

Large Space System Requirements Coordination and Traceability

A case study of the Copernicus Space Component System Documentation Tree

Requirements of Space Systems tend to evolve in time.

System requirements need to be properly tracked and traced to higher or lower levels in order to be fully implemented.

Large Systems of Systems in particular may require traceability between system level documents in addition to lower level documentation.

A complete survey of the system level technical documentation of the Copernicus Space Component is needed to create a system level technical documentation tree and to verify that existing internal processes provide proper requirement traceability.

If improvements are needed with respect to the processes in place, possible solutions should be proposed based on state of the art requirement traceability tools and methods as well as existing ESA standards.

The stage will be carried out by completing the following tasks:

1. Conduct an extensive **bibliographical survey of existing tools** and methods supporting requirement traceability of large systems of systems.
2. **Review** internal **ESA standards** related to requirement traceability and change management.
3. Establish a **system level technical documentation tree** for the Copernicus Space Component **mapping requirement sources, hierarchy and interdependencies.**
4. Devise a requirement level **applicability Matrix.**
5. If required, introduce **tools and processes** supporting requirement evolution traceability and tracking.

The work is expected to be carried out initially in a 6 to 9 month timeframe.