

# **Integration of Thermal Analysis in the ESA Concurrent Design Facility**

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## **ABSTRACT**

The Concurrent Design Facility (CDF) was established at ESTEC in 1999, with the objective of creating a multi-disciplinary mission design environment dedicated to the assessment of future space missions. Several scientific missions at pre-Phase A level have been assessed as well as missions from the so-called application programmes (e.g. telecom, earth observation).

In addition, the CDF infrastructure has been used to perform industrial work reviews, to prepare specifications, to co-ordinate international project work and for educational purposes.

The experience has shown that this intensive collaborative environment has significantly improved the efficiency and effectiveness of the mission design activities, while at the same time maintaining—or even improving—the level of quality and accuracy in the delivered work.

The presentation will provide an overview of how the ESA CDF is implemented and operated. Special attention will be given to the way the thermal analysis discipline is integrated in the collaborative environment. Ideas on future enhancements and scale-up of the CDF for Phase B preliminary design and analyses and Phase C/D detailed design, analysis and verification will be discussed.