



## The PLATO mission: Overview and status

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PLATO is an ESA mission dedicated to the study of exoplanets and stars, with a planned launch date in 2026. By performing photometric monitoring of about 250 000 bright stars ( $m_v < 13$ ), PLATO will be able to discover and characterise hundreds of exoplanets, including small planets orbiting up to the habitable zone of solar-like stars. PLATO's precision will also allow for a precise characterisation of the host stars through asteroseismology. These objectives require both a wide field of view and high sensitivity, which are achieved with a payload comprising 24 cameras with partially overlapping fields of view. They are complemented by 2 more cameras optimised for brighter stars that will also be used as fine guidance sensor. The PLATO development phase started after the mission adoption in July 2017. The Mission Preliminary Design Review (PDR) was declared successful in October 2020. The implementation and delivery to ESA of the flight model CCDs for all cameras (4 CCDs per camera) has been completed. Currently the Structural Thermal Model (STM) of the payload optical bench is being manufactured, while the STM of a single camera has already been successfully tested. In parallel, a first engineering model of a complete, fully functional camera is being integrated, to verify its performance under operational conditions, and the qualification models of the different payload units are being built.

We will present the status of the PLATO payload implementation in the context of the satellite development. In particular, we will describe the payload manufacturing, integration, and tests that will be reviewed at the Critical Milestone in the second half of 2021. We will also summarise the progress made in the science preparation activities, as well as on the ground segment.