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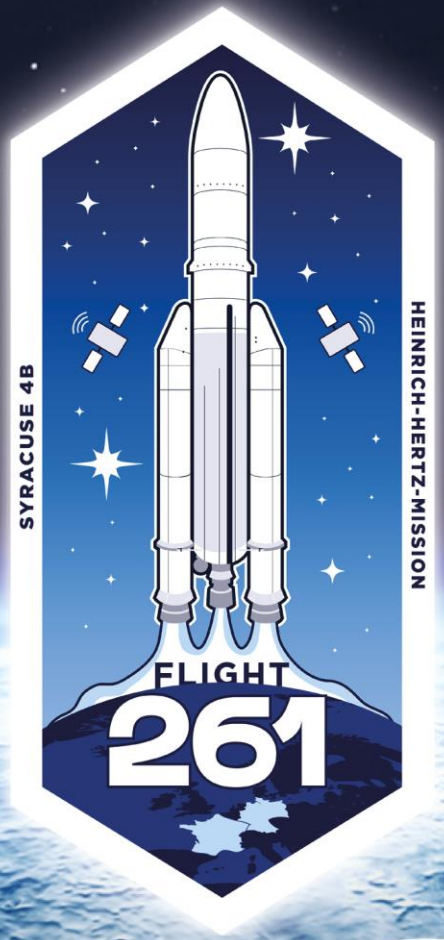
June 2023

LAUNCH KIT

VA261



ARIANE: SPACEFLIGHT CONTINUUM

www.arianespace.com

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MISSION DESCRIPTION

Arianespace's **second launch of 2023** with the last Ariane 5 ever will place its satellite passengers into geostationary transfer orbit. The launcher will be carrying a total payload of approximately **7680 kg**.

The launch will be performed from **Kourou, French Guiana**.

DATE AND TIME

Liftoff is planned on **Friday, June 16, 2023,** as early as possible within the following launch window:

- Between **05:26 p.m.** and **07:01 p.m.** Washington, D.C. time,
- Between **06:26 p.m.** and **08:01 p.m.** Kourou time,
- Between **09:26 p.m.** and **11:01 p.m.** Universal time (UTC),
- Between **11:26 p.m.** and **01:01 a.m. June 17** Paris time,
- Between **06:26 a.m.** and **08:01 a.m, June 17** Tokyo time.

MISSION DURATION

The nominal duration of the mission (from liftoff to separation of the last satellite) is: **33 minutes and 32 seconds.**

SATELLITES:

- Satellite: **Heinrich-Hertz-Satellit**
- Customer: **German Space Agency**

- Satellite: **SYRACUSE 4B**
- Customer: **Direction Générale de l'Armement**

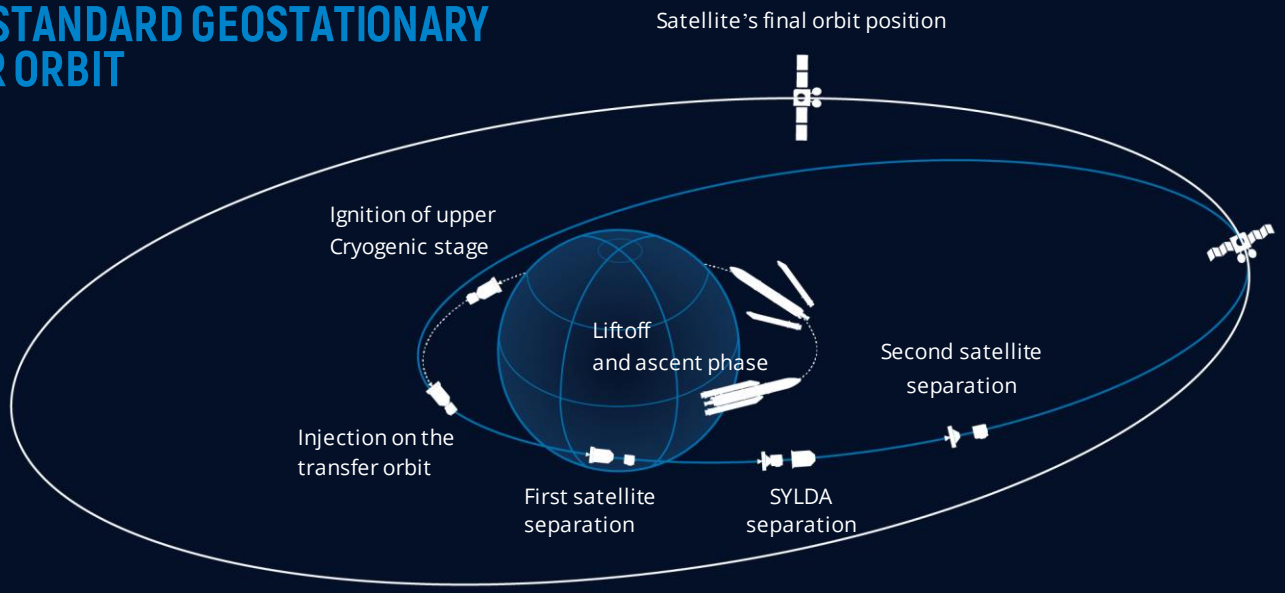
TARGETED ORBIT

For Heinrich-Hertz-Satellit:
- Perigee altitude: **250 km**
- Apogee altitude: **35 698 km**

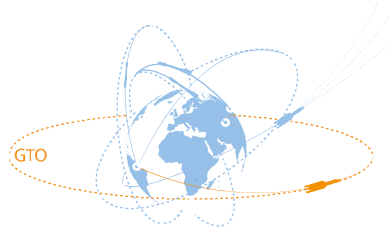
For SYRACUSE 4B:
- Perigee altitude: **250 km**
- Apogee altitude: **35 732 km**

- Inclination of 3° degrees for both satellites

ARIANE 5 STANDARD GEOSTATIONARY TRANSFER ORBIT



Geostationary transfer Orbit



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ARIANE: SPACEFLIGHT CONTINUUM

VA261 marks an end to the story of the Ariane 5, another volume in the thrilling Ariane saga

ARIANE 1: The very first European Launcher

11 launches between 1979 and 1986, for 19 satellites placed in orbit. Ariane 1, the first operational European launcher, made Europe the third actor to have independent access to space, after the USA and USSR.

ARIANE 2: The little sister

6 launches between 1986 and 1989, for 6 satellites placed in orbit. Ariane 2 is a less powerful version of Ariane 3, designed to fulfill simpler missions. This is why Ariane 2 flew for the first time almost two years after Ariane 3.

ARIANE 3: the boosted rocket

11 launches between 1984 and 1989, for 21 satellites placed in orbit. Ariane 3 was the first launcher from the Ariane program to be equipped by solid strap-on boosters. This addition to the first stage increased its performance by almost half a ton, reaching 2700 kg.

ARIANE 4: The symbol of European effectiveness

116 launches between 1988 and 2003, for 187 satellites placed in orbit. Its versatility combined with the launch teams' mastery allowed Ariane 4 to achieve the highest launch rate ever in Arianespace's history: 7 launches a year for almost 15 years!

ARIANE 5: The embodiment of reliability

117 launches between 1996 and 2023, for 239 satellites placed in orbit. Ariane 5 has been able to conquer space thanks to its tremendous reliability, boasting a 96% success rate.

ARIANE 6: towards its maiden flight

After the success of the hot-firing test and the beginning of the Combined Test in January 2023, Ariane 6 is on its way to its maiden flight!

The next milestones towards the inaugural flight include the overall launch system qualification, starting in late-June, followed by the upper stage additional test in early July. This test bench will simulate a nominal flight profile to confirm the expected behavior of the upper stage.

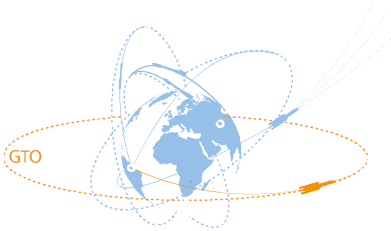
In case of success, the campaign for the inaugural flight launch of Ariane 6 should begin next November, and will open a new chapter of Ariane's history...

DID YOU KNOW?

In 44 years of service, the 5 launchers of the Ariane program handled some of the greatest space missions in history such as the James Webb Mission, the largest telescope ever, or Giotto, the first spacecraft to make close up observations of a comet. Ariane has also managed to open the path to Mercury, Venus, and more recently Jupiter...

Heinrich Hertz mission

German mission for flexible satellite communications



DID YOU KNOW?

The Heinrich Hertz mission is a pioneer. The German smart satellite is capable of processing information on board while in space. Its two onboard processors are used for digital signal processing in orbit and can be flexibly reprogrammed from Earth. As a result, new communications scenarios can be developed and tested using the satellite.

SATELLITE	Heinrich-Hertz-Satellit
END CUSTOMER	German Space Agency at DLR
MANUFACTURER	OHB-System AG
MISSION	Technology demonstration and broadband communication
MASS AT LAUNCH	3408.1 kg
PLATEFORM	SGEO Bus
COVERAGE AREA	Germany
LIFETIME	15 years

As the need for global communications bandwidth rapidly increases, so do the demands on communications satellites. Communications satellites capable of handling modern and future demands must therefore make use of increasingly high-performance technologies. The Heinrich Hertz mission is the first dedicated German communications satellite for researching and testing new technologies and communications scenarios.

The technologies on board will respond smartly and flexibly to future satellite communications challenges, support future communications scenarios and be adapted from Earth to address new technical requirements and market conditions.

The mission is thus making an important contribution to the information society in Germany. The Heinrich Hertz mission is managed by the German Space Agency at DLR in Bonn on behalf of the German Federal Ministry for Economic Affairs and Climate Action (BMWK), with the participation of the German Federal Ministry of Defence (BMVg). OHB-System AG was contracted to develop and build the satellite. A total of 42 partners are participating in the mission, of which 14 are involved in the scientific payload.

- Heinrich-Hertz-Satellit will be the 28th OHB System AG satellite to be launched by Arianespace.
- VA261 is the first mission operated by Arianespace for the German Space Agency.

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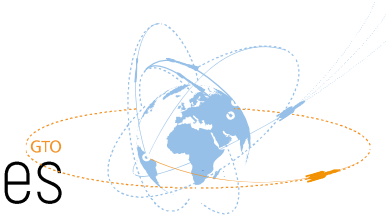
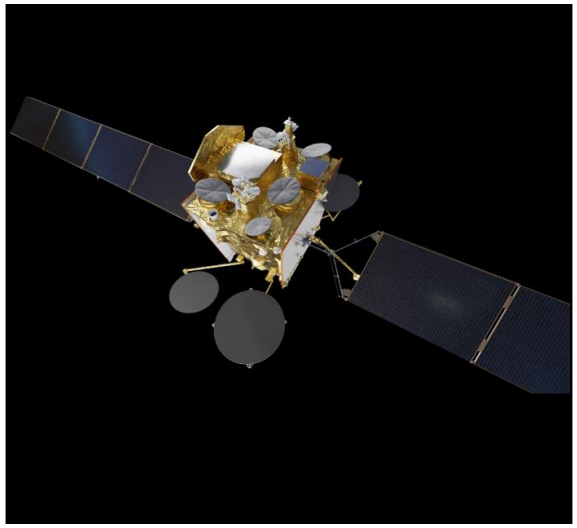
SYRACUSE 4B

Providing secure satellite communications for the armed forces



DID YOU KNOW?

The SYRACUSE IV program (Roman numerals to designate the complete system) includes the two military satellites (SYRACUSE 4A and 4B) and the ground stations for communications within theaters of operation and with mainland France.



SATELLITE	SYRACUSE 4B
END CUSTOMER	Direction Générale de l'Armement
MANUFACTURER	Airbus Defence and Space
MISSION	Military communication
MASS AT LAUNCH	3572 kg
PLATEFORM	EUROSTAR E3000 full EOR
COVERAGE AREA	Undisclosed
LIFETIME	15 years

Ordered by the French defense procurement agency (DGA), this satellite will enable the French Armed Forces to remain permanently connected during deployments. Whether at sea, in the air or on land, military personnel need powerful, secure communications to exchange information with the command center. Thanks to state-of-the-art equipment (anti-jamming antenna, digital processor, etc.), SYRACUSE 4B will be totally protected against the most extreme jamming methods. Built to defend French sovereignty, the satellite will also be able to support operations led by NATO and the EU.

The SYRACUSE IV military telecommunications satellite system, comprising 2 satellites, SYRACUSE 4A and 4B, is being built for the DGA by an industrial consortium formed by Thales Alenia Space and Airbus Defence and Space.
Thales Alenia Space is responsible for the SYRACUSE 4A satellite, based on its 100% electric SpaceBus Neo platform, and for the two payloads.

Airbus Defence and Space is responsible for the SYRACUSE 4B satellite, based on the all-electric version of the Eurostar platform, and supplies critical elements of both payloads.
Thales Alenia Space is the lead contractor responsible for relations with the French Ministry for the Armed Forces.

- SYRACUSE 4B is the 49th satellite to be launched by Arianespace for French insitutions.
- The satellite will be the 141st satellite manufactured by Airbus Defence and Space to be launched by Arianespace.

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ARIANE 5 LAUNCHER

Fairing

(Beyond Gravity Schweiz AG)
Height: 17m

PA – Payload adaptors

SYLDA- Internal structure

Vehicle equipment bay

Height: 1.13 m.

ESC-D – Cryotechnic upper stage

Height: 4.71 m.

HM-7B engine

Thrust: 67 kN. (in vacuum)

EPC – Cryogenic main stage

EAP – Solid rocket boosters

Height: 31.6 m.

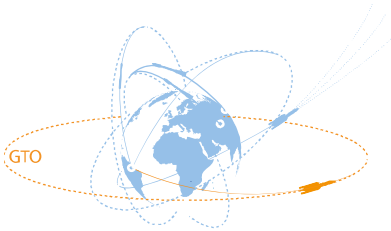
Vulcain 2 engine

Thrust: 1,410 kN. (in vaccum)

MPS – Solid rocket motor

Average thrust: 5,060 kN.
Max thrust: 7,080 kN. (in vacuum)

13,000 kN. at liftoff (at T+7.3 sec)



DID YOU KNOW?

ArianeGroup, as prime contractor for Ariane 5, leads a number of European companies in launcher production, including management of upgrades and the flight software for each mission. This team effort underpins the success of Ariane 5.

ArianeGroup's responsibilities on Ariane 5 include structures and equipment, propulsion systems, integration of the different stages and integration of the launcher at the Guiana Space Center in French Guiana. It coordinates more than 600 European companies contributing to the launcher, including some 350 small and medium-size enterprises.

We continuously improve the competitiveness of the Ariane 5 system, while also ensuring that it benefits from the production improvements developed on the Ariane 6 program.

LAUNCH CAMPAIGN

06/16/2023 Start of launch countdown, **Liftoff.**

06/15/2023 Roll-out from BAF to the launch pad

06/14/2023 Launch readiness review

06/13/2023 Arming of the launcher

06/12/2023 Dress Rehearsal

06/08/2023 Upper composite with Heinrich-Hertz-Satellit hoisting on the launcher, on SYRACUSE 4B

06/07/2023 SYRACUSE 4B's integration on launcher

06/06/2023 Fairing integration on Heinrich-Hertz-Satellit

05/30/2023 Transfer from BIL (Launcher Integration Building) to BAF (Final Assembly Building)

05/27/2023 Beginning of SYRACUSE 4B's fueling operations

05/19/2023 Beginning of Heinrich-Hertz-Satellit's fueling operations

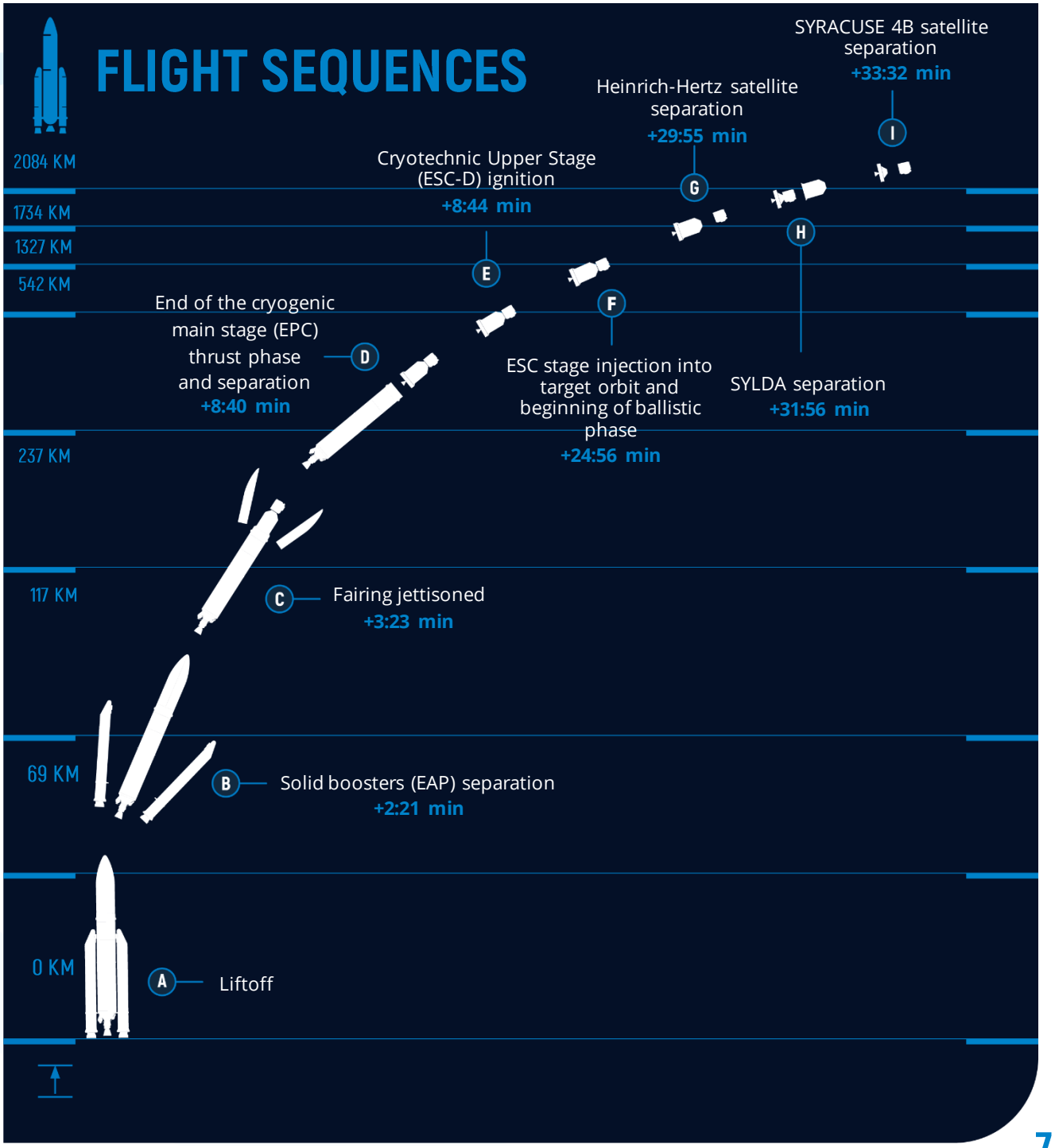
05/02/2023 Campaign Start

04/27/2023 Arrival of Heinrich-Hertz-Satellit in French Guiana

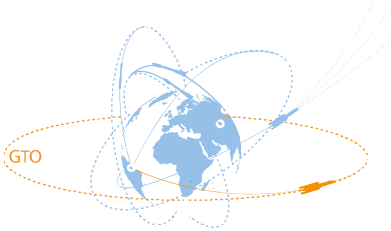
01/13/2023 Arrival of SYRACUSE 4B in French Guiana

— Launch vehicle operations

— Satellite operations



STAKEHOLDERS OF A LAUNCH



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 and Vega C launchers, developed by ESA, with respectively ArianeGroup and Avio as industrial primes. 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.

Press contact: c.bouju@arianespace.com

ARIANEGROUP

ArianeGroup is lead contractor for civil and defense space launcher systems, responsible for the design and the entire production process of Europe's Ariane 5 and Ariane 6, including marketing and operation by its Arianespace subsidiary, as well as for the design, manufacture, and operational condition maintenance of the missiles of the French oceanic deterrent force. Internationally recognized for its innovative, competitive solutions, ArianeGroup has expertise in all aspects of state-of-the-art space propulsion technologies. ArianeGroup and its subsidiaries also offer their specialist skills in space equipment, services, space surveillance, and critical infrastructure to benefit other industrial sectors. ArianeGroup is a joint venture equally owned by Airbus and Safran, and employs more than 8,000 highly qualified staff in France and Germany. Group revenues in 2021 amounted to €3.1 billion.

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ESA

The European Space Agency (ESA) is an intergovernmental organization 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. With 22 member states, ESA coordinates the financial and intellectual resources of its members, ESA can undertake programs and activities far beyond the scope of any single European country.

ESA has established formal cooperation with the European Union (EU) on implementing the Galileo and Copernicus programs as well as with Eumetsat for the development of meteorological missions.

ESA manages Europe's space transportation programs Ariane, Vega, Space Rider and Boost!.

Press contact: media@esa.int

CNES

French space agency CNES (Centre National d'Etudes Spatiales) defines national space policy and proposes it to public authorities. CNES oversees the application of this policy in five main areas: Ariane, science, observation, telecommunications and defense. ESA chose CNES as prime contractor for the Ariane 6 launch base in French Guiana, including the construction of a new launch pad. CNES also supports ESA, as the contracting authority, and ArianeGroup, as prime contractor for launcher development, and is responsible for applying the French law on space operations. As the owner of the Guiana Space Center (CSG), CNES has a dual mission: maintaining the operational condition of the CSG and modernizing its facilities in anticipation of the arrival of Ariane 6, Vega-C and other future vehicles. At the CSG, CNES manages operations at the launch base, the reception of satellites, launch vehicle monitoring and tracking, range security and environmental protection.

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