

*The ESA SOCs (Science Operation Centres) are responsible for specific aspects of the definition, implementation and execution of the science operations of the mission, including reception and initial processing of instrument data, mission planning, data archiving and dissemination. Despite of the variety of the operational activities carried out, there are no specific ECSS standards defined for science operations and related Product Assurance support. ECSS-E-ST-70C refers to ground systems and operations, but focuses on mission operations and, in our experience, cannot be directly applied to the scientific case. To improve this situation, the ESA Product Assurance function in the European Space Astronomy Centre (ESAC) has defined standard requirements for science operations, as part of the ECSS tailoring for Science Operation Centres.*

*In addition, the Product Assurance Engineers of Telespazio and Serco, which work in some of the technical areas supporting ESAC missions (in particular, science operations of Fundamental Physics, Heliophysics and Astronomy missions), have defined processes related to management, configuration control, reporting and product assurance of operational activities. Influenced by the Agile culture of these companies, these processes are under continuous review and improvement. Therefore, the aim of this presentation is to explain the definition and implementation of Product Assurance tasks and objectives in the field of scientific operations highlighting the main achievements, while explaining the needs and challenges of Product Assurance in this field for the future.*

*Finally, some of the activities and processes already in place at ESAC may be raised as recommended changes to the existing ECSS standards, as they represent good guidance that can be used for science missions in pre-operations, operations and post-operations.*