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THE SPECIFICITY OF THE RISK ANALYSIS FOR THE OPS SAT PRELIMINARY DESIGN

**Abstract**

The OPS-SAT are specific satellites on orbit able to be used for testing from the ground for academic, research, industry. The preliminary design include that the path to connect the ground to the Space are semi-opened for a stakeholder. Moreover, the tests consider the technologies from radio-frequency, optic, and quantum components and transmissions. In each case, the steps to preliminary design must collect the mission concept, the system requirement with functional and performance parameters and the mission definition and the system design review to produce the basis for proceeding. Due to the specificity of the OPS SAT, the detailed design following all these steps provide the requirements to ensure the safety and the sustainability of the assets in Space. It means that the risk analysis shall taken account of the requirements from the multi-processing : the process of operational management for the asset, the process for the stakeholders to test some functionalities on real-time without damage for the asset, the process to manage the control on real-time of the computer on board after the tests by collecting data. These requirements need to produce a specific risk analysis with the details of the cyber measures to ensure the safety of the multi-processing in a context where the access of the OPS-SAT on orbit is semi-opened.