

## **From space exploration to UAV: development, and real-time performances of a robust, autonomous vision-based navigation**

This paper discusses the benefits proposed by the vision-based navigation solution developed within Airbus Defence and Space for some key European Space Agency (ESA) missions as well as its level of maturity and real-time applicability. First, it will mainly focus on the different algorithmic solutions needed to perform soft, safe and precise landing on unknown terrain, through discussion on ESA key missions such as Lunar Lander, Mars Precision Lander or Phootprint. Then, it will deal with the latest results of the core navigation solution developed by Airbus Defence and Space for more than a decade. In particular, real-time performances of the solution, flown on a mini-UAV, will be presented.