

July 30, 2020

Destination: Mars.

Perseverance rover successfully launched!

A great pride for Comat, selected by IRAP to manufacture and manage the integration of the camera of the Perseverance rover.



Ludovic Daudois Comat's CEO, Sylvestre Maurice Astrophysicist at IRAP, Benoit Moulas Comat's President

Comat is a company of 100 people, located in Occitanie (France). This SME is a provider of space equipment, specialized in complex mechanical solutions, and in particular in space scientific instruments.

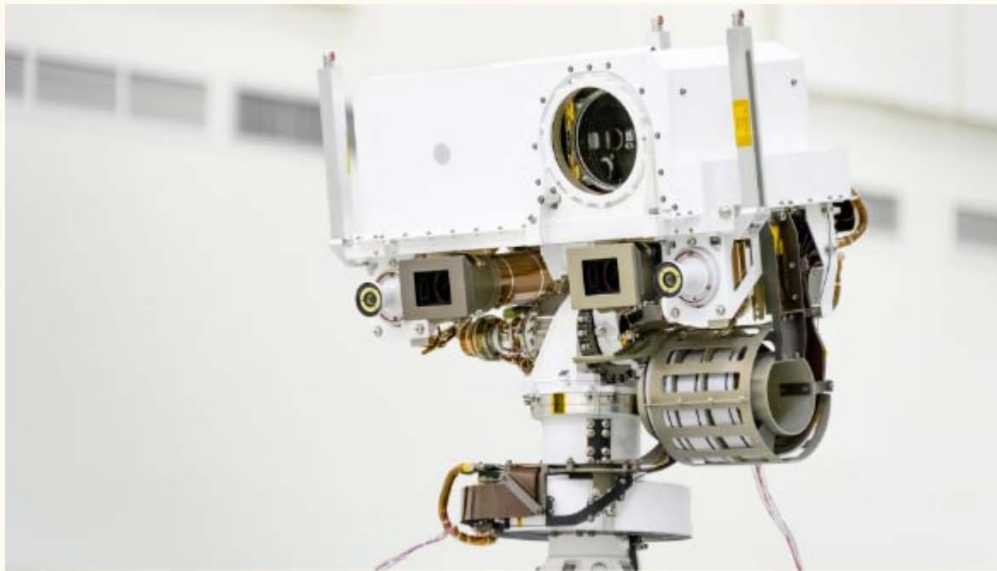
40 year's old Comat offers disruptive solutions of mechanical equipment for satellites and solutions of orbit control and plasma propulsion for smallsats.

Comat has been deeply involved in the SuperCam project, as the SME was engaged as soon as design phases, to optimise the design in consideration of the huge constraints of space equipment manufacturing. Within nearly 4 years, Comat has manufactured more than 2,000 mechanical parts for the 5 prototypes and the flight model.

Comat's engineers have then integrated the instrument in a clean room environment, with IRAP's and CNES's teams. They have contributed their skills in assembly and tests, until the delivery at the NASA's Jet Propulsion Laboratory in the U.S.

Perseverance will land on Mars on February 18, 2021, at the site of Jezero Crater, with a kilometric precision.

The red planet, Earth's twin in the past, had liquid water in its youth. The mission of the Mars 2020 project consists in seeking signs of ancient life, gathering samples to be returned to Earth and pave the way to human exploration beyond the Moon. Onboard the rover, a drone helicopter will take aerial views, thus facilitating the navigation through the uneven terrain.



The SuperCam instrument is a true Swiss knife that allows LIBS, Raman and infrared spectroscopy analyses. It is also equipped with a colour camera and a microphone to listen to the noise of laser shots and the Martian wind.

Image credit: NASA/JPL-Caltech | [Full image and caption Image](#)

SuperCam is the next-generation version of ChemCam, the camera onboard NASA's Curiosity rover. Curiosity is the size of a car and weighs 900 kg. It landed in the Gale Crater in August 2012, with the aim to study Mars's past habitability. The ChemCam instrument remotely analyses the composition of rocks. When its powerful laser shoots, it pulverizes the target and creates plasma, whose light is analysed by spectroscopy to determine the atoms that make up the rock.

Since its landing in 2012, ChemCam has performed about 800,000 laser shots and studied about 2,500 targets. Comat had already manufactured all the mechanical parts of ChemCam's various prototypes and flight models.

The Comat company is proud of its involvement in this project and warmly thanks IRAP and CNES for their trust.

It is a French know-how that will allow the searching – and perhaps finding – of life on Mars.