

EChO - Results of Thales Alenia Space Industrial Assessment Study

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Abstract: The Exoplanet Characterisation Observatory (EChO) is an ambitious scientific mission that will be the first dedicated mission to specifically examine Exoplanet Atmospheres. This presentation reports on results of the 1-year and a half assessment study performed under Thales Alenia Space lead.

Mission main objectives are recalled along with associated requirements and constraints, which are then derived in Spacecraft concept key drivers. The overall Spacecraft design is depicted as resulting from the trade-off works performed during the study, with presentation of the telescope baseline and its accommodation on the Payload Module and of the Service Module main characteristics.

Mission feasibility statement is supported by the presentation of main system budgets and assessment of Science Performances.

An outline of programmatic aspects is given with development principles and system schedule.

The conclusion summarizes Thales Alenia Space concept adequacy to ESA and scientific expectations and defines the ways forward for the next steps of the program.