



# THE WORLD'S SPACEPORT

## Ideal location

The Guiana Space Center (CSG) offers ideal conditions for launching any payload to any orbit at any time. Located at 5 degrees North latitude, its proximity to the equator provides an extra boost of energy due to the Earth's rotation – a slingshot effect that is greater here than at most other launch sites.

## State-of-the-art facilities

The CSG provides modern Payload Preparation Facilities that are recognized for their high quality in the space industry. The facilities are capable of processing several spacecrafts from different customers simultaneously, thanks to vast clean-rooms and commodious infrastructure. Designed to support the rockets' multiple launch capability and high launch tempo, the preparation facilities meet the needs of customers using any of the three vehicles in the Arianespace family and its two next generation launch vehicles.

## A new launching complex

The Ariane 6 launch site (ELA-4) is a dedicated area designed for launch vehicle final preparation, the upper composite integration with launch vehicle and the final launch activities. It includes the launch pad (ZL4), the launch vehicle assembly and integration building (BAL) and support buildings. The Ariane 6 launch site is located approximately 10km to the North-Ouest of the CSG Technical Center.

## Strict security

The French government, the CSG, and Arianespace follow strict security measures that meet the most rigorous international and national agreements and requirements.

Arianespace activities are characterized as highly security sensitive ones by the French government and consequently very strict and rigorous measures are implemented with the support of national authorities to satisfy both national and international requirements. They apply to the three launch systems: Ariane 5, Soyuz, and Vega, and strictly limit access to spacecraft.

Specifically, the security regime is compliant with requirements governing the export of U.S. manufactured satellites or parts under the ITAR regulation.

## Safety mission

The CSG entities apply rigorous Safety Rules during each launch campaign: this includes authorization of equipment use, operator certification, and permanent operation monitoring. Any potentially dangerous activity is to be reported to the CSG responsible, which in turn, makes certain that safety equipment and emergency response teams are poised to deal with any hazard.

## Environmental protection

For many years, all CSG actors have been committed to protecting the environment, through strict measures during spacecraft preparation, launch, and flight. The impact of the launch vehicle in flight on the environment and the careful disposal of hazardous waste are thoroughly monitored.

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# VEGA C

The Vega-C launch vehicle, a European Space Agency (ESA) program, is an upgraded and more powerful version of the current Vega rocket.

The payload capacity to Sun-synchronous Earth orbit at 700 km will increase from about 1,500 kg with the current Vega configuration to 2,300 kg on Vega C.

This improved lift capability, along with increased volume under the payload fairing, will further consolidate Vega's market position and respond to the evolving launch needs of commercial and institutional users.

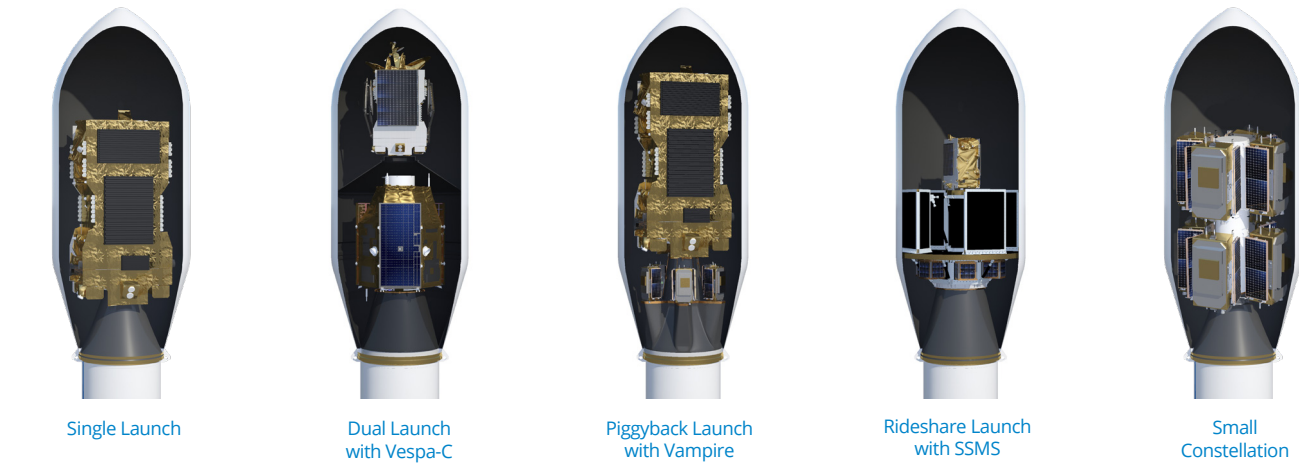
### Optimised for light-lift market and shared launch services

Vega C's flexibility is well adapted for a broad range of missions, from nano-satellites to larger optical and radar observation spacecraft. Payload adapters will facilitate Vega C's deployment of multiple satellite passengers, including configurations with primary payloads that are accompanied by cubesats or microsats.



Industrial Prime contractor: **AVIO**

Performance	SSO	LEO	Polar Orbit
Payloads, kg (including adapters)	2,300	3,300	2,250
Inclination (i), deg	-	-	-
Altitude of perigee (Zp), km	-	-	-
Altitude of perigee (Za), km	-	-	-



### Direct delivery to circular orbit

This versatile and cost-effective launcher is equipped with a larger fairing with an increased payload envelope to accommodate larger satellites. It will be suitable for Earth observation satellites up to 2,300 kg.

### Competitive costs

The new Vega C launcher was developed in order to increase the payload capacity, reducing operating costs and providing cost-efficient launch services. The P120C first stage is also used for the side boosters on Ariane 6, enhancing synergies between the Arianespace's family launchers.

### Restartable capability

The AVUM+ upper stage is a restartable upper stage (up to 5 times) offering a great flexibility to address a wide range of orbits, and allowing delivery of the payload to different orbits in case of shared launch.

### Multiple launch capability enhanced

The current VESPA Payload Adapter can be used in missions involving multiple launches (two satellites) or to house CubeSats & microsats in its internal platform. In addition, the new Payload Adapter, the VAMPIRE, is under development and will enable to accommodate up to 6 microsattellites or cubesats as auxiliary payloads around a main passenger.

A further major innovation is the Small Spacecraft Mission Service (SSMS), a modular adapter, which will enable the Vega C to propose various rideshare accommodation solutions for small satellites ranging from mini-satellites to cubesats.

### Standard Vega C mission Profile for Sun-Synchronous Orbit

