

DECEMBER 2024  
**PRESS KIT**



[www.arianespace.com](http://www.arianespace.com)



[www.avio.com](http://www.avio.com)

# MISSION DESCRIPTION

Arianespace's second launch of 2024 with a Vega C launcher will place its passenger Sentinel-1C into Sun-synchronous orbit. The launcher will be carrying a total payload of 2,286 kg.

The launch will be performed from Europe's Spaceport in Kourou, French Guiana.



## DATE AND TIME

Liftoff is planned on **5 December, 2024**, at exactly:

- 04:20:33 p.m. Washington, D.C. time,
- 06:20:33 p.m. Kourou time,
- 09:20:33 p.m. Universal time (UTC),
- 10:20:33 p.m. Paris time,
- 06:20:33 a.m. Tokyo time, December 4.



## FLIGHT DURATION

The nominal duration of the flight (from liftoff to separation of the satellite) is:  
1 hour and 43 minutes



## SATELLITE

SENTINEL-1C

Operator: European Space Agency (ESA)  
End-customer: European Commission



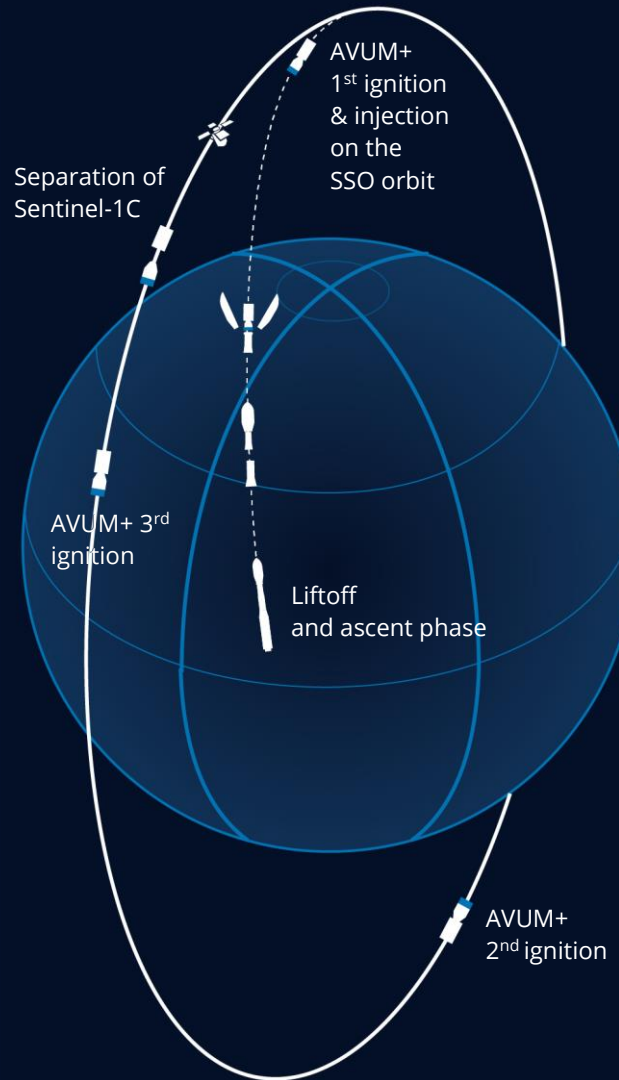
## TARGETED ORBIT

Sun-synchronous orbit at an altitude of approximately 700 km.

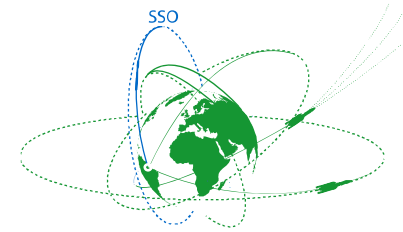
Inclination: 98.19°

LTAN (Local Time at Ascending Node): 18:00

## VEGA C STANDARD SUN-SYNCHRONOUS ORBIT



..... Launch trajectory  
—— Sun-Synchronous Orbit



## CONTENTS

MISSION DESCRIPTION	2
SENTINEL-1C SATELLITE	3
VEGA C LAUNCHER	4
LAUNCH CAMPAIGN & FLIGHT SEQUENCE	5
STAKEHOLDERS OF THE MISSION	6

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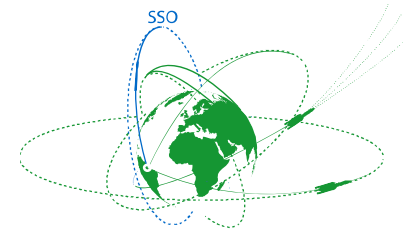
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# SENTINEL-1C

## A European Union Copernicus Earth Observation satellite



### DID YOU KNOW?

Sentinel-1C, the third satellite in the Sentinel-1 mission, is an integral part of Copernicus, the Earth observation component of the European Union's space program. The world's most advanced Earth observation system, Copernicus provides continuous, free, and reliable Earth observation data and services to public authorities, companies and citizens around the globe. The program, managed by the European Commission, is funded by the European Union with a contribution from ESA.



<b>SATELLITE</b>	Sentinel-1C
<b>CUSTOMER</b>	European Commission within the scope of a contract signed with the European Space Agency (ESA)
<b>MANUFACTURER</b>	Thales Alenia Space
<b>MISSION</b>	Radar imagery for Earth observation
<b>MASS AT LAUNCH</b>	2,186 kg
<b>INSTRUMENT</b>	C-Band Synthetic Aperture Radar at 5.405 GHz; Four acquisition modes with swaths of 20, 80, 250 and 400 km at spatial resolutions of 5, 20 and 40m; Automated Identification of Ships Payload
<b>COVERAGE AREA</b>	Global land, coastal areas and ocean surface
<b>LIFETIME</b>	Designed for 7.25 years and up to 10 years

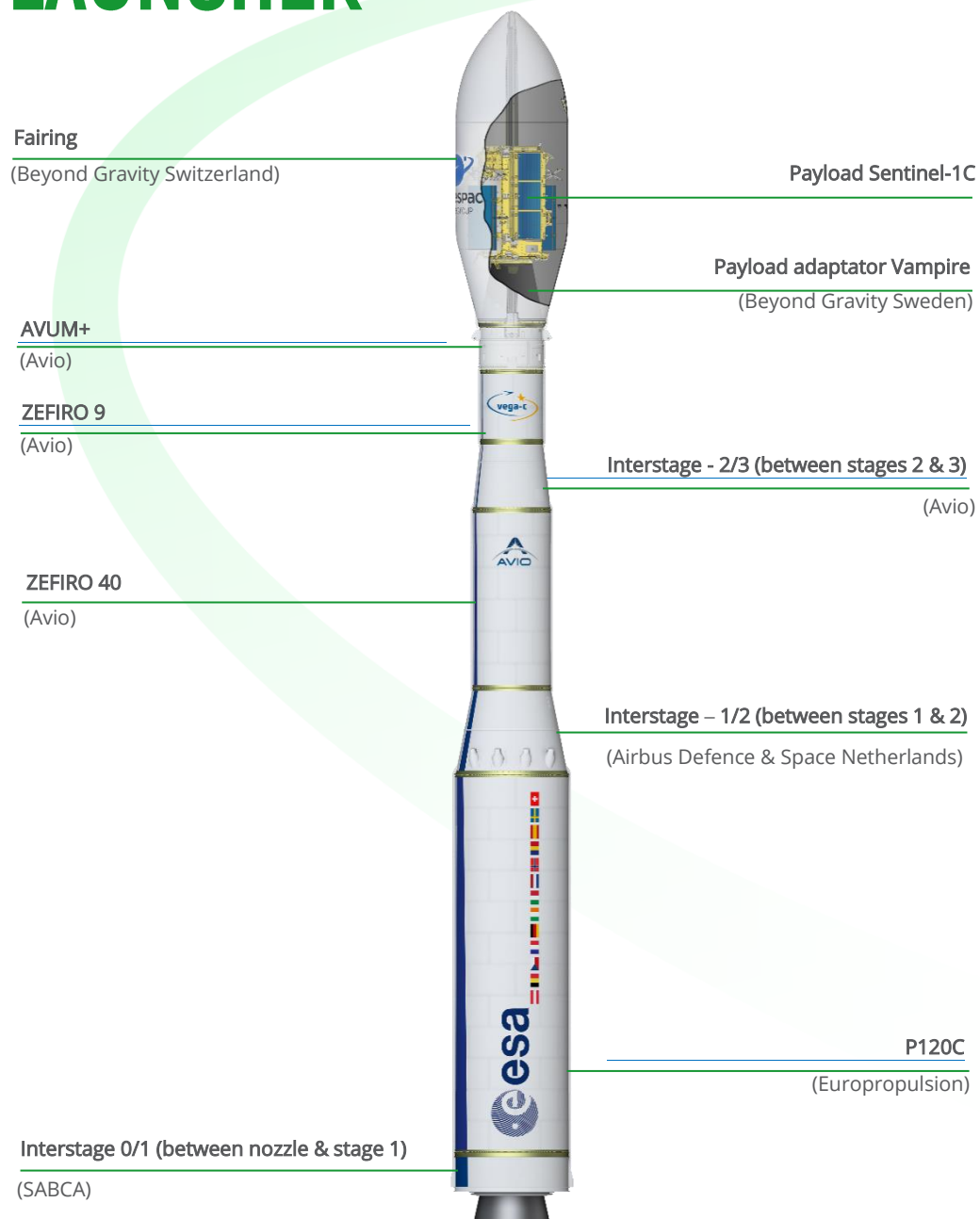
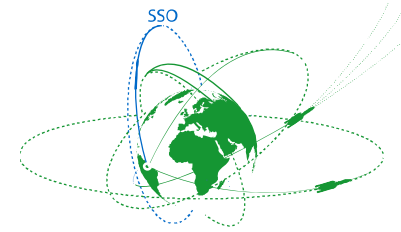
**The Sentinel-1 radar imaging mission** is composed of a constellation of two polar-orbiting satellites providing continuous all-weather, day and night imagery for land and maritime monitoring. C-band synthetic aperture radar (SAR) imaging has the advantage of operating at wavelengths that are not obstructed by clouds or lack of illumination and therefore can acquire data during day or night under all weather conditions.

Sentinel-1 delivers radar imagery for numerous applications. SAR images are the best way of tracking land subsidence and structural damage: systematic observations and enhanced interferometric capabilities make ground movement barely noticeable in everyday life detectable and closely monitorable. As well as being a valuable resource for urban planners, this type of information is essential for monitoring shifts from earthquakes, landslides and volcanic uplift. Moreover, it helps geohazard monitoring, mining, geology and city planning through subsidence risk assessment.

- Sentinel-1C will be the 6<sup>th</sup> Copernicus satellite launched by Arianespace
- Sentinel-1C will be the 51<sup>st</sup> mission by Arianespace for the European Space Agency
- Sentinel-1C is the 107<sup>th</sup> spacecraft built by Thales Alenia Space launched by Arianespace



# VEGA C LAUNCHER



## DID YOU KNOW?

The Vega C launcher has been upgraded with more powerful first and second stage solid rocket motors, bigger AVUM tanks and with a larger fairing that significantly increase payload mass (up to 2.350 t in SSO – Sun-Synchronous Orbit) and double the allowable volume. The launcher also better meets the specific needs of small spacecraft, thanks to its improved SSMS (Small Spacecraft Mission Service) dispenser and to its AVUM+ motor that will allow for seven re-ignitions. Vega C can thus deliver its payloads on three different orbits on the same mission, instead of the two previously possible with Vega.

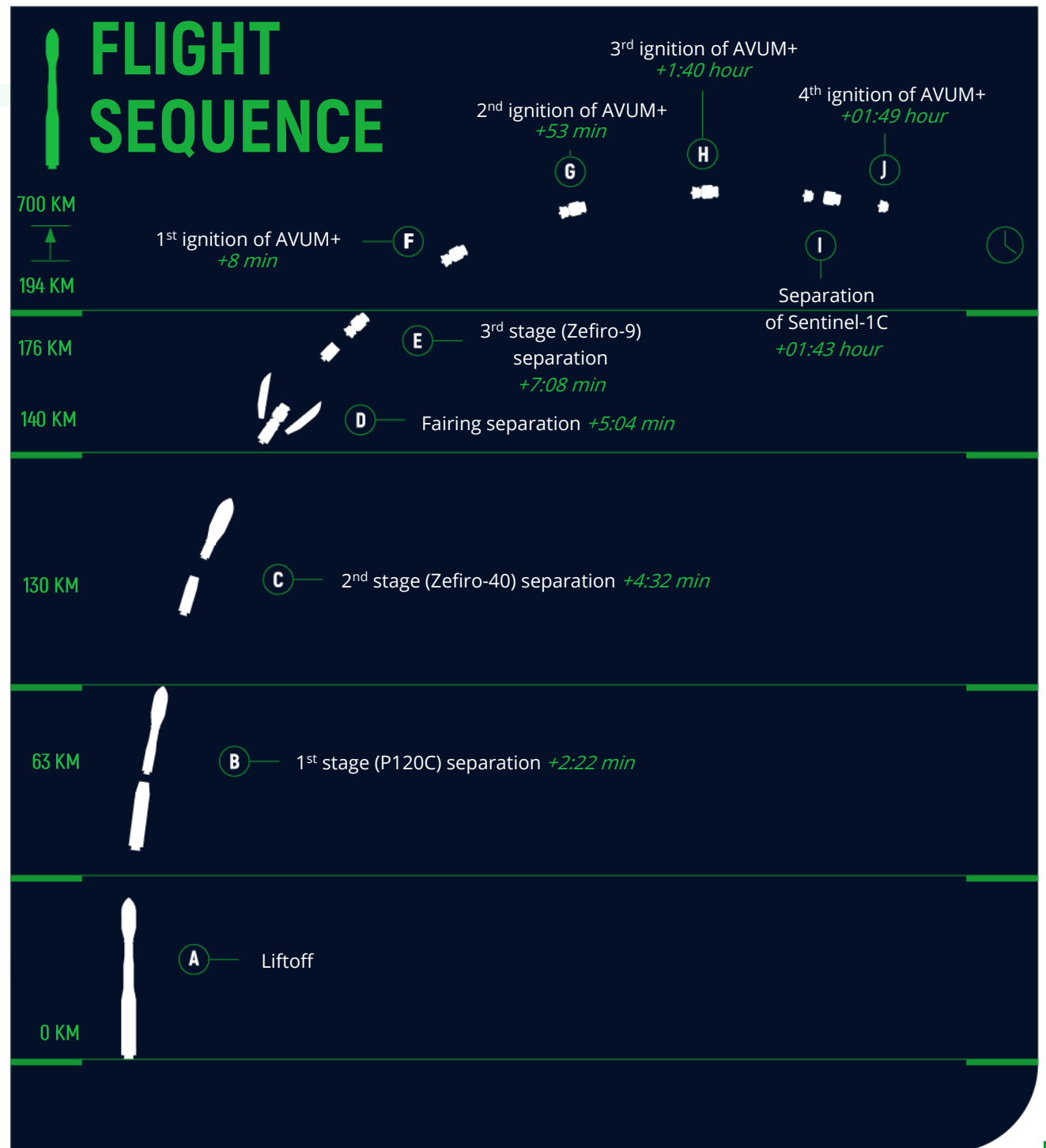
ESA is responsible for the Vega C launch system qualification and is the contracting authority for the development of Vega C, a programme carried out with participation of thirteen ESA Member States. Avio Spa (Colleferro, Italy) is the prime contractor and design authority of the Vega C launchers, delivering a ready to lift-off launcher to Arianespace, which will remain its operator up to Vega C Flight 29 (VV29).

The first generation in the Vega family was launched in 2012 and flew 22 times, with a successful final flight on September 4th with Sentinel-2C on board.

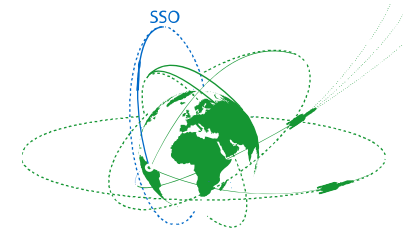
# LAUNCH CAMPAIGN



— Launch vehicle operations  
— Satellite operations



# STAKEHOLDERS OF THE MISSION



## Arianespace

Arianespace uses Space to make life better on Earth by providing launch services for all types of satellites into all orbits, since 1980.

Arianespace is responsible for operating the new-generation Ariane 6 launcher, developed by ESA, with ArianeGroup as the prime industrial contractor. Arianespace will also operate the Vega C launches up until mission VV29, point at which Avio will become the sole operator and launch service provider of Vega.

Arianespace is headquartered in Evry, near Paris, and has a technical facility at the Guiana Space Center in French Guiana, plus local offices in Washington, D.C., Tokyo and Singapore.

Arianespace is a subsidiary of ArianeGroup, which holds 74% of its share capital, with the balance held by 15 other shareholders from the Ariane and Vega European launcher industry, and ESA and CNES as censors.

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## Avio

Avio is a leading international group engaged in the construction and development of space launchers and solid, liquid and cryogenic propulsion systems. The experience and knowhow built up over more than 50 years puts Avio at the cutting edge of the space launcher sector and defence program. Avio is present in Italy, France, United States and French Guiana with 5 facilities, employing approx. 1,300 highly qualified personnel, of which approx. 30% involved in research and development.

Avio is a prime contractor for the Vega program and a sub-contractor for the Ariane program, both financed by the European Space Agency, placing Italy among the limited number of countries capable of producing a complete spacecraft. Avio manufactures the Vega C launcher and provides its new solid propellant motors P120C and the Vinci and Vulcain 2.1 liquid oxygen turbopumps for Ariane 6.

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## European Space Agency

ESA is an intergovernmental organisation with the mission to shape the development of Europe's space capability and ensure that investment in space delivers benefits to the citizens of Europe and the world. ESA coordinates the financial and intellectual resources of its 22 Member States, which allows it to undertake programmes and activities far beyond the scope of any single European country.

ESA is working with the EU on implementing the Galileo and Copernicus programmes as well as with Eumetsat for the development of meteorological missions.

ESA manages the development of Europe's space transportation programmes, including Ariane 6 and Vega C. ESA manages the overall programme for Vega and heads the integrated Vega programme team as well as owns the Vega launch complex known as ZLV.

ESA Member States fund almost two thirds of the total cost of running and maintaining Europe's Spaceport.

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## European Commission (DEFIS)

The Directorate General for Defence Industry and Space (DG DEFIS) plays a crucial role in developing and enforcing the regulatory frameworks that govern space activities within the European Union.

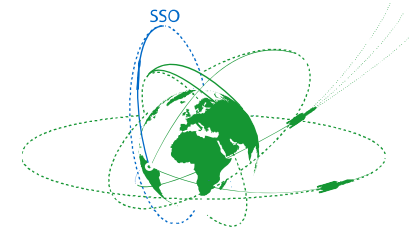
It implements the Union's Space Programme while assessing current trends, identifying emerging challenges, and ensuring that the objectives of the Space Programme are aligned with broader EU priorities such as innovation, economic growth, and security.

DG DEFIS also actively supports the growth and competitiveness of the European space industry. It does so by providing targeted incentives (with a special focus on SMEs), fostering collaboration between the public and private sectors, promoting technology transfers, and facilitating access to finance and markets.

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# STAKEHOLDERS OF THE MISSION *(continued)*



## CNES

CNES (Centre National d'Études Spatiales) is the government agency responsible for shaping France's space policy and implementing it in Europe. Its task is to conceive and orbit satellites, invent the space systems of the future and nurture new services to aid us in our daily lives. Founded in 1961, it is the initiator of major space projects, launch vehicles and satellites, and the partner of choice for industry fueling innovation. CNES comprises some 2,400 men and women with a passion for space working to open up new and infinite fields of applications in five core areas of focus: Ariane, science, Earth observation, telecommunications and defence.

The agency is a key player driving technology innovation, economic development and industrial policy for the nation. It also fosters scientific collaborations and has forged numerous international partnerships. France, represented by CNES, is one of the leading contributors to the European Space Agency (ESA).

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## Thales Alenia Space

Drawing on over 40 years of experience and a unique combination of skills, expertise and cultures, Thales Alenia Space delivers cost-effective solutions for telecommunications, navigation, Earth observation, environmental management, exploration, science and orbital infrastructures. Governments and private industry alike count on Thales Alenia Space to design satellite-based systems that provide anytime, anywhere connections and positioning, monitor our planet, enhance management of its resources and explore our Solar System and beyond. Thales Alenia Space sees space as a new horizon, helping to build a better, more sustainable life on Earth. A joint venture between Thales (67%) and Leonardo (33%), Thales Alenia Space also teams up with Telespazio to form the parent companies' Space Alliance, which offers a complete range of services. Thales Alenia Space posted consolidated revenues of approximately €2.2 billion in 2023 and has around 8,600 employees in 8 countries, with 16 sites in Europe.

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