	-	-	-	-	-	-	-
PA-32-301XTC Piper 6XT	14	16	11	-	-	-	-	-	-	-	-	-	-	-
PA-32R-301 Saratoga II HP	9	8	10	-	-	-	-	-	-	-	-	-	-	-
PA-32-301T Saratoga II TC	31	37	37	39	12	-	-	-	-	-	-	-	-	-
PA-34-220T Seneca V	10	12	26	22	27	7	22	21	17	22	10	8	3	1
PA-44-180 Seminole	11	29	11	14	24	5	16	16	22	23	22	17	10	17
PA-46-350P Malibu Mirage/M350	15	11	31	30	21	7	26	33	49	42	37	34	26	9
PA-46R-350T Matrix	-	-	-	-	101	33	23	17	12	16	11	2	0	0
Quartz Mountain Aerospace	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
QMA 11E	-	-	-	-	11	-	-	-	-	-	-	-	-	-
Symphony Aircraft (prev. OMF)	**1**	**10**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Symphony 160	1	10	5	-	-	-	-	-	-	-	-	-	-	-
TECNAM Aircraft	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**197**	**190**	**191**	**191**	**171**
ASTM - LSA	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	108	108	102	73	72
P2002JF	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	33	18	20	33	20
P92JS	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	15	7	4	7	3
P2002JR	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2	0	0	0	0
P2008JC	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	19	36	24	24	19
P2006T	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	20	21	21	32	39
P2010P Twenty Ten	-	-	-	-	-	-	-	-	-	-	-	20	22	18
Textron Aviation (Beechcraft)	**93**	**99**	**118**	**111**	**103**	**56**	**51**	**54**	**36**	**70**	**72**	**41**	**45**	**36**
Beechcraft Bonanza A/G36	62	71	80	73	63	36	22	24	12	35	32	23	25	13
Beechcraft Baron B/G58	31	28	38	38	40	20	29	30	24	35	40	18	20	23
Textron Aviation (Cessna Aircraft)	**654**	**822**	**865**	**807**	**733**	**355**	**261**	**413**	**283**	**206**	**220**	**271**	**217**	**238**
CE-162 SkyCatcher	-	-	-	-	-	1	22	168	19	-	-	-	-	-
CE-172R Skyhawk	32	37	87	133	55	16	8	26	27	0	0	-	-	-
CE-172S Skyhawk	204	314	322	240	228	110	77	77	113	106	155	143	100	129
CE-182T Skylane	196	241	140	161	109	58	64	40	48	13	0	33	50	46
CE-T182T Turbo Skylane	133	118	187	140	105	75	36	37	19	26	0	-	-	-
CE-206H Stationair	22	29	25	20	17	3	4	11	16	3	0	-	-	-
CE-T206H Turbo Stationair	67	83	104	111	95	46	42	53	40	37	43	51	36	40
CE-350 Corvalis	-	-	-	1	14	5	1	0	1	0	0	-	-	-
CE-240 TTx (prev. CE-400 Corvalis TTx)	-	-	-	1	110	41	7	1	0	21	22	44	31	23
Tiger Aircraft	**19**	**15**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
AG-5B Tiger	19	15	3	-	-	-	-	-	-	-	-	-	-	-
WACO Classic Aircraft	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**5**	**6**	**7**	**11**	**10**	**7**	**6**
2T-1A-2	-	-	-	-	-	-	-	-	-	1	6	6	3	1
YMF-5D	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5	6	6	5	4	4	5
XtremeAir GmbH	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**9**	**9**	**8**	**9**	**0**	**0**	**0**
XA41	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4	2	2	0	n/a	n/a	n/a
XA42	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5	7	6	9	n/a	n/a	n/a
Total Number of Airplanes	**2,051**	**2,465**	**2,755**	**2,675**	**2,119**	**977**	**912**	**1,207**	**1,072**	**1,282**	**1,378**	**1,265**	**1,147**	**1,185**
% Change	8.2%	20.2%	11.8%	-2.9%	-20.8%	-53.9%	-6.7%	n/a	-11.2%	n/a	7.5%	-8.2%	-9.7%	3.3%
Total Billings for Airplanes ($M)	**692**	**805**	**857**	**897**	**945**	**442**	**415**	**441**	**428**	**571**	**635**	**601**	**661**	**718**
% Change	27.0%	16.3%	6.5%	4.7%	5.3%	-53.1%	-7.7%	n/a	-3.0%	n/a	11.1%	-5.3%	10.0%	8.6%

Table 1.4c includes all piston engine airplanes delivered by the manufacturers listed, including type-certified piston-engine airplanes under airworthiness standards other than Part/CS-23, such as those type certified under EASA CS-Very Light Aircraft and CS-Light Sport Aircraft, as well as Special Light Sport Aircraft.

Source: GAMA

1.4d **Worldwide Rotorcraft Shipments by Manufacturer (2004–2017) Civil-Commercial and Military-Government Combined**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Airbus Helicopters	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**507**	**440**	**451**	**418**	**360**	**380**	**369**
HC120 (prev. EC120)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	10	11	12	7	2	5	5
AS350 B2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	59	36	32	23	9	7	0
H125/H125M (prev. EC125/AS350 B3e/AS550 C3e)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	150	130	187	134	95	104	125
H130 (prev. EC130)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	42	43	35	58	69	54	35
AS355 NP/AS555 AP	n/a	n/a	n/a	n/a	n/a	n/a	n/a	7	8	5	3	3	7	1
H135/H135M (prev. EC135/EC635)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	74	67	48	42	35	40	55
H145/H145M (prev. EC145/EC645/UH-72A)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	89	82	69	73	68	107	93
AS365 N3/AS565 Mbe	n/a	n/a	n/a	n/a	n/a	n/a	n/a	14	11	8	4	7	11	16
H155 (prev. EC155)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	12	7	10	10	10	3	3
H175 (prev. EC175)	-	-	-	-	-	-	-	-	-	-	3	4	4	11
H215/H215M (prev. AS332/AS532)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4	3	4	6	7	10	3
H225/H225M (prev. EC225/EC725)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	26	32	30	43	35	9	5
TIGER	n/a	n/a	n/a	n/a	n/a	n/a	n/a	20	10	11	12	16	19	17
Bell Helicopter	**111**	**123**	**159**	**181**	**175**	**165**	**139**	**188**	**247**	**279**	**239**	**223**	**171**	**192**
505	-	-	-	-	-	-	-	-	-	-	-	-	-	27
206B	7	16	20	28	18	22	5	-	-	-	-	-	-	-
206L/LT	18	22	21	24	21	16	15	14	9	11	13	12	10	4
407/GX/GXP	40	41	67	73	79	81	62	55	85	110	86	99	57	44
412/EP/EPI	33	29	35	39	36	28	28	20	39	36	26	12	10	13
427	9	5	7	10	7	4	1	4	4	-	-	-	-	-
429/WLG	-	-	-	-	-	2	21	28	43	56	53	52	28	36
430	4	10	9	7	3	-	-	-	-	-	-	-	-	-
Huey II	-	-	-	-	11	12	7	4	8	-	-	-	9	8
H-1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	28	21	25	24	24	35	38
V22	n/a	n/a	n/a	n/a	n/a	n/a	n/a	35	38	41	37	24	22	22
Brantly	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
B-2B	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Enstrom Helicopter Corp.	**23**	**29**	**23**	**19**	**10**	**6**	**4**	**n/a**	**16**	**27**	**26**	**20**	**12**	**5**
F-28/280	5	15	10	6	1	1	1	n/a	2	4	2	5	3	1
480	18	14	13	13	9	5	3	n/a	14	23	24	15	9	4
Hélicoptères Guimbal	**0**	**0**	**0**	**0**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**27**	**44**	**50**	**35**
Cabri G2	-	-	-	-	n/a	n/a	n/a	n/a	n/a	n/a	27	44	50	35
Leonardo Helicopters (prev. AgustaWestland)	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**214**	**180**	**160**	**172**	**0**
AW119Ke	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	22	17	16	22	n/a
AW109Power	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	9	7	8	0	n/a
GRANDNEW	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	35	14	14	17	n/a
AW139	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	118	101	72	63	n/a
AW169	-	-	-	-	-	-	-	-	-	-	-	1	22	n/a
AW149	-	-	-	-	-	-	-	-	-	-	-	-	-	n/a
AW189	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	10	16	7	n/a
AW159	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	15	11	13	19	n/a
SUPER LYNX	-	-	-	-	-	-	-	-	-	-	-	4	1	n/a
T129	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	5	4	10	n/a
AW101	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5	5	5	3	n/a
CH47F	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	5	3	5	n/a
SW4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	3	n/a
W3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	10	5	4	0	n/a
MD Helicopters	**10**	**3**	**13**	**18**	**52**	**40**	**12**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
500	1	0	n/a	3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
520N	0	2	n/a	3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
530	1	0	n/a	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
600	4	1	n/a	3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
900	4	0	n/a	7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
NH Industries	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**33**	**35**	**43**	**53**	**35**	**38**	**40**
NH90	n/a	n/a	n/a	n/a	n/a	n/a	n/a	33	35	43	53	35	38	40
Robinson Helicopter Company	**690**	**806**	**749**	**823**	**893**	**433**	**162**	**356**	**517**	**523**	**329**	**347**	**234**	**305**
R22	234	243	97	159	164	25	40	56	40	42	42	34	19	34
R44 Cadet	-	-	-	-	-	-	-	-	-	-	-	-	-	20
R44 Raven I / II	456	563	652	664	729	408	112	212	286	289	186	196	152	174
R66	-	-	-	-	-	-	10	88	191	192	101	117	63	77
Schweitzer Aircraft	**48**	**58**	**61**	**70**	**51**	**27**	**29**	**8**	**1**	**0**	**0**	**0**	**0**	**0**
300C	13	12	12	11	16	10	14	n/a	n/a	-	-	-	-	-
300CB/300CBi	27	40	44	51	27	13	6	n/a	n/a	-	-	-	-	-
330/333	8	6	5	8	8	4	9	n/a	n/a	-	-	-	-	-
Sikorsky Aircraft Corp.	**34**	**49**	**52**	**79**	**78**	**58**	**42**	**249**	**227**	**231**	**231**	**178**	**181**	**172**
S-70	1	0	0	0	0	0	0	0	0	0	0	0	0	0
S-76	29	30	36	50	53	34	21	16	5	26	17	13	5	4
S-92	4	19	16	29	25	24	21	20	30	37	42	16	7	3
Blackhawk	n/a	n/a	n/a	n/a	n/a	n/a	n/a	213	192	125	123	106	133	134
Seahawk	n/a	n/a	n/a	n/a	n/a	n/a	n/a			43	49	43	36	31
Total Number of Rotorcraft	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**1,768**	**1,503**	**1,367**	**1,238**	**n/a**
% Change	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-15.1%	-8.9%	-9.4%	n/a

Leonardo Helicopters Q4 data was not available at time of publication. Q4 data will be published in March by Leonardo. GAMA will update the online 2018 shipment report then at www.GAMA.aero.

Source: GAMA, Aerospace Industries Association, and company reports.

1.5 U.S.-Manufactured General Aviation Airplane Shipments by Type (1948–2017)

Year	Grand Total	Single-Engine Piston	Multi-Engine Piston	Total Piston	Turboprop	Business Jet	Total Turbine	Companies Reporting	Factory Net Billings ($ Millions)
1948	**7,037**	n/a	n/a	**7,037**	-	-	-	12	$32
1949	**3,405**	n/a	n/a	**3,405**	-	-	-	11	$18
1950	**3,386**	n/a	n/a	**3,386**	-	-	-	13	$19
1951	**2,302**	n/a	n/a	**2,302**	-	-	-	12	$17
1952	**3,058**	n/a	n/a	**3,058**	-	-	-	8	$27
1953	**3,788**	n/a	n/a	**3,788**	-	-	-	7	$34
1954	**3,071**	n/a	n/a	**3,071**	-	-	-	7	$43
1955	**4,434**	n/a	n/a	**4,434**	-	-	-	7	$68
1956	**6,738**	n/a	n/a	**6,738**	-	-	-	8	$104
1957	**6,118**	n/a	n/a	**6,118**	-	-	-	9	$100
1958	**6,414**	n/a	n/a	**6,414**	-	-	-	10	$102
1959	**7,689**	6,849	840	**7,689**	-	-	-	9	$130
1960	**7,588**	6,569	1,019	**7,588**	-	-	-	8	$151
1961	**6,756**	5,995	761	**6,756**	-	-	-	8	$124
1962	**6,697**	5,690	1,007	**6,697**	-	-	-	7	$137
1963	**7,569**	6,248	1,321	**7,569**	-	-	-	7	$153
1964	**9,336**	7,718	1,606	**9,324**	9	3	**12**	8	$199
1965	**11,852**	9,873	1,780	**11,653**	87	112	**199**	8	$318
1966	**15,768**	13,250	2,192	**15,442**	165	161	**326**	10	$445
1967	**13,577**	11,557	1,773	**13,330**	149	98	**247**	14	$360
1968	**13,698**	11,398	1,959	**13,357**	248	93	**341**	14	$426
1969	**12,457**	10,054	2,078	**12,132**	214	111	**325**	14	$585
1970	**7,292**	5,942	1,159	**7,101**	135	56	**191**	13	$337
1971	**7,466**	6,287	1,043	**7,330**	89	47	**136**	11	$322
1972	**9,774**	7,898	1,548	**9,446**	179	149	**328**	12	$558
1973	**13,646**	10,780	2,413	**13,193**	247	206	**453**	12	$828
1974	**14,166**	11,562	2,135	**13,697**	250	219	**469**	12	$909
1975	**14,056**	11,439	2,116	**13,555**	305	196	**501**	12	$1,033
1976	**15,449**	12,783	2,120	**14,903**	359	187	**546**	12	$1,226
1977	**16,907**	14,057	2,195	**16,252**	428	227	**655**	12	$1,488
1978	**17,811**	14,398	2,634	**17,032**	548	231	**779**	12	$1,781
1979	**17,050**	13,286	2,843	**16,129**	639	282	**921**	12	$2,165
1980	**11,860**	8,640	2,116	**10,756**	778	326	**1,104**	12	$2,486
1981	**9,457**	6,608	1,542	**8,150**	918	389	**1,307**	12	$2,920
1982	**4,266**	2,871	678	**3,549**	458	259	**717**	11	$2,000
1983	**2,691**	1,811	417	**2,228**	321	142	**463**	10	$1,470
1984	**2,431**	1,620	371	**1,991**	271	169	**440**	9	$1,681
1985	**2,029**	1,370	193	**1,563**	321	145	**466**	9	$1,431
1986	**1,495**	985	138	**1,123**	250	122	**372**	9	$1,262
1987	**1,085**	613	87	**700**	263	122	**385**	9	$1,364
1988	**1,143**	628	67	**695**	291	157	**448**	11	$1,923
1989	**1,535**	1,023	87	**1,110**	268	157	**425**	11	$1,804
1990	**1,144**	608	87	**695**	281	168	**449**	14	$2,008
1991	**1,021**	564	49	**613**	222	186	**408**	14	$1,968
1992	**941**	552	41	**593**	177	171	**348**	16	$1,840
1993	**964**	516	39	**555**	211	198	**409**	16	$2,144
1994	**929**	444	55	**499**	208	222	**430**	13	$2,357
1995	**1,077**	515	61	**576**	255	246	**501**	13	$2,842
1996	**1,171**	607	42	**649**	289	233	**522**	13	$3,048
1997	**1,562**	898	86	**984**	236	342	**578**	12	$4,593
1998	**2,212**	1,434	94	**1,528**	271	413	**684**	12	$5,761
1999	**2,530**	1,634	114	**1,748**	265	517	**782**	13	$7,843
2000	**2,816**	1,810	103	**1,913**	315	588	**903**	15	$8,558
2001	**2,631**	1,581	147	**1,728**	303	600	**903**	14	$8,641
2002	**2,207**	1,366	130	**1,496**	187	524	**711**	12	$7,719
2003	**2,137**	1,519	71	**1,590**	163	384	**547**	13	$6,434
2004	**2,355**	1,706	52	**1,758**	194	403	**597**	13	$6,816
2005	**2,857**	2,024	71	**2,095**	240	522	**762**	13	$8,667
2006	**3,147**	2,208	79	**2,287**	256	604	**860**	16	$10,367
2007	**3,279**	2,097	77	**2,174**	290	815	**1,105**	16	$11,941
2008	**3,079**	1,700	91	**1,791**	333	955	**1,288**	15	$13,348
2009	**1,585**	770	32	**802**	269	514	**783**	13	$9,082
2010	**1,334**	679	67	**746**	224	364	**588**	12	$7,875
2011	**1,465**	639	67	**706**	395	364	**759**	16	$8,266
2012	**1,518**	645	63	**708**	463	347	**810**	17	$8,017
2013	**1,615**	674	80	**754**	527	334	**861**	17	$11,069
2014	**1,631**	716	72	**788**	468	375	**843**	16	$11,688
2015	**1,592**	740	43	**783**	420	389	**809**	17	$11,982
2016	**1,531**	685	33	**718**	411	402	**813**	18	$11,560
2017	**1,596**	745	41	**786**	409	401	**810**	18	$10,573

Source: GAMA

1.6 U.S.-Manufactured General Aviation Airplane Billings (in Millions of Dollars) by Type (2000–2017)

Year	Grand Total	Single-Engine Piston	Multi-Engine Piston	Total Piston	Turboprop	Business Jet	Total Turbine
2000	**8,558**	n/a	n/a	**446**	934	7,178	**8,112**
2001	**8,641**	n/a	n/a	**471**	742	7,428	**8,170**
2002	**7,719**	n/a	n/a	**389**	487	6,843	**7,330**
2003	**6,434**	n/a	n/a	**440**	411	5,583	**5,994**
2004	**6,816**	n/a	n/a	**568**	555	5,693	**6,248**
2005	**8,667**	n/a	n/a	**712**	749	7,205	**7,954**
2006	**10,367**	n/a	n/a	**722**	853	8,792	**9,645**
2007	**11,941**	n/a	n/a	**712**	1,001	10,227	**11,228**
2008	**13,348**	n/a	n/a	**836**	1,172	11,340	**12,513**
2009	**9,082**	n/a	n/a	**389**	872	7,821	**8,693**
2010	**7,875**	n/a	n/a	**368**	724	6,782	**7,506**
2011	**8,266**	n/a	n/a	**368**	831	7,068	**7,898**
2012	**8,017**	n/a	n/a	**374**	867	6,776	**7,643**
2013	**11,069**	n/a	n/a	**456**	1,358	9,255	**10,613**
2014	**11,688**	n/a	n/a	**484**	1,316	9,888	**11,204**
2015	**11,982**	n/a	n/a	**477**	1,282	10,224	**11,506**
2016	**11,560**	n/a	n/a	**511**	1,180	9,869	**11,049**
2017	**10,573**	n/a	n/a	**577**	1,032	8,985	**10,017**

Source: GAMA

1.7 U.S.-Manufactured General Aviation Airplane Exports by Type and Billings (2000–2017)

Year	Single-Engine Piston	Multi-Engine Piston	Turboprop	Business Jet	Total Airplanes Exported		Billings Exported	
					Units	% of Shipments	(in $ Millions)	% of Total Billings
2000	285	24	112	148	569	20.2%	$1,957.5	22.9%
2001	175	42	118	170	505	19.2%	$2,380.6	27.5%
2002	135	23	79	136	372	16.8%	$1,980.9	25.4%
2003	168	22	52	94	336	15.7%	$1,218.2	18.9%
2004	181	9	55	88	333	14.1%	$1,419.6	20.8%
2005	301	18	66	172	557	19.5%	$2,585.9	29.8%
2006	535	30	74	252	891	28.3%	$4,395.5	42.4%
2007	665	33	131	313	1,142	34.8%	$4,587.0	38.4%
2008	556	40	175	410	1,161	37.7%	$5,863.8	43.9%
2009	341	15	121	255	732	46.2%	$4,612.7	50.8%
2010	299	45	151	194	689	51.6%	$4,867.8	61.8%
2011	249	50	121	112	486	36.3%	$4,585.8	55.5%
2012	263	40	243	174	720	47.7%	$4,791.1	59.8%
2013	255	49	245	142	691	42.8%	$5,616.9	50.7%
2014	273	37	248	138	696	42.7%	$5,419.2	46.4%
2015	170	23	203	128	524	32.9%	$5,431.2	45.3%
2016	161	12	156	124	453	29.6%	$4,451.3	38.5%
2017	193	11	210	127	541	33.9%	$4,347.9	41.1%

Source: GAMA

1.8 European-Manufactured General Aviation Airplane Shipments by Type (2008–2017)

Year	Grand Total	Single-Engine Piston	Multi-Engine Piston	Total Piston	Turboprop	Business Jet	Total Turbine	Companies Reporting	Factory Net Billings ($ Millions)
2008	**579**	223	85	**308**	190	81	**271**	6	$3,966.6
2009	**416**	125	38	**163**	165	88	**253**	6	$4,552.5
2010	**380**	98	41	**139**	133	108	**241**	6	$5,556.0
2011	**468**	204	70	**274**	121	73	**194**	7	$3,987 .9
2012	**446**	231	28	**259**	112	75	**187**	8	$4,063 .3
2013	**657**	420	42	**462**	112	83	**195**	10	$4,533.9
2014	**722**	449	71	**520**	131	71	**202**	10	$3,825.3
2015	**612**	354	67	**421**	132	59	**191**	9	$3,736.2
2016	**580**	277	96	**373**	157	50	**207**	9	$3,008.6
2017	**580**	26	108	**384**	145	49	**194**	9	$3,234.3

An aircraft is considered manufactured in Europe when produced under an EASA production approval. EASA rules require production approvals for all aircraft including CS-VLA and CS-SLSA models.

Source: GAMA

Canada and U.S. General Aviation Fleet, Flight Activity, and Forecast

2.1 Canada—Registered Aircraft by Type and Weight Group (1983–2017)

Year	Number of Registered Aircraft by Type									By Weight Group		Total Aircraft
	Aeroplanes	Ultralights	Amateur-Builts	Helicopters	Gliders	Balloons	Gyroplanes	Airships	Ornithopters	≤ 12,500 lbs	12,500 > lbs	
1983	22,354	1,282	n/a	1,410	560	177	116	n/a	n/a	n/a	n/a	**25,899**
1984	22,330	1,971	n/a	1,326	572	197	118	n/a	n/a	n/a	n/a	**26,514**
1985	22,231	2,376	n/a	1,276	582	219	117	n/a	n/a	n/a	n/a	**26,801**
1986	22,105	2,706	n/a	1,264	589	247	116	n/a	n/a	n/a	n/a	**27,027**
1987	22,270	2,946	n/a	1,299	602	279	121	n/a	n/a	n/a	n/a	**27,517**
1988	22,469	3,105	n/a	1,338	613	308	122	n/a	n/a	n/a	n/a	**27,955**
1989	22,463	3,212	n/a	1,366	614	339	127	n/a	n/a	n/a	n/a	**28,121**
1990	22,278	3,363	n/a	1,416	609	361	128	n/a	n/a	27,173	982	**28,155**
1991	21,973	3,477	n/a	1,433	601	384	135	n/a	n/a	23,553	981	**28,003**
1992	21,795	3,607	n/a	1,502	602	405	155	n/a	n/a	27,070	996	**28,066**
1993	21,452	3,744	n/a	1,533	597	424	162	n/a	n/a	26,977	935	**27,912**
1994	21,212	3,840	n/a	1,582	601	444	169	n/a	n/a	26,885	963	**27,848**
1995	21,169	3,956	n/a	1,605	601	440	166	n/a	n/a	26,914	1,023	**27,937**
1996	21,089	4,070	n/a	1,643	592	440	168	n/a	n/a	26,919	1,084	**28,002**
1997	20,985	4,208	n/a	1,655	587	450	169	n/a	n/a	26,862	1,192	**28,054**
1998	20,830	4,305	2,457	1,676	592	440	174	n/a	n/a	26,809	1,208	**28,017**
1999	20,768	4,346	2,540	1,711	596	442	181	2	1	26,783	1,264	**28,047**
2000	25,256	4,467	2,621	1,753	600	444	186	2	1	26,922	1,320	**28,242**
2001	25,435	4,584	2,709	1,798	613	453	190	3	1	27,171	1,322	**28,493**
2002	25,650	4,746	2,778	1,831	617	453	189	3	1	27,374	1,370	**28,744**
2003	25,902	4,922	2,895	1,894	674	450	188	3	1	27,752	1,360	**29,112**
2004	26,335	5,123	2,996	1,940	686	459	189	4	1	28,166	1,448	**29,614**
2005	26,870	5,339	3,124	2,019	683	475	192	4	1	28,745	1,499	**30,244**
2006	27,512	5,568	3,255	2,145	687	478	191	4	1	29,422	1,596	**31,018**
2007	28,195	5,745	3,380	2,317	695	481	192	5	1	30,223	1,663	**31,886**
2008	29,043	5,985	3,514	2,504	703	486	191	5	1	31,154	1,779	**32,933**
2009	29,567	6,184	3,639	2,576	715	479	190	5	1	31,709	1,824	**33,533**
2010	30,118	6,396	3,748	2,658	713	486	194	5	1	32,330	1,845	**34,175**
2011	30,805	6,585	3,885	2,728	720	490	198	5	1	32,986	1,961	**34,947**
2012	31,341	6,803	3,984	2,776	722	500	195	5	1	33,563	1,977	**35,540**
2013	31,780	6,973	4,074	2,849	726	511	206	5	1	34,050	2,028	**36,078**
2014	32,045	7,125	4,141	2,871	725	517	214	1	1	34,310	2,064	**36,374**
2015	32,127	7,246	4,185	2,853	721	516	222	0	1	34,359	2,081	**36,440**
2016	32,138	7,355	4,213	2,836	717	517	227	0	1	34,355	2,081	**36,436**
2017	32,279	7,459	4,248	2,830	723	523	232	0	1	34,473	2,115	**36,588**

Source: Transport Canada and Canadian Civil Aircraft Registry, www.tc.gc.ca

2.2 **Active U.S. General Aviation and On-Demand Part 135 Aircraft by Primary Use and Aircraft Type (2016)**

		General Aviation FAR Part 91 Use												On-Demand FAR Part 135 Use		
Aircraft Type	**Total Active (77.5% of 273,211)**	**Personal/ Recre-ational**	**Business (w/o crew)**	**Business (with crew)**	**Instruc-tional**	**Aerial Apps.**	**Aerial Obs.**	**Other Aerial App.**	**External Load**	**Other Work**	**Sight-seeing**	**Air Medical**	**Other**	**Air Taxi**	**Air Tours**	**Air Medical**
Total All Aircraft	**211,793**	**142,105**	**16,177**	**9,770**	**15,826**	**3,206**	**6,101**	**819**	**304**	**1,331**	**1,126**	**411**	**6,086**	**5,828**	**585**	**2,119**
% Std. Error	1.4%	2.0%	1.6%	1.0%	1.6 %	1.0%	1.2%	0.9%	0.9%	1.4%	1.4%	1.2%	1.0%	0.7%	0.8%	0.6%
Piston Total	**142,638**	**106,236**	**12,647**	**1,196**	**12,593**	**998**	**3,503**	**172**	**-**	**657**	**219**	**260**	**2,321**	**1,653**	**124**	**60**
One-Engine Piston	129,652	99,178	10,181	604	11,327	952	3,247	99	-	600	210	184	1,986	927	107	51
Two-Engine Piston	12,986	7,058	2,466	592	1,266	46	256	73	-	58	9	76	335	726	18	9
Turboprop Total	**9,779**	**1,489**	**1,356**	**1,977**	**84**	**1,580**	**500**	**249**	**-**	**235**	**2**	**26**	**370**	**1,549**	**10**	**351**
One-Engine Turboprop	4,566	721	639	414	41	1,555	34	136	-	74	2	19	240	605	3	84
Two-Engine Turboprop	5,212	768	717	1,563	43	25	467	114	-	161	-	6	130	944	8	267
Business Jet	**13,751**	**1,639**	**1,234**	**6,241**	**103**	**47**	**4**	**35**	**-**	**103**	**-**	**43**	**2,043**	**2,093**	**-**	**165**
Rotorcraft Total	**10,577**	**1,626**	**319**	**261**	**1,836**	**543**	**2,034**	**351**	**304**	**127**	**178**	**77**	**522**	**511**	**344**	**1,543**
Piston Total	3,344	1,027	194	23	1,306	230	216	6	4	12	152	-	34	63	77	-
Turbine Total	7,232	599	125	238	530	312	1,818	345	300	115	27	77	488	448	267	1,543
- One-Engine Turbine	5,467	556	106	113	427	285	1,698	289	182	87	19	25	169	301	264	945
- Two-Engine Turbine	1,766	42	19	125	103	27	120	56	118	28	8	52	319	147	3	598
Gliders	**1,789**	**1,431**	**-**	**-**	**311**	**-**	**2**	**-**	**-**	**2**	**28**	**-**	**14**	**-**	**-**	**-**
Lighter-Than-Air	**3,197**	**2,214**	**11**	**-**	**177**	**-**	**-**	**-**	**-**	**28**	**671**	**-**	**-**	**-**	**96**	**-**
Experimental Total	**27,585**	**25,473**	**571**	**91**	**376**	**36**	**43**	**12**	**-**	**177**	**27**	**5**	**750**	**20**	**5**	**-**
Amateur-Built	20,490	19,387	472	79	214	-	11	2	-	79	2	-	243	-	3	-
Exhibition	2,015	1,664	19	-	32	7	7	3	-	27	4	5	248	-	-	-
Exp. Light-Sport	4,264	3,924	23	2	89	-	2	-	-	56	12	-	156	-	-	-
Other Experimental	816	497	57	10	42	29	24	7	-	15	10	-	103	20	2	-
Special Light-Sport	**2,478**	**1,998**	**39**	**4**	**346**	**2**	**14**	**-**	**-**	**2**	**-**	**-**	**66**	**2**	**6**	**-**

Source: FAA Survey

2.3 **U.S. General Aviation and On-Demand Part 135 Total Hours Flown by Use and Aircraft Type (2016)**

		General Aviation FAR Part 91 Use												On-Demand FAR Part 135 Use		
Aircraft Type	**Total Hours**	**Personal/ Recre-ational**	**Business (w/o crew)**	**Business (with crew)**	**Instruc-tional**	**Aerial Apps.**	**Aerial Obs.**	**Other Aerial App.**	**External Load**	**Other Work**	**Sight-seeing**	**Air Medical**	**Other**	**Air Taxi**	**Air Tours**	**Air Medical**
Total All Aircraft	**24,833,264**	**7,868,484**	**1,778,840**	**2,551,078**	**4,885,521**	**868,701**	**1,433,525**	**158,731**	**150,554**	**428,750**	**167,177**	**97,637**	**944,749**	**2,371,199**	**374,591**	**753,727**
% Std. Error	1.0%	1.2%	2.4%	3.3%	3.1%	6.8%	5.4%	10.8%	15.8%	14.0%	9.0%	15.6%	3.7%	4.3%	13.4%	6.5%
Piston Total	**13,548,135**	**5,988,191**	**1,258,855**	**214,113**	**4,064,459**	**142,636**	**738,424**	**22,800**	**-**	**132,162**	**60,571**	**42,530**	**310,232**	**508,860**	**57,031**	**7,147**
One-Engine Piston	11,865,206	5,536,772	1,023,221	134,592	3,591,255	133,613	664,590	14,229	-	120,523	57,433	24,996	267,215	238,330	53,617	-
Two-Engine Piston	1,682,929	451,419	235,634	79,521	473,203	9,022	73,833	8,571	-	11,638	3,139	17,534	43,017	270,530	3,413	2,453
Turboprop Total	**2,707,093**	**196,640**	**196,176**	**420,551**	**48,105**	**554,427**	**66,078**	**66,008**	**-**	**175,750**	**-**	**15,462**	**62,619**	**753,157**	**4,065**	**146,702**
One-Engine Turboprop	1,375,821	95,806	95,865	107,231	15,067	550,663	9,322	38,528	-	34,787	-	12,142	28,665	346,451	2,128	37,903
Two-Engine Turboprop	1,331,271	100,834	100,311	313,320	33,038	3,764	56,756	27,480	-	140,962	-	-	33,953	406,705	-	108,799
Business Jet	**3,846,721**	**332,660**	**224,096**	**1,834,277**	**24,732**	**30,386**	**-**	**7,744**	**-**	**37,800**	**-**	**17,225**	**402,992**	**866,398**	**-**	**67,473**
Rotorcraft Total	**3,128,069**	**105,376**	**33,937**	**74,753**	**619,458**	**129,127**	**619,721**	**61,505**	**150,366**	**55,281**	**64,657**	**22,294**	**119,896**	**234,048**	**305,276**	**532,374**
Piston Total	780,205	71,847	16,053	4,498	444,715	38,011	56,005	3,462	3,195	2,190	52,377	-	14,059	28,152	45,613	-
Turbine Total	2,347,864	33,529	17,883	70,255	174,743	91,117	563,715	58,043	147,171	53,091	12,281	22,266	105,837	205,896	259,663	532,374
- One-Engine Turbine	1,809,769	29,600	14,089	40,874	143,744	77,908	501,857	49,900	108,735	44,423	11,361	8,699	68,554	144,770	257,955	307,299
- Two-Engine Turbine	538,095	3,929	3,794	29,381	30,999	-	61,858	8,143	38,436	8,668	-	13,567	37,283	61,126	-	225,075
Gliders	**86,810**	**61,870**	**-**	**-**	**20,481**	**-**	**-**	**-**	**-**	**-**	**3,589**	**-**	**-**	**-**	**-**	**-**
Lighter-Than-Air	**106,170**	**56,837**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**33,789**	**-**	**-**	**-**	**-**	**-**
Experimental Total	**1,223,638**	**1,012,106**	**61,829**	**-**	**41,744**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**41,846**	**-**	**-**	**-**
Amateur-Built	889,837	793,693	55,169	-	17,554	-	-	-	-	-	-	-	9,512	-	-	-
Exhibition	88,634	70,218	-	-	2,917	-	-	-	-	-	-	-	10,066	-	-	-
Exp. Light-Sport	152,443	126,753	-	-	-	-	-	-	-	-	-	-	13,761	-	-	-
Other Experimental	92,724	21,442	5,010	-	16,766	9,605	5,138	-	-	-	-	-	8,507	-	-	-
Special Light-Sport	**186,627**	**114,803**	**3,445**	**468**	**59,360**	**-**	**1,356**	**-**	**-**	**-**	**328**	**-**	**5,663**	**-**	**-**	**-**

Source: FAA Survey

2.4 Active U.S. General Aviation and On-Demand Part 135 Aircraft by Type (1996–2016) and Forecast (2017–2026)

		Airplane			Rotorcraft		Balloons, Dirigibles, Gliders	Experimental	Light-Sport Aircraft		
Year	Total Aircraft	Piston	Turboprop	Business Jet	Piston	Turbine			Total	Experimental	Special
1996	**191,129**	153,551	5,716	4,424	2,507	4,063	4,244	16,625	-	-	-
1997	**192,414**	156,056	5,619	5,178	2,259	4,527	4,092	14,680	-	-	-
1998	**204,710**	162,963	6,174	6,066	2,545	4,881	5,580	16,502	-	-	-
1999	**219,464**	171,923	5,679	7,120	2,564	4,884	6,765	20,528	-	-	-
2000	**217,534**	170,513	5,762	7,001	2,680	4,470	6,701	20,407	-	-	-
2001	**211,446**	163,314	6,596	7,787	2,292	4,491	6,545	20,421	-	-	-
2002	**211,244**	161,087	6,841	8,355	2,351	4,297	6,377	21,936	-	-	-
2003	**209,708**	160,938	7,689	7,997	2,123	4,403	6,008	20,550	-	-	-
2004	**219,426**	165,189	8,379	9,298	2,315	5,506	5,939	22,800	-	-	-
2005	**224,352**	167,608	7,942	9,823	3,039	5,689	6,454	23,627	170	-	-
2006	**221,942**	163,743	8,063	10,379	3,264	5,895	6,278	23,047	1,273	-	-
2007	**231,607**	166,907	9,514	10,385	2,769	6,798	5,940	23,228	6,066	-	-
2008	**228,663**	163,013	8,906	11,042	3,498	6,378	5,652	23,364	6,811	-	-
2009	**223,877**	157,123	9,055	11,268	3,499	6,485	5,480	24,419	6,547	5,077	1,470
2010	**223,370**	155,419	9,369	11,484	3,588	6,514	5,684	24,784	6,528	4,878	1,650
2011E	**220,453**	152,597	9,523	11,650	3,411	6,671	5,681	24,275	6,645	n/a	n/a
2012	**209,034**	143,160	10,304	11,793	3,292	6,763	5,006	26,715	-	4,631	2,001
2013	**199,927**	137,655	9,619	11,637	3,137	6,628	4,278	24,918	-	4,157	2,056
2014	**204,408**	139,182	9,777	12,362	3,154	6,812	4,699	26,191	-	4,204	2,231
2015	**210,030**	141,141	9,712	13,440	3,286	7,220	4,941	27,922	-	3,942	2,369
2016	**211,793**	142,638	9,779	13,751	3,344	7,232	4,986	27,585	-	4,464	2,478
Forecast											
2017	**209,800**	138,915	9,285	14,100	3,380	7,510	4,955	28,970	-	-	2,685
2018	**209,800**	137,845	9,180	14,415	3,425	7,650	4,960	29,490	-	-	2,835
2019	**209,780**	136,785	9,110	14,760	3,470	7,785	4,960	29,910	-	-	3,000
2020	**209,710**	135,730	9,080	15,115	3,515	7,920	4,950	30,240	-	-	3,160
2021	**209,725**	134,650	9,075	15,480	3,560	8,055	4,950	30,640	-	-	3,315
2022	**209,655**	133,565	9,115	15,845	3,605	8,195	4,955	30,895	-	-	3,480
2023	**209,605**	132,455	9,185	16,210	3,650	8,335	4,955	31,175	-	-	3,640
2024	**209,655**	131,340	9,295	16,585	3,695	8,480	4,955	31,510	-	-	3,795
2025	**209,735**	130,230	9,420	16,965	3,740	8,625	4,955	31,835	-	-	3,965
2026	**209,735**	129,100	9,570	17,345	3,785	8,775	4,970	32,065	-	-	4,125
Average Annual Growth											
2017–26	**-0.1%**	**-1.0%**	**-0.2%**	**2.3%**	**1.2%**	**2.0%**	**0.0%**	**1.5%**	**-**	**-**	**5.2%**

Key changes to survey methodology by year:

Source: FAA Survey and Forecast

- 2003: Aircraft operating in commuter operations were excluded.
- 2004: The survey coverage was expanded for turbine airplanes and rotorcraft, accounting for part of the increase in hours.
- 2007: The estimate of Light-Sport Aircraft increased significantly due to mandatory registration.
- 2009: The FAA began publishing data for Special Light-Sport Aircraft separately.
- 2011: Data is estimated, because no data was published by the FAA.
- 2012: The general aviation survey results includes "Experimental Light-Sport" data in the "Experimental" category.

The Federal Aviation Administration's (FAA) annual general aviation survey categorizes the **uses of general aviation aircraft** as follows:

- personal (and recreational) flying;
- business transportation without a paid crew (that is, an individual using an aircraft for business without a paid, professional crew); and
- business transportation with a paid, professional crew (previously called "corporate").

In addition, the following forms of business operations are included in general aviation operations:

- instructional flying (operations under the supervision of a flight instructor including solo flight);
- sight-seeing (commercial sight-seeing operations under FAR Part 91); and
- on-demand FAR Part 135 operations including air taxi (that is, charter), air tours, and airmedical operations.

2.5 U.S. General Aviation and On-Demand Part 135 Estimated Hours Flown (in Thousands) by Type (1980–2016) and Forecast (2017–2026)

		Airplane			Rotorcraft		Balloons, Dirigibles, Gliders	Experimental	Light-Sport Aircraft		
Year	Total Hours	Piston	Turboprop	Business Jet	Piston	Turbine			Total	Experimental	Special
1980	**41,016**	34,747	2,240	1,332	736	1,603	359	-	-	-	-
1981	**40,704**	34,086	2,155	1,387	930	1,754	391	-	-	-	-
1982	**36,457**	29,950	2,168	1,611	579	1,771	379	-	-	-	-
1983	**35,249**	28,911	2,173	1,473	572	1,700	420	-	-	-	-
1984	**36,119**	29,194	2,506	1,566	592	1,903	358	-	-	-	-
1985	**31,456**	25,666	1,921	1,498	521	1,468	382	-	-	-	-
1986	**31,782**	24,805	2,661	1,527	742	1,682	364	-	-	-	-
1987	**30,883**	24,969	2,010	1,411	602	1,506	384	-	-	-	-
1988	**31,114**	24,291	2,195	1,554	533	1,974	568	-	-	-	-
1989	**32,332**	24,907	2,892	1,527	692	1,918	396	-	-	-	-
1990	**32,096**	25,832	2,319	1,396	716	1,493	341	-	-	-	-
1991	**29,862**	23,919	1,628	1,071	549	2,214	483	-	-	-	-
1992	**26,747**	21,417	1,582	1,076	423	1,842	407	-	-	-	-
1993	**24,455**	19,321	1,192	1,212	391	1,308	338	785	-	-	-
1994	**24,092**	18,823	1,142	1,238	369	1,408	388	724	-	-	-
1995	**26,612**	20,251	1,490	1,455	337	1,624	261	1,194	-	-	-
1996	**26,909**	20,091	1,768	1,543	591	1,531	227	1,158	-	-	-
1997	**27,713**	20,744	1,655	1,713	344	1,740	192	1,327	-	-	-
1998	**28,100**	20,402	1,765	2,226	430	1,912	295	1,071	-	-	-
1999	**31,231**	22,529	1,797	2,721	552	2,077	309	1,246	-	-	-
2000	**29,960**	21,493	1,986	2,648	530	1,661	362	1,280	-	-	-
2001	**27,017**	19,194	1,773	2,654	474	1,479	287	1,157	-	-	-
2002	**27,040**	18,891	1,850	2,745	454	1,422	333	1,345	-	-	-
2003	**27,329**	19,013	1,922	2,704	448	1,687	263	1,292	-	-	-
2004	**28,126**	18,142	2,161	3,718	514	2,020	249	1,322	-	-	-
2005	**26,982**	16,434	2,106	3,771	617	2,439	267	1,339	9	-	-
2006	**27,705**	16,525	2,162	4,077	918	2,528	211	1,218	66	-	-
2007	**27,852**	16,257	2,661	3,938	704	2,541	215	1,275	260	-	-
2008	**26,009**	15,074	2,457	3,600	751	2,470	209	1,155	293	-	-
2009	**23,763**	13,634	2,215	3,161	755	2,248	178	1,286	286	171	115
2010	**24,802**	13,979	2,325	3,375	794	2,611	181	1,226	311	173	138
2011E	**24,569**	13,626	2,463	3,407	757	2,654	181	1,203	278	n/a	n/a
2012	**24,403**	13,206	2,733	3,418	731	2,723	180	1,243	-	151	169
2013	**22,876**	12,352	2,587	3,488	636	2,312	135	1,191	-	135	173
2014	**23,271**	11,967	2,613	3,881	818	2,424	159	1,244	-	142	165
2015	**24,142**	12,825	2,538	3,837	798	2,496	162	1,295	-	132	191
2016	**24,833**	13,548	2,707	3,847	780	2,348	193	1,224	-	152	187
Forecast											
2017	**24,753**	12,604	2,538	4,445	777	2,636	163	1,372	-	-	218
2018	**24,847**	12,350	2,539	4,655	793	2,705	163	1,411	-	-	232
2019	**25,000**	12,157	2,542	4,863	809	2,773	163	1,446	-	-	246
2020	**25,174**	11,992	2,545	5,064	828	2,843	163	1,479	-	-	260
2021	**25,375**	11,865	2,554	5,250	848	2,905	163	1,515	-	-	275
2022	**25,589**	11,746	2,570	5,437	869	2,971	163	1,544	-	-	290
2023	**25,794**	11,638	2,593	5,597	886	3,037	163	1,575	-	-	305
2024	**26,025**	11,551	2,626	5,750	902	3,105	164	1,608	-	-	320
2025	**26,239**	11,451	2,662	5,894	919	3,174	164	1,640	-	-	335
2026	**26,451**	11,354	2,706	6,039	934	3,235	164	1,669	-	-	351
Average Annual Growth											
2017-26	**0.6%**	**-1.8%**	**0.0%**	**4.6%**	**1.8%**	**3.3%**	**-1.6%**	**3.2%**	**-**	**-**	**6.5%**

Key changes to survey methodology by year:

Source: FAA Survey and Forecast

- 2003: Aircraft operating in commuter operations were excluded.
- 2004: The survey coverage was expanded for turbine airplanes and rotorcraft, accounting for part of the increase in hours.
- 2007: The estimate of Light-Sport Aircraft increased significantly due to mandatory registration.
- 2009: The FAA began publishing data for Special Light-Sport Aircraft separately.
- 2011: Data is estimated, because no data was published by the FAA.
- 2012: The general aviation survey results includes "Experimental Light-Sport" data in the "Experimental" category.

2.6 Active U.S. General Aviation and On-Demand FAR Part 135 Average Hours Flown Per Aircraft by Year (2000–2016)

Year	All Aircraft	Airplane			Rotorcraft		Balloons, Dirigibles, Gliders	Experimental	Light-Sport Aircraft	
		Piston	Turboprop	Business Jet	Piston	Turbine			Total	Special
2000	**142**	130	353	393	198	398	56	64	-	-
2001	**138**	128	290	341	254	347	50	59	-	-
2002	**128**	117	270	329	193	331	53	61	-	-
2003	**130**	118	250	338	211	383	44	63	-	-
2004	**128**	110	258	400	222	367	42	58	-	-
2005	**120**	98	265	384	203	429	41	57	55	-
2006	**125**	101	268	393	281	429	34	53	52	-
2007	**120**	97	280	379	254	374	36	55	43	-
2008	**114**	93	276	326	215	387	37	50	43	-
2009	**106**	87	245	281	216	347	32	53	44	78
2010	**111**	90	248	294	221	401	32	50	48	84
2011E	**111**	89	259	292	222	398	32	50	42	n/a
2012	**117**	92	265	290	222	403	36	47	-	85
2013	**114**	90	269	300	203	349	32	48	-	84
2014	**114**	86	267	314	260	356	34	48	-	74
2015	**115**	91	261	286	243	346	33	46	-	81
2016	**117**	95	277	280	233	325	39	44	-	75

Data for 2011 was estimated, because no survey data is available from the FAA.

Source: FAA Survey

2.7 U.S. Experimental Aircraft Fleet and Flight Hours (in Thousands) (2000–2016)

Year	Aircraft Fleet						Hours Flown					
	Amateur-Built	Exhibition	Experimental Light-Sport	Other	Total Experimental	% of GA Fleet	Amateur-Built	Exhibition	Experimental Light-Sport	Other	Total Experimental	% of GA Hours
2000	16,739	1,973	-	1,694	**20,406**	**9.4%**	887	113	-	279	**1,279**	**4.3%**
2001	16,736	2,052	-	1,633	**20,421**	**9.7%**	794	102	-	261	**1,157**	**4.3%**
2002	18,168	2,190	-	1,578	**21,936**	**10.4%**	976	127	-	242	**1,345**	**5.0%**
2003	17,028	2,031	-	1,491	**20,550**	**9.8%**	963	103	-	226	**1,292**	**4.7%**
2004	19,165	2,070	-	1,565	**22,800**	**10.4%**	990	116	-	216	**1,322**	**4.7%**
2005	19,817	2,120	-	1,691	**23,628**	**10.5%**	987	113	-	239	**1,339**	**5.0%**
2006	19,316	2,103	-	1,629	**23,048**	**10.4%**	899	103	-	216	**1,218**	**4.4%**
2007	19,538	2,101	-	1,589	**23,228**	**10.0%**	896	102	-	277	**1,274**	**4.6%**
2008	19,767	2,096	-	1,501	**23,364**	**10.2%**	872	92	-	192	**1,155**	**4.4%**
2009	20,794	2,063	5,077	1,562	**29,496**	**13.2%**	983	88	171	215	**1,457**	**6.1%**
2010	21,270	2,029	4,878	1,485	**29,662**	**13.3%**	911	98	173	217	**1,399**	**5.6%**
2011	n/a	n/a	n/a	n/a	**n/a**	**n/a**	n/a	n/a	n/a	n/a	**n/a**	**n/a**
2012	18,843	1,923	4,631	1,317	**26,715**	**12.8%**	847	88	151	157	**1,243**	**5.1%**
2013	17,503	1,908	4,157	1,350	**24,918**	**12.5%**	785	78	135	193	**1,191**	**5.2%**
2014	18,873	1,893	4,204	1,221	**26,191**	**12.8%**	834	79	142	189	**1,244**	**5.3%**
2015	21,195	1,966	3,942	820	**27,922**	**13.3%**	1,000	76	132	87	**1,295**	**5.4%**
2016	20,490	2,015	4,264	816	**27,585**	**13.0%**	890	89	152	93	**1,224**	**4.9%**

Source: FAA Survey

2.8 Total Fuel Consumed and Average Fuel Consumption Rate by Aircraft Type (2016)

Fuel Type	Fixed-Wing			Rotorcraft		Other Aircraft	Experimental	Special Light-Sport	Total All Aircraft
	Piston	Turboprop	Turbojet	Piston	Turbine				
Jet Fuel									
Avg. Rate (GPH)	32.2	76.7	290.7	11.9	48.3	15.0	44.3	-	**152.3**
Estimated Fuel Use (Thousand Gallons)	2,569.4	205,475.4	1,116,520.7	6,016.8	113,359.6	0.5	1,710.7	-	**1,445,655.3**
% Standard Error	10.5	1.5	1.3	3.0	1.4	0.0	14.2	-	**1.1**
100 Low-Lead									
Avg. Rate (GPH)	13.2	34.9	-	13.6	-	-	12.2	5.4	**13.1**
Estimated Fuel Use (Thousand Gallons)	172,664.7	970.0	-	3,749.1	-	-	9,785.1	411.4	**187,836.2**
% Standard Error	1.7	11.9	-	4.5	-	-	15.8	3.5	**1.8**
Automotive Gasoline									
Avg. Rate (GPH)	9.1	9.2	-	6.0	-	1.7	4.9	5.3	**6.8**
Estimated Fuel Use (Thousand Gallons)	3,003.3	3.7	-	3.1	-	9.5	1,522.6	575.2	**5,123.3**
% Standard Error	11.3	9.5	-	6.8	-	28.1	4.4	4.9	**4.7**
Total Fuel Use									
Avg. Rate (GPH)	13.2	76.3	290.3	12.5	48.3	18.0	11.2	5.3	**66.4**
Estimated Fuel Use (Thousand Gallons)	178,237.4	206,459.1	1,116,639.5	9,769.0	113,364.3	2,527.1	13,172.1	988.8	**1,641,157.3**
% Standard Error	1.7	1.5	1.3	2.7	1.4	9.6	11.8	3.2	**2.2**

Some data points are suppressed or contain no reports of a type of aircraft using that fuel
The FAA no longer publishes data for 100 Octane and Other Fuel.

Source: FAA Survey

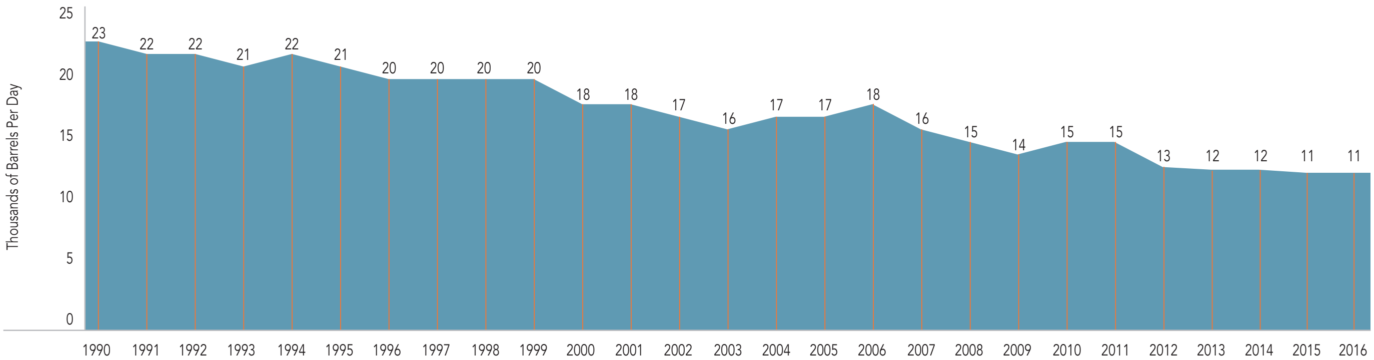
2.9 U.S. General Aviation Fuel Consumption (2000–2016)

Year	Airplane				Rotorcraft		Experimental and Other Aircraft	Light-Sport	Total Fuel Consumed		
	Piston		Turbine		Piston	Turbine			Avgas	Jet Fuel	Total
	Single-Engine	Multi-Engine	Turboprop	Business Jet							
2000	200.8	108.4	176.3	736.7	8.4	59.0	15.2	-	332.8	972.0	**1,304.8**
2001	180.4	76.4	149.1	726.7	7.2	42.6	15.3	-	279.2	918.3	**1,197.6**
2002	177.9	74.2	152.3	745.5	6.8	40.5	17.8	-	276.7	938.3	**1,215.0**
2003	181.8	66.7	154.5	729.0	6.8	48.8	17.1	-	272.4	932.3	**1,204.7**
2004	167.5	80.1	167.0	1,004.9	7.9	59.0	17.5	-	272.9	1,230.9	**1,503.8**
2005	173.1	89.7	196.1	1,181.3	14.6	149.2	17.7	-	295.0	1,526.7	**1,821.7**
2006	164.9	79.9	190.1	1,303.9	16.7	148.6	21.6	0.3	283.4	1,642.6	**1,926.0**
2007	157.6	83.0	205.2	1,148.0	9.3	132.4	22.6	1.2	273.6	1,485.6	**1,759.2**
2008	143.0	69.5	230.4	1,313.2	10.7	162.1	23.3	1.5	248.1	1,705.7	**1,953.8**
2009	132.3	57.1	208.7	1,104.6	10.7	133.6	25.8	1.4	227.4	1,447.0	**1,674.4**
2010	133.1	53.9	187.1	1,122.9	10.7	124.8	21.6	1.5	220.7	1,434.8	**1,655.6**
2011E	129.9	52.9	195.3	1,124.6	10.3	136.4	21.5	1.4	216.0	1,456.3	**1,672.3**
2012	126.6	51.8	190.7	1,232.2	10.7	119.5	21.7	1.5	212.3	1,542.4	**1,754.7**
2013	117.2	53.9	188.6	945.0	8.8	126.0	16.5	0.9	197.3	1,259.6	**1,456.9**
2014	120.0	48.2	198.8	1,135.2	11.0	132.3	29.5	0.8	209.5	1,466.4	**1,676.0**
2015	128.4	40.4	191.4	1,062.9	10.2	128.3	15.4	1.2	195.6	1,382.6	**1,578.2**
2016	128.9	42.9	189.5	1,150.2	10.0	131.2	25.6	1.3	208.6	1,470.9	**1,679.5**

E = Estimated

Source: FAA Survey and Forecast

FIGURE 2.1 **Refinery and Blender Net Production of Aviation Gasoline (1990–2016)**



Source: U.S. Energy Information Administration

2.10 **U.S. Refinery and Blender Net Production of Aviation Gasoline (1990–2016) (in Thousand Barrels Per Day)**

Year	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
1990	23	22	22	21	22	21	20	20	20	20
2000	18	18	17	16	17	17	18	16	15	14
2010	15	15	13	12	12	11	11	-	-	-

Source: U.S. Energy Information Administration

2.11 **Average Age of Registered U.S. General Aviation Fleet (2009–2016)**

Aircraft Type	Engine Type	Average Age in 2009 in Years	Average Age in 2010 in Years	Average Age in 2011 in Years	Average Age in 2012 in Years	Average Age in 2013 in Years	Average Age in 2014 in Years	Average Age in 2015 in Years	Average Age in 2016 in Years
Single-Engine	Piston	-	-	-	-	-	-	-	45.7
	Turboprop	16.1	15.2	n/a	14.9	12.5	13.5	13.5	13.2
	Jet	44.0	44.1	n/a	n/a	n/a	n/a	n/a	n/a
	Helicopter – Piston	-	n/a	n/a	20.8	17.1	21.4	21.4	21.0
	Helicopter – Turbine	-	-	n/a	22.9	22.3	22.1	22.1	22.4
Multi-Engine	Piston	-	-	-	-	-	-	-	43.2
	Turboprop	28.0	27.0	n/a	26.1	25.2	27.6	27.6	28.4
	Jet	17.0	16.2	n/a	15.3	14.7	15.8	15.8	15.3
	Helicopter – Turbine	-	-	-	17.5	14.7	17.6	17.6	18.9
All Aircraft		**39.5**	**37.3**	**n/a**	**35.1**	**33.2**	**36.7**	**36.7**	**37.2**

Source: GAMA

2.12 U.S. General Aviation Operations (in Thousands) at FAA and Contract Towers (1992–2017)

Year	General Aviation Operations at Towers								Grand Total
	FAA Control Towers				Contract Towers				
	Total	Itinerant & Overflight	Local	Number of Towers	Total	Itinerant & Overflight	Local	Number of Towers	
1992	**36,945**	21,281	15,664	n/a	**1,409**	767	642	n/a	**38,355**
1993	**35,228**	20,377	14,851	n/a	**1,373**	760	613	n/a	**36,601**
1994	**34,092**	20,208	14,484	n/a	**1,561**	855	706	n/a	**36,254**
1995	**32,265**	18,886	13,379	n/a	**3,661**	1,974	1,687	n/a	**35,927**
1996	**29,250**	17,575	11,675	n/a	**6,049**	3,249	2,801	n/a	**35,298**
1997	**28,232**	17,097	11,135	n/a	**8,601**	4,572	4,029	n/a	**36,833**
1998	**28,522**	17,157	11,365	n/a	**10,118**	5,240	4,877	n/a	**38,046**
1999	**29,110**	17,422	11,688	n/a	**10,890**	5,597	5,292	n/a	**40,000**
2000	**27,002**	16,286	10,717	n/a	**12,876**	6,558	6,318	n/a	**39,879**
2001	**24,784**	14,949	9,835	266	**12,843**	6,484	6,359	206	**37,627**
2002	**24,092**	14,553	9,539	n/a	**13,562**	6,898	6,634	n/a	**37,653**
2003	**22,598**	13,577	9,021	n/a	**12,926**	6,654	6,272	n/a	**35,524**
2004	**21,762**	13,190	8,572	n/a	**13,205**	6,817	6,388	n/a	**34,968**
2005	**20,705**	12,430	8,275	n/a	**13,456**	6,885	6,571	n/a	**34,161**
2006	**19,728**	11,897	7,830	n/a	**13,392**	6,844	6,549	n/a	**33,120**
2007	**19,367**	11,616	7,751	n/a	**13,768**	6,961	6,807	n/a	**33,135**
2008	**18,336**	10,828	7,509	264	**12,953**	6,540	6,413	239	**31,289**
2009	**17,429**	10,770	6,659	264	**12,156**	6,585	5,571	244	**29,585**
2010	**16,741**	10,430	6,310	264	**11,837**	6,517	5,319	244	**28,577**
2011	**16,324**	10,206	6,118	264	**11,737**	6,374	5,363	248	**28,061**
2012	**16,265**	10,111	6,154	264	**11,878**	6,479	5,399	250	**28,143**
2013	**16,027**	9,857	6,170	264	**11,998**	6,438	5,560	252	**28,025**
2014	**15,791**	9,707	6,084	264	**11,951**	6,356	5,595	252	**27,742**
2015	**15,544**	9,449	6,096	264	**12,024**	6,441	5,584	252	**27,569**
2016	**15,554**	9,380	6,174	264	**11,990**	6,535	5,455	252	**27,544**
2017E	**15,564**	9,280	6,284	264	**12,112**	6,560	5,552	254	**27,675**

E = Estimated
Location operations at FAA Control Towers captures all civil local operations.

Facilities includes Control Towers, TRACONs, CERAPs and RAPCONs.
Traffic Count for GA Operation Data are provided by OPSNET.

Source: FAA Air Traffic Activity

2.13 Summary of U.S. General Aviation Operations and Contacts (in Thousands) at FAA Facilities (2001–2017)

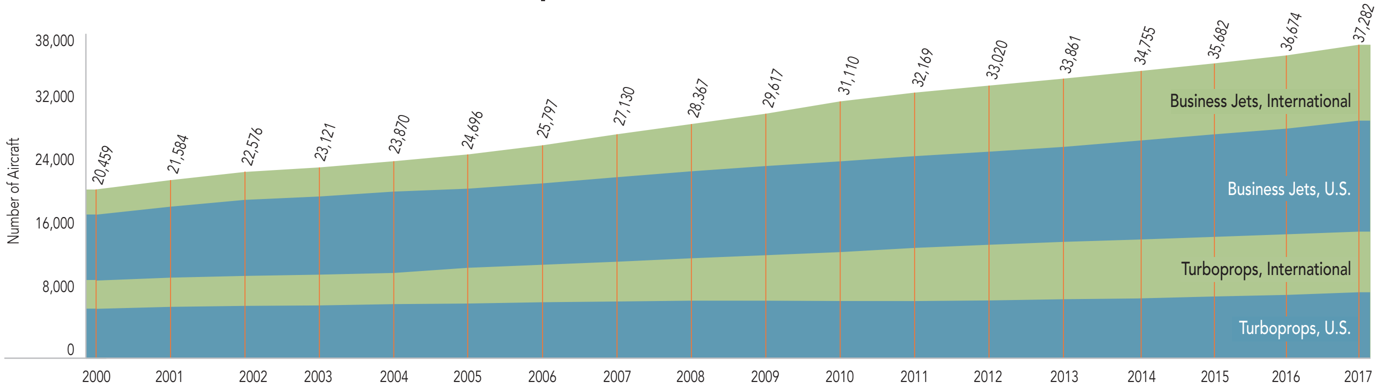
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016E	2017F
GA IFR Aircraft Handled at FAA Air Route Traffic Control Centers	8,024.0	8,180.7	7,999.8	8,350.4	8,367.7	8,197.0	8,294.3	7,670.7	6,331.6	6,550.3	6,557.3	6,472.1	6,439.1	6,741.0	7,007.0	7,300.6	7,428.0
GA Instrument Operations at FAA & Contract Facilities	19,705.5	19,655.8	18,629.8	18,619.5	17,985.9	-	-	-	-	-	-	-	-	-	-	-	-
GA Total TRACON Operations	19,274.9	19,212.5	18,094.2	18,006.8	17,388.9	17,005.3	16,747.4	15,763.0	14,151.1	13,863.6	13,503.1	13,423.6	13,047.7	13,017.6	13,075.7	13,089.7	13,092.8
Total Aircraft Contacts at FSS	2,196.0	2,170.0	2,050.0	1,976.0	-	-	-	-	-	-	-	-	-	-	-	-	-

E = Estimated. F = Forecast.
Facilities include Control Towers, TRACONs, CERAPs, and RAPCONs.
Traffic Count for GA Operation Data provided by ATADS.
FAA suspended tracking of IFR operations at Contract Facilities in 2005.

GA Total TRACON Operations were titled "GA Instrument Operations at Airports with FAA Traffic Control Facilities" in previous publications.
FAA suspended tracking of Flight Service Station (FSS) contacts in 2004.

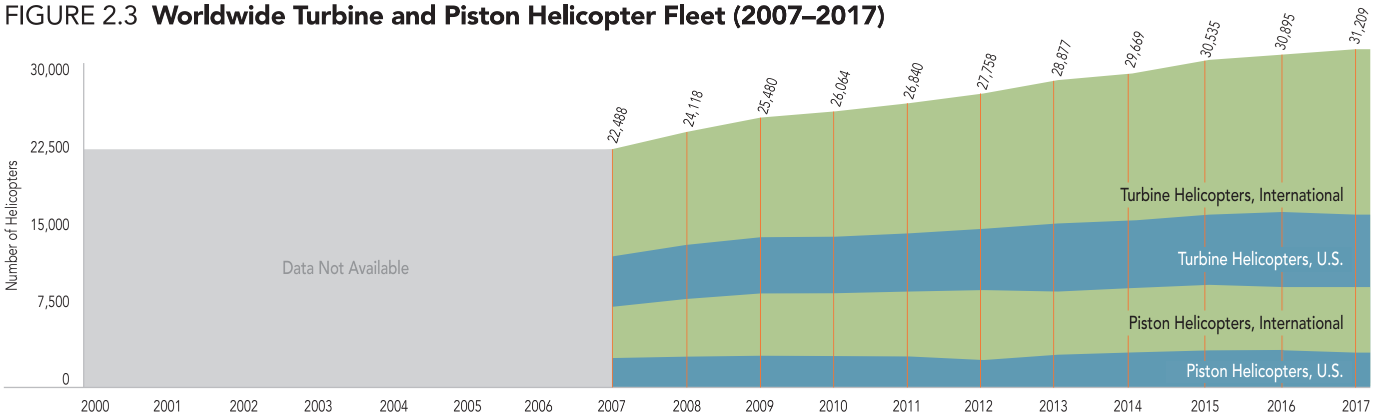
Source: FAA Air Traffic Activity

FIGURE 2.2 **Worldwide Turbine Business Airplane Fleet (2000–2017)**



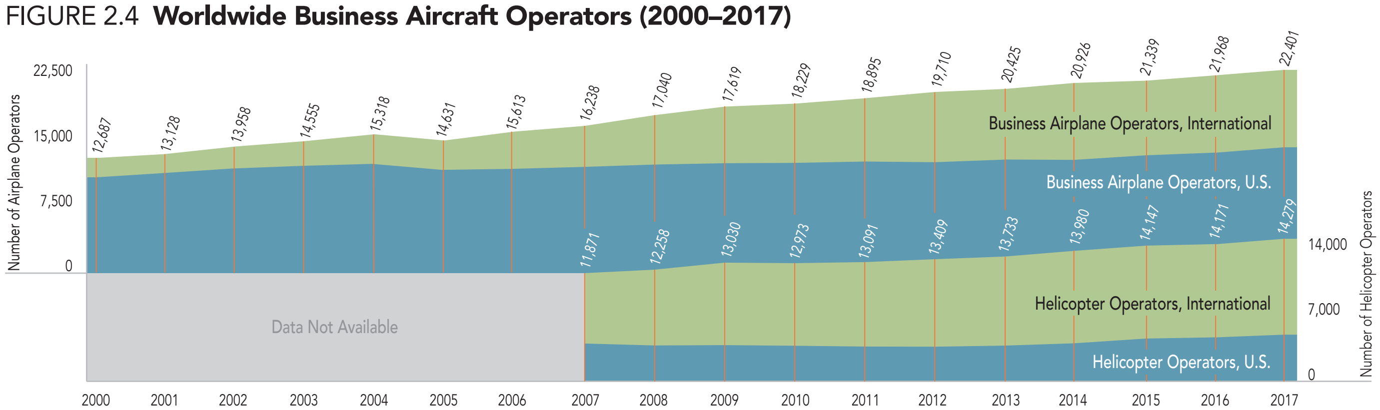
Source: JETNET LLC; www.JETNET.com

FIGURE 2.3 **Worldwide Turbine and Piston Helicopter Fleet (2007–2017)**



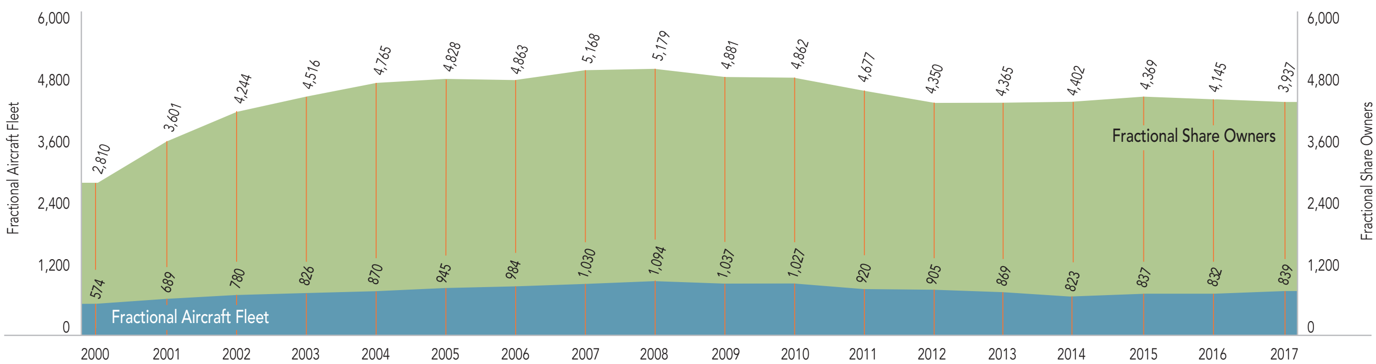
Source: JETNET LLC; www.JETNET.com

FIGURE 2.4 **Worldwide Business Aircraft Operators (2000–2017)**



Source: JETNET LLC; www.JETNET.com

FIGURE 2.5 **Fractional Aircraft and Share Owners (2000–2017)**



The fractional owner and fleet information for 2007 and later also includes helicopters.

Source: JETNET LLC; www.JETNET.com

European Fleet Data

3.1 Austria—Number of Aircraft by Type (2015–2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	5,700 kg and Below			Above 5,700 kg		Single-Engine	Multi-Engine					
2015	805			292		100	54	n/a	176	7	-	**1,434**
2016	792			303		104	64	n/a	174	7	2	**1,446**
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg								
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2017	11	680	111	2	155	107	92	n/a	170	7	-	**1,335**

The 2017 data does not include aircraft used by airlines.

Source: Austrocontrol, www.austrocontrol.at (Österreichisches Luftfahrzeugregister) and GAMA analysis

3.2 Belgium—Number of General Aviation Aircraft by Type (2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2017	747	351	43	10	41	128	29	206	402	-	1,472	**3,429**

Source: Belgian Civil Aviation Authority (SPF Mobilité et Transport), www.mobilit.belgium.be

3.3 Bosnia-Herzegovina—Number of General Aviation Aircraft by Type (2016-2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2016	5	31	4	0	2	4	0	0	32	2	0	**80**
2017	6	31	4	0	2	4	0	0	34	3	0	**84**

Source: Bosnia and Herzegovina Directorate of Civil Aviation (http://www.bhdca.gov.ba) and GAMA analysis

3.4 Bulgaria—Number of General Aviation Aircraft by Type (2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2017	18	138	9	11	13	16	10	4	4	3	n/a	**226**

Source: Bulgarian Civil Aviation Administration (Гражданска въздухоплавателна администрация), http://www.caa.bg/ and GAMA analysis

3.5 Croatia—Number of Aircraft by Type (2015–2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2015	126	153		1		12	4	20	60	2	n/a	**378**
2016	116	157		3		19		19	69	3	n/a	**386**
2017	122	85	19	6	12	11	6	10	58	2	n/a	**331**

Source: Croatia Civil Aviation Authority http://www.ccaa.hr/ and GAMA analysis

3.6 Cyprus—Number of General Aviation Aircraft by Type (2014–2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2014	21	47	9	0	1	9	2	n/a	1	n/a	0	**90**
2015	23	53	12	0	1	11	2	n/a	1	n/a	1	**104**
2016	21	53	13	0	1	11	2	n/a	1	n/a	1	**103**
2017	27	55	13	0	1	11	3	n/a	1	n/a	1	**112**

Source: Department of Civil Aviation Cyprus (Κυπριακή Δημοκρατία, Υπουργείο Συγκοινωνιών και Εργων), www.mcw.gov.cy

3.7 Czech Republic—Number of Aircraft by Type (2010–2016)

Year	Fixed-wing Aeroplanes			Rotorcraft	Motor Gliders	Gliders	Balloons	Airships	Microlights	UAS	Total Aircraft
	5,700 kg and Below		Above 5,700 kg								
	Single-Engine	Multi-Engine									
2010	867		94	106	101	762	181	2	4,434	-	**10,981**
2011	915		84	118	101	838	191	2	4,745	-	**11,739**
2012	943		104	127	106	908	204	2	4,957	-	**12,308**
2013	940		86	134	109	956	209	2	5,199	-	**12,834**
2014	977		91	142	115	976	218	2	5,416	-	**13,353**
2015	964		85	153	130	987	233	2	5,649	-	**13,852**
2016	918	101	89	161	133	1,013	243	2	5,843	620	**14,966**

Drones having Unmanned Aircraft Special Authorisation issued by the Civil Aviation Authority of the Czech Republic

Source: Czech Civil Aviation Authority (Urad Pro Civilni Letectvi), http://www.caa.cz/ and Light Aircraft Association of the Czech Republic, http://www.laacr.cz/

3.8 Denmark—Number of Aircraft by Type (2012–2017)

Year	Fixed-wing Aeroplanes				Rotorcraft	Balloons	Motor Gliders	Gliders	Total Aircraft
	2,730 kg and Below	2,730 kg–5,700 kg	5,700 kg–50,000 kg	50,000 kg–100,000 kg					
2012	684	43	127	48	125	66	136	330	**1,559**
2013	673	40	121	58	129	66	134	324	**1,545**
2014	670	36	135	61	124	70	136	314	**1,546**
2015	658	38	135	56	118	71	138	305	**1,519**
2016	646	39	129	53	114	73	135	304	**1,493**
2017	647	39	125	46	111	76	133	298	**1,475**

The Danish aircraft registry does not distinguish between aeroplanes used in scheduled commercial and general aviation operations.

Source: Danish Transport Authority (Trafikstyrelsen), www.trafikstyrelsen.dk

3.9 Estonia—Number of Aircraft by Type (2014–2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2014	n/a	71		26		8	3	8	39	n/a	n/a	**155**
2015	n/a	67		27		9	3	8	43	n/a	n/a	**157**
2016	n/a	62		35		10	3	8	42	n/a	n/a	**160**
2017	n/a	65	3	21	23	10	3	8	43	2	n/a	**178**

Source: Republic of Estonia Civil Aviation Administration (Lennuamet), www.ecaa.ee

3.10 Finland—Number of Aircraft by Type (2014–2016)

Year	Fixed-wing Aeroplanes		Rotorcraft and Gyrocopters	Gliders and Motor Gliders	Balloons and Airships	Microlights	Total Aircraft
	Aeroplanes	Airliners					
2014	552	109	111	390	54	318	**1,534**
2015	567	110	105	366	52	318	**1,518**
2016	578	84	99	359	52	324	**1,496**

TRAFI uses the term airliner. Airliners are defined as aeroplanes with a maximum take-off weight (MTOW) of more than 8,618kg.

Source: Finnish Transport Safety Agency (Liikenteen turvallisuusvirasto), www.trafi.fi

3.11 France—Number of General Aviation Aircraft by Type (2016–2017)

Year	Fixed-wing Aeroplanes							Rotorcraft			Gliders	Balloons and Airships	Gyrocopters	Amphibian	Total Aircraft
	Ultralights including Powered Parachutes	450 kg–5,700 kg			Above 5,700 kg										
		Piston Engine	Turbo-props	Business Jets	Piston Engine	Turbo-props	Business Jets	Below 450 kg	Piston Engine	Turbine					
2016	14,142	5,066	84	36	23	16	44	122	224	174	1,449	796	779	3	**22,958**
2017	14,462	5,104	104	40	13	17	64	123	252	188	1,579	793	789	3	**23,531**

The data was updated in April of each year.

Source: Direction de l'Aviation Civile, https://www.ecologique-solidaire.gouv.fr/politiques/aviation-civile

3.12 Georgia—Number of General Aviation Aircraft by Type (2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2017	9	7	2	2	1	3	9	6	0	0	0	**39**

Source: Georgia Civil Aviation Agency (http://www.gcaa.ge) and GAMA analysis

3.13 Germany—Number of Aircraft by Type (2010–2017)

Year	Fixed-wing Aeroplanes							Rotorcraft	Motor Gliders	Airships	Balloons	Gliders	Total Aircraft
	Single-Engine		Multi-Engine		5,701 kg–14,000 kg	14,001 kg–20,000 kg	Above 20,000 kg						
	2,000 kg and Below	2,000 kg–5,700 kg	2,000 kg and Below	2,000 kg–5,700 kg									
2010	6,801	153	242	444	228	40	772	811	3,081	4	1,260	7,867	**21,703**
2011	6,744	155	243	428	236	38	770	773	3,122	3	1,257	7,834	**21,603**
2012	6,757	150	239	414	217	30	767	774	3,185	5	1,215	7,793	**21,546**
2013	6,733	155	240	403	199	34	758	769	3,263	3	1,201	7,704	**21,462**
2014	6,689	149	228	393	207	33	751	745	3,357	3	1,183	7,657	**21,395**
2015	6,596	147	229	371	191	34	751	757	3,403	3	1,164	7,567	**21,213**
2016	6,553	160	221	381	211	35	777	733	3,456	3	1,124	7,450	**21,104**
2017	6,527	174	219	291	219	37	753	729	3,528	3	1,102	7,383	**20,965**

The data, especially Fixed-wing Aeroplanes above 20,000 kg, includes commercial airliners.

Source: German Civil Aviation Authority (Luftfahrt-Bundesamtes / Statistiken), www.lba.de

3.14 Guernsey—Number of General Aviation Aircraft by Type (2013–2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2013	0	4	0	0	0	0	0	0	0	0	0	**4**
2014	0	17	1	0	6	0	1	0	0	0	0	**25**
2015	0	23	4	0	18	1	3	0	0	0	0	**49**
2016	0	25	16	3	39	1	4	0	0	0	0	**88**
2017	0	30	23	14	47	7	8	0	0	0	0	**129**

The turboprop and business jet data include aircraft not operated by an AOC holder, including lessor-owned aircraft in between leases.

Source: Guernsey Aircraft Registry 2-REG, www.2-REG.com

3.15 Iceland—Number of General Aviation Aircraft by Type (2015–2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2015	n/a	242		1		7	3	n/a	28	n/a	n/a	**281**
2016	n/a	247		3		9	3	n/a	28	n/a	n/a	**290**
2017	187	132	25	13	0	9	4	0	28	2	27	**427**

Source: Iceland Transport Authority (Samgongustofa), http://www.icetra.is/aviation/aip-iceland/

3.16 Ireland—Number of General Aviation Aircraft by Type (2011–2017)

Year	Fixed-wing Aeroplanes							Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Microlights, Amateur-Built, and Amphibian	Below 2,000 kg		2,000 kg–5,700 kg		5,701 kg–15,000 kg	Above 15,000 kg	Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Single-Engine	Multi-Engine									
2011	187	228	11	2	12	7	14	45	20	12	22	18	n/a	**578**
2012	168	181	7	5	6	5	14	31	16	10	n/a	11	n/a	**454**
2013	179	180	8	5	6	3	17	30	19	10	25	13	n/a	**495**
2014	189	179	6	3	8	1	8	25	14	10	25	14	n/a	**482**
2015	201	178	6	3	8	1	6	21	13	10	24	13	n/a	**484**
2016	207	180	5	2	9	1	8	22	15	10	23	15	n/a	**497**
	Annex II (including Ultralights)	450 kg–5,700 kg				Above 5,700 kg								
		Single-Engine		Multi-Engine		Turboprops	Business Jets							
2017	224	178		15		0	10	21	17	10	23	15	n/a	**513**

Source: Irish Aviation Authority, www.iaa.ie and GAMA analysis

3.17 Isle of Man—Number of Aircraft by Type (2014–2017)

Year	Fixed-wing Aeroplanes			Rotorcraft		Total Aircraft
	5,700 kg and Below	5,700 kg–15,000 kg	Above 15,000 kg	Single-Engine	Multi-Engine	
2014	76	65	230	2	28	**401**
2015	71	68	244	2	26	**411**
2016	67	61	280	0	43	**451**
2017	67	51	263	2	48	**431**

Source: Isle of Man Aircraft Registery, www.gov.im

3.18 Italy—Number of General Aviation Aircraft by Type (2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2017	13,181	668	99	21	56	335	168	76	157	0	6,334	**21,095**

Source: Ente Nazionale per l'Aviazione Civile (ENAC), www.enac.gov.it

3.19 Latvia—Number of General Aviation Aircraft by Type (2014–2017)

Year	Fixed-wing Aeroplanes								Rotorcraft			Motor Gliders	Gliders	Gyrocopters	Total Aircraft
	5,700 kg and Below						Above 5,700 kg		Piston Engine	Turbine					
	Piston Engine		Turboprops		Business Jets		Turboprops	Turbojets		Single-Engine	Multi-Engine				
	Single-Engine	Multi-Engine	Single-Engine	Multi-Engine	Single-Engine	Multi-Engine									
2014	122	6	2	2	8	2	1	3	10	5	12	25	21	2	**221**
2015	130	6	10	1	2	2	0	1	9	4	12	10	21	2	**210**
2016	126	6	7	1	2	3	1	3	6	5	10	10	22	2	**204**
2017	111	4	2	3	7	1	0	3	8	6	8	11	23	3	**190**

Source: Latvian CAA (Civilās Aviācijas Aģentūra), www.caa.lv

3.20 Lithuania—Number of General Aviation Aircraft by Type (2014–2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2014	177	266				29		110	206	0	n/a	**788**
2015	182	265				24		112	168	0	n/a	**751**
2016	157	239		10		12	4	114	142	3	n/a	**681**
2017	273	121	1	9	40	10	4	119	146	3	n/a	**726**

Source: Lithuanian CAA (Civilinės Aviacijos Administracija), www.caa.lt

3.21 Luxembourg—Number of General Aviation Aircraft by Type (2014–2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2014	33	183				11		54	11	0	0	**292**
2015	26	191				54		12	10	0	0	**293**
2016	24	89		96		2	10	56	7	0	0	**284**
2017	32	69	3	11	91	2	11	47	7	0	0	**273**

Source: Luxembourg CAA (Direction De L'Aviation Civile), www.dac.public.lu

3.22 Macedonia—Number of General Aviation Aircraft by Type (2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2017	23	1	3	1	0	0	1	14	0	0	0	**43**

Source: Republic of Macedonia Civil Aviation Agency, http://www.caa.gov.mk and GAMA analysis

3.23 Malta—Number of General Aviation Aircraft by Type (2011–2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2011	30	17	9	10	34	2	0	0	0	0	0	**102**
2012	33	23	15	8	44	4	0	0	0	0	0	**127**
2013	33	24	18	9	66	4	0	0	0	0	0	**154**
2014	32	18	14	9	96	4	0	0	0	0	0	**173**
2015	32	18	11	8	139	4	0	0	0	0	0	**212**
2016	32	17	11	6	173	4	0	0	0	0	0	**243**
2017	32	17	13	6	194	3	0	0	0	0	0	**265**

Source: Transport Malta, www.transport.gov.mt & GAMA analysis

3.24 Montenegro—Number of General Aviation Aircraft by Type (2014–2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2014	n/a	19		2		7		1	2	n/a	n/a	**31**
2015	n/a	9		4		4		0	1	n/a	n/a	**18**
2016	n/a	10		5		5		1	2	n/a	n/a	**23**
2017	n/a	16	0	0	2	3	3	2	2	n/a	n/a	**28**

Source: Civil Aviation Agency of Montenegro (Agencija za civilno vazduhoplovstvo) Data, www.caa.me and GAMA analysis

3.25 Netherlands—Number of Aircraft by Type (2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Turbofan							
2017	202	661	49	15	249	41	36	415	628	10	1,205	**3,511**

Turbofan data includes both business jets and aeroplanes used in airline operations.

Source: Dutch Environment and Transport Inspectorate (Inspectie Leefomgeving en Transport), www.ilent.nl

3.26 Norway—Number of Aircraft by Type (2015–2016)

Year	Fixed-wing Aeroplanes			Rotorcraft		Gliders and Motor Gliders	Balloons and Airships	Total Aircraft
	5,700 kg and Below	Above 5,700 kg	Above 60,000 kg	5,700 kg and Below	Above 5,700 kg			
2015	799			266		149	20	**1,234**
2016	454	208	131	192	75	151	20	**1,231**

Source: Norway Civil Aviation Authority, http://www.luftfartstilsynet.no/

3.27 Poland—Number of General Aviation Aircraft by Type (2014–2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2014	469	753	84	9	12	97	83	178	837	21	0	**2,543**
2015	501	759	79	15	13	104	90	196	885	26	0	**2,668**
2016	502	778	82	13	15	103	99	203	907	32	32	**2,766**
2017	532	785	75	10	19	125	86	212	948	38	32	**2,862**

Annex II aircraft are also included in the total count of single-engine aeroplanes below 5,700 kg.

Source: Polish Civil Aviation Authority (Urzad Lotnictwa Cywilnego), www.ulc.gov.pl

3.28 Portugal—Number of General Aviation Aircraft by Type (2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2017	309	420	47	7	133	22	61	50	20	1	0	**1,227**

Source: Portuguese Civil Aviation Authority (Instituto Nacional de Aviação Civil), www.inac.pt and GAMA analysis

3.29 Romania—Number of Aircraft by Type (2015)

Year	Fixed-wing Aeroplanes		Rotorcraft		Total Aircraft
	5,700 kg and Below	Above 5,700 kg	Single-Engine	Multi-Engine	
2015	97	5	17	25	**144**

Source: Romania Civil Aeronautical Authory (Autoritatea Aeronautica Civila Romana), www.caa.ro

3.30 Serbia—Number of General Aviation Aircraft by Type (2014–2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2014	53	188		10		37		7	83	2	0	**380**
2015	56	193		11		38		6	87	3	0	**394**
2016	55	207		21		38		6	93	3	130	**553**
2017	146	127	16	8	36	35	4	6	54	0	211	**643**

Source: Civil Aviation Directorate of the Republic of Serbia (Директорат цивилног ваздухопловства Републике Србије), www.cad.gov.rs

3.31 Slovakia—Number of General Aviation Aircraft by Type (2014–2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2014	9	331				55		42	252	0	0	**173**
2015	69	272				68		41	269	0	0	**212**
2016	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**
2017	50	258	27	5	5	28	27	42	266	0	0	**265**

Source: Transport Authority Slovakia (Dopravný úrad), www.nsat.sk and GAMA analysis

3.32 Slovenia—Number of Aircraft by Type (2014–2017)

Year	Ultralights	Fixed-wing Aeroplanes				Rotorcraft		Balloons	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
2014	112	221				22		61	244	3	n/a	**663**
2015	113	202				21		58	241	3	n/a	**638**
2016	108	192				22		58	236	3	n/a	**619**
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2017	145	271	8	1	10	17	5	31	146	1	n/a	**635**

Source: Civil Aviation Agency, Slovenia (agencija za civilno letalstvo Republike Slovenije), www.caa.si

3.33 Spain—Number of Aircraft by Type (2014–2015)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2014	3,122	1,581	356	63	187	313	238	561	252	n/a	n/a	**6,673**
2015	3,168	1,557	350	66	172	306	257	572	290	n/a	n/a	**6,738**

Source: Spanish State Aviation Safety Agency (Agencia Estatal de Seguridad Aérea), www.seguridadaerea.gob.es

3.34 Sweden—Number of Aircraft by Weight and Type (2008–2015)

Year	Motorpowered Aircraft							Gliders, Motor Gliders, and Balloons	Total Aircraft
	2,000 kg and Below	2,001 kg–5,700 kg	5,701 kg–10,000 kg	10,001 kg–15,000 kg	15,001 kg–25,000 kg	25,001 kg–100,000 kg	Above 100,000 kg		
2008	2,096	187	46	30	64	54	5	436	**2,918**
2009	2,115	191	44	27	67	59	5	420	**2,928**
2010	2,251	189	40	27	72	47	5	274	**2,905**
2011	2,092	198	37	21	75	45	5	255	**2,728**
2012	2,093	191	34	22	72	44	3	263	**2,722**
2013	2,094	186	37	23	84	44	2	321	**2,791**
2014	2,090	186	31	24	82	45	2	340	**2,800**
	Aeroplanes	Rotorcraft	Gliders	Motor Gliders	Balloons	Ultralights	Gyrocopters		
2015	1,650	261	330	155	107	475	68	n/a	**3,046**

The number of gliders, powered gliders, and balloons is based on the number of valid airworthiness certificates on December 31 of the year.
Sweden changed how aircraft registry data is published in 2015.

Source: Swedish Transport Ministry (Transportstyrelsen), www.transportstyrelsen.se

3.35 Switzerland—Number of General Aviation Aircraft by Type (2015–2017)

Year	Fixed-wing Aeroplanes					Rotorcraft		Balloons and Airships	Gliders and Motor Gliders	Gyrocopters	UAS	Total Aircraft
	Annex II (including Ultralights)	450 kg–5,700 kg		Above 5,700 kg		Single-Engine	Multi-Engine					
		Single-Engine	Multi-Engine	Turboprops	Business Jets							
2015	526	772	109	11	46	204	53	306	847	2	n/a	**2,876**
2016	540	797	112	11	58	227	59	318	849	3	n/a	**2,974**
2017	542	824	109	11	65	247	62	336	862	8	n/a	**3,066**

Souce: Swiss Federal Office of Civil Aviation (Bundesamt für Zivilluftfahrt), www.bazl.admin.ch

3.36 Ukraine—Number of Aircraft by Type (2015)

Year	Fixed-wing Aeroplanes	Rotorcraft	Ultralights	Balloons	Gliders	Gyrocopters	Total Aircraft
2015	462	193	55	19	52	7	**788**

Source: State Aviation Administration (Державна авіаційна служба України), www.avia.gov.ua/

3.37 United Kingdom—Number of Aircraft by Type (2010–2017)

Year	Fixed-wing Aeroplanes								Micro-lights	Rotor-craft	Gliders	Hang Gliders	Balloons and Min. Lift	Airships	Gyro-copters	Total Aircraft
	Am-phibian	750 kg and Below	751 kg–5,700 kg	5,701 kg–15,000 kg	15,001 kg–50,000 kg	Above 50,000 kg	SLMG	Sea-planes								
2010	20	3,217	5,764	253	306	742	287	2	4,071	1,364	2,295	8	1,720	18	312	**20,379**
2011	20	3,199	5,663	228	297	742	285	2	4,043	1,299	2,256	8	1,655	19	324	**20,040**
2012	21	3,245	5,564	219	293	755	296	2	4,045	1,260	2,248	9	1,639	21	322	**19,939**
2013	21	3,269	5,505	212	289	761	302	2	4,029	1,232	2,247	9	1,625	20	327	**19,850**
2014	20	3,300	5,484	200	272	791	314	3	3,998	1,231	2,267	9	1,607	21	329	**19,846**
2015	21	3,325	5,493	190	260	806	321	3	4,015	1,258	2,260	9	1,598	23	342	**19,924**
2016	22	3,346	5,503	179	274	833	328	3	4,028	1,290	2,265	9	1,591	20	336	**20,027**
2017	21	3,395	5,497	174	261	844	322	3	3,993	1,283	2,257	9	1,608	20	341	**20,028**

SLMG = Self-Launching Motor Glider
Does not differentiate if aeroplane is used for GA or commercial operations.

Data from December 31 of specified year (published first day of the following year).

The registration data shows total by type and has not been adjusted for invalid registrations.
The United Kingdom identifies the following number of invalid registrations:
- 2014: There were 6,265 invalid registrations and 13,581 valid registrations out of a total of 19,846.
- 2015: There were 6,415 invalid registrations and 13,509 valid registrations out of a total of 19,924.
- 2016: There were 6,649 invalid registrations and 13,378 valid registrations out of a total of 20,027.
- 2017: There were 6,759 invalid registrations and 13,269 valid registrations out of a total of 20,028.

Source: UK Civil Aviation Authority, Civil Registry Statistics, G-INFO Database, www.caa.co.uk

Asia-Pacific Fleet Data

4.1 Australia—Number of General Aviation and Regional Aircraft by Category (1995–2017)

Year	Amateur-Built	Fixed-wing Aeroplanes				Rotorcraft	Balloons & Airships	Remote Piloted Aircraft	Total Aircraft
		Gliders	Motor Gliders	Single-Engine	Multi-Engine				
1995	-	-	-	6,787	1,779	739	243	-	**9,548**
1996	-	-	-	6,861	1,799	739	266	-	**9,665**
1997	-	-	-	6,994	1,803	768	284	-	**9,849**
1998	-	-	-	7,137	1,783	791	295	-	**10,006**
1999	-	-	-	7,247	1,743	868	310	-	**10,168**
2000	-	-	-	7,302	1,755	743	325	-	**10,125**
2001	673	-	-	6,680	1,736	979	334	-	**10,402**
2002	707	-	-	6,668	1,706	1,038	336	-	**10,455**
2003	789	-	-	6,727	1,696	1,121	338	-	**10,671**
2004	848	-	-	6,794	1,718	1,194	350	-	**10,904**
2005	896	-	-	6,908	1,733	1,292	351	-	**11,180**
2006	910	-	-	6,838	1,730	1,320	319	-	**11,117**
2007	968	-	-	6,955	1,804	1,481	333	-	**11,541**
2008	1,037	-	-	7,180	1,871	1,619	338	-	**12,045**
2009	1,071	-	-	7,230	1,885	1,703	340	-	**12,229**
2010	1,111	-	-	7,375	1,932	1,800	346	-	**12,564**
2011	1,176	-	-	7,410	1,930	1,855	354	-	**12,725**
2012	1,187	-	-	7,256	1,815	1,817	355	-	**12,430**
2013	1,278	-	-	7,798	2,053	2,077	379	-	**13,585**
2014	1,487	950	246	7,818	2,364	2,038	383	-	**15,286**
2015	1,516	953	250	7,789	2,361	2,038	382	-	**15,289**
2016	1,547	949	271	7,802	2,335	2,072	382	-	**15,358**
2017	1,570	944	280	7,805	2,320	2,107	397	1	**15,424**

Source: Dept. of Transportation and Regional Services, Bureau of Transport and Regional Economics, www.bitre.gov.au and Civil Aviation Safety Authority, www.casa.gov.au

4.2 China—Number of Aircraft by Type (2012–2013)

Year	Airplanes				Rotorcraft	Balloons	Airships	Other	Total Aircraft
	Piston-Engine		Turbine-Engine						
	Single	Twin	Turboprop	Turbojet					
2012	705	102	129	2,134	298	21	6	27	**3,422**
2013	794	96	151	2,371	385	24	6	30	**3,857**

The turbojet category includes air carrier data. The 2013 data included 202 business jets.

Source: Civil Aviation Adminstration of China (中国民用航空局), www.caac.gov.cn

4.3 Japan—Number of Aircraft by Type (2000–2016)

Year	Airplanes					Rotorcraft		Gliders	Airships	Total Aircraft
	Piston		Turboprop		Turbojet or Turbofan					
	Single-Engine	Multi-Engine	Single-Engine	Multi-Engine		Piston-Engine	Turbine-Engine			
2000	584	63	13	110	450	193	764	624	1	**2,802**
2001	577	62	16	113	455	183	747	644	1	**2,798**
2002	575	59	17	112	464	166	703	648	1	**2,745**
2003	570	53	18	112	474	160	661	649	1	**2,698**
2004	558	52	18	112	474	154	647	658	2	**2,675**
2005	543	51	18	110	485	160	630	659	2	**2,658**
2006	540	46	21	112	500	160	618	665	3	**2,665**
2007	542	45	23	111	509	169	604	666	3	**2,672**
2008	539	43	23	111	512	171	597	665	3	**2,664**
2009	545	46	23	109	523	177	600	670	2	**2,695**
2010	546	54	24	112	511	181	600	667	1	**2,696**
2011	511	54	23	101	498	184	593	668	1	**2,633**
2012	505	52	26	95	529	185	606	667	1	**2,666**
2013	504	53	28	100	563	180	623	663	1	**2,715**
2014	490	51	28	101	582	178	631	661	1	**2,723**
2015	489	55	30	102	602	173	628	654	1	**2,734**
2016	483	57	39	97	629	171	640	650	1	**2,767**

Source: Civil Aviation Bureau (航空局), www.mlit.go.jp

4.4 New Zealand—Number of Aircraft by Type (2006–2017)

Year	Airplanes by Mass				Sport	Rotorcraft	Total Aircraft
	Agricultural	Small	Medium	Large			
2006	127	1,420	78	117	1,638	653	**4,033**
2007	124	1,449	82	116	1,723	698	**4,192**
2008	120	1,492	81	121	1,793	747	**4,354**
2009	110	1,510	84	118	1,833	760	**4,415**
2010	110	1,515	84	119	1,853	761	**4,442**
	Aeroplanes	Microlight [1 & 2]	Amateur-Built [1]	Gliders [2]	Other [3]	Rotorcraft	
2012	1,985	1,029	316	417	311	793	**4,851**
2013	1,976	1,026	291	443	307	831	**4,874**
2014	1,964	1,058	289	426	329	862	**4,928**
2015	1,970	1,082	292	430	335	869	**4,978**
2016	1,981	1,091	300	469	402	874	**5,117**
2017	2,001	1,105	323	453	470	869	**5,221**

The data does not differentiate if airplane is used for GA or commercial operations.
In 2006, the CAA stopped publishing the number of registered aircraft by weight in favor of classes.
In 2012, the CAA began publishing aircraft registry statistics by aircraft class.

1. Amateur-built aircraft includes airplanes, gliders, and helicopters.
2. Gliders includes gliders, paragliders, power gliders, amateur-built gliders, and hang gliders.
3. Other includes parachutes, gyroplanes, balloons, and jetpack.

Source: Civil Aviation Authority of New Zealand, www.caa.govt.nz

4.5 Singapore—Number of Aircraft by Type (2012–2017)

Year	General Aviation Airplanes		Rotorcraft	Airline	Total Aircraft
	Piston	Turbine			
2012	23	0	2	178	**203**
2013	22	0	1	191	**214**
2014	20	0	4	200	**224**
2015	22	0	2	203	**227**
2016	15	0	1	203	**219**
2017	15	0	1	212	**228**

Source: Civil Aviation Authority of Singapore, www.caas.gov.sg

Select Other GA Aircraft Registry Data for Large Fleets

5.1 **Brazil—Number of Aircraft Registrations by Type (2000–2017)**

Year	Airplanes				Other Aircraft					Total Aircraft
	Piston-Engine	Agricultural	Turboprop	Jet Turbine	Rotorcraft	Sailplanes	Balloons	Dirigibles	Experimental	
2000	8,333	724	1,218	500	841	308	4	1	3,348	**14,553**
2001	8,412	767	1,260	542	897	309	3	1	3,513	**14,937**
2002	8,445	810	1,303	579	940	310	3	1	3,684	**15,265**
2003	8,496	862	1,323	560	955	316	3	1	3,882	**15,536**
2004	8,604	900	1,348	559	981	316	3	1	4,069	**15,881**
2005	8,718	955	1,361	596	989	316	3	1	4,286	**16,270**
2006	8,798	978	1,399	603	1,011	309	3	1	3,001	**15,125**
2007	8,909	1,005	1,488	647	1,097	303	3	1	3,225	**15,673**
2008	9,164	1,049	1,617	773	1,194	299	3	1	3,525	**16,576**
2009	9,354	1,044	1,700	820	1,325	300	3	1	3,764	**19,765**
2010	n/a	1,581	n/a	n/a	1,524	n/a	n/a	n/a	4,051	**17,335**
2011	n/a	1,695	n/a	n/a	1,717	n/a	n/a	n/a	4,474	**18,710**
2012	n/a	1,800	n/a	n/a	1,909	n/a	n/a	n/a	4,750	**19,769**
2013	n/a	1,870	n/a	n/a	2,038	n/a	n/a	n/a	4,906	**20,429**
2014	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**
2015	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**
2016	16,503	n/a	1,798	2,445	2,579	592	n/a	n/a	n/a	**23,984**
2017	16,446	n/a	1,858	2,507	2,590	609	n/a	n/a	n/a	**24,256**

The experimental category includes ultralights, balloons, gyrocopters, sailplanes, motorpowered sailplanes, dirigibles, and experimental airplanes starting in 2010.
ANAC began identification of agricultural aircraft in 2012. The data set for agricultural aircraft captures aircraft also identified in other columns.

Aircraft registration data for 2014 and 2015 was not available at time of publication.
The data for 2016–2017 does not include aircraft that have not been classified by ANAC.

Source: Agência Nacional de Aviação Civil (ANAC), Registro Aeronáutico Brasileiro (RAB), Brazil, www.anac.gov.br

5.2 **South Africa—Number of General Aviation Aircraft by Type (1999–2014)**

Year	Aeroplanes											Rotorcraft		Sport, Rec., Gliders, & Other	Total Aircraft
	Piston-Engine Powered				Turboprop				Turbojet						
	One-Engine	Two-Engine	Other	Agricultural	One-Engine	Two-Engine	Other	Agricultural	Two-Engine	Three-Engine	Other	Piston	Turbine		
1999	2,282	695	4	144	66	201	10	43	157	17	21	228	251	3,103	**7,222**
2000	2,285	706	6	143	68	215	10	45	160	20	21	248	263	3,294	**7,484**
2001	2,280	701	6	144	79	237	10	48	164	27	22	258	271	3,470	**7,717**
2002	2,299	698	10	144	83	249	8	46	176	29	27	263	279	3,616	**7,927**
2003	2,338	716	12	148	91	271	8	52	197	31	34	308	290	3,907	**8,403**
2004	2,422	724	11	151	88	306	9	54	189	34	41	348	318	4,127	**8,822**
2005	2,459	731	10	150	93	310	8	56	206	21	44	385	337	4,253	**9,063**
2006	2,608	738	8	159	110	331	6	53	261	18	58	514	384	4,941	**10,189**
2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
2008	2,666	755	7	153	108	324	10	55	299	18	74	575	434	5,215	**10,693**
2009	2,712	751	7	154	105	329	9	54	315	15	82	604	461	5,352	**10,950**
2010	2,745	713	8	154	111	353	9	55	339	15	92	635	474	5,500	**11,203**
2011	2,808	710	9	152	112	353	9	54	365	16	93	669	459	5,674	**11,483**
2012	2,851	707	10	153	113	349	8	54	377	18	87	671	502	5,846	**11,746**
2013	2,898	711	12	154	115	341	7	55	381	18	88	680	522	5,964	**11,946**
2014	2,893	716	28	157	120	347	8	60	395	18	87	687	540	6,072	**12,128**

2007 data is not available from the South African Aircraft Registry.

Source: South African Civil Aviation Authority, www.caa.co.za, and Aircraft Registry, www.avdex.co.za

U.S. Pilot and Airmen Certificate Statistics

6.1 Active FAA Certificated Pilots (1982–2017)

Year	Pilots		Students[7]	Rec.[5]	Sport[6]	Airplane[1]			Rotorcraft (Only)	Glider (Only)[2]	Lighter-Than-Air	Remote Pilot[9]	Flight Instructor[3]	Instrument Ratings[3, 4]	
	Total	% Women				Private	Commercial	ATP						Total	% of Total
1982	**733,255**	6.18%	156,361	-	-	322,094	165,093	73,471	7,034	7,842	1,360	-	62,492	255,073	44.2%
1983	**718,004**	6.08%	147,197	-	-	318,643	159,495	75,938	7,237	8,157	1,337	-	62,201	254,271	44.5%
1984	**722,376**	6.14%	150,081	-	-	320,086	155,929	79,192	7,532	8,390	1,166	-	61,173	256,584	44.8%
1985	**709,540**	6.13%	146,652	-	-	311,086	151,632	82,740	8,123	8,168	1,139	-	58,940	258,559	45.9%
1986	**709,118**	6.08%	150,273	-	-	305,736	147,798	87,186	8,122	8,411	1,133	-	57,355	262,388	47.0%
1987	**699,653**	6.09%	146,016	-	-	300,949	143,645	91,287	8,702	7,901	1,153	-	60,316	266,122	48.1%
1988	**694,016**	6.09%	136,913	-	-	299,786	143,030	96,968	8,608	7,600	1,111	-	61,798	273,804	49.1%
1989	**700,010**	6.05%	142,544	-	-	293,179	144,540	102,087	8,863	7,708	1,089	-	61,472	282,804	50.7%
1990	**702,659**	5.77%	128,663	87	-	299,111	149,666	107,732	9,567	7,833	n/a	-	63,775	297,073	51.8%
1991	**692,095**	5.91%	120,203	161	-	293,306	148,385	112,167	9,860	8,033	n/a	-	69,209	303,193	53.0%
1992	**682,959**	5.95%	114,597	187	-	288,078	146,385	115,855	9,652	8,205	n/a	-	72,148	306,169	53.9%
1993	**665,069**	5.93%	103,583	206	-	283,700	143,014	117,070	9,168	8,328	n/a	-	75,021	305,517	54.4%
1994	**654,088**	5.99%	96,254	241	-	284,236	138,728	117,434	8,719	8,476	n/a	-	76,171	302,300	54.2%
1995	**639,184**	5.67%	101,279	232	-	261,399	133,980	123,877	7,183	11,234	n/a	-	77,613	298,798	55.6%
1996	**622,261**	5.57%	94,947	265	-	254,002	129,187	127,486	6,961	9,413	n/a	-	78,551	297,895	56.5%
1997	**616,342**	5.59%	96,101	284	-	247,604	125,300	130,858	6,801	9,394	n/a	-	78,102	297,409	57.2%
1998	**618,298**	5.72%	97,736	305	-	247,226	122,053	134,612	6,964	9,402	n/a	-	79,171	300,183	57.7%
1999	**635,472**	5.81%	97,359	343	-	258,749	124,261	137,642	7,728	9,390	n/a	-	79,694	308,951	57.5%
2000	**625,581**	6.11%	93,064	340	-	251,561	121,858	141,596	7,775	9,387	n/a	-	80,931	311,944	58.6%
2001	**612,274**	5.82%	86,731	316	-	243,823	120,502	144,702	7,727	8,473	n/a	-	82,875	315,276	60.0%
2002	**631,762**	5.49%	85,991	317	-	245,230	125,920	144,708	7,770	21,826	n/a	-	86,089	317,389	58.2%
2003	**625,011**	6.12%	87,296	310	-	241,045	123,990	143,504	7,916	20,950	n/a	-	87,816	315,413	58.7%
2004	**618,633**	6.09%	87,910	291	-	235,994	122,592	142,160	8,586	21,100	n/a	-	89,596	313,545	59.1%
2005	**609,737**	6.11%	87,213	276	134	228,619	120,614	141,992	9,518	21,369	n/a	-	90,555	311,828	59.7%
2006	**597,109**	6.13%	84,866	239	939	219,233	117,610	141,935	10,690	21,597	n/a	-	91,343	309,333	60.5%
2007	**590,349**	6.12%	84,339	239	2,031	211,096	115,127	143,953	12,290	21,274	n/a	-	92,175	309,865	61.5%
2008	**613,746**	5.83%	80,989	252	2,623	222,596	124,746	146,838	14,647	21,055	n/a	-	93,202	325,247	61.4%
2009	**594,285**	6.39%	72,280	234	3,248	211,619	125,738	144,600	15,298	21,268	n/a	-	94,863	323,495	62.4%
2010	**627,588**	5.86%	119,119	212	3,682	202,020	123,705	142,198	15,377	21,275	n/a	-	96,473	318,001	63.0%
2011	**617,128**	6.39%	118,657	227	4,066	194,441	120,865	142,511	15,220	21,141	n/a	-	97,409	314,122	63.6%
2012	**610,576**	6.77%	119,946	218	4,493	188,001	116,400	145,590	15,126	20,802	n/a	-	98,328	311,952	64.2%
2013	**599,086**	6.78%	120,285	238	4,824	180,214	108,206	149,824	15,114	20,381	n/a	-	98,842	307,120	64.8%
2014	**593,499**	6.63%	120,546	220	5,157	174,883	104,322	152,933	15,511	19,927	n/a	-	100,993	306,066	65.5%
2015	**590,038**	6.66%	122,729	190	5,482	170,718	101,164	154,730	15,566	19,460	n/a	-	102,628	304,329	71.3%
2016	**584,362**	6.71%	128,501	175	5,889	162,313	96,081	157,894	15,518	17,991	n/a	20,362	104,224	302,241	72.6%
2017	**609,306**	7.01%	149,121	153	6,097	162,455	98,161	159,825	15,355	18,139	n/a	69,166	106,692	306,652	72.9%

1. Includes pilots with an airplane-only certificate. Also includes those with an airplane and a helicopter and/or glider certificate. Prior to 1995, these pilots were categorized as private, commercial, or airline transport, based on their airplane certificate. Beginning in 1995, they are categorized based on their highest certificate. For example, if a pilot holds a private airplane certificate and a commercial helicopter certificate, prior to 1995, the pilot would be categorized as private; 1995 and after, as commercial.
2. Glider pilots are not required to have a medical examination; however, the totals represent pilots who received a medical examination within the last 25 months.
3. Not included in total.
4. The instrument rating is as shown on pilot certificates but does not indicate an additional certificate. The percent of total does not include student, sport, and recreational pilots.
5. Recreational certificate was first issued in 1990.
6. Sport pilot certificate was first issued in 2005.
7. The Federal Aviation Administration (FAA) changed the validity of student pilot certificates in 2010 through an amendment to 14 CFR 61.19(b)(1), resulting in the duration of validity for student pilot certificates for pilots under 40 years of age, increasing from 36 to 60 months. This created an increase in the active student pilot population to 119,119 active airmen at the end of 2010 compared to 72,280 the prior year.
8. 1994 counts based on medical certificates issued 27 or fewer months ago. All other years based on medical certificates issued 25 or fewer months ago.
9. The FAA created the Remote Pilot operator certificate in 2016. The Remote Pilot operator data is not part of the total number of pilots.

Source: FAA

6.2 Active FAA Certificated Pilots and Flight Instructors by State and Region (as of December 31, 2017)

FAA Region and State	Total Pilots	Students	Recreational	Sport	Airplane			Rotor, Glider, & Balloon	Remote Pilot	Flight Instructor[1]
					Private	Commercial	Airline Transport			
Total[2]	**609,305**	**149,121**	**157**	**6,097**	**174,516**	**114,186**	**165,228**	**81,063**	**69,166**	**106,692**
United States – Total[3]	**566,888**	**138,156**	**157**	**6,073**	**166,681**	**98,507**	**157,314**	**76,589**	**68,586**	**103,805**
Non-U.S. Total[5]	**42,417**	**10,965**	**0**	**24**	**7,835**	**15,679**	**7,914**	**4,474**	**580**	**2,887**
Alabama	7,430	1,787	4	77	2,082	1,970	1,510	1,850	1,025	1,642
Alaska	7,998	1,546	1	58	2,588	1,563	2,242	993	540	1,418
American Samoa	3	0	0	0	0	0	3	0	0	0
Arizona	19,543	4,602	0	169	4,982	4,037	5,753	3,377	1,713	4,103
Arkansas	5,228	1,401	1	85	1,691	1,084	966	458	534	789
California	59,929	15,528	8	505	20,517	10,720	12,651	8,953	7,434	9,750
Colorado	18,097	3,858	4	140	4,656	2,971	6,468	2,758	2,346	3,854
Connecticut	4,810	1,008	0	29	1,610	765	1,398	690	673	886
Delaware	1,345	320	0	12	368	216	429	187	247	268
District of Columbia	602	195	0	4	193	92	118	77	98	113
Federated States of Micronesia	3	0	0	0	0	2	1	1	0	1
Florida	59,568	16,184	3	567	13,445	10,507	18,862	7,260	5,667	10,556
Georgia	18,510	3,848	5	153	4,544	2,495	7,465	2,172	2,127	3,493
Guam	184	30	0	0	18	20	116	28	17	46
Hawaii	3,281	790	0	15	525	686	1,265	762	490	738
Idaho	5,095	1,143	2	81	1,727	1,031	1,111	884	672	931
Illinois	16,579	3,850	5	288	5,074	2,457	4,905	1,745	2,372	3,455
Indiana	9,878	2,435	5	202	3,296	1,583	2,357	974	1,193	1,728
Iowa	5,041	1,218	5	99	2,044	927	748	548	819	826
Kansas	6,961	1,626	3	85	2,595	1,268	1,384	768	865	1,417
Kentucky	6,019	1,407	7	58	1,597	834	2,116	759	802	1,087
Louisiana	5,475	1,401	0	66	1,622	1,163	1,223	958	758	913
Maine	2,451	543	1	52	860	452	543	290	397	382
Marshall Islands	2	0	0	0	0	0	2	0	0	0
Maryland	7,961	2,566	3	90	2,219	1,245	1,838	1,048	1,172	1,389
Massachusetts	7,820	2,158	1	63	2,737	1,221	1,640	920	1,096	1,206
Michigan	13,774	3,207	6	213	4,696	2,250	3,402	1,453	1,717	2,560
Minnesota	12,483	2,466	1	111	3,956	2,019	3,930	1,024	1,339	2,679
Mississippi	4,224	1,275	1	31	1,128	830	959	453	513	637
Missouri	9,271	2,301	4	158	3,032	1,580	2,196	1,164	1,208	1,631
Montana	3,817	886	2	33	1,360	860	676	615	438	693
Nebraska	3,566	932	0	37	1,313	626	658	272	535	537
Nevada	7,511	1,424	0	53	1,798	1,411	2,825	1,531	778	1,622
New Hampshire	3,654	644	2	46	986	545	1,431	578	391	762
New Jersey	8,723	2,275	2	43	2,620	1,357	2,426	1,228	1,275	1,632
New Mexico	4,294	1,076	2	71	1,461	1,001	683	1,299	469	617
New York	16,053	4,891	17	135	5,170	2,684	3,156	2,137	2,429	2,662
North Carolina	14,739	3,264	4	164	4,348	2,371	4,588	1,875	2,202	2,739
North Dakota	3,505	961	0	26	1,078	1,131	309	203	377	490
Northern Mariana Islands	17	6	0	0	1	4	6	1	3	4
Ohio	15,322	3,555	20	251	5,134	2,334	4,028	1,736	2,097	2,980
Oklahoma	8,143	2,363	2	52	2,557	1,551	1,618	710	861	1,352
Oregon	9,177	2,244	3	100	3,196	2,019	1,615	1,865	1,315	1,727
Palau	0	0	0	0	0	0	0	0	0	0
Pennsylvania	15,141	3,581	10	191	4,629	2,387	4,343	2,286	1,964	2,820
Puerto Rico	1,596	633	0	50	335	218	360	153	106	221
Rhode Island	957	258	1	8	298	150	242	102	131	152
South Carolina	6,810	1,416	0	76	2,041	1,138	2,139	883	896	1,187
South Dakota	2,333	526	1	55	777	522	452	284	220	435
Tennessee	12,125	2,630	3	106	3,132	1,878	4,376	1,639	1,281	2,305
Texas	52,014	12,344	4	395	13,563	8,561	17,147	6,724	6,060	9,293
Utah	8,570	2,188	0	73	2,174	1,547	2,588	1,244	894	1,787
Vermont	1,248	279	1	10	463	258	237	251	166	187
Virgin Islands	172	45	0	1	56	28	42	18	6	17
Virginia	14,284	3,312	6	153	3,802	2,573	4,438	2,270	2,146	2,799
Washington	20,080	4,459	2	211	5,793	3,245	6,370	2,754	1,978	3,902
West Virginia	1,720	487	0	41	566	316	310	227	290	283
Wisconsin	9,186	2,035	4	257	3,397	1,322	2,171	759	1,171	1,650
Wyoming	1,869	453	1	20	722	333	340	264	241	289
AA – Americas[4]	19	1	0	0	6	4	8	3	2	8
AE – Europe and Canada[4]	261	74	0	2	49	56	80	55	16	91
AP – Pacific[4]	417	221	0	2	54	89	51	69	14	64

1. Not included in total.
2. Includes non-U.S total.
3. Includes American Samoa, Federated States of Micronesia, Guam, Marshall Islands, Northern Mariana Islands, Palau, Puerto Rico, and Virgin Islands.
4. Military personnel holding civilian certificates and stationed in foreign country.
5. Non-U.S. are non-U.S. nationals who hold FAA certificates.

Source: FAA

6.3 Active FAA Pilot Certificates Held by Category and Age Group of Holder (as of December 31, 2017)

Age Group	Type of Pilot Certificate								
	Total Pilots	Student	Recreational	Sport Pilot	Private	Commercial	Airline Transport	Remote Pilot	CFI
Total	**609,305**	**149,121**	**157**	**6,097**	**174,516**	**114,186**	**165,228**	**69,166**	**106,692**
14–15	317	317	0	0	0	0	0	0	0
16–19	17,350	13,448	1	17	3,602	282	0	990	63
20–24	61,034	34,107	12	116	15,035	10,862	902	5,087	4,144
25–29	67,901	31,366	22	175	13,250	17,597	5,491	8,591	8,037
30–34	57,885	20,867	12	265	12,980	12,078	11,683	9,743	11,755
35–39	53,294	14,666	7	258	12,282	9,397	16,684	8,964	12,480
40–44	46,771	8,664	11	283	12,062	7,570	18,181	7,598	10,841
45–49	49,362	6,797	12	418	12,747	7,445	21,943	7,309	11,695
50–54	55,746	6,082	12	655	15,780	7,956	25,261	6,437	10,756
55–59	59,930	5,068	11	878	19,938	8,799	25,236	5,603	9,823
60–64	54,309	3,564	20	1,064	21,246	9,239	19,176	4,474	8,936
65–69	37,879	2,255	18	829	16,442	8,317	10,018	2,614	7,362
70–74	26,444	1,256	11	639	10,899	7,508	6,131	1,308	6,026
75–79	12,967	457	6	337	5,226	4,118	2,823	347	2,952
80 and over	8,116	207	2	163	3,027	3,018	1,699	101	1,822

Source: FAA

6.4 Average Age of Active FAA Pilots by Category (1993–2017)

Year	Average All Pilots	Type of Pilot Certificate					
		Student	Recreational	Sport Pilot	Private	Commercial	Airline Transport
1993	**41.3**	33.7	45.5	-	42.7	41.9	44.1
1994	**41.9**	34.3	46.5	-	43.2	42.4	44.4
1995	**42.9**	34.5	48.3	-	44.6	43.7	44.9
1996	**43.2**	34.6	49.3	-	45.1	44.1	45.1
1997	**43.6**	34.6	49.5	-	45.6	44.6	45.6
1998	**43.8**	34.7	49.8	-	45.9	45.0	45.4
1999	**43.6**	34.6	49.5	-	45.6	44.6	45.3
2000	**43.7**	34.1	49.8	-	45.6	44.9	45.8
2001	**44.0**	33.3	50.8	-	46.0	45.0	46.0
2002	**44.4**	33.7	51.0	-	46.2	45.5	46.6
2003	**44.7**	34.0	51.5	-	46.5	45.6	47.0
2004	**45.1**	34.2	51.3	-	47.0	45.9	47.5
2005	**45.5**	34.6	50.9	53.2	47.4	46.0	47.8
2006	**45.6**	34.4	51.5	52.9	47.7	46.1	48.1
2007	**45.7**	34.0	52.4	52.9	48.0	46.1	48.3
2008	**45.1**	33.6	50.1	53.2	46.9	44.8	48.5
2009	**45.3**	33.5	50.4	53.5	47.1	44.2	48.9
2010	**44.2**	31.4	50.8	53.8	47.6	44.2	49.4
2011	**44.4**	31.4	48.8	54.4	47.9	44.4	49.7
2012	**44.7**	31.5	47.8	54.7	48.3	44.8	49.9
2013	**44.8**	31.5	44.8	55.2	48.5	45.4	49.7
2014	**44.8**	31.5	43.1	55.8	48.5	45.5	49.8
2015	**44.8**	31.4	44.6	56.2	48.5	45.6	49.9
2016	**44.9**	31.7	44.0	56.4	48.4	46.0	50.2
2017	**44.9**	32.5	49.0	57.1	48.9	46.2	50.6

Source: FAA

6.5 FAA Pilot Certificates Issued by Category (1982–2016)

Year	Student		Private		Commercial		Airline Transport		Helicopter (only)		Glider (only)	
	Original	Additional	Original	Additional	Original	Additional	Original	Additional	Original	Additional	Original	Additional
1982	90,816	-	52,144	16,276	11,048	11,910	5,037	7,956	2,256	330	793	184
1983	92,239	-	41,210	12,721	8,789	9,513	5,643	8,187	1,932	315	606	162
1984	90,167	-	36,545	11,784	7,702	8,895	5,099	9,335	1,808	319	524	139
1985	86,060	-	35,402	11,636	8,404	7,197	6,081	9,192	2,105	207	537	138
1986	88,699	-	34,816	12,672	8,889	9,241	6,498	10,372	2,209	234	514	109
1987	85,611	-	42,287	16,302	11,314	11,635	7,678	11,956	2,217	293	542	74
1988	86,193	-	39,900	15,800	12,042	10,597	7,461	11,209	1,947	287	475	28
1989	87,698	-	35,360	22,240	13,759	11,778	7,829	12,698	2,240	252	336	22
1990	88,586	-	41,749	19,299	15,500	12,584	8,013	13,540	2,700	266	378	41
1991	82,205	-	49,580	23,630	16,869	13,506	8,437	13,979	3,344	291	487	29
1992	78,377	-	39,968	19,419	14,354	11,630	7,699	13,391	2,684	291	376	32
1993	69,178	-	39,060	18,801	12,645	10,466	6,129	12,995	2,310	30	341	28
1994	66,501	-	32,787	14,568	9,237	8,630	5,360	10,963	1,801	267	320	25
1995	60,497	-	28,333	15,331	9,133	9,042	5,965	13,641	1,724	290	373	83
1996	56,653	-	24,714	18,199	10,245	10,494	7,444	17,229	1,638	349	633	195
1997	60,941	-	21,552	13,522	8,988	9,587	7,045	16,266	1,385	296	501	161
1998	63,037	756	26,297	15,966	10,042	10,269	7,547	19,085	1,530	211	472	105
1999	58,278	1,030	24,630	15,222	9,737	9,963	6,721	19,380	1,514	222	423	98
2000	58,042	1,070	27,223	17,223	11,813	11,652	7,715	20,558	1,776	234	455	62
2001	61,897	1,161	25,372	16,807	11,499	11,115	7,070	21,357	1,698	218	403	77
2002	65,421	1,317	28,659	18,607	12,299	11,628	4,718	18,502	2,073	275	336	38
2003	58,842	1,230	23,866	14,899	9,670	8,872	3,892	13,196	2,013	269	312	47
2004	59,202	1,302	23,031	14,234	9,836	9,635	4,255	15,328	2,736	366	309	43
2005	53,576	1,418	20,889	12,952	8,834	8,874	4,750	15,534	2,917	521	290	27
2006	61,448	1,551	20,217	13,079	8,687	9,603	4,748	15,942	3,569	816	298	42
2007	66,953	1,450	20,299	13,970	9,318	9,574	5,918	15,973	4,073	1,041	263	14
2008	61,194	1,507	19,052	14,409	10,595	10,202	5,204	15,658	3,639	930	204	11
2009	54,876	2,006	19,893	14,570	11,350	9,399	3,113	11,605	3,648	1,011	249	10
2010	54,064	1,057	14,977	10,260	8,056	7,778	3,072	10,890	2,686	670	222	8
2011	55,298	857	16,802	10,703	8,559	10,027	4,677	13,694	3,123	894	219	10
2012	54,370	694	16,571	10,720	8,651	9,341	6,396	12,768	2,892	900	180	0
2013	49,566	676	15,776	10,098	8,140	7,922	8,346	13,288	2,888	899	163	1
2014	49,261	698	17,795	11,396	9,803	8,840	7,749	19,481	3,754	1,072	195	5
2015	49,062	590	16,473	11,067	9,211	8,348	6,544	19,823	2,999	957	188	3
2016	36,712	174	17,082	11,900	10,191	9,564	9,520	20,747	2,759	782	170	1

An additional rating is added to an existing pilot certificate (e.g., instrument rating added to a private certificate).

Student certificates issued are estimated. They include those with a medical certification, as well as those that do not require a medical examination. Until April 2016, data displayed combined FAA Medical Certificate and Student Pilot Certificates issued, nearly all obtained through the Medical Certification System. As such, the numbers included both first time applications and renewals. Student medical certifications remained valid for 24 calendar months for pilots age 40 or older, and for 60 months for pilots under the age of 40. As of April 2016, combined medical certificate and pilot certificates are no longer issued, and there will be no expiration date on the new student pilot certificates. Designated examiners, FAA inspectors, and Certified Flight Instructors (CFIs) process student pilot certificates, and FAA issues the certificate.

Source: FAA

DEFINITIONS

Active Pilot — A pilot who holds a pilot certificate and a valid medical certificate (except for sport pilots).

Airman — A pilot, mechanic, or other licensed aviation technician. The term refers to men and women.

Airman Certificate — A document issued by the Administrator of the Federal Aviation Administration. The Airman Certificate certifies that the holder complies with the regulations governing the capacity in which the certificate authorizes the holder to act as an airman in connection with an aircraft.

6.6 FAA Non-Pilot Certificates (2000–2017)

Year	Mechanic	Repairman	Parachute Rigger	Ground Instructor	Dispatcher	Flight Navigator	Flight Engineer	Flight Attendant [3]
2000	344,434	38,208	10,477	72,326	16,340	570	65,098	n/a
2001	310,850	40,085	7,927	72,261	16,070	509	65,398	n/a
2002	315,928	37,114	8,063	73,658	16,695	431	63,681	n/a
2003	313,032	37,248	7,883	72,692	16,955	382	61,643	n/a
2004	317,111	39,231	8,011	73,735	17,493	336	59,376	n/a
2005	320,293	40,030	8,150	74,378	18,079	298	57,756	125,032
2006	323,097	40,329	8,252	74,849	18,610	264	55,952	134,874
2007	322,852	40,277	8,186	74,544	19,043	250	54,394	147,013
2008	326,276	41,056	8,248	74,983	19,590	222	53,135	154,671
2009	329,027	41,389	8,362	75,461	20,132	181	51,022	156,741
2010	308,367	41,196	8,009	70,560	16,576	171	48,569	156,368
2011	335,431	40,802	8,491	74,586	21,363	146	47,659	167,037
2012	337,775	40,444	8,474	73,599	21,862	141	46,639	172,357
2013	338,844	39,952	8,491	72,493	22,401	126	45,317	179,531
2014	341,409	39,566	8,702	71,755	23,113	115	43,803	188,936
2015	342,528	39,363	8,846	70,957	23,754	102	42,460	200,319
2016	279,435	34,411	5,851	65,053	19,758	67	35,761	212,607
2017	286,268	35,040	6,192	66,423	20,664	64	34,534	222,037

1. Number of non-pilot certificates represents all certificates on record since no medical examination is required.
2. Airmen without a plastic certificate are no longer considered active by the FAA starting with the 2016 data.
3. Flight attendant information was first available from FAA Registry in 2005.

Source: FAA

PILOT CATEGORIES

Student Pilot — A student pilot must be 16 years old, medically certificated by a Federal Aviation Administration (FAA) medical examiner, and may only fly solo under the supervision of a flight instructor. A student pilot may not operate an aircraft that is carrying passengers or that is carrying property for compensation or hire.

Recreational Pilot — A recreational pilot may fly no more than one passenger in a light, single-engine aircraft with no more than four seats, during good weather and daylight hours, and unless otherwise authorized, not more than 50 miles from his or her home airport.

Sport Pilot — A sport pilot may operate a light-sport aircraft under a limited set of flight conditions. The certificate does not require an FAA medical examination, but the pilot can carry a driver's license as proof of medical competence. Holders of a sport pilot certificate may fly an aircraft with a standard airworthiness certificate if the aircraft meets the definition of a light-sport aircraft.

Private Pilot — A private pilot may carry passengers in any aircraft. The private pilot may not act as pilot-in-command of an aircraft that is carrying passengers for compensation or hire or act as pilot-in-command of an aircraft that is being operated for compensation or hire (such as an aircraft hired to conduct pipeline patrol but carrying no passengers).

Commercial Pilot — A commercial pilot may act as pilot-in-command of an aircraft that is carrying passengers for compensation or hire, and as pilot-in-command of an aircraft that is being operated for compensation or hire, but not as pilot-in-command of an aircraft in air carrier service.

Airline Transport Pilot — An airline transport pilot may act as pilot-in-command of an aircraft in air carrier service.

Airports and Aeronautical Facilities

7.1 Airports by Country, Europe (2010–2014 Estimates)

Country	Airports with Paved Runways: Total Airports	Over 10,000 ft	8,000 ft to 10,000 ft	5,000 ft to 8,000 ft	3,000 ft to 5,000 ft	Under 3,000 ft	Airports with Unpaved Runways: Total Airports	Over 10,000 ft	8,000 ft to 10,000 ft	5,000 ft to 8,000 ft	3,000 ft to 5,000 ft	Under 3,000 ft	Heliports
Albania	**4**	-	3	1	-	-	**1**	-	-	-	1	-	**1**
Andorra	-	-	-	-	-	-	-	-	-	-	-	-	-
Armenia	**10**	2	2	4	2	-	**1**	-	-	-	1	-	-
Austria	**24**	1	5	1	4	13	**28**	-	-	1	3	24	**1**
Azerbaijan	**30**	5	5	13	4	3	**7**	-	-	-	-	7	**1**
Belarus	**33**	1	20	4	1	7	**32**	1	-	1	2	28	**1**
Belgium	**27**	6	9	2	1	9	**18**	-	-	-	-	16	**1**
Bosnia-Herz	**7**	-	4	1	-	2	**18**	-	-	1	6	11	**6**
Bulgaria	**124**	2	17	15	-	90	**78**	-	-	-	6	72	**2**
Croatia	**24**	2	6	3	3	10	**45**	-	-	1	6	38	**1**
Cyprus	**13**	-	6	3	3	1	**2**	-	-	-	-	2	**9**
Czech Rep.	**41**	2	9	12	2	16	**87**	-	-	1	26	60	**1**
Denmark	**28**	2	7	4	12	3	**61**	-	-	-	2	59	-
Estonia	**13**	2	8	2	1	-	**5**	-	-	1	1	3	**1**
Finland	**75**	3	26	10	21	15	**73**	-	-	-	3	70	-
France	**297**	14	26	98	83	76	**176**	-	-	-	67	109	**1**
Georgia	**18**	1	7	3	5	2	**4**	-	-	1	2	1	-
Germany	**322**	14	48	60	70	130	**219**	-	-	2	32	185	**2**
Greece	**67**	6	15	19	18	9	**15**	-	-	-	2	13	**9**
Hungary	**20**	2	6	5	6	1	**21**	-	-	2	8	11	**3**
Iceland	**6**	1	-	3	2	-	**93**	-	-	3	27	63	-
Ireland	**16**	1	1	4	5	5	**23**	-	-	-	2	21	-
Italy	**99**	9	31	18	29	12	**31**	-	-	1	11	19	**5**
Latvia	**19**	1	3	5	3	7	**23**	-	-	-	-	23	**1**
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-
Lithuania	**26**	3	1	7	2	13	**55**	1	-	-	2	52	-
Luxembourg	**1**	1	-	-	-	-	**1**	-	-	-	-	1	**1**
Macedonia	**10**	-	2	-	-	8	**4**	-	-	-	1	3	-
Malta	**1**	1	-	-	-	-	-	-	-	-	-	-	**2**
Moldova	**5**	1	2	2	-	-	**2**	-	-	-	1	1	-
Monaco	-	-	-	-	-	-	-	-	-	-	-	-	**1**
Montenegro	**5**	-	2	1	1	1	**1**	-	-	-	1	-	**1**
Netherlands	**20**	2	10	2	5	1	**7**	-	-	-	3	4	**1**
Norway	**67**	1	12	11	19	24	**31**	-	-	-	6	25	**1**
Poland	**86**	5	29	37	9	6	**39**	-	-	1	17	21	**6**
Portugal	**43**	5	7	8	13	10	**22**	-	-	-	1	21	-
Romania	**26**	4	10	11	-	1	**27**	-	-	-	6	21	**4**
Serbia	**11**	2	3	3	3	-	**19**	-	-	1	10	8	**2**
Slovakia	**19**	2	2	3	3	9	**18**	-	-	-	10	8	**1**
Slovenia	**7**	1	1	1	3	1	**9**	-	-	1	3	5	-
Spain	**98**	18	12	19	25	24	**54**	-	-	2	14	38	**10**
Sweden	**149**	3	12	74	23	37	**81**	-	-	-	5	76	**2**
Switzerland	**41**	3	2	13	6	17	**23**	-	-	-	-	23	**1**
Turkey	**89**	16	35	17	17	4	**9**	-	-	1	4	4	**20**
Ukraine	**108**	13	42	22	3	28	**79**	-	-	5	5	69	**9**
United Kingdom	**272**	7	31	93	76	65	**190**	-	-	2	25	163	**9**
Europe Total	**2,401**	165	479	614	483	660	**1,732**	2	-	28	322	1,378	**137**
United States	**5,054**	189	235	1,478	2,249	903	**8,459**	1	6	140	1,552	6,760	**5,287**

Source: CIA World Factbook

7.2 U.S. Civil and Joint Use Airports, Heliports, and Seaplane Bases on Record by Type of Ownership (2010)

State or Territory	State or Territory Total	Public Use		Civil Private Use Landing Facilities							Military-Only Use
								Other			
		Total	Part 139	Total	Airports	Heliports	Seaplane Bases	Gliderports	Balloon Ports	Ultralight Flightparks	
Grand Total	**19,750**	**5,178**	**559**	**14,120**	**8,405**	**5,425**	**290**	**31**	**13**	**134**	**274**
United States – Total	**19,729**	**5,168**	**551**	**14,111**	**8,403**	**5,418**	**290**	**31**	**13**	**134**	**272**
Alabama	**281**	98	10	172	87	81	4	-	-	-	11
Alaska	**734**	408	26	307	245	38	24	-	-	-	19
American Samoa	**4**	3	3	1	1	-	-	-	-	-	-
Arizona	**314**	79	14	219	107	112	-	2	-	6	8
Arkansas	**307**	99	9	199	118	81	-	2	-	4	3
California	**960**	257	36	671	263	404	4	3	-	1	28
Colorado	**449**	76	16	365	186	179	-	1	1	1	5
Connecticut	**146**	23	5	122	35	82	5	-	-	1	-
Delaware	**42**	11	1	30	21	9	-	-	-	-	1
District of Columbia	**20**	3	2	13	-	13	-	-	-	-	4
Florida	**857**	127	25	697	370	289	38	2	-	5	26
Georgia	**461**	110	10	339	227	110	2	1	-	1	10
Guam	**3**	1	1	1	-	1	-	-	-	-	1
Hawaii	**50**	14	7	30	14	16	-	-	-	-	6
Idaho	**280**	119	7	158	108	49	1	-	-	2	1
Illinois	**788**	115	17	665	413	247	5	2	-	5	1
Indiana	**610**	107	12	487	348	123	16	-	-	11	5
Iowa	**289**	121	8	162	79	83	-	-	-	3	3
Kansas	**383**	141	10	238	203	35	-	1	1	-	2
Kentucky	**223**	60	7	157	95	62	-	-	-	4	2
Louisiana	**480**	75	9	381	150	219	12	-	-	20	4
Maine	**175**	68	6	104	64	17	23	-	-	2	1
Maryland	**226**	37	3	182	111	67	4	-	-	-	7
Massachusetts	**241**	40	8	198	39	142	17	-	1	1	1
Michigan	**467**	228	20	236	142	89	5	-	-	2	1
Midway Atoll	**2**	1	1	1	1	-	-	-	-	-	-
Minnesota	**469**	154	9	313	203	59	51	-	-	1	1
Mississippi	**244**	80	11	157	107	50	-	-	-	1	6
Missouri	**518**	132	11	380	251	128	1	-	-	3	3
Montana	**258**	121	15	134	102	31	1	-	-	1	2
N. Mariana Islands	**11**	5	3	6	-	6	-	-	-	-	-
Nebraska	**244**	86	9	156	122	34	-	-	-	-	2
Nevada	**125**	49	5	69	43	26	-	1	-	1	5
New Hampshire	**139**	25	3	114	28	79	7	-	-	-	-
New Jersey	**314**	46	4	256	54	196	6	-	5	-	7
New Mexico	**174**	61	9	107	81	26	-	-	-	1	5
New York	**603**	148	24	448	263	175	10	2	1	3	1
North Carolina	**429**	112	15	300	212	88	-	1	1	4	11
North Dakota	**281**	89	8	190	175	15	-	-	-	-	2
Ohio	**729**	170	13	554	344	209	1	2	1	1	1
Oklahoma	**390**	140	4	240	160	80	-	-	-	4	6
Oregon	**420**	97	10	322	231	90	1	1	-	-	-
Pennsylvania	**821**	132	16	662	316	339	7	2	-	18	7
Puerto Rico	**52**	12	4	39	6	31	2	-	-	-	1
Rhode Island	**31**	8	1	22	3	17	2	-	1	-	-
South Carolina	**196**	68	8	119	86	31	2	1	-	3	5
South Dakota	**178**	74	7	103	70	33	-	-	-	-	1
Tennessee	**311**	81	8	226	124	101	1	-	-	2	2
Texas	**2,006**	391	31	1,578	1,050	528	-	6	-	9	22
Utah	**142**	46	9	93	44	49	-	-	-	-	3
Vermont	**81**	16	2	65	45	14	6	-	-	-	-
Virgin Islands	**8**	2	2	6	-	4	2	-	-	-	-
Virginia	**427**	66	7	340	213	125	2	1	1	1	18
Wake Island	**1**	-	-	-	-	-	-	-	-	-	1
Washington	**552**	137	11	403	240	157	6	-	-	3	9
West Virginia	**120**	35	8	83	38	35	10	-	-	1	1
Wisconsin	**565**	133	9	422	315	95	12	-	-	8	2
Wyoming	**119**	41	10	78	52	26	-	-	-	-	-

Source: FAA Airport Engineering Division

7.3 U.S. Airports Ranked by Number of General Aviation Operations at Tower (2017)

Rank 2017	Facility	Airport Name and State	General Aviation Operations					Total Airport Operations	Total GA Operations	GA as % of Total	Tower Operations
			IFR GA		VFR GA		Local Civil GA				
			Itinerant	Overflight	Itinerant	Overflight					
1	DVT	Phoenix Deer Valley, AZ	7,872	1016	123,950	5,768	242,139	378,777	380,745	98.6%	386,190
2	TMB	Kendall-Tamiami Executive Airport, FL	34,943	278	133,931	4,172	125,455	297,403	298,779	98.9%	302,075
3	APA	Centennial Airport, CO	42,665	79	98,864	3,642	151,920	326,023	297,170	89.7%	331,405
4	LGB	Long Beach, CA	24,739	355	78,584	18,389	155,450	302,360	277,517	86.2%	321,797
5	HWO	North Perry Airport, FL	4,225	4244	70,390	11,577	151,718	226,376	242,154	98.5%	245,737
6	IWA	Phoenix-Mesa Gateway Airport, AZ	20,552	169	46,177	4,629	166,519	290,456	238,046	80.0%	297,416
7	FFZ	Falcon Field, AZ	3,722	60	48,032	7,450	169,952	291,457	229,216	76.0%	301,504
8	PRC	Ernest A. Love Field, AZ	7,201	101	67,205	281	153,944	232,730	228,732	98.0%	233,443
9	VNY	Van Nuys, CA	37,661	1019	92,879	23,509	72,876	224,398	227,944	90.5%	251,883
10	GFK	Grand Forks Int'l, ND	5,982	6	6,652	288	212,321	331,881	225,249	67.8%	332,375
11	SEE	Gillespie Field, CA	15,665	248	64,386	4,712	140,167	221,139	225,178	99.4%	226,539
12	SNA	John Wayne-Orange County, CA	33,158	776	69,624	9,343	99,541	310,606	212,442	65.9%	322,564
13	CNO	Chino, CA	15,251	864	55,993	7,728	130,089	203,090	209,925	99.0%	212,037
14	HIO	Portland-Hillsboro Airport, OR	14,342	91	63,632	3,255	128,189	210,821	209,509	97.8%	214,243
15	MYF	Montgomery Field Airport, CA	26,752	89	72,992	8,459	100,683	207,103	208,975	96.5%	216,482
16	VRB	Vero Beach Municipal Airport, FL	21,758	264	74,055	2,473	104,119	207,583	202,669	96.3%	210,413
17	FRG	Republic Airport, NY	15,419	114	82,236	4,099	96,492	203,792	198,360	93.3%	212,608
18	SFB	Sanford-Orlando, FL	9,991	22	13,573	895	172,511	306,248	196,992	64.1%	307,286
19	CHD	Chandler Municipal Airport, AZ	5,234	53	66,206	1,582	119,204	194,224	192,279	97.5%	197,142
20	DAB	Daytona Beach, FL	19,896	422	26,246	2,716	142,589	308,613	191,869	61.3%	313,163
21	RVS	Richard Lloyd Jones, OK	14,341	78	59,371	612	103,634	180,118	178,036	97.7%	182,261
22	FXE	Fort Lauderdale Executive Airport, FL	38,314	551	83,203	12,343	41,112	179,023	175,523	91.2%	192,377
23	PMP	Pompano Beach Airpark, FL	5,549	13364	46,709	20,936	79,757	132,489	166,315	94.9%	175,318
24	RHV	Reid-Hillview, CA	1,818	222	70,381	3,447	90,071	162,648	165,939	98.2%	169,024
25	EVB	New Smyrna Beach Municipal, FL	8,373	314	43,567	3,144	110,358	164,667	165,756	98.5%	168,243
26	BFI	Boeing Field, King County Airport, WA	28,997	2248	61,039	15,277	53,712	184,182	161,273	75.2%	214,516
27	BJC	Rocky Mountain Metropolitan Airport, CO	15,122	608	50,920	3,513	90,411	165,767	160,574	94.1%	170,553
28	SDL	Scottsdale Airport, AZ	35,365	322	57,759	7,223	59,368	168,131	160,037	90.9%	176,025
29	CRQ	McClellan-Palomar Airport, CA	38,255	139	49,208	5,766	65,483	160,887	158,851	94.3%	168,517
30	FPR	Republic Airport, NY	22,853	141	54,133	2,530	78,139	157,803	157,796	98.1%	160,801
31	FTW	Fort Worth Meacham Interntional Airport, TX	26,731	961	42,280	6,775	81,008	163,066	157,755	89.6%	175,971
32	CMA	Camarillo Airport, CA	15,462	5970	57,478	4,837	72,265	149,902	156,012	94.4%	165,292
33	PAO	Palo Alto Airport, CA	5,282	1870	47,230	3,813	95,416	148,769	153,611	95.6%	160,738
34	VGT	North Las Vegas Airport, NV	10,296	477	42,431	2,584	97,142	177,298	152,930	83.0%	184,267
35	PDK	DeKalb-Peachtree Airport, GA	47,024	303	47,751	10,538	41,816	159,066	147,432	84.8%	173,780
36	RNT	Renton Municipal Airport, WA	4,557	528	46,636	4,723	80,837	135,287	137,281	97.5%	140,856
37	TKI	McKinney National Airport, TX	9,597	69	30,197	2,067	93,279	136,248	135,209	97.4%	138,843
38	LVK	Livermore Municipal Airport, CA	7,604	11	46,211	2,340	75,012	130,656	131,178	98.6%	133,044
39	FIN	Flagler County Airport, FL	3,893	54	31,150	507	93,667	131,271	129,271	97.8%	132,120
40	DTO	Denton Municipal Airport, TX	9,600	190	50,904	3,253	62,949	125,608	126,896	98.3%	129,127
41	CRG	Jacksonville Executive Airport at Craig, FL	20,392	273	35,076	1,882	66,823	133,905	124,446	85.8%	145,028
42	SGJ	North East Florida Regional Airport, FL	12,270	69	45,538	880	65,034	133,296	123,791	91.8%	134,858
43	PTK	Oakland County International Airport, MI	26,267	301	32,708	2,529	61,935	131,340	123,740	92.1%	134,303
44	LAL	Lakeland Linder Regional Airport, FL	17,104	2216	45,807	7,165	49,858	116,653	122,150	96.8%	126,135
45	TTD	Portland-Troutdale Airport, OR	1,204	9	30,110	2,522	86,320	117,824	120,165	99.3%	121,049
46	OPF	Opa-Locka Executive Airport, FL	39,858	10	37,585	9,610	32,806	131,544	119,869	84.8%	141,304
47	CCR	Bucchanan Field Airport, CA	8,099	10	40,133	1,774	66,368	120,044	116,384	95.2%	122,202
48	TOA	Zamperini Field Airport, CA	6,985	105	49,039	10,472	49,075	105,707	115,676	99.2%	116,603
49	HWD	Hayward Executive Airport, CA	8,233	6908	34,194	8,198	57,830	102,059	115,363	67.4%	171,196
50	SAC	Sacramento Executive Airport, CA	16,139	134	54,443	12,188	32,242	105,875	115,146	94.2%	122,270

General aviation operations are defined by the FAA based on the traffic operations counted in the OPSNET.

Total operations include general aviation operations as well as commercial and military operations.
GA does not include FAR Part 135 on-demand operations in this table.

Source: FAA Operations Network (OPSNET)

7.4 **FAA Air Route Facilities and Services (1975–2017)**

Year	VOR/VORTAC	Non-Directional Beacons	Air Route Traffic Control Centers	Air Route Traffic Control Towers	Flight Service Stations	International Flight Service Stations	Instrument Landing Systems	WAAS-Enabled Procedures	Airport Surveillance Radar	ADS-B Radios
1975	1,011	848	25	487	321	7	580	n/a	177	0
1976	1,020	920	25	488	321	7	640	n/a	175	0
1977	1,021	959	25	495	319	7	678	n/a	182	0
1978	1,020	988	25	494	319	6	698	n/a	185	0
1979	1,028	1,015	25	499	318	6	753	n/a	192	0
1980	1,037	1,055	25	502	317	6	796	n/a	192	0
1981	1,033	1,123	25	501	316	6	840	n/a	199	0
1982	1,029	1,143	25	492	316	6	884	n/a	197	0
1983	1,032	1,183	25	494	316	5	934	n/a	197	0
1984	1,035	1,211	25	497	310	5	955	n/a	197	0
1985	1,039	1,222	25	500	302	4	968	n/a	198	0
1986	1,043	1,239	25	686	293	3	977	n/a	312	0
1987	1,039	1,212	25	500	302	4	968	n/a	312	0
1988	1,043	1,239	25	686	293	3	977	n/a	311	0
1989	1,046	1,263	25	686	255	3	1,100	n/a	312	0
1990	1,045	1,271	25	686	235	3	1,120	n/a	311	0
1991	1,045	1,295	24	694	192	3	1,114	n/a	318	0
1992	1,044	1,314	24	691	179	3	1,177	n/a	312	0
1993	1,046	1,263	24	686	255	3	1,100	n/a	312	0
1994	1,045	1,271	24	686	235	3	1,120	n/a	311	0
1995	1,045	1,295	24	694	192	3	1,114	n/a	318	0
1996	1,044	1,314	24	691	179	3	1,177	n/a	312	0
1997	1,041	1,344	24	684	135	3	1,231	n/a	310	0
1998	1,039	1,348	24	683	128	3	1,238	n/a	307	0
1999	1,041	1,320	24	680	75	3	1,327	n/a	295	0
2000	993	1,199	25	663	75	3	1,370	n/a	297	0
2001	1,116	1,675	24	678	76	3	1,388	n/a	292	0
2002	n/a	n/a	21	n/a	76	3	n/a	n/a	n/a	0
2003	n/a	n/a	21	n/a	76	3	n/a	n/a	n/a	0
2004	1,119	1,685	21	688	76	3	1,473	n/a	227	0
2005	1,111	1,613	21	693	76	3	1,490	n/a	226	0
2006	n/a	n/a	21	494	76	-	n/a	n/a	n/a	0
2007	n/a	n/a	21	499	76	-	n/a	n/a	n/a	0
2008	n/a	n/a	21	503	4	-	n/a	n/a	n/a	n/a
2009	n/a	n/a	21	508	4	-	n/a	n/a	n/a	n/a
2010	n/a	n/a	21	508	4	-	n/a	n/a	n/a	202
2011	n/a	n/a	21	512	4	-	n/a	11,828	n/a	339
2012	n/a	n/a	22	514	4	-	n/a	12,876	n/a	440
2013	967	n/a	22	516	4	-	n/a	13,102	n/a	556
2014	967	n/a	22	516	4	-	n/a	13,554	230	634
2015	957	n/a	22	517	4	-	n/a	13,844	230	634
2016	957	n/a	22	517	4	-	n/a	14,245	230	634
2017	937	n/a	22	518	4	-	n/a	14,580	230	649

The FAA stopped publishing the "Air Traffic Factbook" in 2008. GAMA is working to backfill missing data.
Air traffic control tower data shows federal, non-federal, and military through 2005, while 2006 through 2011 are FAA and contract.

Honolulu control facility as well as San Juan and Guam CERAP not included in ARTCC data. ADS-B radios only list those that have reached Initial Operating Capability (IOC). The 2010 and 2012 figures are from November. Figures from other years are from December. WAAS-capable approach procedures include LNAV, LNAV/VNAV, LPV, LP procedures, and GPS stand-alone procedures, of which 3,872 are LPV in the 2017 data.

Source: FAA Air Traffic Organization

7.5 **Airports by Type (2004–2016)**

Year	2004	2005	2006	2007	2008	2009	2010	2011	2014	2015	2016
Total Civil Public Use Airports	**5,288**	**5,270**	**5,233**	**5,221**	**5,202**	**5,178**	**5,175**	**5,172**	**5,145**	**5,136**	**5,119**
Civil Public Use Part 139	599	575	604	565	560	559	551	547	537	531	529
Civil Public Use Non-Part 139	n/a	n/a	n/a	4,556	4,642	4,619	4,624	4,625	4,608	4,605	4,590
Civil Public Use Abandoned	10	14	27	18	16	18	14	20	15	14	20
Newly Established Public Use	n/a	n/a	n/a	9	3	5	16	6	10	8	4
Total Civil Private Use Airports	**14,532**	**14,584**	**14,757**	**14,839**	**14,451**	**14,298**	**14,353**	**14,339**	**13,863**	**14,096**	**14,168**
Civil Private Use Airports Abandoned	117	115	133	297	461	360	121	183	307	112	222
Newly Established Private Use	n/a	n/a	n/a	274	151	214	212	20	171	352	305
Military Airports	57	n/a	n/a	261	277	274	274	271	286	287	283
Total Airports by Type	**19,820**	**19,854**	**19,983**	**20,341**	**19,930**	**19,750**	**19,802**	**19,782**	**19,299**	**19,524**	**19,576**
Airports	n/a	n/a	n/a	13,822	13,589	13,494	13,473	13,450	13,089	13,156	13,154
Heliports	n/a	n/a	n/a	5,708	5,568	5,571	5,650	5,686	5,553	5,709	5,763
Seaplane Bases	n/a	n/a	n/a	527	503	497	496	497	488	493	497
Gliderports	n/a	n/a	n/a	35	35	35	35	35	36	35	35
Stolports	n/a	n/a	n/a	87	82	n/a	n/a	n/a	n/a	n/a	n/a
Balloon Ports	n/a	n/a	n/a	15	14	14	13	13	13	13	13
Ultralight Flightparks	n/a	n/a	n/a	147	139	139	135	131	120	118	114

The category "stolport" was eliminated in 2009.
The data is as of December 31 for the years listed.

Certificated airports service air carrier operations with aircraft seating more than 9 passengers (Part 139).

Source: FAA Administrator's Factbook

Safety and Accident Statistics

8.1 U.S. General Aviation Accidents, Fatal Accidents, and Fatalities (2000–2017)

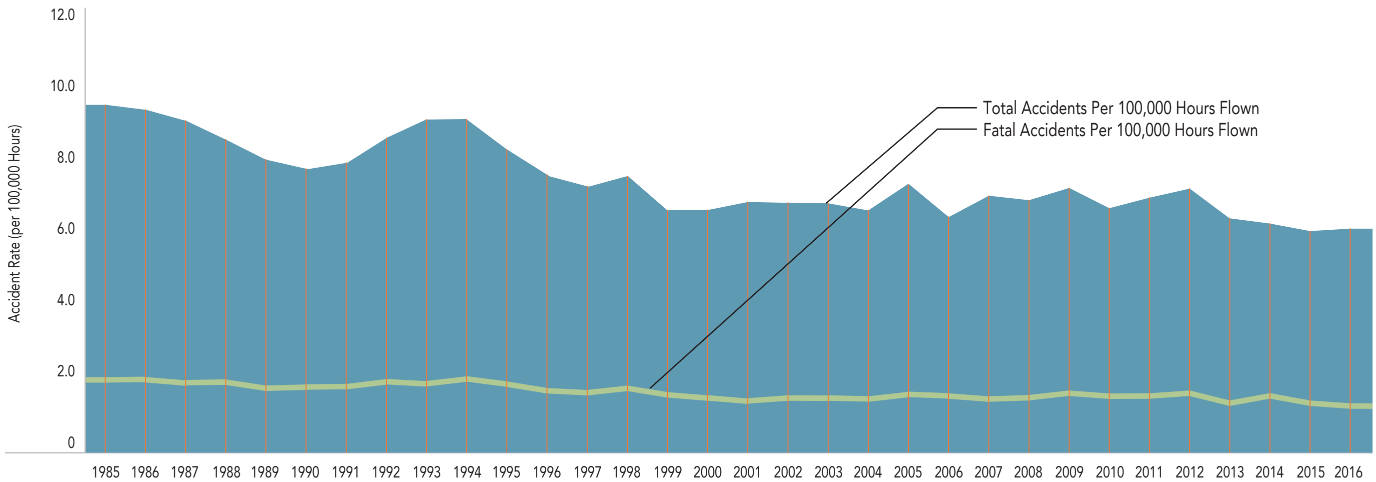
Year	Accidents		Accidents		Fatalities		Flight Hours	Rate	
	All	Excluded	Fatal	Excluded	Total	Aboard		All	Fatal
2000	1,837	7	345	7	596	585	27,838,000	6.57	1.21
2001	1,727	3	325	1	562	558	25,431,000	6.78	1.27
2002	1,716	7	345	6	581	575	25,545,000	6.69	1.33
2003	1,741	4	352	3	633	630	25,998,000	6.68	1.34
2004	1,619	3	314	0	559	559	24,888,000	6.49	1.26
2005	1,671	2	321	1	563	558	23,168,000	7.20	1.38
2006	1,523	2	308	1	706	547	23,963,000	6.35	1.28
2007	1,654	2	288	2	496	491	23,819,000	6.94	1.20
2008	1,568	2	277	0	496	487	22,805,000	6.87	1.21
2009	1,480	4	275	1	479	470	20,862,000	7.08	1.32
2010	1,441	3	271	2	458	455	21,688,000	6.63	1.24
2011	1,471	3	270	1	458	447	21,488,000	6.84	1.24
2012	1,472	1	273	1	438	438	20,881,000	7.05	1.30
2013	1,224	3	222	3	391	386	19,492,000	6.26	1.12
2014	1,224	0	256	0	423	413	19,617,000	6.24	1.31
2015	1,210	7	230	4	378	375	20,576,000	5.85	1.10
2016	1,266	2	213	2	386	379	21,333,747	5.93	0.99
2017P	1,223	n/a	198	n/a	n/a	n/a	n/a	n/a	n/a

P = Preliminary

Source: NTSB, FAA, and GAMA

General Aviation as defined by NTSB includes operations under Part 91, Part 91K, Part 125, Part 133, and Part 137 for the purpose of accident statistics.
Excluded "Accidents" and "Fatalities" are suicide/sabotage and stolen/unauthorized events, which are not included in rates.

FIGURE 8.1 Accident Rates in U.S. General Aviation (1985–2016)



Source: NTSB, FAA, and GAMA

8.2 U.S. On-Demand FAR Part 135 Accidents, Fatal Accidents, and Fatalities (1990–2017)

Year	Accidents		Accidents		Fatalities		Flight Hours	Rate	
	All	Excluded	Fatal	Excluded	Total	Aboard		All	Fatal
2000	80	0	22	0	71	68	3,930,000	2.04	0.56
2001	72	0	18	0	60	59	2,997,000	2.40	0.60
2002	60	0	18	0	35	35	2,911,000	2.06	0.62
2003	73	0	18	0	42	40	2,927,000	2.49	0.61
2004	66	0	23	0	64	63	3,238,000	2.04	0.71
2005	65	0	11	0	18	16	3,815,000	1.70	0.29
2006	52	0	10	0	16	16	3,742,000	1.39	0.27
2007	61	0	14	0	43	43	4,033,000	1.51	0.35
2008	58	0	20	0	69	69	3,205,000	1.81	0.62
2009	47	0	2	0	17	14	2,901,000	1.62	0.07
2010	30	0	6	0	17	17	3,113,000	0.96	0.19
2011	50	0	16	0	41	41	3,082,000	1.62	0.52
2012	38	0	8	0	12	12	3,522,000	1.02	0.23
2013	45	0	10	0	25	25	3,384,000	1.30	0.30
2014	35	0	8	0	20	20	3,654,000	0.96	0.22
2015	39	0	7	0	27	27	3,566,000	1.07	0.20
2016	31	0	7	0	19	19	3,499,517	.89	0.20
2017P	47	n/a	6	n/a	n/a	n/a	n/a	n/a	n/a

P = Preliminary
Excluded "Accidents" and "Fatalities" are suicide/sabotage and stolen/unauthorized events, which are not included in rates.
In 2002, FAA changed its estimate of air taxi activity. The revision was retroactively applied to the years 1992 to present. In 2003, the FAA again revised flight activity estimates for 1999 to 2002.

U.S. air carriers operating under 14 CFR Part 135 were previously referred to as Scheduled and Nonscheduled Services. Current tables now refer to these same air carriers as Commuter Operations and On-Demand Operations, respectively, in order to be consistent with definitions in 14 CFR 119.3 and terminology used in 14 CFR 135.1. On-Demand Part 135 operations encompass charters, air taxis, air tours, or medical services (when a patient is on board).

Source: NTSB

8.3 European Union General Aviation and Aerial Work Accident Data (2006–2013)

Year	Aircraft with Mass Below 2,250 Kg				Aircraft with Mass Above 2,250 Kg				All Aircraft Accidents	
	Accidents		Fatalities		Accidents		Fatalities		Accidents	
	Total	Fatal	Aboard	Ground	Total	Fatal	Aboard	Ground	Total	Fatal
2006	1,121	151	231	3	36	10	29	-	1,157	161
2007	1,157	142	238	5	30	10	18	1	1,187	152
2008	1,145	140	216	2	32	10	23	1	1,177	150
2009	1,234	163	253	4	19	9	18	-	1,253	172
2010	1,047	129	189	1	31	6	14	-	1,078	135
2011	1,109	169	253	1	34	12	29	-	1,143	181
2012	918	133	226	1	10	2	2	1	995	148
2013	948	128	202	-	15	3	7	-	1,006	139

The European Aviation Safety Agency (EASA) includes aircraft registered in Member States that are balloons, aeroplanes, gliders, gyroplanes, helicopters, microlights, motor gliders, and other aircraft, among general aviation accidents that occurred in general aviation operations and while conducting aerial work. This data does not include general aviation aeroplanes conducting Commercial Air Transport operations.
Data from 2006–2008 does not include Italy, Liechtenstein, Luxembourg, and Slovenia.
Data after 2012 includes aerial work accidents in the "All Aircraft" total data only and is not part of the other columns.
General aviation accident data is not available for years after 2013 in this format. See Table 8.4 for EASA's new accident data structure.

Source: EASA Annual Safety Review

8.4 European Union General Aviation and Aerial Work Accidents (2014–2016)

Year	General Aviation												Commercial								All Aircraft Accidents		
	Aeroplane		Rotorcraft		Glider		Microlight		Balloon		Bus. Aviation		Aerial Work				Commercial Air Transport						
											Aeroplane		Aeroplane		Rotorcraft		Aeroplane		Rotorcraft				
	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal	Fatalities
2014	421	53	73	9	195	18	204	30	11	0	3	1	24	5	11	2	27	1	6	1	975	120	313
2015	320	41	40	6	180	24	n/a	n/a	9	2	n/a	n/a	29	7	9	2	25	1	10	1	622	84	283
2016	311	46	42	9	167	19	n/a	n/a	12	1	n/a	n/a	23	6	13	0	20	1	8	3	596	85	145

EASA has changed how the agency publishes safety statistics. Table 8.4 shows the new format for 2014 while Table 8.3 shows the historical data for 2006–2013.
The Commercial Air Transport Aeroplane data provided by EASA does not differentiate between fixed-wing aeroplane operations using general aviation versus larger aircraft and shown as "n/a" in the table.
EASA did not provide separate accident data for Microlight and Business Aviation Aeroplane accidents for 2015 and 2016.

Source: EASA Annual Safety Review

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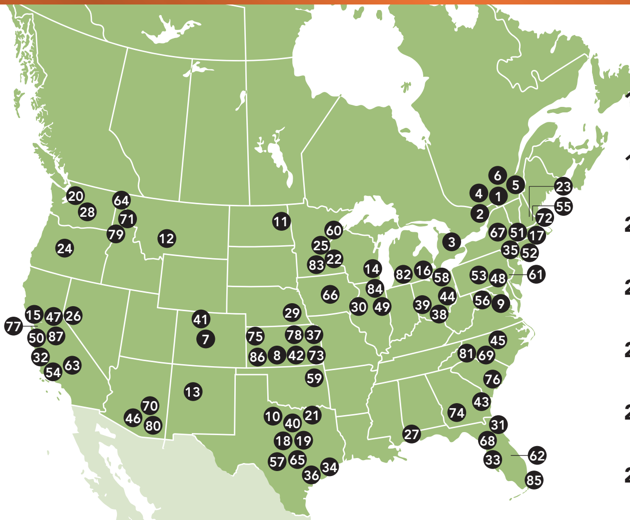

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10 **Air Tractor, Inc.**
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11 **Appareo**
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12 **Ascent Vision Technologies, LLC**
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www.atp.com

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18 **Bell**
www.bellflight.com

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www.blackhawk.aero

20 **Boeing Business Jets**
www.boeing.com/commercial/bbj

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www.boeing.com/company#/bgs

22 **BRS Aerospace**
www.brsaerospace.com

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www.campsystems.com

24 **CiES Inc.**
www.ciescorp.net

25 **Cirrus Aircraft**
www.cirrusaircraft.com

26 **Click Bond, Inc.**
www.clickbond.com

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32 **ESAero**
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41 **Gogo Business Aviation**
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42 **Greenwich AeroGroup**
www.greenwichaerogroup.com

43 **Gulfstream Aerospace Corporation**
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44 **Hartzell Propeller Inc.**
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85 **World Fuel Services**
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89 **Bosch General Aviation Technology GmbH**
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91 **Diamond Aircraft Industries**
www.diamondair.com

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92 **Airbus Helicopters, Inc.**
www.airbushelicoptersinc.com

93 **Catherineau**
www.catherineau.com

94 **DAHER**
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www.dassaultfalcon.com

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www.smaengines.com

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www.flightdesign.com

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www.lilium.com

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www.jetaviation.com

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www.pilatus-aircraft.com

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www.bbaaviation.com

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www.rolls-royce.com

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www.eviation.co

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