

17 January 2023

PRESS RELEASE

PR005-2023

CNES in 2023

Challenges and opportunities - Building the future of space

Tuesday 17 January, CNES Chairman & CEO Philippe Baptiste presented his New Year wishes to the press, hailing journalists' unstinting efforts to put space in the spotlight and help explain the stakes behind this sector to citizens. The briefing also provided the opportunity to review the standout achievements of the past year and present the agency's path forward for the year ahead, with many highlights and challenges in store at national, European and international level.

In 2022, the government and CNES set the course for the nation's space strategy with the agency's Objectives and Performance Contract (OPC). Under the moniker of **New Spaces**, the OPC is built around four key ambitions for the next three years: national sovereignty, science, economic competitiveness and climate.

In this regard, the government has pledged its strong support for France's space ambitions, with a budget of **€9 billion over three years** announced by Prime Minister Elisabeth Borne at IAC 2022, an increase of nearly **25%** over the previous three-year period. This budget comes in addition to a record €16.9 billion voted at ESA's Ministerial Conference last November, a **17%** boost to the last European budget allocated in 2019. This positive momentum will advance ambitious space programmes in a variety of fields such as assured access to space, Earth observation, telecommunications, space exploration, safety and security, as well as ESA's mandatory science programme.

CNES receives funding from various sources for its public service mission in space. The agency's budget for 2023 is **€2.598 billion**, a substantial increase confirming the importance that France attaches to space. This includes the nation's contribution to ESA of €1.079 billion, €848 million for the national space programme, the agency's own resources amounting to €507 million, €84 million from the France 2030 plan, €59 million from the government's stimulus plan and €21 million from the PIA future investment programme.

Under the France 2030 plan, €1.5 billion will be allocated to space over five years to consolidate France's position as a world power. The nation's space ambitions will be pursued this year with the aim of developing a reusable micro/mini-launcher by 2026, offering 10 services from operational constellations by 2030 and driving uptake of space data at 200 public and private entities.

Preserving Europe's independent space launch capability is vital to continue inventing the future of space. While the end of last year was marked by the launch failure of **Vega-C** on its first commercial flight, an inquiry board will be learning the lessons from this setback to continue advancing a strong European space programme. The key objective is also to complete **Ariane 6** combined tests in readiness for its maiden flight planned at the earliest for the end of this year. With its restartable upper stage capability, Ariane 6 is set to reduce launch costs by 40% compared to Ariane 5. Another standout in 2023 will be the **CSG-NG** project to continue the modernization of the Guiana Space Centre begun in 2020—a major milestone to support launch rates for Ariane 6 and Vega-C—and to pursue its decarbonization. Likewise, the refurbishment of the **Diamant launch pad**, working closely with local firms in French Guiana, will enable the launch base to operate mini- and micro-launchers. In this respect, the **Callisto** demonstrator designed to prove the concept of a European launcher with a reusable first stage will be undergoing its first tests in 2024 on the Diamant site.

As the host in Toulouse of French Space Command (CDE), CNES is strengthening its position within the defence community. The CDE will be repeating the **AsterX** exercise to test its ability to keep France's satellites safe from threats. This year will also see the deployment of **Syracuse 4B** by Ariane 5 to provide broadband communications capability to French armed forces anywhere in the world, while the **CO3D** constellation is set to map our planet's land surfaces in 3D with unequalled precision.

2022 proved a prolific year for scientific cooperation, and 2023 will be no different. The past year brought breathtaking images from the **James Webb Space Telescope (JWST)**, the successor to Hubble, as it peered ever deeper into the universe. At the end of last year, Sophie Adenot was selected by ESA, becoming France's 11th astronaut. After its successful launch at the end of 2022, the Rashid rover with its **French CASPEX cameras** is scheduled to set down on the surface of the Moon in April, while that same month the **JUICE** spacecraft will be departing to join NASA's Juno orbiter to study Jupiter and its three large icy moons. Europe's **Euclid** cosmology satellite will be surveying dark matter to measure its expansion and the French-Chinese **SVOM** mission will be probing gamma-ray bursts generated by distant star explosions. And to cap it all, the year will be marked by the delivery of instruments conceived by CNES for Japan's **MMX** probe set for launch in 2024 by JAXA.

Earth is constantly watched over by satellites surveying its evolution and changing climate. The international **Space for Climate Observatory (SCO)** initiative, designed to build regional resilience with the aid of satellite data, will be holding its second international congress in March. In the field of Earth observation, the first data from the French-U.S. **SWOT** mission, launched late last year, will revolutionize hydrology and oceanography, while the **MicroCarb** mission will survey and map sources and sinks of carbon dioxide on a global scale, and the Atmosphere Observing System (**AOS**) mission designed to refine weather forecasts and climate models will be carrying two instruments supplied by CNES.

Space data support a host of applications in our daily lives and have great business potential, which is why CNES is working hard to qualify them for numerous sectors and society at large. Launched at the end of 2022, the **IRIS²** (Infrastructure for Resilience, Interconnection & Security by Satellite) constellation of low-Earth-orbit satellites is set to bring a step-change in connectivity for the military and the wider public. By the end of this year, the **first nanosatellites of the Kineis constellation** dedicated to the Internet of Things (IoT) will have been deployed, bringing major advances for the agriculture, logistics, transport and energy sectors. This future constellation will also carry a new generation of instruments for the **Argos** system. And through its partnership with U-Space, CNES is developing the **N^{ESS}** demonstrator designed to detect and locate interference that affects many applications to protect satellite systems and users.

With the advent of New Space, CNES is multiplying initiatives to nurture the French and European space industry base. As a pillar supporting the development of New Space in France, the **Connect by CNES** programme is accompanying and federating the space user community in Europe and around the world, focusing chiefly on key sectors like the environment, healthcare and mobility. Co-managed by CNES and Bundeswehr University Munich (UniBw), the **SpaceFounders** programme is nurturing space start-ups, with 20 selected for its class of 2022 and a new cohort set to join them this year. Conceived last autumn and funded through the government's PIA future investment programme, the **Spacely** club gives private and public investors access to high-potential space businesses. Five new start-ups also joined **TechTheMoon**, the world's first lunar incubator, and will be presenting their projects to professionals this year.

Lastly, a major event in the space calendar will be making its return this year: the Paris Air Show will be held at Le Bourget from 19 to 25 June, with a CNES pavilion coordinated with ESA's through a shared exhibition zone.

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