

# The Quick Look Analysis (QLA) software for the ESA Euclid mission

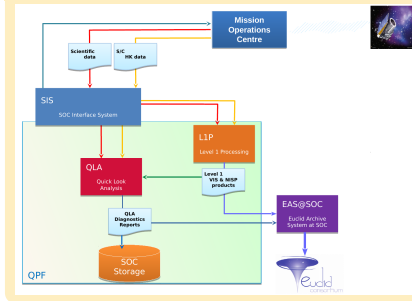


Matteo Miluzio - [mmiluzio@esa.int](mailto:mmiluzio@esa.int)



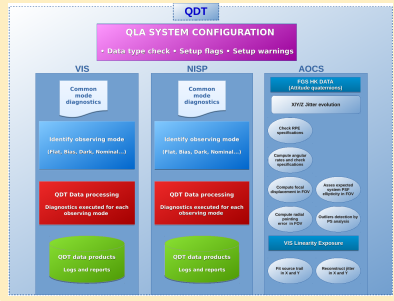
# The QLA software for the ESA EUCLID mission

## SOC components



**QLA Processing Framework (QPF):** provides the processing framework to execute system functionalities, implements the main HMI, the data access and persistence mechanisms, the logging and the management of the tasks, as well as the gathering and collection of reports.

## QLA Architecture



**QLA Diagnostic Tools (QDT):** developed in python, they implement different algorithms and functions to perform over the data. They encompass data extraction (HKTm and parametric data), data processing and reporting: Common (including HKTm extraction and processing, VIS functions, NISP functions, AOCS functions

# Big data from space, fast reaction from Earth

**Main objectives.** The QLA diagnostics have three main objectives:

- Checks on correctness of on board operations versus the commanded ones
- Assessments of data content and anomalies, mainly at pixel and instrumental level, but it will not assess the data quality from the scientific point of view
- Quick feedback on survey execution and image quality

**Fast check.** The QLA needs to check the quality of the data as soon as possible (**within 48 hours of data reception**) in order to react quickly in case of instrumental problems (bad configurations, impacts...).

**Automatic check.** Huge amount of data: 850 Gbit per day of raw data, 1 Pbit per year of higher processed data. All the checks need to be executed **automatically** over all the level 1 data (VIS, NISP-P, NISP-S science data, i.e. including calibration exposures, housekeeping and pointings data).

**Current status.** The QLA was released as part of the SOC V1.2 software release in May 2017 for VIS and NISP. Tested successfully on V1 release.