

Test the digital Space Systems by the tools engineering

Saturday 25 October 2025 12:40 (20 minutes)

The Space as a service provides the capacity to deliver products and an access easier to the orbits. Moreover, the way to produce a satellite out of the box by the size, by the functions expected, the potential data from system design, the programming and the format data evolution. These external conditions provide a digital support to test the operation concepts including the operation security on-line and off-line through the operation engineering with more tools to ensure the same goals of safety, performance applicable for Space. In this process, some steps shall be included to improve the security of Space systems and subsystems during the design and the verification phase. This step should be an digital environment to test the robustness of the systems and subsystems by development environment for software through the use of on board computer as a container with input and output for data.

The tools engineering as dockers micro-service architecture provide the capacities to test the digital Space systems by unique computer on board while considering the data expected for the other subsystem. It considers a information model applicable to the computer on board to test the functions and the data processing.

source : <https://github.com/esa/nanosat-mo-framework>

<https://ingscape.com/fr/bibliotheque-open-source/>

Author: Mr METMATI, Djamel (CSI)

Presenter: Mr METMATI, Djamel (CSI)

Session Classification: 2nd Session