



Press Release

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CNES ends 2019 with final flourish as ANGELS and EyeSat are sent into orbit

The two satellites have departed Earth from the Guiana Space Centre atop a Soyuz launcher and are now operating over our heads. ANGELS, built by Hemeria with support from CNES, is the first French commercial nanosatellite to enter service, and EyeSat was developed through CNES's JANUS¹ student cubesat project.

ANGELS is a demonstrator carrying an Argos data-collection payload. Argos-Neo, supplied by Thales Alenia Space, is the precursor of a new generation of low-cost, highly miniaturized instruments designed for nanosatellite constellations. The ANGELS project, started in March 2017, aims to develop a range of commercial satellites weighing less than 50 kilograms for radiofrequency-type operational missions like spectrum surveillance and data collection (Argos), as well as for medium-resolution, frequent-revisit Earth remote sensing and space surveillance and tracking. From 2022, the ANGELS nanosatellite will also be deployed to form the future Kineis constellation that intends to become a leading player in NewSpace and connect several million objects anywhere in the world by 2030.

With ANGELS, CNES is nurturing a French line of nanosatellites. To this end, satellites need to be manufactured faster and cheaper, which has led CNES and Hemeria to adopt innovative ways of working. Their teams are working together within a 'project platform' at Hemeria's facility in Toulouse, where more than 25 people are dedicated exclusively to ANGELS, including five engineers from CNES. The specification, evaluation and validation phases are condensed and scaled to the exact needs of the space mission, with engineers using short, iterative development cycles. CNES is bringing Hemeria its research and technology expertise in satellite and systems engineering, radiation-hardened components, electronic circuit boards, mechanisms and flight software. ANGELS was thus designed, developed, built and qualified in two and a half years—a record for the space industry.

EyeSat is a 3U cubesat equipped with a small space telescope called IRIS. The satellite is designed to study the zodiacal light and the Milky Way. The mission has a threefold objective of acquiring science data, demonstrating new satellite technologies and readying students for careers in space engineering.

The JANUS programme, initiated by CNES in 2012, aims to engage students in universities and engineering schools and get them interested in space by helping them to develop their own very instrumented cubesats tipping the scales at 1 to 10 kilograms.

1 Jeunes en Apprentissage pour la réalisation de Nanosatellites des Universités et des écoles de l'enseignement Supérieur

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