

Origins of the Commercial Space Industry

Between 1963 and 1982, U.S. expendable launch vehicle (ELV) manufacturers produced vehicles only under contract to the National Aeronautics and Space Administration (NASA) or the Department of Defense (DOD). In the early 1970s, when private companies and foreign governments purchased communications satellites, they had to contract with NASA to launch their payloads. Through NASA, launches could be procured on any one of four ELVs: Titan, built by Martin Marietta; Atlas, built by General Dynamics; Delta, built by McDonnell Douglas; and Scout, built by LTV Aerospace Corporation. NASA would purchase a launch vehicle through traditional government procurement practices, and the launch would be conducted by a private-sector contractor under NASA supervision.

The U.S. government essentially served as the only provider of space launch services to the Western world. Seeing an opportunity to provide launch services, the European Space Agency developed its own ELV, Ariane, which became the first competitor to NASA for commercial launches. The first Ariane launch occurred in 1979, and in 1984, a private company, Arianespace, took over commercial operation of the vehicle.

In the late 1970s, the U.S. government decided to phase out all ELVs, except Scout, in favor of the U.S. space shuttle. The shuttle would take all U.S. government satellites, as well as commercial satellites, into orbit. NASA declared the shuttle, which made its first flight in 1981, operational in 1982, and government funding of ELV production ceased in 1983. It quickly became evident, however, that the flight schedule of the shuttle could not meet all of the U.S. security, civil, and commercial launch requirements. As the need grew for more launches than NASA could handle, some launch vehicle manufacturers expressed interest in offering commercial launch services.

In 1982, the first successful private launch in the United States took place – a test launch of the Space Services' prototype Conestoga rocket. The procedures required to gain approval for that launch, however, proved time-consuming and led to the introduction of legislation to make it easier for companies to pursue commercial launch activities. A bill (HR 1011) introduced in the House by Congressman Daniel Akaka (D-HI) would have designated the Department of Commerce as lead agency, while the Senate bill (S 560), introduced by Earnest "Fritz" Hollings (D-SC), intended to give the lead role to the Federal Aviation Administration (FAA). Others suggested the lead go to the Department of State or NASA. While Congress debated the efficacy of its legislation, on July 4, 1982, President Ronald Reagan issued national security decision directive (NSDD) 42, "National Space Policy," stating that expansion of U.S. private sector involvement in civil space activities was a national goal.

The President's Senior Interagency Group on Space subsequently reviewed the policy and concluded a commercial ELV capability would offer substantial benefits to the nation by:

- Maintaining a high-technology industrial base;

- Providing jobs for thousands of workers, thus adding to the federal tax base;
- Spawning numerous spinoff and supporting activities;
- Strengthening the U.S. global position;
- Providing a potential market for excess flight hardware, special-purpose tooling, test equipment, and propellants; and
- Creating a market for U.S. government and facilities.

On May 16, 1983, the President issued NSDD 94, “Commercialization of Expendable Launch Vehicles.” This stated the “U.S. Government fully endorses and will facilitate the commercialization of U.S. Expendable Launch Vehicles. The U.S. Government will license, supervise, and/or regulate U.S. commercial ELV operations only to the extent required to meet its national and international obligations and to ensure public safety.”

The directive created an interim space working group on commercial launch operation co-chaired by the Department of State and NASA. FAA and the Federal Communications Commission also had representatives in the group. Among other things, the President mandated the group develop and coordinate the requirements and processes for the licensing, supervision, and/or regulations applicable to commercial launch operations and recommend the appropriate agency with the U.S. government responsible for commercial launch activities.

The group submitted its report on September 15, 1983. It did not recommend a lead agency, but, instead, deferred to the Cabinet Council for Commerce and Trade. At a meeting of the Council on November 16, 1983, President Reagan announced his intention to designate the Department of Transportation (DOT) as the agency with principal responsibility for fostering the private commercial ELV business. His rationale centered on the fact that DOT, as a department that understood the regulatory process and with experience as a deregulator (airline, railroad, etc.), was uniquely suited to remove regulatory barriers and to streamline regulations necessary to create a commercial space industry.

In a January 1984 speech, Secretary of Transportation Elizabeth Dole explained the President wanted to stimulate interest in commercial space ventures by removing regulatory barriers. She said that companies trying to operate in space must go through as many as 17 agencies to get appropriate permits and licenses. DOT would give companies one-stop service to help them “cut through the thicket of clearances, licenses, and regulations that keep industrial space vehicles tethered to their pads.”

On February 24, 1984, Executive Order 12465 formally designated DOT as the lead agency for encouraging, facilitating, and licensing commercial ELV activities. DOT entrusted these duties to a new Office of Commercial Space Transportation. Dole appointed Jennifer “Jenna” Dorn as the first director of the new office. Prior to her appointment, she had served as Elizabeth Dole’s special assistant.

Congress affirmed and expanded these actions through the Commercial Space Launch Act, enacted on October 30, 1984. This legislation addressed three substantive areas: licensing and regulation; liability insurance requirements; and access of private launch companies to government facilities.

Despite the legislation, U.S. launch firms remained largely uninterested in offering commercial launch services, finding it difficult to compete against the government subsidized space shuttle. U.S. policy changed in the wake of the January 28, 1986, space shuttle Challenger tragedy. The government reversed its policy of phasing out ELVs and instead adopted a mixed-fleet approach where both ELVs and the shuttle were available for commercial users.

On August 15, 1986, Reagan issued NSDD 254, "United States Space Launch Strategy," which limited NASA's role in providing commercial launches to only those satellites that required the unique capabilities of the shuttle or for which there were unusual foreign policy considerations. The resulting unavailability of NASA as a domestic civilian launch service, coupled with the already enacted legislation, led to the emergence of the U.S. commercial launch services industry. On February 11, 1988, President Reagan issued the "Presidential Directive on National Space Policy," which required U.S. government agencies to purchase launch services from commercial companies.

The U.S.-licensed commercial space industry made its first launch in March 1989 when Space Service, Inc., sent a scientific payload on a suborbital trip aboard a Starfire rocket. Later in 1989, McDonnell Douglas made the first U.S.-licensed commercial orbital launch on August 27, using a Delta I launch vehicle.

On August 7, 1995, DOT announced that the Office of Commercial Space Transportation would move from the Office of the Secretary to FAA, effective October 1, 1995, as part of a larger DOT reorganization. The transfer of the office was delayed, however, until sanctioned by legislation. The fiscal year 1996 DOT appropriations bill, signed by President Bill Clinton on November 15, 1995, cleared the way for the transfer of the Office of Commercial Space Transportation from DOT's Office of the Secretary to FAA. The transfer became effective on November 16 of that year.