

# The Euclid science ground segment machinery

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Euclid is an ESA medium class astronomy and astrophysics space mission. It aims at understanding why the expansion of the Universe is accelerating and what is the nature of the source responsible for this acceleration which physicists refer to as dark energy. To achieve its goals, the satellite is equipped with a 1.2m mirror and two instruments in visible and infrared wavelength. Euclid will observe 15,000 deg<sup>2</sup> of the darkest sky that is free of contamination by light from our Galaxy and our Solar System and produce catalogs of about 10 billion sources out of which more than 1 billion will be used for weak lensing and several tens of million galaxy redshifts will be also measured and used for galaxy clustering.

I will present the project from the perspective of the science ground segment. Several million of images and about 30 Petabytes of image data will flow through the processing pipelines to remove instrument signatures, calibrate and extract scientific observables from the raw images sent by the spacecraft. The science ground segment is a most challenging part of this mission by the volume of data and the complexity of the software developed.