

# The aerospace industry essay



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For the last several years the aerospace industry has been trying to evaluate the real impact of the VLJ sector, its size and influence on existing air markets, with little real success.

Even now the picture is not really clear. There are two points of view on this matter. Some supporters claim that this technology will represent the beginning of a new and exciting era of increased personal and on demand travel; VLJ's introduction will broaden usage of the NAS and its under-served airports. They affirm that such potential revolution in personal travel will have significant beneficial effects on domestic productivity and economic growth. Other experts stress that VLJ concept raises as many challenges as opportunities to those trying to determine its real impact.

Will the air taxi manufacturers be able to sell their microjets? Will the airports, ATM and regulatory structures manage to cope with such huge amount of these new aircraft? Will the real price be profitable for the customer as for the manufacturer? There is no easy answer, largely because every aircraft poses a different challenge to the forecasters. Only the thorough collection of the facts and their objective study will help us to answer these questions. Very Light Jet The global business aviation industry is likely to undergo moderate growth in the next few years as demand for private and secure executive travel increases. The number of international flights is extending as the need to conduct business abroad accelerates. Barring terrorist attacks or economic collapses, business flying activity in the USA and Europe will continue to rise, with utilization rates moving upward in parallel with the quantity of missions flown.

The appearance of smaller aircraft, such as the very light jet (VLJ), will breathe the new vitality into the sector and make jet transportation available to a fresh harvest of users previously priced out that service market. General Notions A very light jet (VLJ), also known as a microjet, is a small jet aircraft approved for single-pilot operation, seating 4-8 people, with a maximum take-off weight of under 4, 540 kg (10, 000 pounds). These aircrafts are lighter than what is commonly termed business jets and are frequently used as air taxis. They can land on runways as short as 3, 000 feet, compared with the 4, 000 or 5, 000 feet required by the smallest jets now being flown.

It is a great advantage, because in accordance with the report of the Federal Aviation Agency there are more than 5, 000 small underused airports in United States. Current and projected aircraft orders show two primary categories of VLJ buyer. The first is a person who is going to use the aircraft for recreational transportation. The second and much larger segment of buyer is that which involves transporting passengers conducting business between major metropolitan regions. The micro light jets will be to serve as corporate planes. Smaller companies that would never have considered buying a private plane will now view owning a mini-jet thanks to its significantly smaller price tag and operating costs.

Larger companies will eagerly begin to use these new very light jets for their fleets rather than continuing to buy the larger, more expensive hanger hogs. Very light jet ownership and travel is a reality for a huge number of businesses and individuals with the advent of a new generation of safer and faster jets. These VLJs features the latest innovations in green operations, improved fuel efficiency and quiet operation. They are used by a progressive

generation of private individuals, air taxi and fleet operators, charter providers and corporate operations. VLJs Development VLJs trace their genealogy to the mid-1990s when NASA set up its General Aviation Propulsion (GAP) program, an attempt to inject some fresh air into the nation's general-aviation industry by supporting the development of small, low-cost, energy-efficient turbofan engines.

The engineering competition was won by Michigan-based Williams International with a design for an engine that would develop over 750 pounds of thrust and weigh of 100 pounds. Due to cooperative research and development grant from NASA, Williams attracted the attention of high-tech engineer Vern Raburn, who was impressed with the Williams powerplant. Raburn founded Eclipse Aviation and set about building a 5-6 person Williams- powered jet. Eclipse re-introduced the concept when it proposed to develop a relatively simple light jet that could easily be flown and utilized by the Fortune 1000. Beforehand, jet travel was basically available to the Fortune 100 or extremely high net worth individuals. Unfortunately, it was not a story with a happy end.

Eclipse engineers ultimately considered the Williams engine not to have enough torque for the job. The events after 9-11 initiated a quick change in general aviation due to increasing security concerns and irritated travelers. At that time decreasing profits resulted in decreased services that affected customers and many people were desperate to search for other travel solutions. A lot of these business travelers had started to use the different jet cards or utilized the fractional operators prior to 1999. Let's take a general view of this interest market and some of its latest developments. Many

operation scenarios appeared, some of them have gone and other are still around.

The new concept of VLJ was the idea for the owner to become a pilot and operate the relatively easy- handling microjet to whatever they desired. The main aim of this concept was and is to provide a low cost jet for aviation transportation. The FAA should examine all the issues concerning operations of VLJs, taking into consideration the insurance industry which will also have a massive impact on how these aircrafts are operated. These jets will operate with professional pilots at the control. Hoping to catch of this emerging market, no fewer than 8 companies are currently designing, testing and manufacturing their own very light jet model.

Several others have tried and failed. FAA informs that there are some 20 models of VLJs in various stages of design, certification and production. Here are the samples of VLJs.