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Science Focus

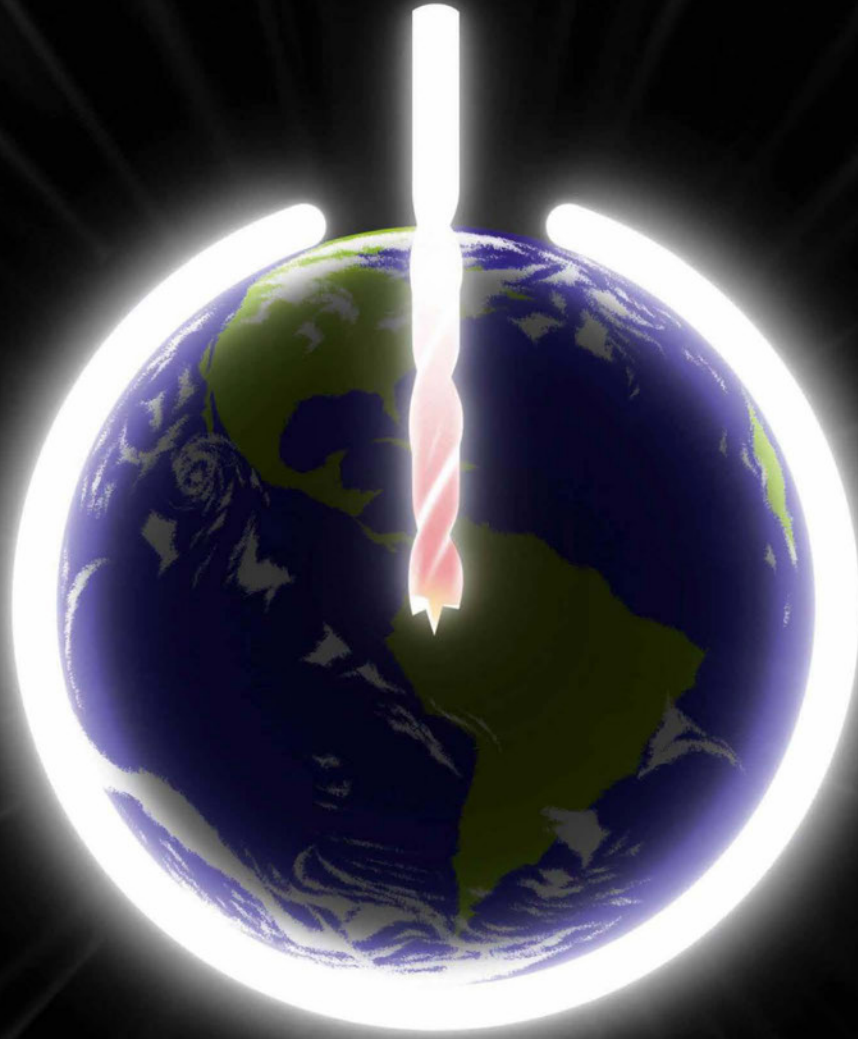
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EUROPE REGAINS INDEPENDENT ACCESS TO SPACE WITH ESA'S NEW ARIANE 6 ROCKET

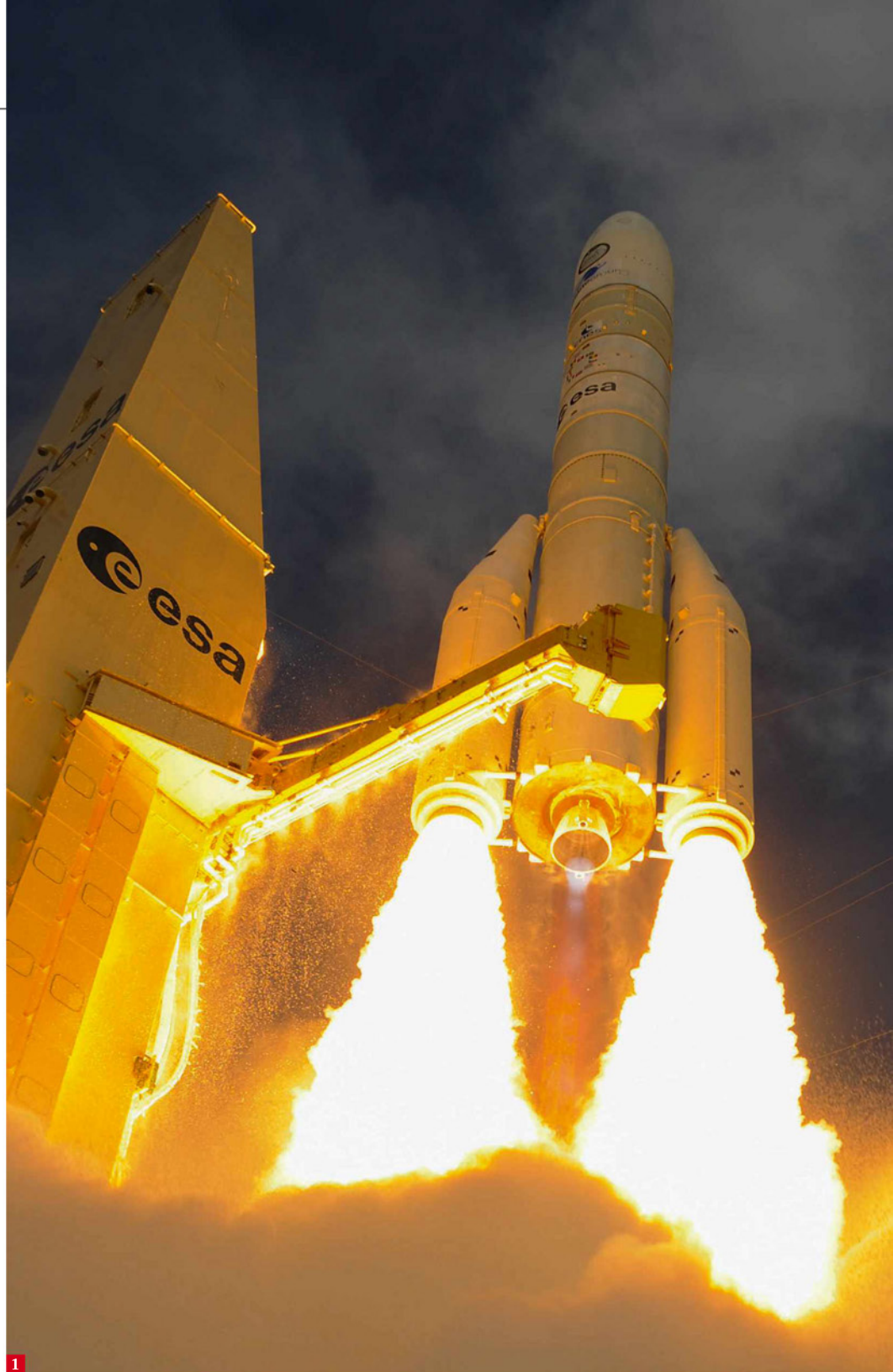
The first mission of ESA's new rocket suffered an "anomaly", but was still declared a success

On 9 July, Europe's latest rocket, Ariane 6, made its inaugural flight from the European Space Agency's (ESA's) Spaceport in French Guiana. After retiring Ariane 5 over a year before, Europe had been left without its own rocket – creating a 'launcher crisis' that Ariane 6 has now tackled: Europe once again has its own access to space.

Unlike the latest American vehicles, Ariane 6 isn't reusable, so the rocket you see here will have to be remade each time it's needed. But the new model uses state-of-the-art manufacturing processes, from 3D printing to augmented-reality design.

The mission was supposed to end with the rocket's upper stage intentionally falling back towards Earth and sinking into a designated spot in the sea, known as Point Nemo – the farthest point from any landmass on Earth. ESA also hoped that two jettisoned re-entry capsules might survive the trip home. However, before either of these things could happen, the rocket's upper stage experienced an "anomaly" forcing the onboard computers to shut down the propulsion system.

Nevertheless, the mission was declared a triumph. "The success of this first flight marks the start of Ariane 6's operational career, giving Europe an autonomous access to space," said Stéphane Israël, CEO of Arianespace. "We're eager to begin operating our new launcher."



1. Ariane 6 has the ability to launch multiple missions into different orbits in a single flight. Though its upper stage is designed to de-orbit at the end of the mission, ESA didn't get a chance to demonstrate this mechanism on its maiden flight.

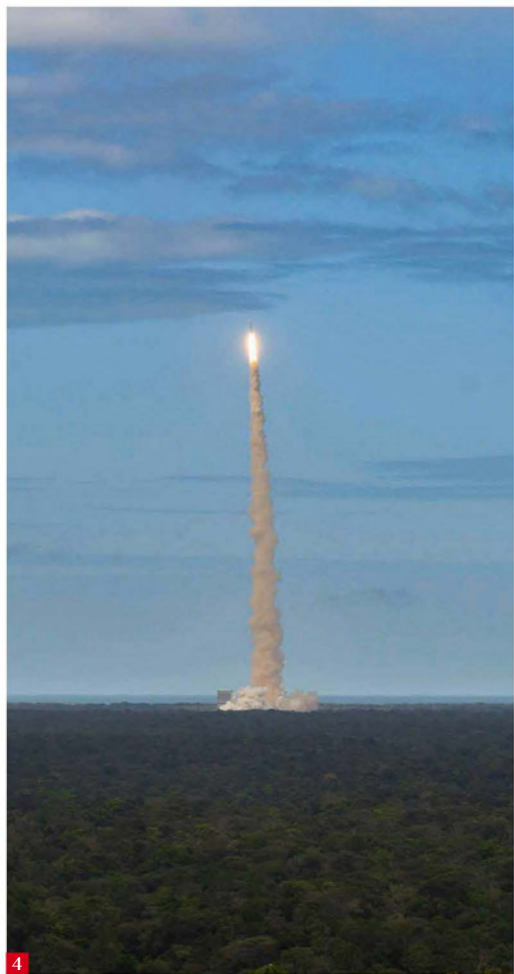
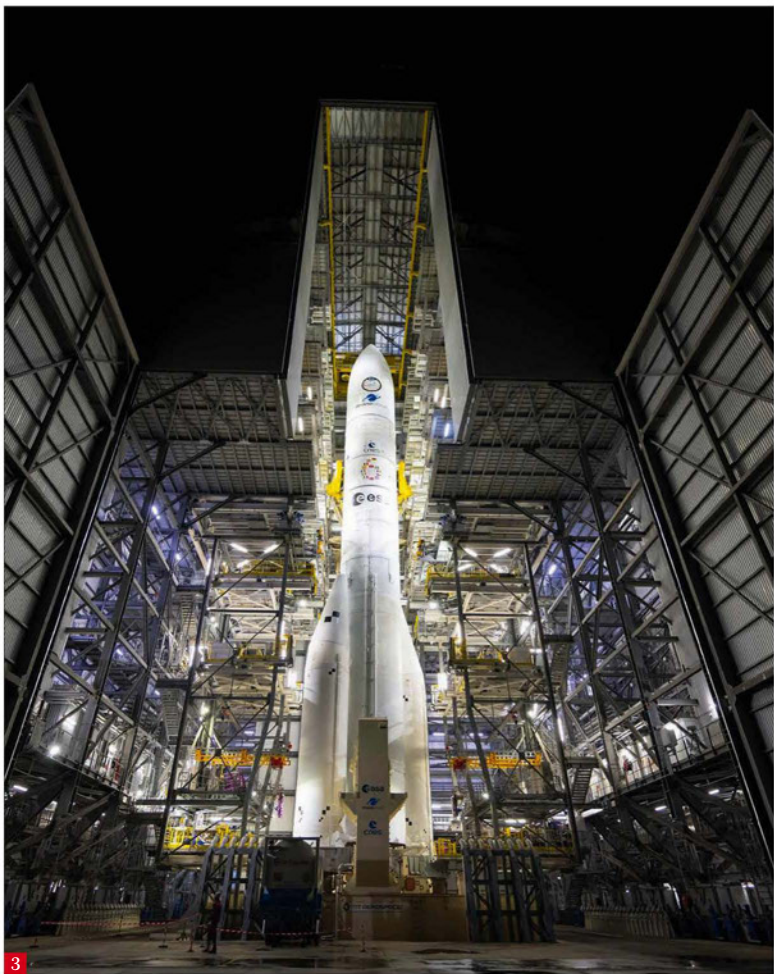
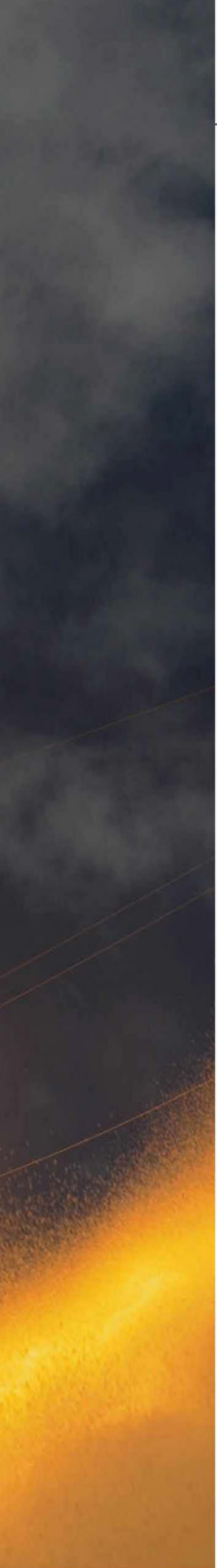
2. The new rocket carried a variety of experiments, satellites and payload deployers. One of these experiments was this ParisSat photo, taken by a GoPro specially adapted for space, with a fisheye lens that accentuates Earth's curvature. The first satellites

were released an hour after lift-off and placed into orbit 600km (373 miles) above Earth.

3. Final assembly of Ariane 6 was carried out inside a colossal 90m-tall (295ft) mobile building; the entirety of which was rolled 120m

(394ft) to the launch pad before lift-off. Despite years of delays, the Ariane 6 rocket successfully launched from French Guiana at 4pm local time (8pm BST) on 9 July. The long-awaited launch was met with cheers from spectators.

4. After lift-off, Ariane 6 cut a vertical path upwards and appeared to be ticking off its milestones smoothly. But around 2 hours 50 minutes later, an "anomaly" meant the rocket would not be able to complete its mission.



ESA/5 CORVAJA X4