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# 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.





# Ariane 6

The Ariane 6 launcher will provide Arianespace with new levels of efficiency and flexibility to meet customers’ launch services needs across a full range of commercial and institutional missions.

This next generation launcher comprises two versions, Ariane 64 and Ariane 62, for reduced production costs and design-to-build lead times, all while maintaining the quality and reliability that have made Ariane 5 an industry leader.

Thanks to its two versions and associated performances, Ariane 6 will cover a wide range of missions: GEO, through intermediate orbits (in particular GTO and GTO+), Polar/SSO, MEO and others.

The new launcher features a modular configuration based on core stages powered by lower and upper liquid propellant modules, which are supplemented by either two or four strap-on solid rocket motors, depending on the configuration of the Launch Vehicle: Ariane 62 or Ariane 64.

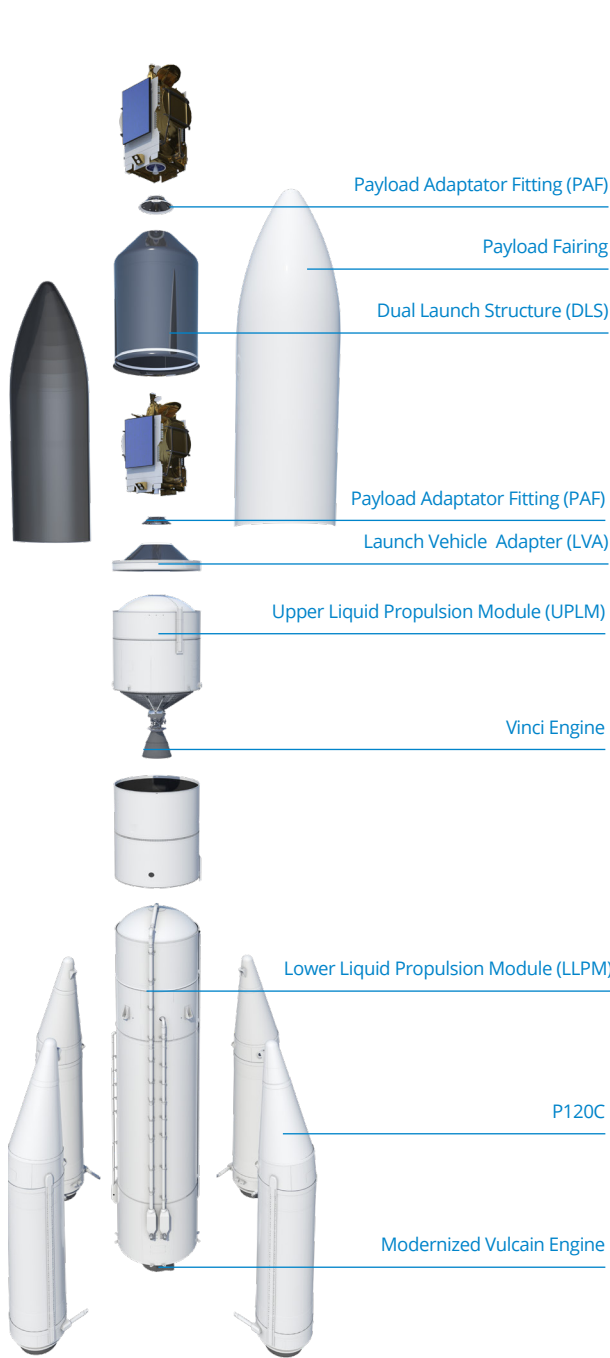
The first flight is scheduled for 2020.

Arianespace continually develops solutions that meet the evolving customer demand. Priority is given to provide access to space for all applications under the best conditions.

## Unprecedented flexibility, modularity and competitiveness

The capabilities of this next-generation launcher, the flexibility of its configuration, alongside Arianespace’s proven multiple mission management ability, enables Ariane 6 to carry any type of spacecraft, from the smallest (1,000 kg or less) to the largest (>20,000 kg), in either dedicated or shared launch.

Moreover, a specific set of accommodation solutions for small satellites, from cubesats to minisatellites up to more than 400 kg, will be available. These smallsats launch solutions, in piggyback (with one or several main passengers) or rideshare (no main passenger) configurations, will be commercialized as “Multi-Launch Service” or MLS.



Industrial Prime Contractor  
& Design Authority : **ArianeGroup**



## Tailored to any missions

The Ariane 6 fairing at 20-m high and with an external diameter of 5.4 m is particularly well-adapted to market developments. This enables Ariane 6 to launch all types of satellites now in service as well as new platforms.

## A cost-effective access to space

This new launcher is modular and will be available in two versions: Ariane 62 (with two P120C solid fuel boosters, common with Vega C) and Ariane 64 (with four P120C solid fuel boosters). By making extensive use of shared components, Ariane 6 aims to cut down launch costs, by leveraging economies of scale in a very novel way.

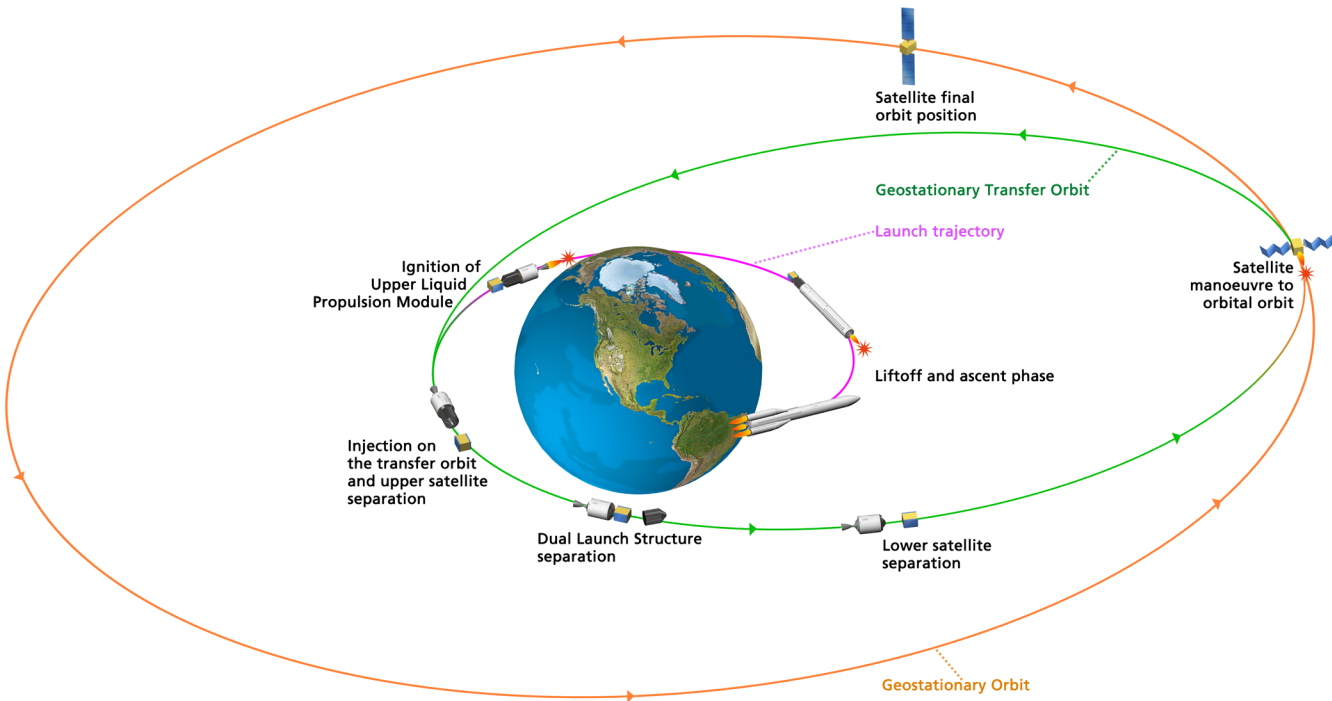
## Vinci engine at the service of new ambitions

The Vinci engine was conceived to enhance the Arianespace heritage of reliability, earned by its predecessor HM7B. The new engine has the capability of restarting up to five times, allowing Ariane 6 to reach a range of orbits on a single mission to deliver more payloads.

## A direct track to GTO for small-sized satellites

Ariane 6 will introduce an innovative service providing fast-track access to Geosynchronous Equatorial Orbit, for the new generation of small satellites, offering a first flight opportunity with more than 4,500 kg of such payloads on its “GO-1” mission. Configured with the Multi-Launch Service carrying system (MLS), the new launcher will accommodate a full range of small-sized satellites, from cubesats to microsats or larger.

## Standard Ariane 6 mission profile for geostationary transfer orbit



Performance	GTO	SSO	LEO	MEO	Lunar Transfer Orbit	Earth Escape mission
<b>Payloads, kg (including adapters/structures)</b>						
Ariane 62	4,500 to 5,000	6,500	10,300	1,700	2,800 to 3,000	-
Ariane 64	>11,500	15,000	21,600	TBD	8,200 to 8,500	7,400 to 7,600
<b>Inclination (i), deg</b>	6	97.4	5	56	-	-
<b>Altitude of perigee (Zp), km</b>	250	500	300	23,200	-	-
<b>Altitude of apogee (Za), km</b>	35,786	500	300	23,200	-	-