

## NEWS

## 3D PLUS contributes to the success of Mars 2020 mission after providing critical components embedded in multiple instruments composing the Mars rover.

**Buc, February 19<sup>th</sup>, 2021** – Launched in July 2020, NASA's Mars 2020 mission made its final descent to the Red Planet and successfully landed on Jezero Crater on February 18<sup>th</sup>. Perseverance used a guided entry, descent and landing system, already demonstrated for Curiosity rover. For this critical step of the mission, NASA added new entry, descent and landing technologies, such as Terrain-Relative Navigation (TRN), a system allowing the rover to detect and avoid hazardous terrain by diverting around it during its descent through the Martian atmosphere.



Perseverance integrates numerous 3D PLUS's highly reliable components such as volatile and nonvolatile memory modules (SRAM, SDRAM, NAND Flash, NOR Flash and DDR2), Latch up Current Limiters, Interfaces, as well as our unique CMOS space qualified camera head. Embedded in multiple instruments of the rover, 3D PLUS products offer high reliability, radiation tolerance and weight saving thanks to our unique stacking technology that allows a high level of miniaturization.

The unique 3D PLUS space qualified CMOS camera head is embedded inside the SuperCam instrument. It is used as a Micro-Imager, assisting in the selection and targeting of the rocks to be analyzed by the Raman Spectrometer. Result of an R&D project supported by CNES, the French Space Agency, this camera module integrates all the electronic functions of a complete imaging system including memories, processor, power supply and a 4 Mpx high resolution CMOS sensor providing color images. With a design based on the 3D stacking technology, this camera module features an ultra-compact packaging (35 x 35 x 23 mm, 64 g).



3D PLUS' space camera <u>To learn more</u>

Perseverance will spend at least one Mars year (two Earth years) exploring the landing site region. The rover will seek for signs of ancient microbial life and collect rocks and soil samples for possible return to Earth. This is also the opportunity for NASA to pave the way for future human exploration missions to the Moon and Mars.

## About 3D PLUS:

3D PLUS is a French Medium enterprise, world leader in the design and manufacturing of highperformance and high reliability components miniaturized with its unique 3D vertical interconnect technology.

With more than 175,000 modules into space early 2021 and a production of more than 30,000 space qualified modules per year in its facility nearby Paris, 3D PLUS provides all stakeholders of the global space industry for over 20 years for telecommunications applications, Earth observation, navigation, launchers and human spaceflight, science missions, small satellites and constellations.