

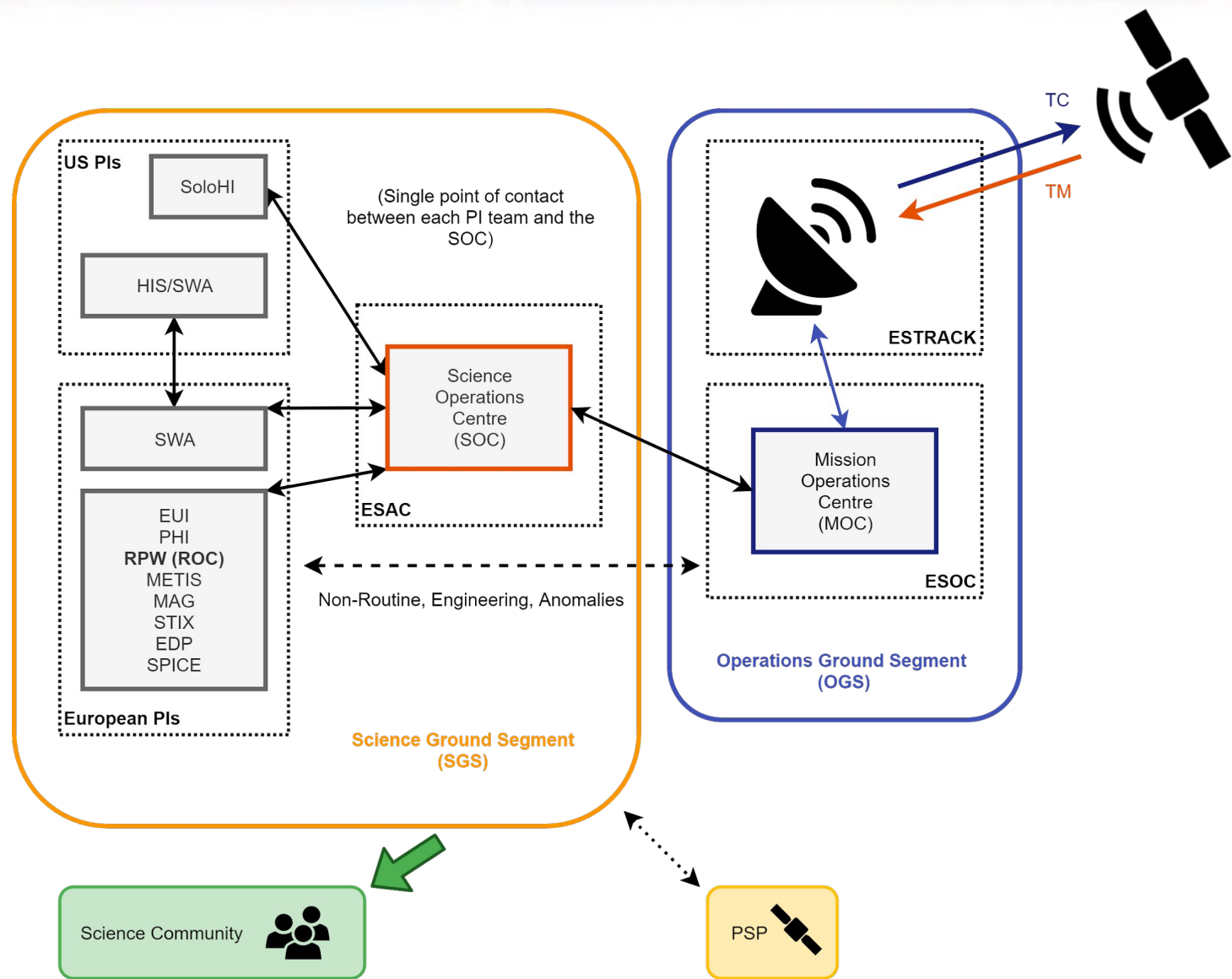
ROC Operational Design



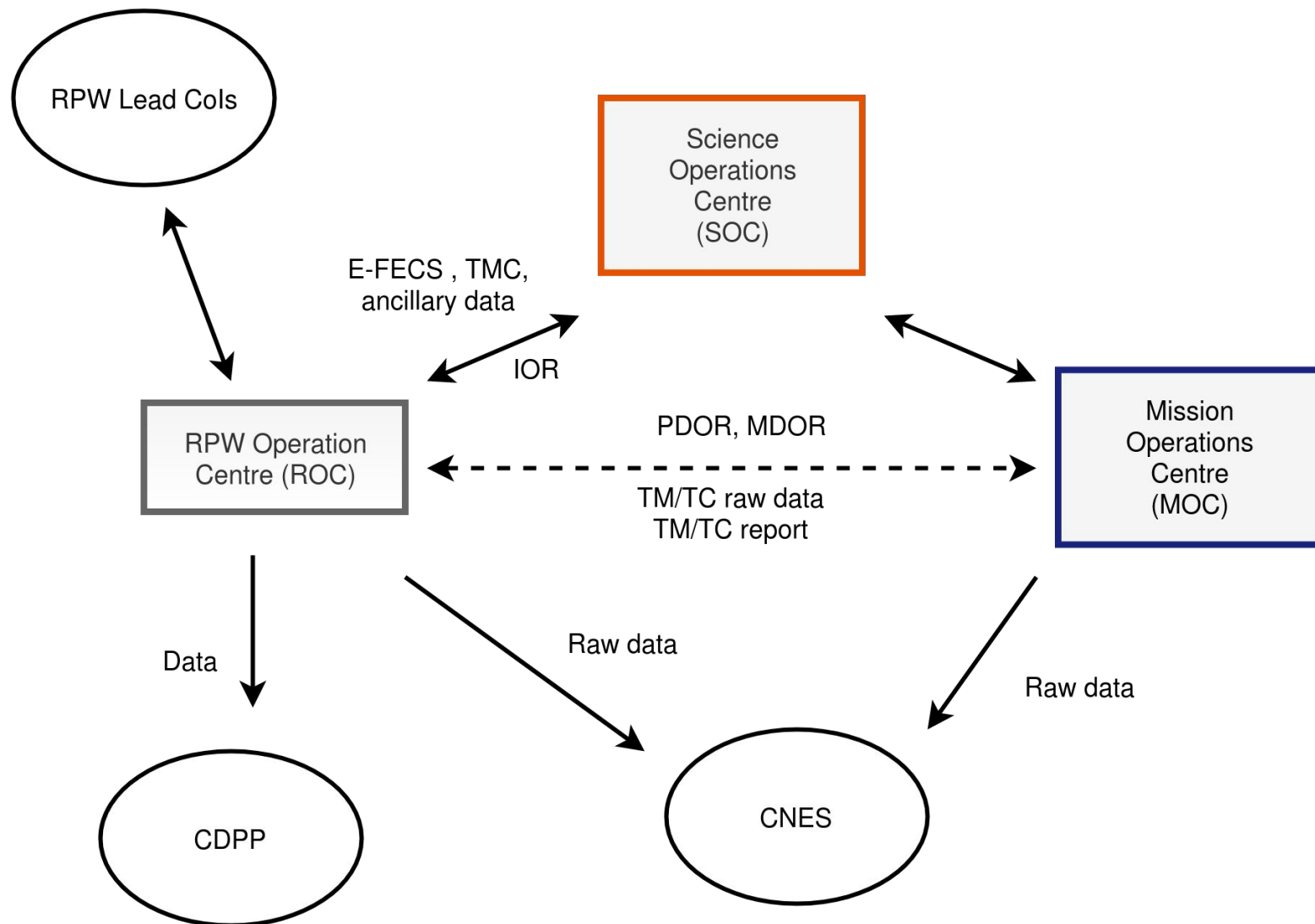
Laboratoire d'Études Spatiales et d'Instrumentation en Astrophysique



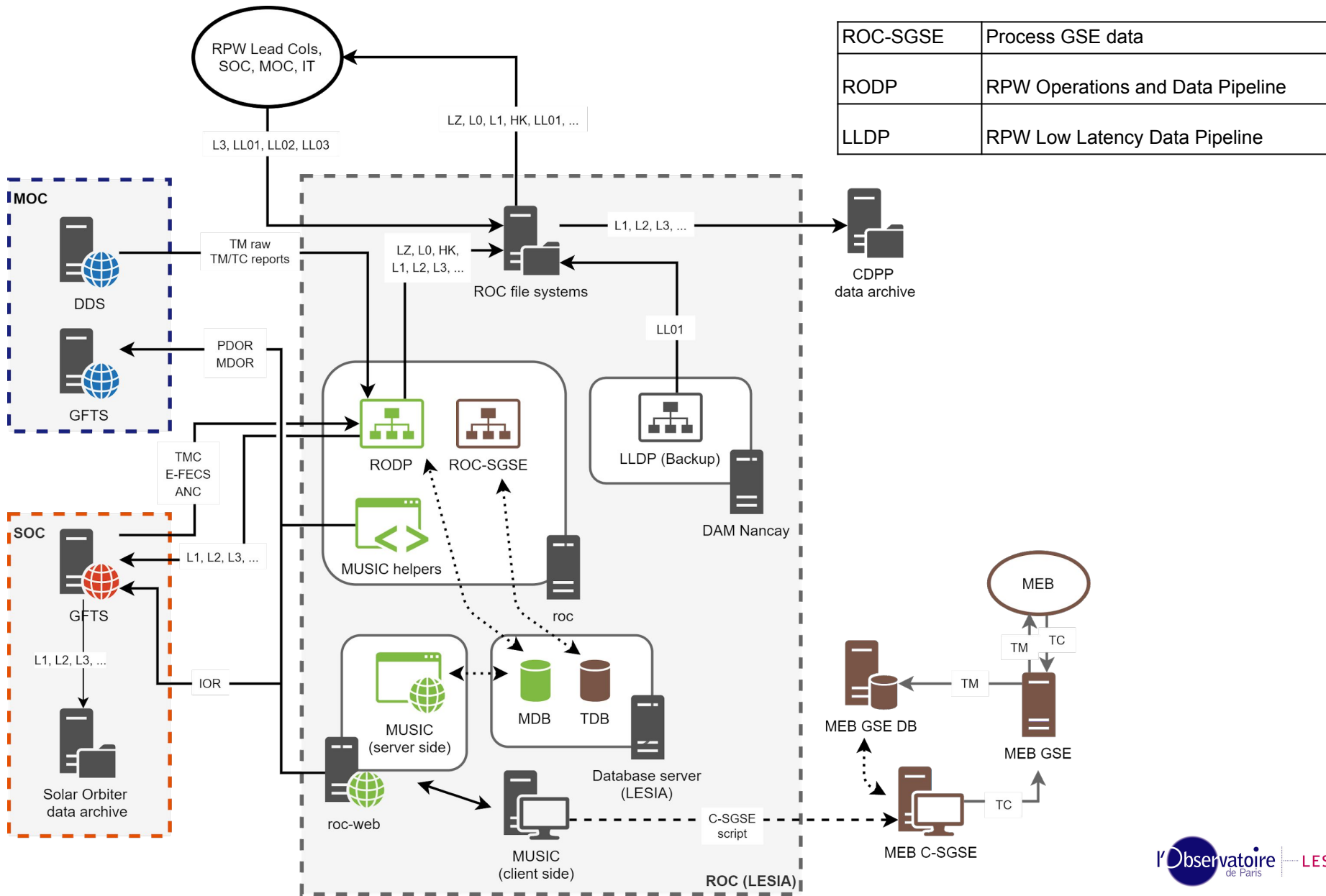
Solar Orbiter Ground Segment Organization



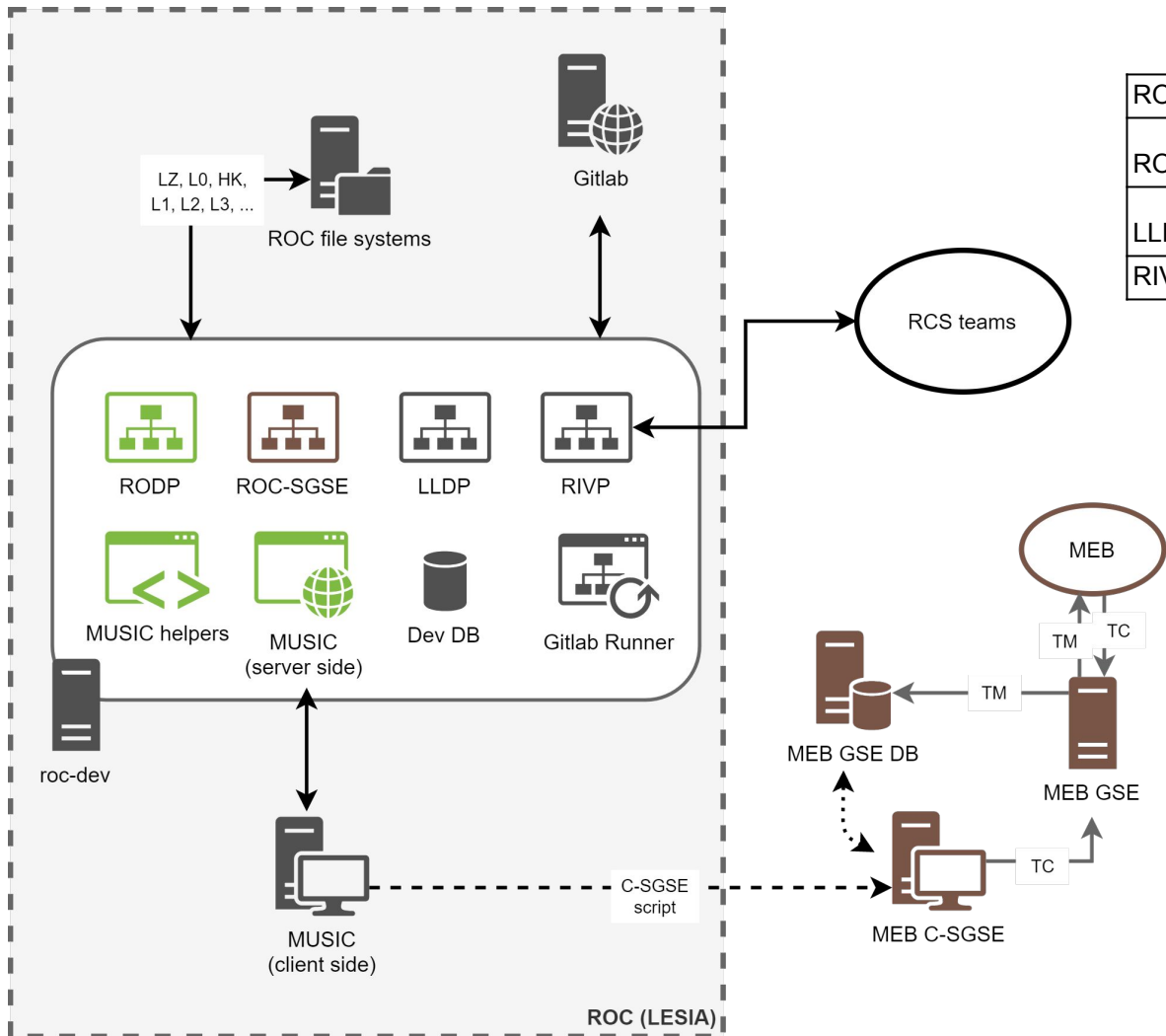
RPW Ground Segment Organization - Summary



Production Environment



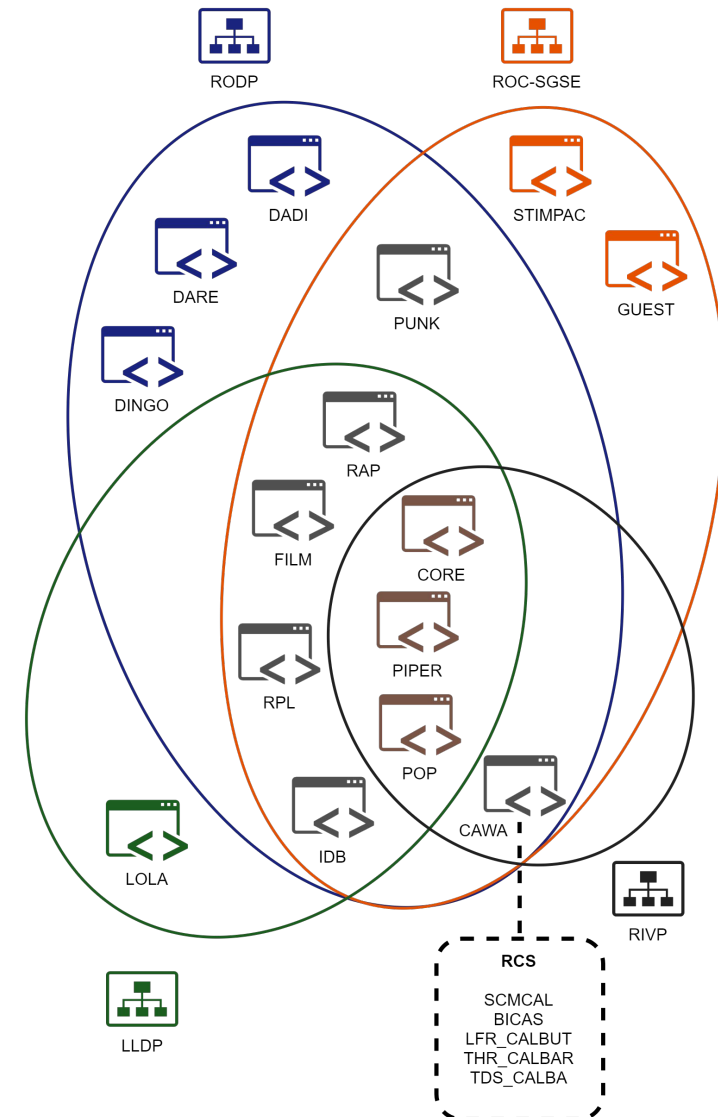
Development environment



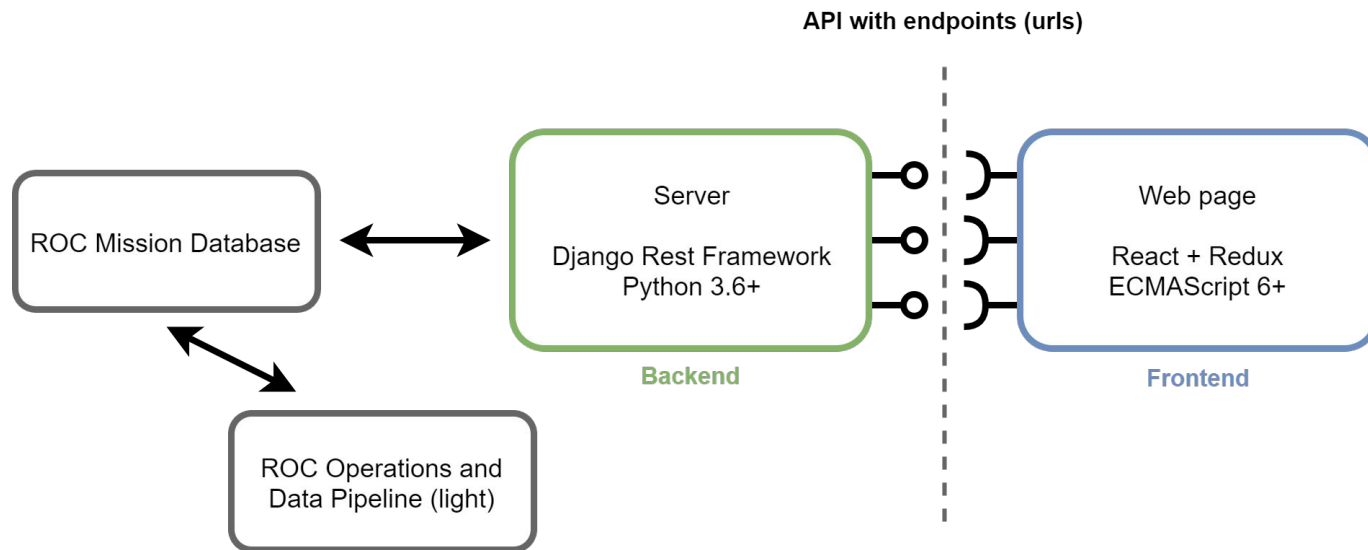
ROC-SGSE	Process GSE data
RODP	RPW Operations and Data Pipeline
LLDP	RPW Low Latency Data Pipeline
RIVP	RCS Interface Validation Pipeline

Pipelines and Plugins

Name	Description
POPPyCore	Plugin-Oriented Pipeline for Python framework (POPPy) core
POP	Pipeline Operations Planner (POP) plugin for POPPy framework
PIPER	Pipeline mapPER (PIPER) plugin for POPPy framework
RPL	RPW packet Parsing Library (RPL) plugin is the main ROC program to analyse RPW telemetry (TM) and command (TC) packet data. It requires the RPW IDB (from PALISADE or MIB) to work.
IDB	Plugin to handle the RPW Instrument Database and MIB
FILM	FILE Maker (FILM) plugin is used by the ROC pipelines to produce RPW L0, L1 and HK data files.
RAP	The Rpw dAta Processor (RAP) is a common plugin to process RPW L0, L1 and HK data for the ROC pipelines.
DADI	RPW DAta DIspatcher (DADI) plugin is in charge of distributing data files between the folders of the ROC pipelines
DINGO	Data INgestOr (DINGO) plugin is used to ingest data into the ROC pipeline database.
DARE	DAta REquester (DARE) plugin is dedicated to retrieve and pre-process RPW TM data from the MOC DDS interface. It also uses to retrieve RPW auxiliary data available from the DDS, such as TC-reports.
GUEST	Gse data reqUESTer (GUEST) plugin retrieves test log data from the MEB GSE database or a MA-SGSE export XML file. It can then parse the test log data, analyse the RPW TM/TC inside and produce "LZ" data file for ROC-SGSE pipelines.
STIMPAC	STIMuli data PArser and Converter (STIMPAC) plugin for POPPy framework
LOLA	RPW LOw LATency data processing plugin (LOLA) is dedicated to generate RPW LL01 CDF files.
MONA	The data MONitoring and Analysis plugin (MONA) performs all of the automated checkings for the ROC pipeline.
CAWA	RPW CAlibration WrApper (CAWA) is dedicated to run the RPW Calibration Software (RCS). It also includes functions to test the RCS interface compliance.
PUNK	Pipeline UNit Keeper (PUNK) plugin is used to report activities monitored by the pipeline (system, but also instrument related events).



MCS User Interfaces (MUSIC) Components



MUSIC Backend + Frontend	Contains the Web GUI of the MCS User Interfaces (MUSIC), used to prepare the RPW operation requests and visualize downstream/upstream data flows.
CSGSEgen	Contains source files of the C-SGSE TC script generator
TMChecker	Contains the source files of the TMC checker
TRAC	Contains source code of the RPW Telemetry RAte Calculator (TRAC)
MDORgen	Contains the source files of MDOR generator
Submitter	Python script used to submit and track files delivered to Solar Orbiter SOC and MOC via the GFTS