

COMMERCIAL SPACE TRANSPORTATION

The Federal Aviation Administration's (FAA) Office of Commercial Space Transportation (AST) licenses and regulates U.S. commercial space launch activity including launch vehicles and non-federal launch sites authorized by Executive Order 12465 and 49 US Code, Subtitle IX, Chapter 701 (formerly the Commercial Space Launch Act). Title 49 and the Executive Order also direct the Department of Transportation (carried out by the FAA) to encourage, facilitate, and promote commercial launches.

AST's mission is to license and regulate commercial launch and reentry operations and non-federal launch sites to protect public health and safety, the safety of property, and the national security and foreign policy interests of the United States.

OVERVIEW

The term "commercial space transportation" refers to the launch of an object into space or the reentry of an object from space by a private, non-government entity. Typically, commercial space transportation concerns the activities of launch service providers, who place satellites into orbit under contract from corporations, governments, or other organizations. Launch service providers also conduct suborbital flights, launches of objects high into the atmosphere or into space that return to Earth instead of entering orbit. The world's major orbital launch service providers are in the United States, Europe, Russia, and China. Potential entrants include Brazil, Japan, and India.

The FAA licenses five expendable vehicles currently used for commercial orbital launches. These include the Pegasus and Taurus, two small vehicles built and operated by Orbital Sciences Corporation; the Delta 2, a medium-class vehicle built by Boeing and marketed by Boeing Launch Services (BLS); the Zenit 3SL, a heavy-class vehicle built by the Ukrainian company KB Yuzhnoye for the multinational Sea Launch venture and marketed by BLS; and the Atlas 5, a heavy-class vehicle built by Lockheed Martin and marketed by International Launch Services (ILS). Commercial vehicles under development include the Falcon family of boosters by SpaceX.

The FAA also licenses two expendable suborbital launch vehicles: the Oriole, manufactured by Alliant Techsystems and provided by DTI Associates; and Terrier-Orion, integrated by DTI Associates using surplus government rocket motors. In 2004 the FAA issued its first license for a suborbital reusable launch vehicle, Scaled Composites' SpaceShipOne; that vehicle was retired in 2005 after winning the \$10-million Ansari X Prize in October 2004. A number of suborbital vehicles are currently under development for space tourism and other commercial applications.

From 1989 through the end of 2005, DOT/FAA has licensed 173 orbital and suborbital commercial launches.

Five commercial spaceports, located in Alaska, California (Vandenberg Air Force Base and Mojave Airport), Florida, and Virginia currently have FAA launch site operator licenses. Several other commercial spaceports are under active development, including sites in New Mexico, Oklahoma, and Texas.

REVIEW OF 2005

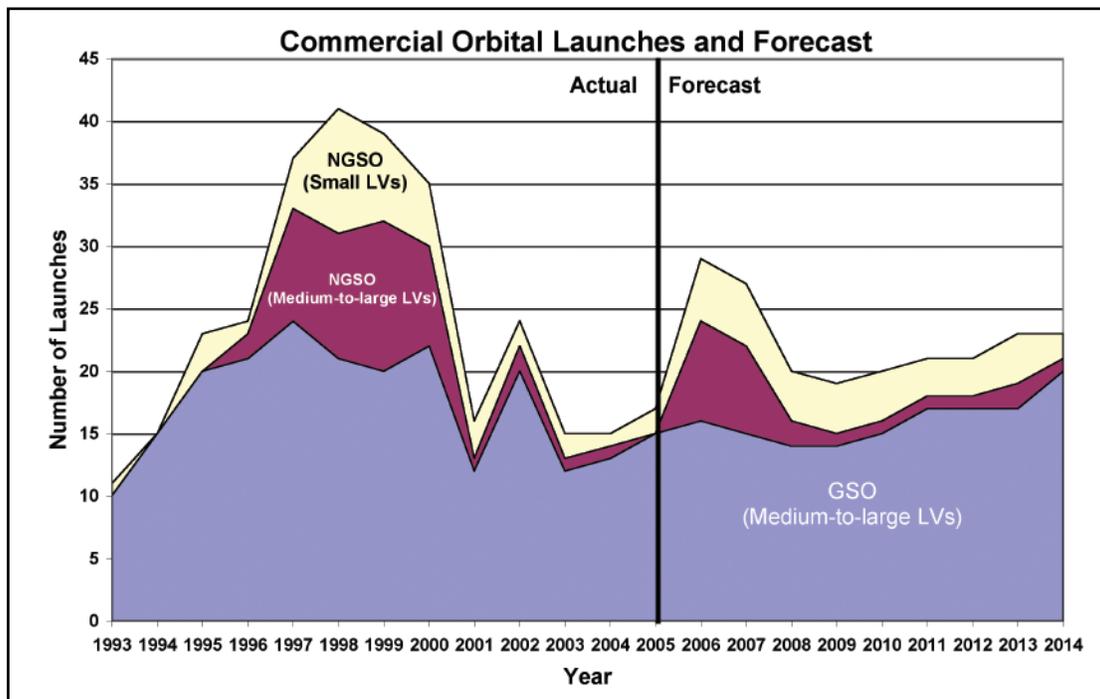
There were five FAA-licensed launches, all orbital, in 2005, down from 14 (including five suborbital) in 2004. ILS carried out one Atlas 5 launch from Cape Canaveral and Sea Launch conducted four successful launches from their Pacific Ocean platform.

Worldwide there were a total of 18 orbital commercial launches during 2005, compared to 15 in 2004. In addition to the five FAA-licensed launches, Europe performed five commercial launches of its Ariane 5 and Russia conducted eight launches of various vehicles. There were 55 total worldwide commercial, civil, and military launches in 2005, with commercial launches representing about one-third of the total. For more details, see the Year in Review report available from the FAA/AST website at http://ast.faa.gov/rep_study/yir.htm.

FORECAST

In May 2005, the FAA and the Commercial Space Transportation Advisory Committee (COMSTAC) published their annual forecast for commercial launch demand, the 2005 Commercial Space Transportation Forecasts. The report forecasts an average of approximately 23 commercial orbital launches per year of geosynchronous orbit (GSO) and non-geosynchronous orbit (NGSO) payloads through 2014, with the following annual averages:

- 16.4 launches of medium-to-heavy vehicles to deploy GSO satellites;
- 2.5 launches of medium-to-heavy vehicles to NGSO; and
- 3.9 launches to NGSO by small vehicles



The GSO and NGSO forecasts are not a prediction of what will actually be launched but instead represent the expected demand for launch services, based on a variety of inputs.

The complete forecast report is available at http://ast.faa.gov/rep_study/forecasts_and_reports.htm.