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Issue	Date	Page	Description Of Change	Comment
0.0	18/01/13	all	Skeleton	OM, FP
0.1	14/04/13	all	First draft, derived from contents of ECSGS SIP	FP
0.2	15/04/13	Sect. 5, 8	Added SGS figure, content of section on Cost Management;	FP
0.3	17/05/13	all	Clarifications, wording, document approval, section 5.3, pre-launch priorities, figure 7-1	FP; released for internal review
0.9	21/05/13	none		released for PRR
1.0	24/04/14	all	SGS PRR RIDs no. 2,7,10,11,12,13, 14, 15, 137; definition of Level Q; clarifications, wording	FP PRR closure
1.1	14/11/14	Sect. 6.2 Sect. 9 Sect. 10	ST decisions and PO endorsement ECSGS individual responsibilities Inclusion of individual OUs (VIS, NIR, SIM, PHZ) and SDCs (CH, DE, FR, IT, US) inputs	FP; released for internal review
1.2	26/11/14	All Sect.6.2.8 Sect. 10	Clarifications deriving from comments of Internal Reviewer Role of IOT coordinator Inclusion of individual OUs (MER, EXT-NL) and SDCs (FI, NL) inputs	VP, FP FP
1.3	17/12/14	Sect. 6.3.2 Sect. 9 Sect. 10	Monitoring of resources Table of involved personnel Inclusion of individual OUs (SIR, SPE, LE3) and SDCs (ES, UK) inputs	FP, OM
1.9	05/01/15	Sect. 7.1.1 Sect. 10	Clarifications Inclusion of OUs-SHE inputs, joint EXT section, revised SDC-FR, SDC-NL and OU-MER inputs	FP,OM released for SRR

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1. Purpose and Scope

The ECSGS Management Plan is focused on the following topics:
- ECSGS organisation, responsibilities, reporting
- ECSGS costing, manpower, effort tracking
- ECSGS logistic (when relevant)
- organisation of individual OUs and SDCs under ECSGS coordination

Costing documents for the ECSGS are an annex to this document.
Sections 9 and 10 contain global and local organisation details, and the names of responsible staff.

The management principles expressed in this document are a coherent extension of those described in the ECSGS Science Implementation Plan [RD05]. Together with the Euclid SGS Project Management Plan [RD07] and the Euclid SOC Management Plan [RD11], this document form the highest level of the SGS documentation and a response to the Euclid Science Implementation Requirements Document [AD02] and the Euclid Ground Data Processing Requirements Document [AD03].

The document is compliant with the ECSS standards, as tailored for the Euclid SGS [AD04].

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2. Related Documents

2.1. Applicable documents

AD	Title / Author	Document Reference	Issue	Date
1	Euclid Science Management Plan	Euclid_SA_Dc_00004_SMP	2.4	24/10/13
2	Euclid Science Implementation Requirements Document	EUCL-ESAC-RS-8-001	1.2	01/07/14
3	Euclid Ground Data Processing Requirements Document	EUCL-EST-RS-8-001	3.0	20/10/14
4	ECSS Tailoring for the Euclid SGS	EUCL-OTS-RD-8-001	1.9	05/01/15
5	EC Management Plan	EUCL-IAP-EUC-PL-00148	3.03	26/07/13

2.2. Reference documents

RD	Title / Author	Document Reference	Issue	Date
1	Euclid SGS Science Operations Concept Document	**Error! Unknown document property name.**_SOCD	0.6	15/07/11
2	Euclid Science Requirements Document	DEM-SA-Dc-00001	6.1	21/03/12
23	Euclid Legacy Ground Data Processing Requirements Document	EUCL-LEI-SGS-REQ-00269	1.0	01/05/12
4	Euclid SOC Science Implementation Plan	Euclid_SO_Dc_00007_SIP	0.5	02/09/11
5	ECSGS Science Implementation Plan	EUCL-OAT-SGS-PL-00003	2.0	14/11/11
6	Calibration Concept Document: Part B	EUCL-MPIA-RD-1-001	2.0	28/04/13
7	Euclid SGS Project Management Plan	EUCL-OTS-PL-8-001	1.9	05/01/15
8	Euclid Archive Development Strategy	EUCL-OTS-SOW-8-001	1.0	12/04/13
9	Euclid SGS Development Plan	EUCL-OTS-DVP-8-001	1.9	05/01/15
10	Euclid SGS Configuration Management Plan	EUCL-OTS-PL-8-002	1.9	05/01/15
11	Euclid SOC Management Plan	EUCL-SOC-PL-8-001	1.9	05/01/15
12	Euclid Mission Calibration Requirements Specification	EUCL-SAP-EUC-REQ-00145	1.0	11/07/11
13	ECSGS - Best Practices and How-To for OUs and SDCs	EUCL-OTS-TN-8-004	1.1	22/09/14

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3. Acronyms and Abbreviations

3.1. Acronyms

CaC	Cost at Completion
CCB	Change Control Board
EA	Euclid Archive
EAS	Euclid Archive System
EC	Euclid Consortium
ECB	Euclid Consortium Board
ECL	Euclid Consortium Lead
ECSGS	part of the Science Ground Segment c/o the Euclid Consortium
ECSS	European Cooperation for Space Standardization
ELA	Euclid Legacy Archive
EMA	Euclid Mission Archive
EnEI	non Euclid Imaging
ESA	European Space Agency
ESST	Euclid Science Study Team
EST	Euclid Science Team
I/F	Interface
ICD	Interface Control Document
IIRD	Internal Interface Requirements Document
IOT	Instrument Operations Team
IRD	Interface Requirements Document
MOC	Mission Operations Centre
OU	Organisation Unit
NIS	Near Infrared Spectrograph
OGS	Operations Ground Segment
PA/QA	Product Assurance / Quality Assurance
PAP	Product Assurance Plan
PRR	Preliminary Requirements Review
PT	Product Tree
SciRD	Science Requirement Document
SCMP	Software Configuration Management Plan
SCR	Software Change Request
SDC	Science Data Centre
SED	Spectral Energy Distribution
SGS	Science Ground Segment
SIP	Science Implementation Plan
SIRD	Science Implementation Requirements Document
SMP	Science Management Plan
SOC	Science Operations Centre
SQAP	Software Quality Assurance Plan
ST	System Team
SWG	Science Working Group
S/C	Spacecraft
S/W	Software
TBC	To Be Confirmed
TBD	To Be Defined
TBW	To Be Written
VObs	Virtual Observatory
WBS	Work Breakdown Structure
WP	Work-Package
WPD	Work-Package Description

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4. Position in the Document Tree

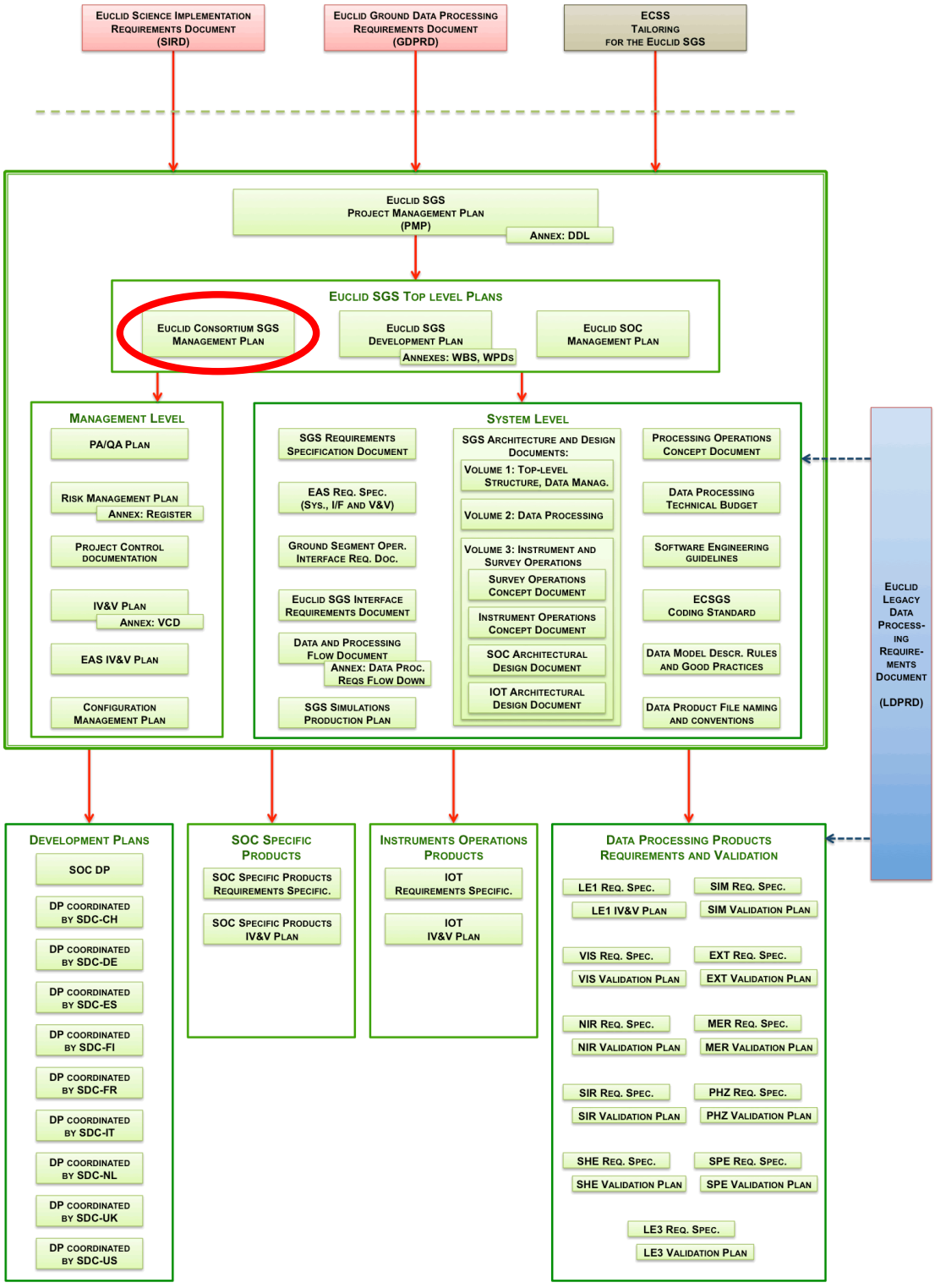


Figure 4-1: Euclid SGS Documentation Tree

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5. Organisation of the Euclid Consortium SGS

As defined in the Science Management Plan [AD01], the Euclid Science Ground Segment is composed of two independent sections: the SOC and the ECSGS. These sections are managed separately by ESA (through the SOC Development Manager for the Development Phase, and the SOC Operations Manager after launch) and by the EC (through the ECSGS Manager). Each Manager is supported by his/her own Support Team and is responsible for the allocation of the resources under his/her domain to the project.

5.1. Structure of the SGS

The main elements of the Euclid Ground Segment are the Ground Station (possibly more than one), the MOC, the SOC and the Euclid Consortium Science Ground Segment (ECSGS). The Ground Station(s) and the MOC compose the Operations Ground Segment (OGS); the SOC and the ECSGS compose the Science Ground Segment (SGS). The Ground Station(s), the MOC and the SOC are provided by ESA; the ECSGS by the Euclid Consortium.

The MOC (via the Data Distribution System - DDS) interfaces only to the SOC and provides raw telemetry and all auxiliary information necessary to manage the mission from the scientific point of view. The SOC provides the MOC with information related to observation planning and instruments commanding. The overall planning of the survey is organised by the Euclid Science Team, who provides the relevant input for the SOC. The SOC is also in charge of mission planning, of the first consistency and quality checks and of the production of quick-look-quality data for public distribution.

The ECSGS guarantees instruments maintenance and operations and performs the data processing from telemetry to the mission data products. It is composed of a number of Science Data Centres (SDCs), in charge of instrument-related processing, preparation of science data products, simulations, ingestion of external data and in general all science-driven data processing; the SDCs will host the Instrument Operation Teams (IOTs), one for each instrument. The SDCs are currently nine, and are located in Switzerland, Germany, Spain, Finland, France, Italy, Netherlands, UK and USA.

The SGS data products, and consequently the data processing, are categorised in six levels:

- Level E: external data (images, spectra, catalogues and associated calibration and meta-data) derived from other missions and/or external survey projects, reformatted and/or processed to be “Euclidised”, i.e. made commensurable with Euclid instrument data. These data are required to allow the EC to provide its final data products at the expected level of accuracy. Level E is implemented asynchronously with respect to Levels 1, 2 and 3 below. The data are delivered by the EC.
- Level S: pre-mission simulated data (catalogues, satellite and mission modelling data, etc.) used before and during the mission, mainly for calibration, modelling and testing purposes. Level S is implemented in parallel with respect to Levels 1, 2 and 3 below and will provide inputs to their development. The data for this processing level are prepared before the mission (and refined/ updated during the in-flight commissioning and initial calibration phase) and are used as appropriate, before and during the mission. The data are delivered by the EC.
- Level 1: is composed of three separate sub processing functions: telemetry checking and handling, including real-time assessment (RTA) on housekeeping; telemetry unpacking and decompression (edited telemetry); quick-look analysis (QLA) on science telemetry and production of daily reports. The input data for this processing level come from the satellite via MOC and are used to perform quality control. The data are delivered by the SOC.
- Level 2: instrumental data processing, including the calibration of the data as well as the refined removal of instrumental features in the data; trend analysis on instruments performance and production of weekly reports. The data processing at this level is under the responsibility of the SDCs in charge of the instruments monitoring. The data are delivered by the EC.
- Level Q: Quick-Release data, i.e. products fully processed by the SGS pipelines on limited areas of the sky: the processing is performed by the EC (Level 2) and the data are distributed by the SOC.

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- Level 3: data processing pipelines for the production of science-ready data. The Level 3 data are also produced by SDCs. The data are delivered by the EC.

For all these processing levels the EC is responsible for the software development, with the collaboration of SOC. The Euclid Archive System (EAS), in charge of managing the EA which is the data interface for all processing Levels, is developed jointly under the coordination of SOC as described in [RD08, RD09].

The SGS System Team (SGS ST) is a group common to both SOC and ECSGS taking the lead in helping the whole SGS to define the overall system processing philosophy, architecture and strategy. It provides advice and support in the areas of software design and technology, setting common rules and making specific recommendations to be followed by each WP (managed either by ECSGS or SOC). Members of the SOC Development Team (including the Manager) are full members of System Team, as well as any SDC leader. The main tasks of the SGS ST are to: prepare coding guidelines; define and implement tools to support software tests and integration; define, design, implement and test common software (e.g. interfaces, transfer systems and common toolboxes); define, design, implement and test the EA; design and implement tools to define and maintain an Euclid common Data Model.

5.2. Concepts for the ECSGS

The ECSGS is in charge of designing, developing, integrating and operating the scientific data processing.

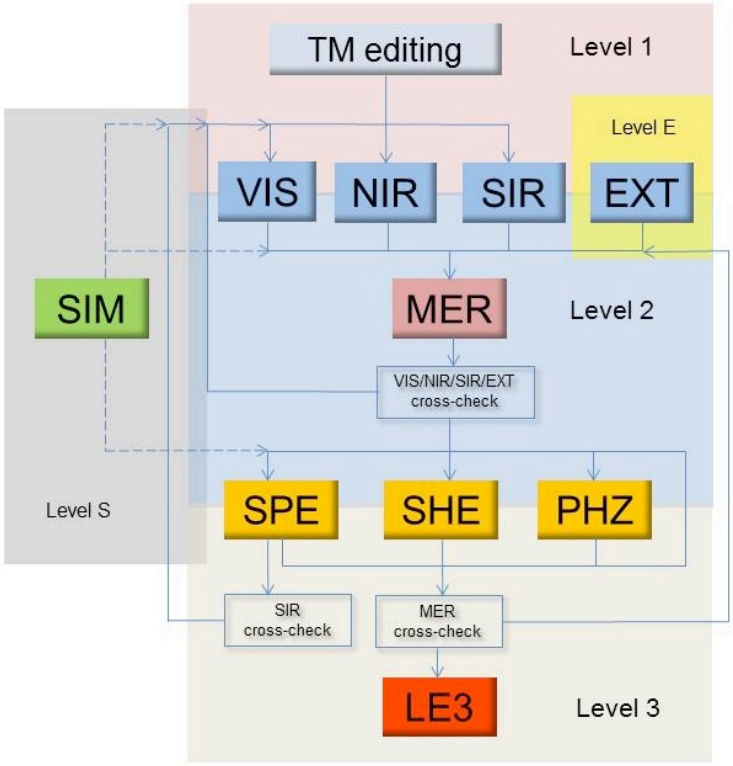


Figure 5-1 : Data processing levels, functions and flow in the Euclid SGS.

The logical data processing flow is represented on Figure 5-1, where the different data processing levels (as defined in the SOCD [RD01]) are connected with logical data processing functions. These logical functions, or modules, have been defined by considering that they represent self-contained processing units, i.e. they represent the highest-level break-down of the complete pipeline that can be achieved with

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units that communicate only with the help of the EA. They are listed briefly hereafter (their full content is described in the respective WPD documents):

- VIS: is in charge or processing the Visible imaging data from edited telemetry to Level 2, i.e. it produces fully calibrated images, as well as source lists (for quality check purposes only).
- NIR: is in charge of processing the Near-Infrared imaging data from edited telemetry to Level 2, i.e. it produces fully calibrated images as well as source lists (for quality check purposes and to allow spectra extraction).
- SIR: is in charge of processing the Near-Infrared imaging data from edited telemetry to Level 2, i.e. it produces fully calibrated spectral images and extracts the spectra in the slitless spectroscopic frames taken by the NISP.
- EXT: is in charge of entering in the EA all of the external data that are needed to deliver the Euclid scientific products at the required level of accuracy. The external data consist of the ground-based multiband imaging surveys that are needed for the estimation of galaxy photometric redshifts and for stellar SED characterization, external spectroscopic survey data needed for photometric redshift calibration and catalogs and space-based imaging supporting the calibration of the Euclid instrument data and their higher-level scientific products.
- SIM: realises the simulations needed to test, validate and qualify the whole pipeline.
- MER: realises the merging of all the Level 2 information. It is in charge of providing stacked images and source catalogues where all the multi-wavelength data (photometric and spectroscopic) are aggregated.
- SPE: extracts spectroscopic redshifts from the Level 2 spectra.
- SHE: computes shape measurements on the visible imaging data.
- PHZ: computes photometric redshifts from the multi-wavelength imaging data.
- LE3: is in charge of computing all the high-level science data products (Level 3), from the fully processed shape and redshift measurements (and any other possibly needed Euclid data).

The backbone of the ground segment is formed by a series of Science Data Centres (SDC), one in each participating country of the Euclid Consortium, which will provide large and reliable computing resources to the SGS. These SDCs are in charge of running the Euclid SGS pipelines. In most cases the infrastructure of these data centres already exist and provide services for the astrophysics or particle physics community, and are manned with IT experts such that system availability, performance and maintenance are guaranteed from day one on to the last days of the Euclid post-operations phase. As a costumer of these data centres, the EC may contribute in kind to guarantee that all needed CPU and storage capacities are available. Some of the SDCs are expected to choose to have a dedicated computing infrastructure, and in this case their staff are responsible of the infrastructure maintenance, including the handling of HW failures. In both cases, the maintenance of Euclid-dedicated SW will always be c/o the EC staff.

Inside an SDC we will make a further distinction between the production part of the SDC, that runs and maintains the pipelines and is referred to as SDC-PROD, and the development part of the SDC, that participates in all software development needed for the SGS and is referred to as SDC-DEV.

Any new pipeline element is developed around the following scheme:

- The high-level scientific requirements of the mission are defined in the Science Requirements Document [RD03], which flow down to Ground-based Data Processing requirements **Errore. Il collegamento non è valido.**, to which the pipeline code shall comply. Responsibility for checking compliance with such requirements mainly rests with the Euclid Science Working Groups (SWGs), which are specialised teams of scientists in the EC that have been built around the Euclid science objectives.
- As a refinement of the above high-level approach, requirements are placed on the various processing functions under consideration. These can come from studies published in the refereed literature, research on signal processing, and so on. Additional requirements related to the implementation part of the algorithm (e.g. interfaces, parallelisation capabilities, computing time, etc.) are specified as well. These requirements are accompanied with description of key tests that can be performed to check the validity of the pipeline element. Once requirements are agreed upon, they can be turned into prototypes.

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- Algorithmic research proceeds by designing prototypes, performing numerical tests, and comparing the results with the original requirements. There are no formal requirements placed on the infrastructure and languages choices that can be used at that stage of the research, in order to maximise creativity. Responsibility for this algorithmic research rests in the Organisation Units (OUs), which are again teams of EC scientists, grouped along their interest/competences for one for each of the individual data processing functions above defined and depicted in Figure 5-1. It is implicit that the OUs gather EC scientists with know-how in code development, and that the prototypes could be well developed using the common coding standards defined by the SGS System Team.
- Once validated by the proper OU, the prototype is passed to an SDC, along with a test harness, and the SDC-DEV turns this prototype into a full-fledged Euclid pipeline element. This includes complying strictly with the common coding standards defined by the SGS System Team, using pre-defined input and output mechanisms, i.e. homogenisation and configuration control of the Euclid pipelines is a responsibility of the SDCs. It is to be noted that it is a task of SDC-DEV to optimise the algorithms with reference to the HW/SW environment. SDCs work with the constant support of the System Team (since their Leads are full members of it) and the allocation of the processing budget will be a continuous effort throughout the project, to optimise performance.
- Once available as a pipeline element, further test will have to occur to fully validate the new element and in particular decide to include it in the production chain or not. The responsibility for the validation of the pipeline element rests with the OU, but these decisions will involve the SGS management as well, which will resolve possible conflicts.
- Any approved pipeline is stored in the EA (this implies that the EA can also be a configuration control tool, as specified in the Euclid SGS Configuration Management Plan [RD10]).

It must be emphasised at this stage that the above description is a formal representation of the logical steps to be followed to produce new pipeline elements. Rather than defining teams in the sense of groups of people, it defines functions inside the SGS:
- the functional role of the SWGs is to provide scientific requirements for the pipeline development;
- the functional role of the OU-Teams is to turn these requirements into code prototypes and assess whether the requirements can be met;
- the functional role of the SDC-DEVs is to turn these prototypes into pipeline modules respecting the architecture and interface definitions, to include unit and integration tests and to put the modules under configuration control;
- the software delivered by the ECSGS to the SOC is validated by the SOC itself.

The EC is committed to apply strict quality control to the data it processes, to archive all processed data into the Euclid Archive (EA) and to make them available to EC scientists, to the SOC and all members of the Euclid Science Team (EST) [AD01].

5.3. Concepts for external data and end-to-end performance simulations

5.3.1. External Data

External data (Level E) are data needed by the SGS which are obtained with instruments other than those aboard the Euclid satellite. The data is typically obtained by external consortia. External data is either publicly available or the EC will make agreements in the form of Memoranda of Understanding (MoU) or Letters of Agreement (LoA). Agreements with external data providers are pursued by the EC Lead and endorsed by the EC Board. The corresponding data are included in the Euclid data flow by means of an “Euclidisation” step (performed by the EXT processing function of the SGS) which ensures such data to be commensurable with those produced by the Euclid instruments. The starting point for EXT data handling by the SGS can vary from raw data to externally calibrated products, depending on the requirements for “Euclidisation”. Similarly to Euclid instrument data, initial external data and final Euclidised products are provided via the Euclid Archive, accompanied by meta-data and quality information.

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External datasets that meet external data requirements can be nominated for inclusion in the Euclid Mission and SGS dataflow by the ECSGS. These external data requirements ultimately derive from the requirements on scientific results delivered by the EC. Selection from the nominated datasets requires approval by the EC Lead and Board.

5.3.2. End-to-end simulations for performance evaluation

The Euclid SMP [AD01] identifies as a responsibility of the EC to provide simulations aimed at verifying the end-to-end performances of the mission and validating the data processing. The EC is therefore in charge for the development and operations of simulations pipelines. Such pipelines comprise in the Pre-launch Phase the production of simulations and modelling impacting on calibrations and observing strategies. Massive Monte Carlo simulations are likely to be required in the Post-launch Phase to assess systematic effects and derive meaningful uncertainties on the final cosmological parameters.

The EC also runs end-to-end simulations to verify that the performances of the mission meet Euclid's scientific objectives, and to validate the data processing pipelines. The responsibility for coordinating end-to-end simulations for performance evaluation purposes rests with the EC Lead. These activities may impose some requirement and some constraint on the ECSGS, especially on the infrastructures and the schedule. The terms of participation of the ECSGS in the end-to-end performance evaluation effort will be negotiated within the EC and with the EC Lead.

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6. ECSGS management principles

6.1. ECSGS Management Structure

The ECSGS management follows strictly the rules defined in the EC Management Plan [AD05], which defines the management mechanisms in the Consortium and the players involved. The overall management structure for the EC is shown in Figure 6-1.

The EC is responsible for the design and implementation of its own section of the Euclid Science Ground Segment (SGS) - the EC Science Ground Segment (ECSGS). The ECSGS is in charge of:

- The instruments maintenance and operations, in coordination with the EC Instrument Team and close collaboration with the SOC;
- The development and operation of the Euclid data processing;
- The production of the data products under EC responsibility as defined by ESA and the EST;
- The production of data products to be used by the SWGs which are responsible for the science exploitation and publications (see Section 5-2), and that are delivered to ESA for public distribution at the appropriate times;
- The handling of the EC-specific data stored within the Euclid Archive.

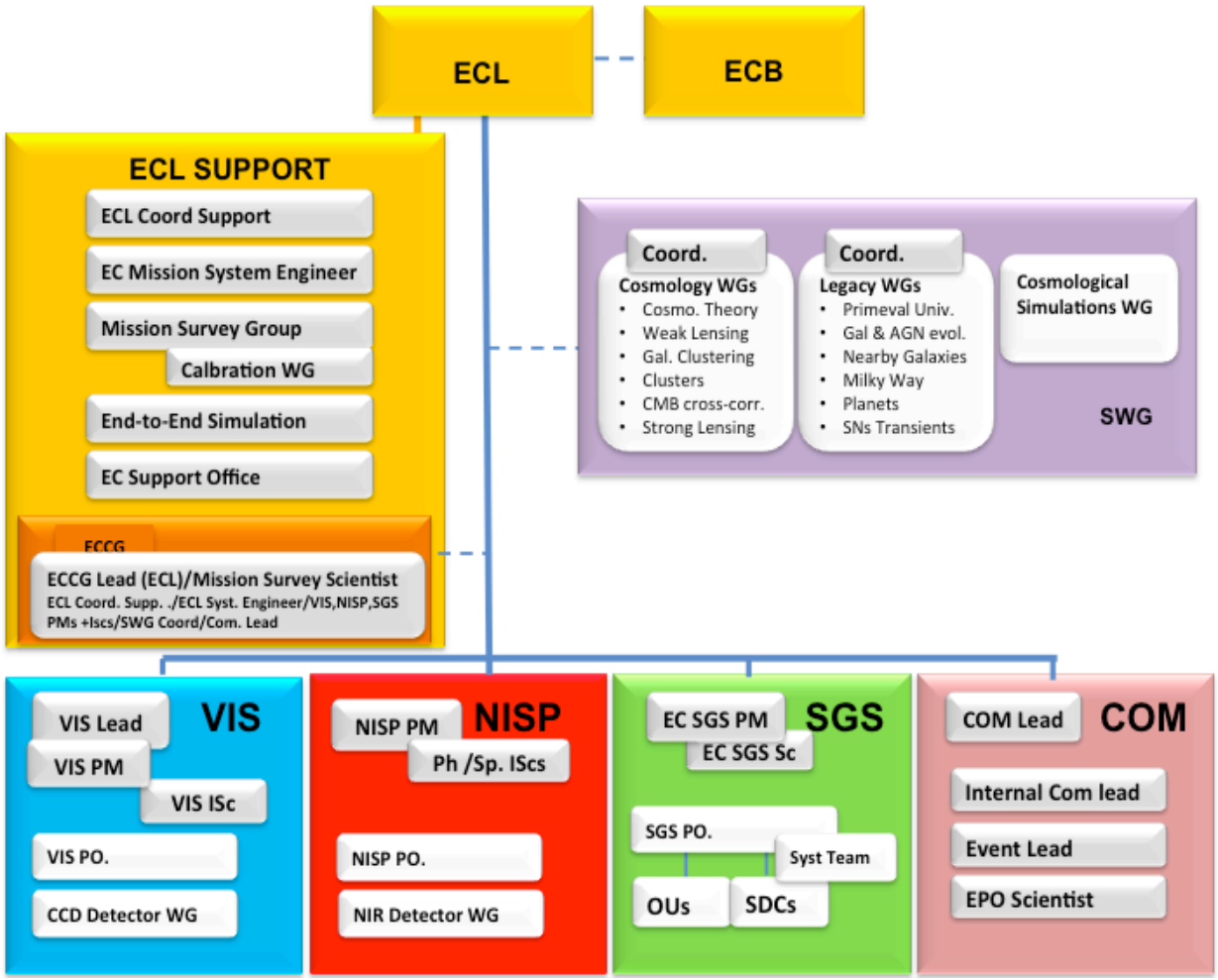


Figure 6-1: EC management scheme (from [AD05]).

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Figure 6-2 depicts the management structure for the ECSGS, which expands and details the SGS (green) box in Figure 6-1. The ECSGS activities are led by the **ECSGS Manager**, assisted by a **Deputy Manager**, who is also the **SGS System Team Lead**. The management activities are also assisted by an **ECSGS Scientist**, whose role is to look after the compliance of the developments and of the SGS scientific results with the science requirements. The three persons mentioned above form the **ECSGS Project Office** (ECSGS PO), which is supported by the **ECSGS Manager's Support Team** comprising the **Project Controller**, the **Configuration Manager**, the **PA/QA Manager** and the **Instrument Operations Coordinator**.

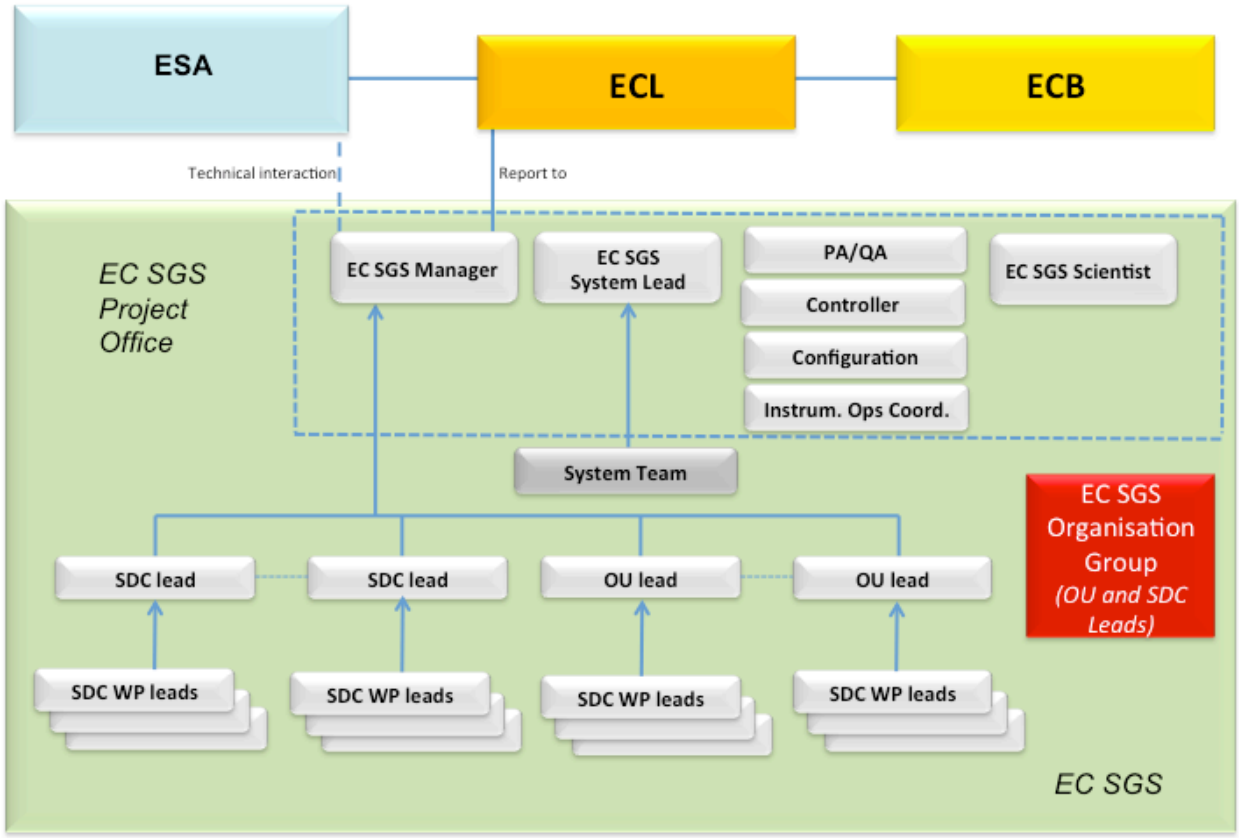


Figure 6-2: Management of the ECSGS (subset of the EC management in [AD05]). Reporting follows a hierarchy from WP Leads to OU and SDC Leads and System Lead, to the ECSGS Manager, who reports to the EC Lead and has technical interactions with ESA. The ECSGS Organisation Group is composed of the OU and SDC Leads and Project Office members. The ECSGS Manager Support Team members are part of the Project Office.

The other players involved in the ECSGS are described in the following.

Science Data Centres (SDCs) are the Euclid Consortium development and operations centres of the ECSGS; they host the localised hardware and software infrastructure together with development and operations teams; they are in charge of Development and Operations WPs. SDC-DEVs are developer teams that are associated to SDCs, but may not reside permanently at the institution hosting the SDC-PROD. They fall under the management of the SDC Lead (one per SDC), who is in charge of negotiating the interface with the OU-Teams.

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Organisation Units (OUs) are organisational groups that are mapped upon the organisation of processing functions. They are in charge of the definition of data processing algorithms and optionally of the development of code prototypes. OUs are therefore gathered around the logical pipeline modules cited on Figure 5-1. Each OU has one or two Leads, and one or two Deputies, again depending on the scope of the particular pipeline module. These leads and deputies are responsible for following the interaction with the SWGs, for designing the work breakdown structure corresponding to the implementation of the pipeline module, for assigning work packages to scientists in their teams, and for following up on their progress. They are also in charge of interacting with the SDCs to find the most suitable location for the development and operation of their modules.

Instrument Operations Teams (IOTs) are EC groups in charge of the operations of the Euclid instrument modes. Two IOTs (one for each instrument) will be formed during the development of the instrument, and in any case before the instruments delivery to ESA. Their composition is expected to be based on staff with instrument knowledge (members of the Instrument Development Teams) and with data processing knowledge (members of the OUs). IOTs are an integral part of the ECSGS.

The **SGS System Team** is a group common to both SOC and ECSGS taking the lead in defining the overall SGS data processing philosophy, architecture and strategy. It is further described in section 6.2.3, and in the SGS Project Management Plan [RD07], section 5.4.3.

The **ECSGS Organisation Group**, composed of all OU and SDC Leads, chaired by the ECSGS Manager and with the participation of the whole ECSGS Project Office, holds meetings at regular intervals and acts as a coordinating body for the ECSGS. The SOC Development Manager and SOC staff are permanently invited to participate in the meetings. The ECSGS Organisation Group is the forum where information is shared on infrastructure and tools developed/chosen by the SGS System Team, where discussions are made, and where decisions regarding possible issues (e.g. scientific issues between OUs and SDCs, system development choices, data model constraints, standards, interfaces...) are taken.

Possible disputes which cannot be resolved by the ECSGS Project Office will be arbitrated by the EC Lead, with the possible involvement of the EC Board.

The ECSGS Manager is the single ECSGS interface to the higher EC and ESA hierarchies, and is in charge of gathering input on OU and SDC status and feedback, and of reporting at regular intervals, as described in section 6.3.3.

6.2. Membership and assigned roles

In the following subsections we describe the ECSGS management roles shown in Figure 6.2, who are the ECSGS Manager, the ECSGS Project Office, the SGS System Team and ECSGS System Lead, the ECSGS Scientist, the ECSGS PA/QA Lead, the ECSGS Configuration Lead and the ECSGS Instrument Operations Coordinator. All the leading positions described below operate within the ECSGS Project Office under the coordination of the ECSGS Manager.

6.2.1. ECSGS Manager

The ECSGS Manager is responsible for ensuring the successful achievement of the ECSGS objectives and tasks covering its technical and schedule aspects in the frame of the managerial and funding constraints throughout the project, from the Development Phase to Post-operations. The ECSGS Manager is also responsible for ensuring that all SDC-relevant tasks and deliverables described in OUs are taken over by at least one SDC.

During the whole Implementation Phase, the ECSGS Manager takes or endorses the decisions having an impact on all SGS subsystems. For decisions impacting the overall EC managerial and/or funding constraints, he/she shall consult the ECB.

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The ECSGS Manager reports to the ECL and is permanently invited to the meetings of the ECB [AD05]. He/she is also a permanent member of the EC Coordination Group (defined in the EC Management Plan [AD05]). He/she is assisted by a ECSGS Deputy Manager and advised by the ECSGS Scientist and, for technical matters, by the ECSGS System Lead and by the ECSGS Manager's Support Team, the last being constituted by the ECSGS PA/QA Lead, the ECSGS Project Controller, the ECSGS Configuration Lead and the ECSGS Instrument Operations Coordinator (see hereafter for a description of these figures).

The ECSGS Manager works with the SOC Development and Operations Managers on the development and operations of the SGS, respectively. They report to the ESA Project Manager / Mission Manager and escalate issues to them if no resolution can be found at the lower level.

Role (from the EC Management Plan [AD05]):
- Set up and maintain the SGS Project Management Plan.
- Set up and maintain the SGS Development Plan, supported in particular by the SGS System Team and PA/QA Leads.
- Set up and maintain the SGS development milestones and schedule, supported in particular by the ECSGS Project Controller.
- Monitor the progresses and costs, and take the decisions at managerial, technical and programmatic level.
- Set up a continuous risk evaluation process.
- Report to the ECB and participate in the EC Coordination Group and in particular for any apparent difficulties with resource allocations in the Consortium members or advice of any event or non-event that is likely to cause delay and / or cost impacts to the Project.
- Define and, during the Operations Phase, support the procedures for instruments maintenance and performance verification, to be routinely performed by the individual SGS elements. This activity is carried out in close collaboration with the EC Instrument Operations Manager and the SOC.
- Interface with ESA for day-to-day technical interactions on the SGS, while reporting to the ECB, which remains the ultimate authority for EC decisions.
- Endorse and approve the decisions taken within the System Team on the overall SGS data processing architecture and strategy.

6.2.2. ECSGS Project Office

The SGS Project Office is led by the ECSGS Manager, assisted by ECSGS Deputy Manager, and is made up of the ECSGS System Lead, the ECSGS Scientist and the ECSGS Manager Support Team.

Technical support is provided by the ECSGS Project Controller, the ECSGS PA/QA Lead, the ECSGS Configuration Lead and the ECSGS Instrument Operations Coordinator, who are expected to be co-located with the ECSGS Manager and constitute the ECSGS Manager's Support Team.

Other key persons (TBD) may be added to the Project Office, if their roles are felt as needed and appropriate by the ECB.

The ECSGS Project Office monitors all technical, managerial and administrative activities of its own and, where appropriate, of the OUs and SDCs, and will provide the directives necessary to accomplish the project, expedite resolution of problems and interface with the relevant ESA counterparts through the ECSGS Manager.

Role:
- Assist the ECSGS management in the running of the ECSGS activities.
- Define and manage end-to-end tests.
- Produce and maintain the ECSGS system documentation.
- Prepare the ECSGS reports.
- Coordination of ECSGS and Science activities (transfer science requirements from the SWG to algorithm definitions and prototyping software tools inside OUs).
- Coordination of ECSGS and Calibration activities.
- Coordination of inter-OU support tasks.

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- Coordination of inter-SDC support tasks.
- Support the EC Management in the preparation of the reviews.

6.2.3. SGS System Team and ECSGS System Lead

The SGS System Team is described in the SGS Project Management Plan [RD07], section 5.4.3; it is a group common to both SOC and ECSGS and composed of the SDC Leaders and IT experts, plus the SOC Development Manager's team. The SGS System Team takes the lead in defining the overall SGS data processing architecture and strategy. Once endorsed by the PO and approved by the ECSGSM, the decisions taken within the System Team are applicable for all the ECSGS. Being the SDC Leads full members of the SGS System Team, they are fully aware of the decisions taken therein, since they have participated in the discussion. The coordination forum of the System Team with OUs and SDCs is the SGS Organisation Group (see section 6.1 above). The role and responsibilities of the System Team shall be kept clear throughout the SGS development phase, so that it can guarantee the technical consistency of the development of the SDCs.

The ECSGS System Lead chairs the SGS System Team and is responsible for coordinating all aspects of the infrastructure needed to ensure a consolidated and optimised SGS system.

Role:
- Lead the SGS System Team.
- Be responsible for all System Team WPs and deliverables managed by the EC.
- Coordinate the overall activity aimed at defining standards and development procedures for the SGS: system architecture(s), common tools, APIs, tests, integration and validation, EC archives structure, data distribution within the EC, etc.
- Define an approach for the flow down of the (high-level) Requirements Specification(s) into specifications for the SGS, including internal I/F requirements, ensuring the consistency of the requirement flow down.

6.2.4. ECSGS Scientist

The ECSGS scientist is responsible for the coordination between the scientific needs of the Euclid mission and the data products delivered by the ECSGS. He/she may be supported by a Deputy (TBD).

Role:
- Check and guarantee that any decisions and actions relevant for the ECSGS activities do not jeopardise the main science targets and the top-level science requirements of the Euclid mission.
- Organise and maintain the strong links and coordination between the ECSGS activities and the SWG, and between the simulation and the calibration activities.
- Organise the links and coordination between the SWG and OU activities and guarantee that the top-level science requirements are all transferred to the relevant OUs.
- Check that the ECSGS processing tasks, the pipelines and the mission archive fulfil all the scientific needs of the Euclid mission listed in the SciRD [RD02].

6.2.5. ECSGS PA/QA Lead

The ECSGS PA/QA Lead is responsible for the setting up all the necessary methods and procedures aiming to guarantee that the SGS development and operations activities will fulfil the product/quality assurance requirements for the ECSGS and that the quality of the deliverable software and data products are compatible with the mission.

Role:
- Maintain control over the PA/QA documents (e.g. PAPs, method and procedures, software configuration control, product lists) and the Risk Management Plan.
- Manage the SGS PA/QA Plan including: placing requirements on the SDCs to provide PA/QA plans, review and approval of those plans, audit of SDC providers against their plans and definition of internal procedures if necessary.
- Prepare reviews and inspections (e.g. documentation, working procedures).
- Define configuration control and non-conformance management.

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- Define best practices and control of coding procedures.
- Continuous risk assessment on all ECSGS activities, and definition of risk mitigation measures whenever needed.
- Maintain SGS PA/QA and Risk databases.

6.2.6. ECSGS Configuration Lead

The ECSGS Configuration Lead is responsible for the setting up all the necessary methods and procedures aiming to guarantee that the ECSGS documentation and software are regularly updated, are kept under configuration control, and are accessible to the EC members.

Role:
- Support the ECSGS Manager and the SOC Development Manager in the definition of the Documentation Tree.
- Define documentation standards for the SGS.
- Implement and maintain the ECSGS documentation repository.
- Implement and maintain the ECSGS software repository.
- Keep track of configured documents, software and hardware.

6.2.7. ECSGS Project Controller

The ECSGS Project Controller is responsible for the setting up all the necessary methods and procedures aiming to the timely delivery of all products due by the SGS.

Role:
- Support the ECSGS Manager in the definition and updating of the Schedule.
- Support the ECSGS Manager in the definition and updating of the WBS.
- Support the ECSGS Manager in the preparation of periodic reports.
- Keep track of deadlines, and of internal and external milestones.

6.2.8. ECSGS Instrument Operations Coordinator

The ECSGS Instrument Operations Coordinator acts within the Project Office Support Team and is responsible for the liaisons between the SGS and the Instrument Teams, both during development and operations of the Euclid instruments, and between the IOTs and SOC.

Role:
- Organise and maintain coordination links between the ECSGS activities and the Instrument Development Teams.
- Organise and maintain the strong links and coordination between the ECSGS activities and the Instrument Operations Teams.
- During the operations phase, check and guarantee that any decisions and actions relevant for the operations of one instrument do not jeopardise the correct operations of the other instrument.
- During the operations phase, act as the single EC point of contact with SOC for operational topics.

6.3. Management approach

ECSGS internal reporting and reporting to ESA are depicted as plain solid lines on Figure 6-2.

6.3.1. Project control

Project control for the ECSGS is based on the ECSS standards, tailored for the Euclid SGS and agreed with ESA [AD04], and also following the general approach set by the EC Management Plan [AD05].

The ECSGS Project Controller supports EC management to set up and maintain the Cost at Completion (CaC) for the ECSGS, on a quarterly basis, all along the project. Relevant action will be taken as necessary at managerial and funding level (contingencies).

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The ECSGS Manager is aided by the PO Support Team for all project control activities, and in particular by the ECSGS Project Controller.

6.3.2. Monitoring mechanisms

Baseline schedules are set up and are maintained all along the project. A working schedule is used for progress monitoring purpose compared to the baseline. A detailed working schedule will be set up for close monitoring over shorter time scales as requires.

Availability and correct deployment of resources are constantly monitored. To this effect, the following measures and actions are taken:

- keeping the resource sheets associated to every WP, with identification of the individuals who are responsible of the work to be performed;
- preparation of activity reports to compare, WP by WP, the resources planned and actually used;
- analysis of the activity reports aimed at
    - identifying connected risks;
    - perform corrective actions in the case of problems;
    - evaluate trends;
- coordination of monitoring activity with PA/QA and Risk management.

These activities are carried out within the WP 4-1-02 of the ECSGS Project Office, in charge of

- controlling project development
- monitoring the progresses and costs and takes the decisions at managerial, technical and programmatic level.

The full Project Office, including the ECSGS Manager's Support Team, will hold regular teleconferences, and hold face-to-face meetings at least 3 times a year (once as splinter during the Euclid plenary meetings).

6.3.3. Reporting

ECSGS internal reporting is depicted as plain solid lines on Figure 6-2.
To allow the ECSGS Project Office in fulfilling the monitoring activity described in the subsection above, all WP Leads provide periodic reports to the relevant SDC or OU Leads, who report themselves to the ECSGS Manager on:

- the work under development,
- the resources used,
- the tracking of efforts by individuals (useful both to detect possible flaws in the development and to gather publishing rights under the EC policy [AD05]),
- the updated schedule,
- the technical design, etc.,
- any problem areas (technical, manpower or funding) that could impact on the Euclid Consortium activities.

To ensure uniformity, reports follow proper pre-defined templates, including forms which take into account resources planned and actually used.

These reports are put under configuration control, endorsed by the ECL and form the basis of the ECSGS advancement reports to ESA.

6.3.4. Internal Reviews

As stated in [RD07], internal reviews for the ECSGS are held a minimum of one month before the formal reviews with ESA described in the section below. The whole data package to be submitted to the formal review shall be provided.

The PO will nominate, and the ECB will appoint, the members of the panel(s) for the internal reviews.

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6.3.5. Reviews

The review process for the Euclid SGS, including a tentative schedule, is described in the SGS Project Management Plan [RD07], section 8.

Internal and external reviews are planned, at times defined in the SGS schedule. In each review, not only software development shall be discussed, but PA/QA and operational aspects as well.

It seems convenient to synchronise the major Euclid SGS reviews to the ESA global GS reviews; the internal reviews will take place shortly before the ESA GS reviews. Whether it is convenient to actually merge the external reviews of the SGS with the ESA reviews of the global Ground Segment is TBD, in agreement with ESA.

The major reviews planned for the Euclid SGS are [RD07]:
- SGS Preliminary Requirements Review (PRR);
- SGS System Requirements Review (SRR);
- SGS Preliminary Design Review (PDR);
- SGS Critical Design Review (CDR);
- SGS Qualification Review (QR);
- SGS Operational Readiness Review (ORR);
- SGS Readiness Review (DPRR).

Each review will check the compliance of the SGS overall system, and particularly of the ECSGS, with the goals defined for the specific review, including covering of PA/QA aspects. The review schema matches the definitions of the Software Engineering standards chosen for the SGS, tailored from ECSS [AD04], and maps onto the development scheme for the ECSGS.

Each of the formal reviews described in the above section is preceded by a corresponding internal review, which involve both EC and SOC personnel.

Additionally, the ECSGS and SOC shall conduct SGS regular progress meetings/teleconferences covering EC and SOC SGS activities.

6.4. Priorities

It is assumed that in the case manpower, and resources in general, assigned to development and operations of the ECSGS prove to be insufficient for the management of the whole of foreseen duties, a concept of priority will be implemented. Prioritisation is considered to be a risk mitigation measure.

It is understood that the priorities of the ECSGS are the following (in descending order of importance):
1. supporting the MOC and the SOC in order to correctly operate the instruments;
2. producing calibrated data and partial maps of the sky for both instruments;
3. delivering the science products needed for the science objectives of the mission;
4. supporting the SWGs, if resources permit, in the exploitation of the science products.

The ECSGS operations shall reflect the above priorities. Priority values are assigned to the ECSGS WPs:
- a priority value of 1 is assigned for instrument control and health/efficiency checking functions (plus project management activities);
- a priority value of 2 is assigned for data reduction, systematic effects removal, calibration and map-making;
- a priority value of 3 is assigned for delivery of science products;
- a priority value of 4 is assigned for support to the SWGs

Before launch,
- a priority value of 1 is assigned for testing the development of the pipeline software;

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- a priority value of 2 is assigned for running simulations aimed at verifying the end-to-end performances of the mission (with particular reference to instruments);
- a priority value of 3 is assigned for running simulations aimed at verifying if the performances of the mission meet Euclid's scientific objectives.

These priorities will come into effect in the case manpower, and resources in general, assigned to ECSGS operations prove to be insufficient for the management of the whole of foreseen operational duties. Prioritisation is considered to be a risk mitigation measure.

6.5. ECSGS Maintenance

Maintenance is performed on the general infrastructure, as well as on both the hardware and software infrastructures. Regular preventive hardware maintenance, including installation when necessary of new versions of operating systems and other relevant COTS software, is supported; routine software and data backups will be performed. The ECSGS documentation, including a central list of all Software Problems Reports (to support software Configuration Control) is maintained.

The efficiency of the hardware systems at the SDCs are guaranteed either directly or through agreements with the hosting institution. In principle, the strategy is geared towards reaching policy agreements with vendors.

It is to be clarified that maintenance of the data processing software includes upgrades, e.g. the integration in the pipeline structure of prototype software developed to react to features discovered in raw or pre-processed data. To allow homogeneous processing of data, the upgraded software will follow standard PA/QA and configuration management procedures before being used in operations.

Software maintenance in the context of the ECSGS is not only the modification of the software pipelines after delivery to correct faults, but also their evolution to improve performance or to include additional required features and functionality enhancements to the systems. At the same time, care is taken to preserve older versions of the software to ensure reproducibility of earlier results. Software maintenance is considered to be part of the development teams activities, i.e. it will part of SDC-DEV.

Requirements for maintenance activities will come from a Change Control Board (CCB) which will receive and prioritise Software Change Requests (SCRs); the PO, through the ECSGS Configuration Lead will perform day-by-day configuration management with change control.

In the Software Maintenance Plan, software maintenance for instrument simulators and on-board software, for each of the Levels and for the global integrated system, are specified explicitly.

The ECSGS maintenance will be properly guaranteed throughout the duration of the project, since staff for this purpose has been foreseen at all sites, thus for all Levels of data processing.

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7. Management interfaces within the EC

In the present section interfaces are described by distinguishing them among interfaces internal to the ECSGS, and interfaces external to the ECSGS.

7.1. Interfaces internal to the ECSGS

7.1.1. Interfaces between the OUs and the SDCs

As already mentioned, each OU is in charge of developing algorithms that meet OU-relevant requirements and (optionally) of implementing and testing them in a prototype pipeline. The prototype pipeline can be specific to an OU, with no specifications on compatibility or efficiency. It primarily validates its compliance with the scientific performance specifications.

Each OU writes the documentation describing each relevant algorithm and the set of validation tests required that are passed to the SDC. The SDC integrates the prototype or implements the corresponding algorithm in the Euclid pipelines, verifies it passed/failed the test and reports to the OU with a recommendation. The OU carries out its own verification and reports on the outcome. In the event of a failure during the implementation in the relevant SDC, the integrated or new code is delivered back to the OU for the next cycle. The OU may start from that delivery to improve their prototypes for the next development cycle. In this way next SDC integration is minimised.

From an informal survey carried out with OU and SDC Leads, it has become evident that in most cases OU members work in close contact with SDC-DEV staff in their own Institutes, and contribute their algorithmic knowledge to the development of software that is directly developed following the rules defining pipeline quality code. Therefore, no formal transfer of deliverable items between the OU and SDC-DEV is necessary, since the development is jointly carried out. Only in some special cases, there might be the need for the OU to have a formal interface with a single SDC-DEV, thus implying a formal delivery of outputs from the OU to the SDC. The possible need for an Interface Control Document (ICD) or a similar document under the custodianship of the SDC will be specified as an interface requirement in the Requirement Specifications Document for the specific Processing Function.

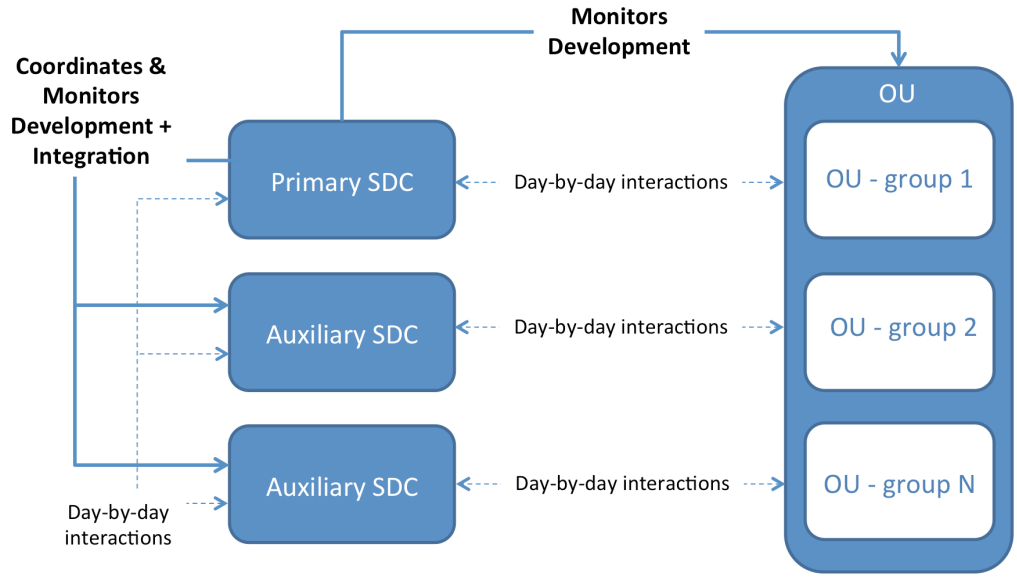


Figure 7-1 : Development of pipeline code : logic schema of the interactions between Primary and Auxiliary SDC and OUs. Explanations in the text.

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The practical mechanism for the interaction between OUs and SDC-DEVs is described in the following. For each Processing Function, one SDC is identified as responsible for coordination of the OU in charge of Processing Function definition/prototyping and of other SDCs that are involved in the process as auxiliary actors (e.g.: data or code provision). This means that the all actors interact in the day-by-day activity under the coordination and monitoring of the Primary SDC. The logic schema of the interactions between Primary and Auxiliary SDC and OUs is reported in Figure 7-1. The coordination activity is carried out by the Primary SDC, both in terms of planning the development and receiving the necessary inputs from the OUs (prototypes) and the Auxiliary SDCs (code to be integrated). On a day-by-day basis, the OUs interact with the subsets of the SDCs (both Primary and Auxiliary) developing pipeline code, and SDCs have the interactions needed among them.

In other words, a one-to-one mapping between an OU an SDC (actually the SDC-DEV) is supposed to happen at the "module" level, i.e. for a block of data processing software to be implemented at the SDC (i.e. part of the Processing Function pipeline defined by the OU). This allows flexibility: either a complete OU-SDC mapping or a more composite situation involving several national groups in an OU and their respective SDCs (in principle, one for every module).

The documentation is focused on the software products to be realized (Processing Functions): therefore for each Processing Function there is a Development Plan (DP), a Requirements Specification Document (RSD) and a Validation Plan (VP). These documents have been jointly developed by OUs and SDCs, and in particular the DP defines the OU-SDC connections applying to the specific Processing Function.

If the documentation mentioned above focuses on the products, the remaining specificities of OUs and SDCs are restricted only to the organisational and management field: such information is included in Section 10 of this document, one subsection per OU or SDC.

The concepts defined above are described in a “Best Practices” document [RD13]. Details on the OU-SDC mapping for every Processing Function can be found in the individual SDC Development Plans.

7.1.2. Interfaces among the SDCs

The baseline approach for data interfaces between SDCs is to define a common SGS data model and common data structures according to specific documents, developed within the SGS System Team and agreed upon by the ECSGS and the SOC.

If appropriate, internal interfaces will be defined and managed. The interfaces will be defined by means of appropriate Internal Interface Control Documents (IICD), which will follow the requirements defined in an ECSGS Internal Interface Requirements Document (IIRD). This applies to any item that is not data-related.

As an alternate approach to the baseline described in the first paragraph of this section, the ICD(s) will define also the structure of the data products to be exchanged between the OUs and the related SDCs. In any case, the physical exchange will happen through the EA infrastructure.

7.1.3. The ECSGS Organisation Group

Practically, ECSGS issues are discussed within the ECSGS Organisation Group, a group composed of all OU and SDC Leads, chaired by ECSGS Manager, and with the participation of whole Project Office; the the SOC Development Manager and the SOC staff are permanently invited. The ECSGS Manager will settle conflicts which cannot be resolved within the ECSGS Organisation Group.

7.1.4. Interfaces between the Instrument Operation Teams

The formation and composition of the IOTs is described in Section 6.1 above. It is to be noted that the IOTs will be built as a natural evolution of the teams developing and testing on-ground the instruments (IDTs + SGS development teams).

IOT members will be full-fledged members of the ECSGS, and will be in charge of the instruments maintenance and operations.

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Internal interfaces between IOTs are necessary for the EC internal coordination of observation planning, definition of the pointing schedule and the instrument configuration, before providing the input to the SOC. The IOT-IOT interfaces will be defined within an Internal Interface Control Document (IICD). The ECSGS Instrument Operations Coordinator is a member of the ECSGS PO and is responsible for coordinating the communication between the two IOTs and among the IOTs and the rest of the ECSGS; he/she is furthermore in charge acting as single point of contact between the IOTs and SOC.

7.2. Interfaces external to the ECSGS

The different bodies that make up the EC need necessarily to relate to each other. In the following we describe those relation distinguishing among interfaces between the SWGs and the SDCs and OUs with a special remark on those related to scientific simulations, interfaces with the Instrument Development Teams, interfaces about instrument calibration and interfaces with the Communications Group.

7.2.1. SWG-OU/SDC Interfaces related to pipelines development

The relations between SWGs and OUs/SDCs are discussed and resolved within the Coordination Group defined in the EC Management Plan [AD05]. In the case of conflicts, the issue is raised at the ECL level. The formal interfaces between SWGs and OUs/SDCs are kept to a minimum, to avoid over-formalisation of relationships. Rather, a thorough collaboration between the groups is encouraged and will eventually occur: as a matter of fact, some researchers working on Euclid could plausibly be simultaneously in a SWG, in an OU and in a SDC (and also within an Instrument Development/Operations Team).

From the SGS perspective, the SWGs are mainly in charge of providing/refining data processing requirements as an input to the GDPRD [AD03] and of verifying that such requirements are met. The SWGs will define/create validation tests for each requirement specified in the GDPRD [AD03] to ensure that all requirements are properly met. The validation procedures will actually be run by the OUs (and SDCs) as part of their own WBS.

7.2.2. Interfaces with the SWG related to scientific simulations

All results from scientific simulations are used if relevant for the construction of data simulations. Tasks included in OU-SIM will contain the development of code capable of interfacing the results from scientific simulations as input to the data simulations pipelines.

7.2.3. Interfaces with the Instrument Development Teams

It is important that the members of the Instrument Development Teams, including the respective EC Instrument Scientists, who are familiar with the Euclid instruments and their operation, are fully involved in both the construction and testing of the data processing pipelines as well as in the analysis and evaluation of the instruments performances before and after launch. Conversely, it is important to involve at the early stages the ECSGS staff in the instruments characterisation activities.

In addition to the EC Coordination Group activity (see [AD05]), direct channels of communication between the Instruments and the SGS Development Teams are established. During SGS development, formal means of communication include memos and exchanges of software and test data. Less formal but equally important means include exchange of technical and scientific staff between the Instrument Teams and the SDCs, or extended visits by senior personnel.

As mentioned in Section 5, the SDCs will host an Instrument Operations Team (IOT) for the relevant instrument. The IOTs will be built by members of the teams developing and testing on-ground the instruments (IDTs), and of the teams developing data processing algorithms for the instrument data (OUs). IOTs will be formed no later than the delivery of the instruments to ESA for integration on the spacecraft: there will be an overlap between the lifetime of an IDT and of the related IOT.

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Any possible issues between the Instrument Development Teams and the ECSGS are discussed and resolved within the Coordination Group defined in the EC Management Plan [AD05].

7.2.4. Interfaces related to Instruments Calibration

The plan for instruments calibration is derived from [RD06]: the document deals with both on-ground and in-flight calibrations. The ECSGS activity is co-ordinated with such a document and all its derivations and implications.

The response of the instruments will first be determined on-ground during the characterisation campaign. In-flight measurements, both of astronomical sources and the on-board calibration hardware, will be used to update this model with new values of the time-evolving parameters.
On-ground calibrations will be carried out, as appropriate, at part level or at subassembly level and otherwise at payload level.

In-orbit calibrations will be carried out:
- during in-flight commissioning and performance verification;
- during normal operations, using either the science data itself or on-board calibration hardware;
- by observing specific calibration fields, generally combined with the Deep Survey.

Staff from the instrument-oriented SDCs (the IOTs) shall be involved in the on-ground calibration activities from the earliest phase possible. In particular, such staff will get acquainted with the use of the software prepared to characterise the instruments, which will be re-used or integrated in the ground segment for the checking of the in-flight measurements. The SGS staff may participate directly, at earlier stages, in the development of such software, if the activity is included in the WPB (TBD).

The activities revolving around the instrument calibration plans [RD15-16] will be integrated in the OU activities: instrument calibration scientists will be part of the OUs, and that the OU Lead and Deputies will take part in the discussions of the instrument calibration and operations.

Items related to instruments calibration, and the relevant split of responsibilities between the Instrument Teams and the ECSGS, are discussed and resolved within the Coordination Group defined in the EC Management Plan [AD05].

EC personnel (IDTs and SGS staff) will participate with ESA in the Calibration Working Group (CWG), which will assess the calibration strategy in view of both instruments and spacecraft development and operations.

7.2.5. Interfaces with the Communications Group

The Euclid Communication Plan includes work-packages related to Internal Communication, External Communication or Education and Public Outreach (EPO), Events.

Within the interface mechanism with the Euclid Consortium Communication (COMS) Group (defined in the EC Management Plan [AD05]), the ECSGS will provide any material useful for the Communications Group activity, as relevant. No input product to the ECSGS from the Communications Group is foreseen.

Any possible issues between the Communications Group and the ECSGS are discussed and resolved within the ECCG, the Coordination Group defined in the EC Management Plan [AD05].

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8. Cost management principles

In the context of the ECSGS, Cost Management is the process of effectively planning and controlling the costs involved in the design, development and operations of the ECSGS. The process involves various activities such as collecting, analysing, evaluating and reporting cost statistics.

The advantages of applying cost management to the ECSGS are expected to include:
- the maintenance of a central record of all predicted expenses (resources and personnel);
- the ability to control the use of resources for the project;
- the ability to monitor the use of resources and take appropriate measures to mitigate the risk of overspending;
- the possibility of predicting the project future expenses and costs.

Cost management is foreseen in the ECSGS as an integral part of the overall management. Monitoring the progresses and costs and taking the decisions at managerial, technical and programmatic level within the ECSGS is therefore a responsibility of the ECSGS Manager, with support from the PO (and in particular the Project Controller).

Cost Management impacts with a set of other elements in the ECSGS management, most notably schedule, development plan and related WBS, risk management and Quality Planning (PA/QA and data quality monitoring). The interactions between these elements are shown in Figure 8-1 : they shall be tracked at all times by the PO.

The EC Management Plan [RD07] identifies the cost control in the EC as being based on ECSS-M-TST-60C standard, which has been tailored for the ECSGS [AD04]. The Cost at Completion is set up and will be maintained all along the project on a quarterly basis. Relevant action will be taken as necessary at managerial and funding level (contingencies).

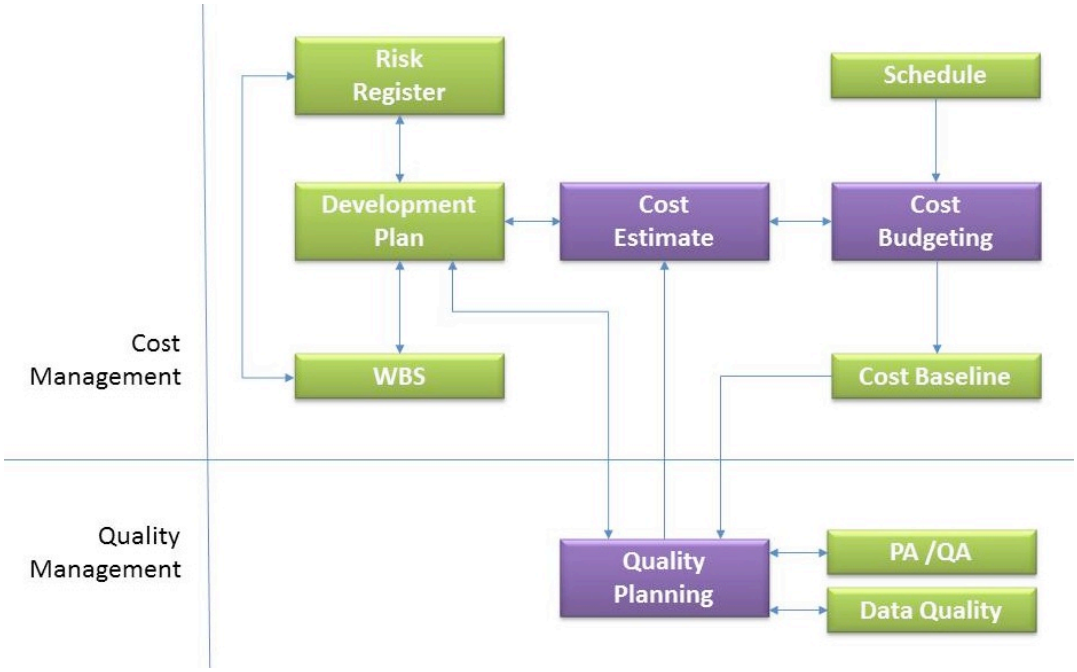


Figure 8-1 : Interactions between management elements (in green) and activities (in purple) of the ECSGS. Risks influence the Development Plan and the corresponding WBS, schedule is a driver: such elements allow preparing a cost baseline through Cost Management (the sum of the Cost Estimate and Cost Budgeting activities). The PA/QA and, especially, data quality elements constitute the core of the Quality Planning activity, which provides feedback to influence the Cost Estimate.

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The expected costs in the design and development of the ECSGS have been estimated during Phase A of the project; they undergo periodic re-assessment and update. They are considered to be an annex to this document (TBC). The ECSGS Manager approves the predicted expenses, which are sent to the ECL approval and ECB endorsement.

The costs and expenses are recorded and monitored during the development and operations phases to ensure that the cost is in line with the actual cost management plan. The actual costs (especially use of staff) are regularly compared with the predicted costs to help predicting possible inconsistencies. The costs or the resources (planned vs. employed) are recorded by the PO using the periodic (quarterly, TBC) reports of WP Leads through OU and SDC Leads (as described in Sections 6.3.2-6.3.3), and in particular the forms evaluating planned vs. used resources, to identify possible issues.

There is always the possibility of unexpected costs, but preparation in the form of cost management will likely make them much easier to deal with when they occur. The objectives of the ECSGS project are clearly identified. However, unforeseen events may happen, or activities which are initially undefined or are changed during the course of the project may become necessary. As an example, de-scoping or simplifications in the instruments may have as a consequence an increased complexity of the data processing procedures, and lead to additional resources being used with cost over-runs. All of these possibilities are to be included in the SGS Risk Register. Most of the mitigation actions considered in the Risk Register are tailored to provide technical solutions to the contingencies, within the boundaries of a fixed budget, and in a no-transfer-of-funds scenario. Considering to have some contingency in the budget, or to shift some tasks from one national development/operations group to another, are considered to be appropriate risk mitigation measures as well; however, they need to be discussed and agreed at a higher level, within the ECB.

The use of specific software tools to support Cost Management will be considered (TBC).

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9. ECSGS Individual Responsibilities

Role	Institute	Responsible
Management		
ECSGS Manager	INAF-OATs (Italy)	A. Zacchei
System Team Lead	CNES (France)	C. Dabin
Project Scientist activities	CEA (France)	M. Sauvage
Project Control Support	INAF-HQ (Italy)	D. Fierro
PA/QA Lead	INAF-OATs (Italy)	C. Vuerli
Configuration Lead	INAF-OATs (Italy)	O. Mansutti
IOTs Coordination	Uni Trieste (Italy)	A. Gregorio
SGS System Engineering		
Data Model CCB Coordinator	IAP (France)	JM. Delouis
OUs		
OU-VIS: Vis imaging	IAP (France) *MSSL (UK)*	H.McCracken/ C. Grenet *N. Shane*
OU-NIR: NIR imaging	INAF-OAR (Italy) *Uni Leiden (Netherlands)*	A. Grazian *R. Bouwens*
OU-SIR: NIR spectroscopy	INAF-IASFmi (Italy) *LAM (France)*	M. Scodeggio *C. Surace*
OU-EXT: Non-Euclid data	RuG (Netherlands) USM (Germany)	G. Verdoes-Kleijn J. Mohr
OU-SIM: Simulations	IEEC (Spain) *CPPM (France)*	S. Serrano *A. Ealet*
OU-MER: Merging	INAF-OAR (Italy) *IAS (France)* *MPE (Germany)*	A. Fontana *M. Douspis* *M. Kuemmel*
OU-SPE: Spectral-z Measurements	LAM (France) *INAF-OABo (Italy)*	O. Le Fèvre *M. Mignoli*
OU-SHE: Shear	IfA Edinburgh (UK) *EPFL (Switzerland)* *Uni Bonn (Germany)*	A. Taylor *F. Courbin* *T. Schrabback*
OU-PHZ: Photo-z	UNIGE (Switzerland) *IEEC (Spain)*	S. Paltani *F. Castander*
OU-LE3: Level 3 Data	CEA (France) *Uni Trieste (Italy)* *UCL (UK)*	J-L. Starck *E. Branchini* *F. Abdalla*
SDCs		
SDC UK	Edinburgh (UK)	K. Noddle *M. Holliman*
SDC Switzerland	UNIGE (Switzerland)	P. Dubath --
SDC France	CNES (France)	M. Poncet *J-J. Metge*
SDC Italy	INAF-OATs (Italy)	M. Frailis *D. Maino*
SDC Netherlands	RuG (Netherlands)	O.R.Williams *A. Belikov*
SDC Spain	PIC (Spain)	C. Neissner *N. Tonello*
SDC Germany	MPE (Germany)	J. Koppenhoefer *F. Raison*
SDC Finland	Uni Helsinki (Finland)	E. Keihänen *H. Kurki-Suonio*
SDC USA	IPAC (USA)	H. Teplitz *J. Rector*

Table 9-1: Roles and responsibilities in ECSGS management.

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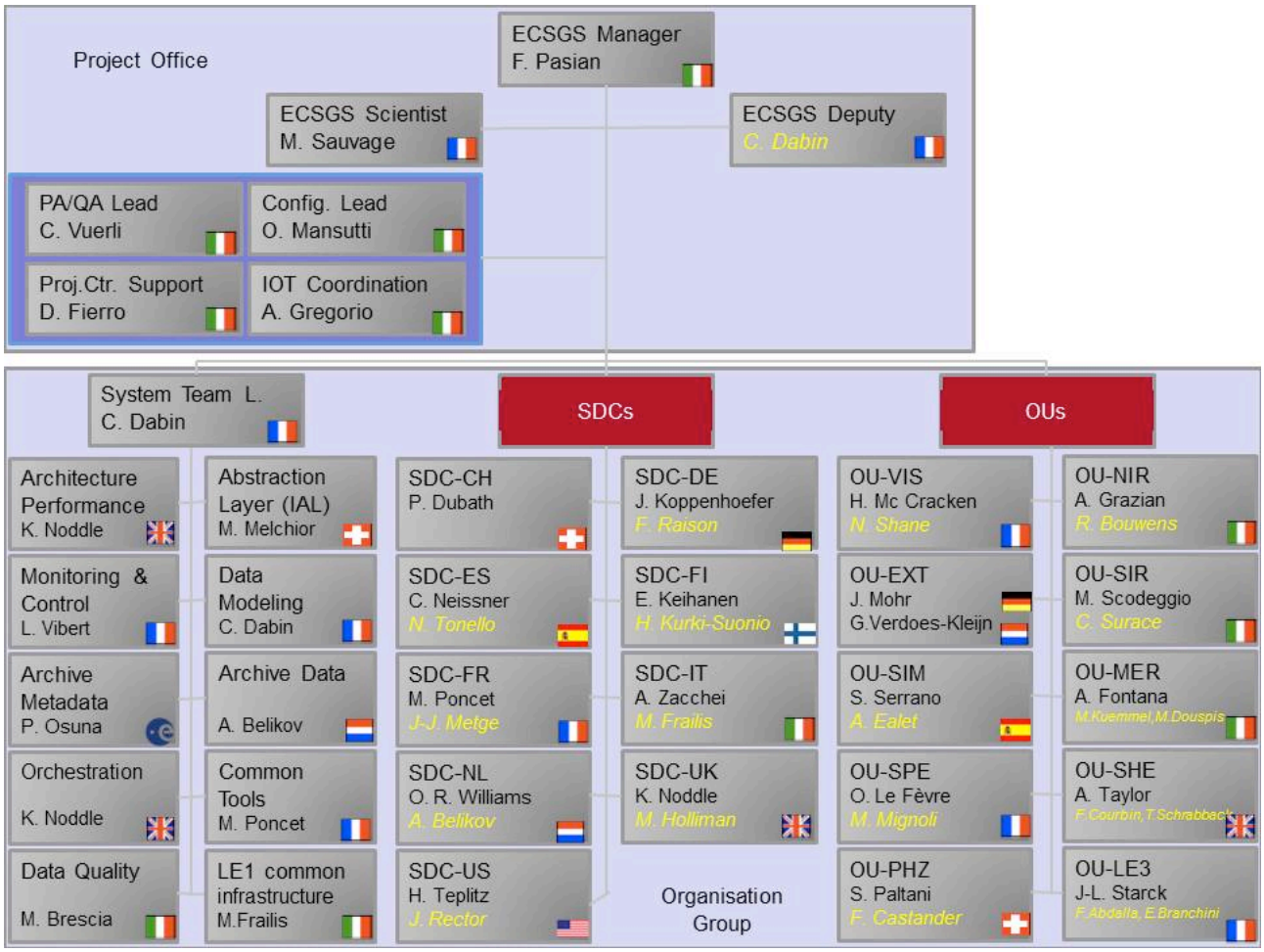


Figure 9-1: Management of the ECSGS (this figure provides details to contents of Figure 6-2).

The roles and responsibilities in ECSGS management described in Section 6.2 and the names of the relevant actors are reported in Table 9-1, and depicted graphically in Figure 9-1.

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10. OUs and SDCs Management figures

In the following subsections we describe the management figures inside the individual OUs and SDCs.

10.1. OU-VIS Management

10.1.1. OU-VIS roles and responsibilities

The management team inside OU-VIS are the two co-leads and the Deputy, the Scientific Coordinator, the Technical Coordinator and the Validation Responsible (also known as IV&V Representative). Note that some of these roles are shared between personnel.

10.1.1.1. OU-VIS leads

The leads are responsible for achieving the objectives of OU-VIS. A deputy lead assists the leads.

In particular, the Leads and the Deputy Lead are responsible for:

- Ensuring OU tasks are adequately described by the WBS/WS;
- Ensuring the consistency of the OU;
- Planning and prioritising OU activities;
- Designing the work breakdown structure for the OU activities;
- Appointing the work package managers;
- Managing the OU human resources and OU budget;
- Monitoring OU progress;
- Staying on schedule;
- Managing the relations with the VIS primary SDC, SDC-FR (there is no auxiliary SDC);
- Reporting to the ECSGS Manager;
- Reporting to the ECSGS Scientist;
- Ensuring ECSGS Project Office directives are applied;
- Interacting with the ECSGS Project Office;
- Following the interactions with the SWGs under supervision of the ECSGS Scientist;

The Leads and the Deputy Leads are members of the ECSGS Organisation Group and the Euclid SGS System Team.

10.1.1.2. OU-VIS Scientific Coordinator

The Scientific Coordinator is responsible for:

- Ensuring scientific consistency and scientific value of OU-VIS activities and products;
- Ensuring scientific directives are applied;
- Interacting with the ECSGS Scientist, and the OUs and SWGs implementing the VIS processing function .

10.1.1.3. OU-VIS Technical Coordinator

The Technical Coordinator is responsible for:

- Ensuring technical consistency and technical value of OU-VIS activities and products;
- Ensuring the relevant directives from the System Team are correctly applied;
- Communicating with the equivalent counterparts in SDC-FR and with the System Team.

10.1.1.4. OU-VIS Validation Lead

The Validation Lead is in charge of:

- Evaluating the SGS-wide policy for IV&V;
- Preparing and maintaining of the product-specific Validation Plan;
- Managing the execution of the IV&V Plan and the product-specific Validation Plans;
- Managing of the products resulting from the execution of the product-specific Validation Plans;
- Preparing periodic product-specific Validation reports.

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- Participating in regular meetings with the Euclid SGS IV&V Team.
- Attending the dedicated IV&V meetings.

10.1.1.5. OU-VIS WP Managers

The WP manger is responsible for:

- Ensuring the tasks comprising the WP are adequate;
- Ensuring consistency in internal WP tasks;
- Planning and prioritising the WP activities;
- Managing the WP human resources and WP budget;
- Follow-up of WP activities and ensuring the WP remains on schedule;
- Managing the relations with the primary and auxiliary SDCs related to the WP activities;
- Reporting to the OU-Leads and the deputy leads;
- Communicating with other OU-VIS WP Managers;
- Maintaining an updated WP description.

10.1.2. Monitoring mechanisms and reporting mechanisms to the Lead

OU-VIS activities will be coordinated and managed in the following way:

- OU-VIS activities and outstanding actions will be summarized and monitored on the OU-VIS wiki pages hosted on the ESA RSSD wiki[1], together with a schedule for task completion as outlined in the OU-VIS software development plan and associated documents. All members of the OU can post or edit the wiki pages.
- Each month, a teleconference will be held to monitor progress in each of the work packages and progress towards integration at the SDC level. The audience of this teleconference will be all concerned parties (including, but not limited to, WP leads and SDC representatives).
- Each WP lead will be expected to make a brief report at each teleconference. Afterwards, the following activities will take place:
    - The list of outstanding tasks, resource utilisation and project progress will be updated accordingly;
    - Minutes will be posted on the ESA RSD OU-VIS pages, together with the updated task status;
    - Delayed tasks will be flagged for additional attention and supplementary meetings scheduled with the concerned parties in order to quickly resolve the issues raised;
    - Reports from the WP leaders submitted at the teleconference will be used to write the OU-level reporting documents for the project office.
- Once a year, a general OU-VIS meeting will be held to review long-term goals and resolve any outstanding issues.
- Every six months the regular SGS “Garage day” meetings will be used to resolve outstanding issues concerning the SGS and more specifically interactions between the different OUs. The OU-leads will also participate in the relavent SWG meetings whenever possible.

It is expected that at each of the nodes the WP managers organise and plan tasks themselves at a finer-grained level in order to meet the objects laid out by the OU leads and discussed at the regular OU-wide teleconferences. The minutes and notes of any such WP-level meetings should normally be accessible to the OU.

10.1.3. Appointed persons

This section lists the personnel appointed to the different OU activites.

- OU-VIS Leads: H. J. McCracken, Kevin Benson
- OU-Deputy Lead: Catherine Grenet

[1] http://wiki.cosmos.esa.int/euclid/index.php/EC_SGS_OU_VIS

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- OU-VIS Scientific Coordinator: H. J. McCracken
- OU-VIS Technical Coordinator: Catherine Grenet
- OU-VIS Validation Responsible: Patrick Tisserand
- OU-VIS WP Managers: See SGS management document

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10.2. OU-NIR Management

10.2.1. OU-NIR Roles and responsibilities

The management figures inside the OU-NIR are the Lead and the Deputy, the Scientific Coordinator and the Technical Coordinator, the Validation Lead (also known as IV&V Representative).

10.2.1.1. OU-NIR Lead and Deputy

The Lead is responsible for the successful achievement of the OU-NIR objectives.
The Lead is assisted by a Deputy Lead.
In particular, the Lead and the Deputy Lead are in charge of:

- Ensuring the tasks coverage
- Ensuring the OU consistency
- Planning and prioritising the OU activities
- Designing the work breakdown structure for the OU activities
- Appointing the work packages managers
- Manage the OU human resources and OU budget
- Following up the progress of the OU activities
- Staying on schedule
- Managing the relations with the NIR Processing Function primary SDC, which is SDC-IT, and the NIR PF auxiliary SDCs, which are SDC-NL and SDC-US.
- Reporting to the ECSGS Manager
- Reporting to the ECSGS Scientist
- Ensuring ECSGS Project Office directives application
- Dialoguing with the ECSGS Project Office
- Following the interactions with the SWGs, under the ECSGS Scientist supervision

The Lead and the Deputy Lead are members of the ECSGS Organisation Group and the Euclid SGS System Team.

10.2.1.2. OU-NIR Scientific Coordinator

The Scientific Coordinator is responsible of:

- Ensuring scientific consistency and scientific value of OU-NIR activities and products
- Ensuring scientific directives application
- Dialoguing with the ECSGS Scientist, and the OUs and SWGs dealing to the NIR processing function.

10.2.1.3. OU-NIR Technical Coordinator

The Technical Coordinator is responsible of:

- Ensuring technical consistency and technical value of OU-NIR activities and products
- Ensuring System Team relevant directives application
- Dialoguing with the equivalent counterparts in the SDCs that are primary or auxiliary SDC for the NIR processing function, and with the System Team

10.2.1.4. OU-NIR Validation Lead

The Validation Lead is in charge of:

- Evaluating of the SGS-wide policy for IV&V
- Preparing and maintaining of the product-specific Validation Plan. (TBD)
- Managing the IV&V Plan execution and the product-specific Validation Plans execution.
- Managing of the products resulting from the product-specific Validation Plans execution.
- Preparing periodic product-specific Validation reports.
- Participating to the joint periodic meetings with the Euclid SGS IV&V Team.
- Attending the dedicated IV&V meetings.

10.2.1.5. OU-NIR WP Managers

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The Manager of a WP is responsible of:

- Ensuring the WP tasks coverage
- Ensuring the WP activities consistency
- Planning and prioritising the WP activities
- Manage the WP human resources and WP budget
- Following up the progress of the WP activities and checking the staying on schedule
- Managing the relations with the primary and auxiliary SDCs related to the WP activities
- Reporting to the OU-NIR Lead and Deputy Lead
- Dialoguing with the other OU-NIR WP Managers
- Keeping the work package description up to date

10.2.2. Monitoring mechanisms and reporting mechanisms to the Lead

OU-NIR activities will be managed and coordinated using different mechanisms:

- The main OU-NIR activities and most important actions will be summarized on the OU-NIR wiki pages hosted at the ESA RSSD Euclid wiki, http://wiki.cosmos.esa.int/euclid/index.php/EC_SGS_OU_NIR

All members of OU-NIR can post or edit these wiki pages.

- The work in progress activities, a collection of the ongoing works, and a schedule for task completion as outlined in the NIR PF software development plan and associated documents will be maintained at the Euclid Redmine, http://euclid.roe.ac.uk/projects/ousdci/wiki

All members of OU-NIR can post or edit these wiki pages.

- Each month, a checkpoint meeting/teleconference will be held to monitor the progresses of the development of the NIR Processing Function, without any particular action expected.
- Every three months, a regular progress meeting/teleconference will be held to discuss main issues of OU-NIR, to monitor short term and long term progresses in the development and validation of each work package and to check the progresses towards integration at the SDC level. The audience of this teleconference will be all concerned parties (including, but not limited to, WP leads and SDC representatives). The SWG Leads can be invited to discuss relevant scientific issues. The teleconf will start with an update of the OU-NIR activities by the Lead and Deputy, then each WP Lead will make a brief report of the status of each WP. In particular they will discuss about progresses on the Validation and on the SW development. Then, the following activities will take place:
  - discuss any problematic areas (technical, manpower or funding) that could impact on the Euclid Consortium activities;
  - The list of the actions, short term and long term activities, resource utilization, devoted effort and project progress will be updated on a dedicated wiki page under Redmine;
  - Minutes of the teleconf will be posted on the ESA RSSD OU-NIR pages, together with the updated task status;
  - Delayed tasks will be flagged for additional attention and supplementary teleconf/meetings scheduled with the concerned parties in order to quickly resolve the issues raised;
  - Reports from the WP leaders submitted at the teleconference will be used to write the OU-level reporting documents for the project office.
- Ordinary communications (news from EC Lead, from SGS Lead or Scientist or other Euclid staff) will be sent by e-mail and a dedicated section will be created under the OU-NIR Redmine wiki.
- In case an urgent item must be discussed, a short teleconference will be held with the interested parties.
- Once a year, a general OU-NIR meeting will be held to review long-term goals and resolve any outstanding issues.
- Every four months the regular SGS “Garage day” meetings will be used to resolve outstanding issues concerning the SGS and more specifically interactions between the different OUs. The OU Lead and/or Deputy will also participate in the relevant SWG meetings whenever possible.

It is expected that at each of the nodes involved in OU-NIR the WP managers organize and plan tasks themselves at a finer grained level in order to meet the objects laid out by the OU leads and discussed at the regular OU-wide teleconferences. The minutes and notes of any such WP-level meetings should normally be accessible to the whole OU.

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10.2.3. Appointed persons

In this section we indicate the persons that are presently appointed to the above described figures.

- OU-NIR Lead: **Andrea Grazian**
- OU-NIR Deputy Lead: **Rychard Bouwens**
- OU-NIR Scientific Coordinator: TBD
- OU-NIR Technical Coordinator: TBD
- OU-NIR Validation Responsible: **Rychard Bouwens**
- OU-NIR WP Managers:
    - WP 4-3-02-1100 *OU-NIR Management*: **A. Grazian**
    - WP 4-3-02-1200 *OU-NIR Simulations*: **G. Seidel**
    - WP 4-3-02-1300 *OU-NIR Data Model*: **V. Testa**
    - WP 4-3-02-1400 *OU-NIR Quality Control*: **R. Bouwens**
    - WP 4-3-02-1500 *OU-NIR Calibrations*: **S. Wachter**
    - WP 4-3-02-1600 *OU-NIR interface with NISP Instrument Team*: **K. Jahnke**
    - WP 4-3-02-1700 *OU-NIR interface with Euclid Archive User Group*: **L. Calzoletti**
    - WP 4-3-02-1800 *OU-NIR Validation*: **R. Bouwens**
    - WP 4-3-02-2100 *Initialize Image*: **A. Grazian**
    - WP 4-3-02-2200 *Bad Pixel Masking*: **H. Teplitz**
    - WP 4-3-02-2300 *Non-linearity and saturation flag*: **H. Teplitz**
    - WP 4-3-02-2400 *Dark and Bias subtraction*: **H. Teplitz**
    - WP 4-3-02-2500 *Cosmic ray rejection on single frame*: **I. Labbe'**
    - WP 4-3-02-2600 *Persistence masking:* **R. Bouwens**
    - WP 4-3-02-3100 *Ghosts and scattered light*: **I. Labbe'**
    - WP 4-3-02-3200 *Satellite trail masking*: **R. Bouwens**
    - WP 4-3-02-3300 *Flat field correction*: **I. Labbe'**
    - WP 4-3-02-3400 *Superflat correction*: **R. Bouwens**
    - WP 4-3-02-3500 *Illumination correction*: **I. Labbe'**
    - WP 4-3-02-3600 *Background subtraction*: **R. Bouwens**
    - WP 4-3-02-4100 *Relative Astrometric calibration*: **M. Radovich**
    - WP 4-3-02-4200 *Absolute Astrometric correction*: **V. Testa**
    - WP 4-3-02-5100 *Relative Photometric calibration*: **I. Labbe'**
    - WP 4-3-02-5200 *Absolute Photometric calibration*: **H. Teplitz**
    - WP 4-3-02-6100 *Image Resampling*: **V. Testa**
    - WP 4-3-02-6200 *Cosmic ray rejection on multiple frames*: **F. Faustini**
    - WP 4-3-02-6300 *Image Stacking*: **V. Testa**
    - WP 4-3-02-6400 *PSF derivation*: **A. Grazian**
    - WP 4-3-02-7100 *Catalog Production*: **G. Polenta**
    - WP 4-3-02-7200 *Transient identification*: **F. Faustini**

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10.3. OU-SIR Management

10.3.1. OU-SIR roles and responsibilities

The OU-SIR management team is composed of the SIR lead and co-lead, the SIR Scientific Coordinator, the SIR Technical Coordinator, the SIR Validation Responsible, and the managers of the two WPs Data Model Management and Algorithms Management. Note that at the moment the managers of these two WPs are the SIR co-lead and the SIR Validation Responsible.

10.3.1.1. OU-SIR lead and co-lead

The leads are responsible for managing all OU-SIR activities, and to monitor the SIR PF development.

In particular, they are responsible for:

- Ensuring OU tasks are adequately described by the WBS/WS;
- Planning and prioritising OU activities;
- Designing the work breakdown structure for the OU activities;
- Appointing the work package managers;
- Managing the OU human resources;
- Monitoring the OU progress;
- Managing the relations with the SIR primary SDC, SDC-IT;
- Managing the relations with OU-NIR, particularly for all aspects of the development of the SIR Processing Elements that are in common with the NIR PF
- Reporting to the ECSGS Manager;
- Reporting to the ECSGS Scientist;
- Ensuring ECSGS Project Office directives are applied;
- Interacting with the ECSGS Project Office;
- Following the interactions with the SWGs under supervision of the ECSGS Scientist;

The leads are members of the ECSGS Organisation Group.

10.3.1.2. OU-SIR Scientific Coordinator

The Scientific Coordinator is responsible for:

- Ensuring the scientific consistency and the scientific value of OU-SIR activities and products;
- Ensuring scientific directives and requirements are properly taken into consideration during the development of the SIR PF;
- Interacting with the ECSGS Scientist, and with the other OUs and the SWGs that are involved in the handling or the scientific exploitation of the Euclid spectroscopic data.

10.3.1.3. OU-SIR Technical Coordinator

The Technical Coordinator is responsible for:

- Ensuring the technical consistency and the technical value of OU-SIR activities and products;
- Ensuring the relevant directives from the System Team are correctly applied;
- Managing the communications with the equivalent counterpart in SDC-IT and with the System Team.

10.3.1.4. OU-SIR Validation Lead

The Validation Lead is in charge of:

- Evaluating the SGS-wide policy for IV&V;
- Preparing and maintaining the product-specific Validation Plan;
- Managing the execution of the IV&V Plan and the product-specific Validation Plans;
- Managing of the products resulting from the execution of the product-specific Validation Plans;
- Preparing periodic product-specific Validation reports.
- Participating in regular meetings with the Euclid SGS IV&V Team.
- Attending the dedicated IV&V meetings.

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10.3.1.5. OU-SIR WP Managers

The WP manger is responsible for:

- Ensuring the WP tasks coverage
- Ensuring consistency in internal WP tasks;
- Planning and prioritising the WP activities;
- Managing the WP human resources;
- Follow-up of WP activities and ensuring the WP remains on schedule;
- Managing the relations with the primary and auxiliary SDCs related to the WP activities;
- Reporting to the OU-lead and co-lead about WP activities;
- Communicating with other OU-SIR WP Managers;
- Maintaining an updated WP description.

10.3.2. Monitoring mechanisms and reporting mechanisms to the Lead

OU-SIR activities will be managed and coordinated using different mechanisms:

- The main OU-SIR activities and most important actions will be summarized on the OU-SIR wiki pages hosted at the ESA RSSD Euclid wiki
- http://wiki.cosmos.esa.int/euclid/index.php/EC_SGS_OU_SIR (all members of OU-SIR can post or edit these wiki pages).
- The work in progress activities, a collection of the ongoing works, and a schedule for task completion as outlined in the SIR PF software development plan and associated documents will be maintained on the Euclid Redmine, http://euclid.roe.ac.uk/projects/ou-sir/wiki (all members of OU-SIR can post or edit these wiki pages).
- Each month, a checkpoint meeting/teleconference will be held to monitor the progresses of the development of the SIR Processing Function, involving the SIR management team and the WP managers responsible for the Processing Elements undergoing the most important development phase at that moment .
- Every two/three months, a regular progress meeting/teleconference will be held to discuss the main OU-SIR issues, to monitor short term and long term progresses in the development and validation of each work package and to check the progresses towards integration at the SDC level. The audience of this teleconference will be all concerned parties (including, but not limited to, WP leads and SDC representatives). The SWG Leads can be invited to discuss relevant scientific issues. The teleconf will start with an update of the OU-SIR activities by the OU lead, and then each WP Lead will make a brief report of the status of each WP. In particular they will discuss about progresses on the Validation and on the SW development. Then, the following activities will take place:
  - discuss any problematic areas (technical, manpower or funding) that could impact on the Euclid Consortium activities;
  - The list of the actions, short term and long term activities, resource utilization, devoted effort and project progress will be updated on a dedicated wiki page under Redmine;
  - Minutes of the teleconf will be posted on the ESA RSSD OU-SIR pages, together with the updated task status;
  - Delayed tasks will be flagged for additional attention and supplementary teleconf/meetings scheduled with the concerned parties in order to quickly resolve the issues raised;
  - Reports from the WP leaders submitted at the teleconference will be used to write the OU-level reporting documents for the project office.
- In case an urgent item must be discussed, a short teleconference will be held with the interested parties.
- Once a year, a general OU-SIR meeting, or possibly a joint OU-SIR and OU-SPE or OU-SIR and OU-NIR meeting will be held to review long-term goals and resolve any outstanding issues.
- Every four months the regular SGS “Garage day” meetings will be used to resolve outstanding issues concerning the SGS and more specifically interactions between the different OUs. The OU Lead and/or Deputy will also participate in the relevant SWG meetings whenever possible.

It is expected that at each of the nodes involved in OU-SIR the WP managers organize and plan tasks themselves at a finer grained level in order to meet the objects laid out by the OU leads and discussed at the

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regular OU-wide teleconferences. The minutes and notes of any such WP-level meetings should normally be accessible to the whole OU.

10.3.3. Appointed persons

This section lists the personnel appointed to the different OU activites.

- OU-SIR lead: Marco Scodeggio
- OU-SIR co-lead: Christian Surace
- OU-SIR Scientific Coordinator: Bianca Garilli
- OU-SIR Technical Coordinator: Marco Fumana
- OU-SIR Validation Responsible: Paolo Franzetti
- OU-SIR WP Managers: See SGS management document

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10.4. OU-EXT Management

OU-EXT Roles and responsibilities

The management figures inside the OU-EXT are the co-Leads, the Scientific Coordinator, the Technical Coordinator, and the Validation Lead (also known as IV&V Representative).

10.4.3276850.1. OU-EXT co-Leads

The Leads are responsible for the successful achievement of the OU-EXT objectives.
In particular, the Leads are in responsible for:

- Ensuring the tasks coverage
- Ensuring the OU consistency
- Planning and prioritising the OU activities
- Designing the work breakdown structure for the OU activities
- Appointing the work packages managers
- Managing the OU human resources and OU budget
- Following up the progress of the OU activities
- Staying on schedule
- Managing the relations with the EXT Processing Function two coordinating SDCs, which are SDC-DE and SDC-NL.
- Reporting to the ECSGS Manager
- Reporting to the ECSGS Scientist
- Ensuring ECSGS Project Office directives application
- Dialoguing with the ECSGS Project Office
- Following the interactions with the SWGs, under the ECSGS Scientist supervision

The Leads are members of the ECSGS Organisation Group and the Euclid SGS System Team.

10.4.3276850.2. OU-EXT Scientific Coordinators

The Scientific Coordinators are responsible of:

- Ensuring scientific consistency and scientific value of OU-EXT activities and products
- Ensuring scientific directives application
- Dialoguing with the ECSGS Scientist, the OUs and SWGs with respect to the EXT processing function.

10.4.3276850.3. OU-EXT Technical Coordinators

The Technical Coordinators are responsible of:

- Ensuring technical consistency and technical value of OU-EXT activities and products
- Ensuring System Team relevant directives application
- Dialoguing with the equivalent counterparts in the SDCs that are primary or auxiliary SDC for the EXT processing function, and with the System Team

10.4.3276850.4. OU-EXT Validation Leads

The Validation Leads are in charge of:

- Evaluating of the SGS-wide policy for IV&V
- Preparing and maintaining of the product-specific Validation Plan.
- Managing the IV&V Plan execution and the product-specific Validation Plans execution.
- Managing of the products resulting from the product-specific Validation Plans execution.
- Preparing periodic product-specific Validation reports.
- Participating to the joint periodic meetings with the Euclid SGS IV&V Team.
- Attending the dedicated IV&V meetings.

10.4.3276850.5. OU-EXT WP Managers

The Manager of a WP is responsible of:

- Ensuring the WP tasks coverage

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- Ensuring the WP activities consistency
- Planning and prioritising the WP activities
- Manage the WP human resources and WP budget
- Following up the progress of the WP activities and checking the staying on schedule
- Managing the relations with the primary and auxiliary SDCs related to the WP activities
- Reporting to the OU-EXT Leads
- Dialoguing with the other OU-EXT WP Managers
- Keeping the work package description up to date

10.4.3276851. Monitoring mechanisms and reporting mechanisms to the Leads

OU-EXT activities will be managed and coordinated using different mechanisms:

- The main OU-EXT activities and most important actions will be summarized on the OU-EXT wiki pages hosted at the ESA RSSD Euclid wiki,
  http://wiki.cosmos.esa.int/euclid/index.php/EC_SGS_OU_EXT
  All members of OU-EXT can post or edit these wiki pages.
- Initially, we have placed more information on the pages within the Euclid Redmine, http://euclid.roe.ac.uk/projects/sgu/wiki and therefore these pages are somewhat more complete. We foresee that this wiki will be deprecated in favor of the ESA wiki over the coming year.
  All members of OU-EXT can post or edit these wiki pages.
- In OU-EXT (DE) Munich we maintain a local wiki (Redmine)
  http://redmine.usm.uni-muenchen.de/projects/euclid001/wiki
  and issue tracker (JIRA) that we use to develop the various issues we are working on, assign tasks and track progress from week to week. We have a weekly meeting of the OU-EXT (DE) group where we discuss the progress over the last week and technical issues that have emerged. These group meetings allow expertise to efficiently flow among the group members and also have been instrumental in developing a team atmosphere. In addition, four mornings a week the OU-EXT (DE) developers (typically without Lead) have a short scrum meeting where they briefly inform each other of what the plan is for the day.
  All members of the OU-EXT (DE) group can post to or edit this wiki and use the JIRA issue tracker.
  -In OU-EXT (NL) Groningen we have weekly meetings of the OU-EXT-NL core team (OU-EXT-NL Lead and Deputy, OU-EXT-NL Technical Coordinator, OU-EXT-NL Verification Lead, OU-EXT-NL PA/QA Lead and WP Managers) together with the SDC--NL core team to identify and discuss the work under development and to identify any problem areas. It should be noted that the SDC-NL and OU-EXT-NL are co-located and will operate as a single integrated team. The minutes and action items from the weekly meetings are collected and tracked on Euclid Redmine. The work under development (tasks) are monitored with the aid of the Issue Tracking System of the Euclid Redmine, providing information such as: (1) Assignee of the task, (2) Estimated effort, (3) Expected delivery date and (4) Actual start and completion time of the activity
- Each month, a checkpoint minuted meeting/teleconference will be held to monitor the progresses of the development of the EXT Processing Function, without any particular action expected. These meetings will involve all members of EXT and will therefore ensure good cross-communication among the DE and NL teams as well as any new teams that will join.
- Every three months, a regular progress meeting/teleconference will be held to discuss main issues of OU-EXT, to monitor short term and long term progresses in the development and validation of each work package and to check the progresses towards integration at the SDC level. The audience of this teleconference will be all concerned parties (including, but not limited to, WP leads and SDC representatives). The SWG Leads can be invited to discuss relevant scientific issues. The telecon will start with an update of the OU-EXT activities by the Leads, then each WP Lead will briefly report on the status of each WP. In particular they will discuss the progress on the development of the OU-EXT algorithms and software (primary codes as well as validation codes). Then, the following activities will take place:

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- discuss any problematic areas (technical, manpower or funding) that could impact on the Euclid Consortium activities;
- Minutes of the telecon together with the list of the actions, short term and long term activities, resource utilization, devoted effort and project progress will be updated on the dedicated ESA RSSD OU-EXT pages.
- Delayed tasks will be flagged for additional attention and supplementary telecon/meetings scheduled with the concerned parties in order to quickly resolve the issues raised;
- Reports from the WP leaders submitted at the telecon will be used to write the OU-level reporting documents for the project office.

- Ordinary communications (news from EC Lead, from SGS Lead or Scientist or other Euclid staff) will be sent by e-mail and posted on a dedicated section of the ESA RSSD OU-EXT wiki.
- For urgent items, short telecons will be held with the interested parties.
- Once a year, a general OU-EXT meeting will be held to review long-term goals and resolve any outstanding issues. We will seek to coordinate this with one of the major collaboration meetings to enable people from other OUs and the PO to attend without making a special trip.
- Every four months the regular SGS "Garage day" meetings will be used to resolve outstanding issues concerning the SGS and more specifically interactions between the different OUs. The OU Leads will also participate in the relevant SWG meetings whenever possible.

It is expected that at each of the nodes involved in OU-EXT organize and plan tasks themselves at a finer grained level to meet the objects laid out by the OU leads and discussed at the regular OU-wide telecons. The minutes and notes of any such WP-level meetings should normally be accessible to the whole OU.

10.4.3276852. Appointed persons

In this section we indicate the persons that are presently appointed to the above described positions.

- OU-EXT Leads: **Joseph Mohr (DE) and Gijs Verdoes Kleijn (NL)**
- OU-EXT Scientific Coordinators: **Michael Wetzstein (DE) and Gert Sikkema (NL)**
- OU-EXT Technical Coordinators: **Roy Henderson (DE) and John McFarland (NL)**
- OU-EXT Validation Leads: **Shantanu Desai (DE) and Gert Sikkema (NL)**
- OU-EXT WP Managers:
  - WP 4-3-04-1100 *Management*: **Verdoes Kleijn/ Mohr**
  - WP 4-3-04-1200 *Tracking External Datasets*: **Mohr / Verdoes Kleijn**
  - WP 4-3-04-1300 *External Catalogs (PF4)*: **Begeman /**
  - WP 4-3-04-1400 *Testing and Validation*: **Desai/ Verdoes Kleijn**
  - WP 4-3-04-1500 *Framework for Automated Processing*: **Wetzstein / McFarland**
  - WP 4-3-04-1600 *Quality Control, Data Lineage, Monitoring*: **McFarland/ Henderson**
  - WP 4-3-04-1700 *Image Detrending and Masking*: **Desai / McFarland**
  - WP 4-3-04-1800 *EXT Survey Cataloging*: **Sikkema**
  - WP 4-3-04-1900 *Astrometric Calibration*: **Desai / McFarland**
  - WP 4-3-04-2000 *Photometric Calibration*: **Mohr (interim) / Sikkema**
  - WP 4-3-04-2100 *EXT Surveys Homogenization:* **Sikkema**
  - WP 4-3-04-2200 *Coaddition*: **Begeman/ Wetzstein**
  - WP 4-3-04-2300 *Validation and Quality Assessment*: **Desai/ Sikkema**
  - WP 4-3-04-2400 *Calibration of Select HST Data (PF2)*: **McFarland**
  - WP 4-3-04-2500 *Calibration of Select NIR Space-based Data (PF2)*: **Desai (interim) / Verdoes (interim)**
  - WP 4-3-04-2600 *Photometric Calibration Data from Gaia (PF2)*: **Mohr / Verdoes (interim)**
  - WP 4-3-04-2700 *Calibration of Galaxy Spectra (PF3)*: **Mohr (interim) / Verdoes (interim)**

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10.5. OU-SIM Management

10.5.1. OU-SIM Roles and responsibilities

The management figures inside the OU-SIM are the Lead and his Deputy, the Scientific Coordinator, the Technical Coordinator, the Validation Responsible (also known as IV&V Representative) and the PA/QA Reference Person (also known as PAQA Representative).

10.5.1.1. OU-SIM Leads

The Lead is responsible for the successful achievement of the OU-SIM objectives.
The Lead is assisted by a Deputy Lead.
In particular, the Lead and the Deputy Lead are in charge of:

- Ensuring the tasks coverage
- Ensuring the OU consistency
- Planning and prioritising the OU activities
- Designing the work breakdown structure for the OU activities
- Appointing the work packages managers
- Manage the OU human resources and OU budget
- Following up the progress of the OU activities
- Staying on schedule
- Managing the relations with the SIM primary SDC, which is SDC-ES, and the auxiliary SDCs, which is/are SDC-FR and SDC-FI.
- Reporting to the ECSGS Manager
- Reporting to the ECSGS Scientist
- Ensuring ECSGS Project Office directives application
- Dialoguing with the ECSGS Project Office
- Following the interactions with the SWGs, under the ECSGS Scientist supervision

The Lead and the Deputy Lead are members of the ECSGS Organisation Group and the Euclid SGS System Team.

10.5.1.2. OU-SIM Scientific Coordinator

The Scientific Coordinator is responsible of:

- Ensuring scientific consistency and scientific value of OU-SIM activities and products
- Ensuring scientific directives application
- Dialoguing with the ECSGS Scientist, and the OUs and SWGs dealing to the SIM processing function

10.5.1.3. OU-SIM Technical Coordinator

The Technical Coordinator is responsible of:

- Ensuring technical consistency and technical value of OU-SIM activities and products
- Ensuring System Team relevant directives application
- Dialoguing with the equivalent counterparts in the SDCs that are primary or auxiliary SDC for the SIM processing function, and with the System Team

10.5.1.4. OU-SIM Validation Lead

The Validation Lead is in charge of:

- Evaluating of the SGS-wide policy for IV&V
- Preparing and maintaining of the product-specific Validation Plan. (TBD)
- Managing the IV&V Plan execution and the product-specific Validation Plans execution.
- Managing of the products resulting from the product-specific Validation Plans execution.
- Preparing periodic product-specific Validation reports.
- Participating to the joint periodic meetings with the Euclid SGS IV&V Team.
- Attending the dedicated IV&V meetings.

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10.5.1.5. OU-SIM WP Managers

The Manager of a WP is responsible of:

- Ensuring the WP tasks coverage
- Ensuring the WP activities consistency
- Planning and prioritising the WP activities
- Manage the WP human resources and WP budget
- Following up the progress of the WP activities and checking the staying on schedule
- Managing the relations with the primary and auxiliary SDCs related to the WP activities
- Reporting to the OU-SIM Lead and Deputy Lead
- Dialoguing with the other OU-SIM WP Managers
- Keeping the work package description up to date

10.5.2. Monitoring mechanisms and reporting mechanisms to the Lead

The following actions take place to monitor the activities inside OU-SIM and ensure the schedule tracking:

- Weekly teleconference meetings with SIM developers (joint with SDC-ES dev)
- Every 2 to 4 months workshops or group meetings
- Bi-monthly reports by the WP managers with updates, manpower description and possible issues
- *Monthly telecons between Lead, Deputy, Scientific Coordinator, Technical Coordinator and Validation lead to track the schedule and the status of the different tasks.*

10.5.3. Appointed persons

In this section we indicate the persons that are presently appointed to the above described figures.

- OU-SIM Lead: Santiago Serrano
- OU-SIM Deputy Lead: Anne Ealet
- OU-SIM Scientific Coordinator: Eric Jullo
- OU-SIM Technical Coordinator: Pau Tallada
- OU-SIM Validation Responsible: Nadia Tonello
- OU-SIM WP Managers:
    - WP 4-3-05-1100 (Specs & Requirements): Anne Ealet
    - WP 4-3-05-1200 (Coordination & Releases): Santiago Serrano
    - WP 4-3-05-1300 (DQ & Validation): Nadia Tonello
    - WP 4-3-05-1400 (Interfaces): Anne Ealet
    - WP 4-3-05-1200 (Data Model): Eric Jullo
    - WP 4-3-05-2110 (VIS simulator): Patrick Hudelot
    - WP 4-3-05-2120 (NISP-S simulator): Julien Zoubian/Nicolas Fourmanoit
    - WP 4-3-05-2130 (NISP-P simulator): Gregor Seidel
    - WP 4-3-05-2210 (EXT Ground Based simulator): Remi Fahed
    - WP 4-3-05-2220 (EXT Gaia simulator): Mathias Schultheis
    - WP 4-3-05-2310 (MER simulator): Marco Castellano
    - WP 4-3-05-2320 (SHE simulator): Frederic Courbin
    - WP 4-3-05-2330 (SPE simulator): Paolo Franzetti
    - WP 4-3-05-2340 (PHZ simulator): Francisco Castander
    - WP 4-3-05-2350 (LE3 simulator): Carlton Baugh
    - WP 4-3-05-3100 (True Universe Galaxies): Carlton Baugh
    - WP 4-3-05-3200 (True Universe Stars): Mathias Schultheis
    - WP 4-3-05-4100 (Survey Strategy Sim - Euclid): Jerome Amiaux
    - WP 4-3-05-4200 (Survey Strategy Sim - EXT): Santiago Serrano

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10.6. OU-MER Management

10.6.1. OU-MER Roles and responsibilities

The management figures inside the OU-MER are the Lead and his Deputies, the Scientific Coordinator, the Technical Coordinator, the Validation Responsible (also known as IV&V Representative).

10.6.1.1. OU-MER Lead/Leads

The Lead is responsible for the successful achievement of the OU-MER objectives.
The Lead is assisted by a/two Deputy Lead/Leads
In particular, the Lead and the Deputy Lead/Leads are in charge of:

- Ensuring the tasks coverage
- Ensuring the OU consistency
- Planning and prioritising the OU activities
- Designing the work breakdown structure for the OU activities
- Appointing the work packages managers
- Manage the OU human resources and OU budget
- Following up the progress of the OU activities
- Staying on schedule
- Managing the relations with the primary SDC, which is SDC-IT, and the auxiliary SDC(s), which are TBD
- Reporting to the ECSGS Manager
- Reporting to the ECSGS Scientist
- Ensuring ECSGS Project Office directives application
- Dialoguing with the ECSGS Project Office
- Following the interactions with the SWGs, under the ECSGS Scientist supervision

The Lead and the Deputy Lead(s) are members of the ECSGS Organisation Group and the Euclid SGS System Team.

10.6.1.2. OU-MER Scientific Coordinator

The Scientific Coordinator is responsible of:

- Ensuring scientific consistency and scientific value of OU-MER activities and products
- Ensuring scientific directives application
- Dialoguing with the ECSGS Scientist, and the OUs and SWGs dealing to the PF-MER processing function

10.6.1.3. OU-MER Technical Coordinator

The Technical Coordinator is responsible of:

- Ensuring technical consistency and technical value of OU-MER activities and products
- Ensuring System Team relevant directives application
- Dialoguing with the equivalent counterparts in the SDCs that are primary or auxiliary SDC for the PF-MER processing function, and with the System Team

10.6.1.4. OU-MER Validation Lead

The Validation Lead is in charge of:

- Evaluating of the SGS-wide policy for IV&V
- Preparing and maintaining of the product-specific Validation Plan.
- Managing the IV&V Plan execution and the product-specific Validation Plans execution.
- Managing of the products resulting from the product-specific Validation Plans execution.
- Preparing periodic product-specific Validation reports.
- Participating to the joint periodic meetings with the Euclid SGS IV&V Team.
- Attending the dedicated IV&V meetings.

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10.6.1.5. OU-MER WP Managers

The Manager of a WP is responsible of:

- Ensuring the WP tasks coverage
- Ensuring the WP activities consistency
- Planning and prioritising the WP activities
- Manage the WP human resources and WP budget
- Following up the progress of the WP activities and checking the staying on schedule
- Managing the relations with the primary and auxiliary SDCs related to the WP activities
- Reporting to the OU-MER Lead(s) and Deputy Lead(s)
- Dialoguing with the other OU-MER WP Managers
- Keeping the work package description up to date

10.6.2. Monitoring mechanisms and reporting mechanisms to the Lead

The OU Lead or his Deputy coordinates monitoring activities related to WP execution with support of:

- OU-MER Scientific Coordinator
- OU-MER Technical Coordinator
- OU-MER Validation Lead

Monitoring activity will consists in periodic internal progress meeting (teleconferences or face-to-face meetings) whose Minute of Meetings will be shared within the OU-MER. At each internal progress meeting the Action Item List shall be discussed and updated. Outcomes of meetings on scientific or technical issue (teleconference or F2F) shall be reported to OU-Leads by means of a Minute of Meeting.
Periodicity of internal progress report is established in three months. In any case, OU-MER participants can call a meeting if necessary.
OU Leads will delivery to PO Team the "OU-MER Progress Report" with the same periodicity of internal progress meeting reporting status of OU-MER. OU-MER Progress Report will include following information:

- Status of the work under development making reference to WP active
- Plan of activities for the next periodic
- Status of used resources
- Tracking of efforts by individuals (also to the aim of gathering publishing rights under the EC policy)
- Identified risks both in management area or in the technical/scientific area and proposed recovery action
- Any problem areas (technical, manpower or funding) that could impact on the Euclid Consortium activities

10.6.3. Appointed persons

In this section we indicate the persons that are presently appointed to the above described figures.

- OU-MER Lead: Adriano Fontana
- OU-MER Deputy Lead(s):
- OU- MER Scientific Coordinator:
- OU- MER Technical Coordinator:
- OU- MER Validation Responsible:
- OU- MER WP Managers:
    - WP 4-3-06-1100 OU-MER Management: Adriano Fontana
    - WP 4-3-06-1200 OU-MER Processing Function Specification
    - WP 4-3-06-2100 Mosaicing
    - WP 4-3-06-2200 Galaxy model fitting and classification
    - WP 4-3-06-2300 PSF homogenization

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- WP 4-3-06-2400 Background Subtraction
- WP 4-3-06-3200 Multi-band object detection
- WP 4-3-06-4100 Multi-wavelength photometry I: PSF-matched
- WP 4-3-06-4200 Multi-wavelength photometry II: PSF-fitting
- WP 4-3-06-4300 Multi- wavelength photometry on single images
- WP 4-3-06-5100 Simulations based on high resolution real images
- WP 4-3-06-5200 Simulations based on mock catalogs
- WP 4-3-06-6100 Processing Function Validation

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10.7. OU-SPE Management

10.7.1. OU-SPE Roles and responsibilities

The management figures inside the OU-SPE are the Lead and his Deputy, the Scientific Coordinator, the Technical Coordinator, the Validation Responsible (also known as IV&V Representative) and the PA/QA Reference Person (also known as PAQA Representative).

10.7.1.1. OU-SPE Leads

The Lead is responsible for the successful achievement of the OU-SPE objectives.
The Lead is assisted by a Deputy Lead.
In particular, the Lead and the Deputy Lead are in charge of:

- Ensuring the tasks coverage
- Ensuring the OU consistency
- Planning and prioritising the OU activities
- Designing the work breakdown structure for the OU activities
- Appointing the work packages managers
- Manage the OU human resources and OU budget
- Following up the progress of the OU activities
- Staying on schedule
- Managing the relations with the SPE primary SDC, which is SDC-FR, and the auxiliary SDC, which is SDC-IT.
- Reporting to the ECSGS Manager
- Reporting to the ECSGS Scientist
- Ensuring ECSGS Project Office directives application
- Dialoguing with the ECSGS Project Office
- Following the interactions with the SWGs, under the ECSGS Scientist supervision

The Lead and the Deputy Lead are members of the ECSGS Organisation Group and the Euclid SGS System Team.

10.7.1.2. OU-SPE Scientific Coordinator

The Scientific Coordinator is responsible of:

- Ensuring scientific consistency and scientific value of OU-SPE activities and products
- Ensuring scientific directives application
- Dialoguing with the ECSGS Scientist, and the OUs and SWGs dealing to the SPE processing function

10.7.1.3. OU-SPE Technical Coordinator

The Technical Coordinator is responsible of:

- Ensuring technical consistency and technical value of OU-SPE activities and products
- Ensuring System Team relevant directives application
- Dialoguing with the equivalent counterparts in the SDCs that are primary or auxiliary SDC for the SPE processing function, and with the System Team

10.7.1.4. OU-SPE Validation Lead

The Validation Lead is in charge of:

- Evaluating of the SGS-wide policy for IV&V
- Preparing and maintaining of the product-specific Validation Plan. (TBD)
- Managing the IV&V Plan execution and the product-specific Validation Plans execution.
- Managing of the products resulting from the product-specific Validation Plans execution.
- Preparing periodic product-specific Validation reports.
- Participating to the joint periodic meetings with the Euclid SGS IV&V Team.
- Attending the dedicated IV&V meetings.

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10.7.1.5. OU-SPE WP Managers

The Manager of a WP is responsible of:

- Ensuring the WP tasks coverage
- Ensuring the WP activities consistency
- Planning and prioritising the WP activities
- Manage the WP human resources and WP budget
- Following up the progress of the WP activities and checking the staying on schedule
- Managing the relations with the primary and auxiliary SDCs related to the WP activities
- Reporting to the OU-SPE Lead and Deputy Lead
- Dialoguing with the other OU-SPE WP Managers
- Keeping the work package description up to date

10.7.2. Monitoring mechanisms and reporting mechanisms to the Lead

The following actions take place to monitor the activities inside OU-SPE and ensure the schedule tracking:

- Weekly teleconference meetings with SPE developers (joint with SDC-FR dev)
- Every 2 to 4 months workshops or group meetings
- Bi-monthly reports by the WP managers with updates, manpower description and possible issues
- *Monthly telecons between Lead, Deputy, Scientific Coordinator, Technical Coordinator and Validation lead to track the schedule and the status of the different tasks.*

10.7.3. Appointed persons

In this section we indicate the persons that are presently appointed to the above described figures.

- OU-SPE Lead: Olivier Le Fèvre
- OU-SPE Deputy Lead: Marco Mignoli
- OU-SPE Scientific Coordinator: Olivier Le Fèvre
- OU-SPE Technical Coordinator: Christian Surace
- OU-SPE Validation Responsible: Vincent Le Brun
- OU-SIM WP Managers:
    - WP 4-3-07-1000 (Management): Olivier Le Fèvre
    - WP 4-3-07-2000 (Interfaces): Christian Surace
    - WP 4-3-07-2100 (Interfaces w/ SDC and System team): Christian Surace
    - WP 4-3-07-2200 (Interfaces with other OUs): Marco Scodeggio
    - WP 4-3-07-3000 (Requirements, performance, validation): Vincent Le Brun
    - WP 4-3-07-4000 (Data management): Christian Surace
    - WP 4-3-07-4100 (Data model): Marco Scodeggio
    - WP 4-3-07-4200 (Mask quality): Christian Surace
    - WP 4-3-07-5000 (Algorithms management): Olivier Le Fèvre
    - WP 4-3-07-5100 (Spectra combination): Olivier Le Fèvre / Emmanuele Rossetti
    - WP 4-3-07-5200 (Line identification and redshift measurement): Olivier Le Fèvre
    - WP 4-3-07-5300 (Spectral features measurement): Marco Mignoli
    - WP 4-3-07-5400 (Redshift quality determination): Bianca Garilli
    - WP 4-3-07-5500 (Rest frame parameters): Paolo Ciliegi
    - WP 4-3-07-5600 (Spectrophotometric classification): Olivier Ilbert
    - WP 4-3-07-5700 (R&D global decontamination and redshift measurement): Didier Vibert
    - WP 4-3-07-6000 (Infrastructure): Thomas Fenouillet

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10.8. OU-SHE Management

10.8.1. OU-SHE roles and responsibilities

The management team inside OU-SHE is comprised of the Lead and two Deputies, the Scientific Coordinator, the Technical Coordinator, the Validation Responsible (also known as IV&V Representative). Note that some of these roles are shared between personnel.

10.8.1.1. OU-SHE leads

The leads are responsible for achieving the objectives of OU-VIS. A deputy lead assists the leads.

In particular, the Lead and the Deputy Leads are responsible for:

- Ensuring OU tasks are adequately described by the WBS/WS;
- Ensuring the consistency of the OU;
- Planning and prioritising OU activities;
- Designing the work breakdown structure for the OU activities;
- Appointing the work package managers;
- Managing the OU human resources and OU budget;
- Monitoring OU progress;
- Staying on schedule;
- Managing the relations with the SHE primary SDC, SDC-UK and auxiliary SDCs, SDC-D and SDC-CH;
- Reporting to the ECSGS Manager;
- Reporting to the ECSGS Scientist;
- Ensuring ECSGS Project Office directives are applied;
- Interacting with the ECSGS Project Office;
- Following the interactions with the SWGs under supervision of the ECSGS Scientist;

The Leads and the Deputy Leads are members of the ECSGS Organisation Group and the Euclid SGS System Team.

10.8.1.2. OU-SHE Scientific Coordinator

The Scientific Coordinator is responsible for:

- Ensuring scientific consistency and scientific value of OU-SIM activities and products
- Ensuring scientific directives are applied
- Interacting with the ECSGS Scientist, and the OUs and SWGs dealing to the SHE processing function

10.8.1.3. OU-SHE Technical Coordinator

The Technical Coordinator is responsible of:

- Ensuring technical consistency and technical value of OU-SHE activities and products
- Ensuring System Team relevant directives application
- Communicating with the equivalent counterparts in SDC-UK and with the System Team

10.8.1.4. OU-SHE Validation Lead

The Validation Lead is in charge of:

- Evaluating the SGS-wide policy for IV&V;
- Preparing and maintaining of the product-specific Validation Plan;
- Managing the execution of the IV&V Plan and the product-specific Validation Plans;

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- Managing of the products resulting from the execution of the product-specific Validation Plans;
- Preparing periodic product-specific Validation reports.
- Participating in regular meetings with the Euclid SGS IV&V Team.
- Attending the dedicated IV&V meetings.

10.8.1.5. OU-SHE WP Managers

The WP manger is responsible for:

- Ensuring the tasks comprising the WP are adequate;
- Ensuring consistency in internal WP tasks;
- Planning and prioritising the WP activities;
- Managing the WP human resources and WP budget;
- Follow-up of WP activities and ensuring the WP remains on schedule;
- Managing the relations with the primary and auxiliary SDCs related to the WP activities;
- Reporting to the OU-Leads and the Deputy leads;
- Communicating with other OU-SHE WP Managers;
- Maintaining an updated WP description.

10.8.2. Monitoring mechanisms and reporting mechanisms to the Lead

OU-SHE activities will be coordinated and managed in the following way:

- OU-SHE activities and outstanding actions will be summarized and monitored on the OU-SHE wiki pages hosted on the ESA RSSD wiki, together with a schedule for task completion as outlined in the OU-SHE software development plan and associated documents. All members of the OU can post or edit the wiki pages.
- Each month, a teleconference will be held to monitor progress in each of the work packages and progress towards integration at the SDC level. The audience of this teleconference will be all concerned parties (including, but not limited to, WP leads and SDC representatives).
- Each WP lead will be expected to make a brief report at each teleconference. Afterwards, the following activities will take place:
  - The list of outstanding tasks, resource utilisation and project progress will be updated accordingly;
  - Minutes will be posted on the ESA RSD OU-SHE pages, together with the updated task status;
  - Delayed tasks will be flagged for additional attention and supplementary meetings scheduled with the concerned parties in order to quickly resolve the issues raised;
  - Reports from the WP leaders submitted at the teleconference will be used to write the OU-level reporting documents for the project office.
- Once a year, a general OU-SHE meeting will be held to review long-term goals and resolve any outstanding issues.
- Every six months the regular SGS “Garage day” meetings will be used to resolve outstanding issues concerning the SGS and more specifically interactions between the different OUs. The OU-leads will also participate in the relevant SWG meetings whenever possible.

It is expected that at each of the nodes the WP managers organise and plan tasks themselves at a finer-grained level in order to meet the objects laid out by the OU leads and discussed at the regular OU-wide teleconferences. The minutes and notes of any such WP-level meetings should normally be accessible to the OU.

10.8.3. Appointed persons

This section lists the personnel appointed to the different OU activities.

- OU-SHE Lead: Andy Taylor
- OU-Deputy Leads: Tim Schrabback, Frederic Courbin
- OU-SHE Scientific Coordinator: Andy Taylor
- OU-SHE Technical Coordinator: Tim Schrabback

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- OU-SHE Validation Responsible: Martin Kilbinger
- OU-SHE WP Managers:
  - WP4-3-08-1000 Coordination: Andy Taylor
  - WP4-3-08-2000 Shear & PSF: Lance Miller
  - WP4-3-08-4000 Flexion: Konrad Kuijken
  - WP4-3-08-5000 CTI Correction Richard Massey
  - WP4-3-08-6000 Systematics Testing: Andy Taylor
  - WP4-3-08-7000 Validation: Martin Kilbinger
  - WP4-3-08-8000 Strong Lensing: Frederic Courbin
  - WP4-3-08-9000 Morphology: Frederic Courbin

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10.9. OU-PHZ Management

10.9.1. OU-PHZ Roles and responsibilities

The management figures inside the OU-PHZ are the Lead and her/his Deputy, the Scientific Coordinator, the Technical Coordinator, the Validation Responsible (also known as IV&V Representative) and the PA/QA Reference Person (also known as PAQA Representative).

10.9.1.1. OU-PHZ Lead/Leads

The Lead is responsible for the successful achievement of the OU-PHZ objectives.
The Lead is assisted by a Deputy Lead.
In particular, the Lead and the Deputy Lead are in charge of:

- Ensuring the tasks coverage
- Ensuring the OU consistency
- Planning and prioritising the OU activities
- Designing the work breakdown structure for the OU activities
- Appointing the work packages managers
- Manage the OU human resources and OU budget
- Following up the progress of the OU activities
- Staying on schedule
- Managing the relations with the PHZ primary SDC, which is SDC-CH, and the PHZ auxiliary SDC(s), which are SDC-ES and SDC-DE
- Reporting to the ECSGS Manager
- Reporting to the ECSGS Scientist
- Ensuring ECSGS Project Office directives application
- Dialoguing with the ECSGS Project Office
- Following the interactions with the SWGs, under the ECSGS Scientist supervision

The Lead(s) and the Deputy Lead(s) are members of the ECSGS Organisation Group and the Euclid SGS System Team.

10.9.1.2. OU-PHZ Scientific Coordinator

The Scientific Coordinator is responsible of:

- Ensuring scientific consistency and scientific value of OU-PHZ activities and products
- Ensuring scientific directives application
- Dialoguing with the ECSGS Scientist, and the OUs and SWGs dealing to the PHZ processing function

10.9.1.3. OU-PHZ Technical Coordinator

The Technical Coordinator is responsible of:

- Ensuring technical consistency and technical value of OU-PHZ activities and products
- Ensuring System Team relevant directives application
- Dialoguing with the equivalent counterparts in the SDCs that are primary or auxiliary SDC for the PHZ processing function, and with the System Team

10.9.1.4. OU-PHZ Validation Lead

The Validation Lead is in charge of:

- Evaluating of the SGS-wide policy for IV&V
- Preparing and maintaining of the product-specific Validation Plan. (TBD)
- Managing the IV&V Plan execution and the product-specific Validation Plans execution.
- Managing of the products resulting from the product-specific Validation Plans execution.
- Preparing periodic product-specific Validation reports.
- Participating to the joint periodic meetings with the Euclid SGS IV&V Team.
- Attending the dedicated IV&V meetings.

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10.9.1.5. OU-PHZ WP Managers

The Manager of a WP is responsible of:

- Ensuring the WP tasks coverage
- Ensuring the WP activities consistency
- Planning and prioritising the WP activities
- Manage the WP human resources and WP budget
- Following up the progress of the WP activities and checking the staying on schedule
- Managing the relations with the primary and auxiliary SDCs related to the WP activities
- Reporting to the OU-PHZ Lead(s) and Deputy Lead(s)
- Dialoguing with the other OU-PHZ WP Managers
- Keeping the work package description up to date

10.9.2. Monitoring mechanisms and reporting mechanisms to the Lead

The schedule of the OU-PHZ development is set by a series of milestones that correspond to the release of specification document for SDC-DEV. These milestones are defined according to the need dates of the different software models in the master schedule. The precise schedule, with the implementation and integration phases in the primary SDC, SDC-CH, is defined in the SDC-CH Development Plan.

OU-PHZ consists of a number of Workpackages, each being led by a Workpackage Manager (see next Section). The WP leader is responsible for ensuring that the work is done in the corresponding Workpackage. Each WP lead can set and track internal actions. Manpower is attributed to each Workpackage on a voluntary basis. Any problem, either programmatic or scientific, shall be reported immediately to the OU-PHZ Lead by the WP lead, in order for both of them to work towards a resolution. In particular the OU-PHZ Lead shall help the WP lead in getting enough manpower in case the level of manpower is judged insufficient.

Each WP leader is responsible for the reporting on the activities of the Workpackage to the OU-PHZ Lead and to all members of the PHZ Organisation Unit. Regular monitoring is performed on a monthly basis in different format:

- Two yearly face-to-face meetings, normally around end of June and end of November. The location of the meetings changes. Attempts are made to visit the different institutes contributing to OU-PHZ
- Four yearly teleconferences, end of January, March, July and September
- Six yearly reports (the “PHZ blog”), end of February, April, June, August, October and December

Meetings and face-to-face meetings are minuted. Actions at the PHZ level are set and tracked by the OU-PHZ Lead. Documents are archived, and can be accessed by all members of the PHZ Organisation Unit. The Wiki page of the PHZ Organisation Unit is the main tool to manage the OU-PHZ activities.

The reporting of the contributions of the different OU-PHZ members is performed individually for each Workpackage by the WP lead. Each contribution must be accepted by the OU-PHZ Lead, who bears the final responsibility for the reporting of all OU-PHZ contributions to the Project Office. In case arbitration is requested, it is resolved by the OU-PHZ Lead, the WP lead and the OU-PHZ Deputy Lead.

10.9.3. Appointed persons

In this section we indicate the persons that are presently appointed to the above described figures.

- OU-PHZ Lead: Stéphane Paltani
- OU-PHZ Deputy Lead: Francisco Castander
- OU-PHZ Scientific Coordinator: Stéphane Paltani
- OU-PHZ Technical Coordinator: Pierre Dubath
- OU-PHZ Validation Responsible: Francisco Castander
- OU-PHZ PA/QA Representative: Jean Coupon
- OU-PHZ WP Managers:

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- WP 4-3-09-1101: Stéphane Paltani [OU-PHZ Management]
- WP 4-3-09-1102: Jean Coupon [OU-VIS/NIR/EXT/MER Interface]
- WP 4-3-09-1103: Stéphane Paltani [OU-SIR/SPE Interface]
- WP 4-3-09-1104: Hendrik Hildebrandt [OU-SHE Interface]
- WP 4-3-09-1105: Francisco Castander [OU-SIM Interface]
- WP 4-3-09-1106: Filipe Abdalla [OU-LE3 Interface]
- WP 4-3-09-2101: Stéphane Arnouts [Spectral Energy Distributions]
- WP 4-3-09-2103: Pierre Dubath [Instrument and Sky Characteristics]
- WP 4-3-09-2201: Peter Capak [Archival Redshift Surveys]
- WP 4-3-09-2202: Matt Jarvis [Dedicated Observations]
- WP 4-3-09-3101: Olivier Ilbert [Bias]
- WP 4-3-09-3102: Filipe Abdalla [Object Classification]
- WP 4-3-09-3103: Mara Salvato [AGN]
- WP 4-3-09-3105: Claudia Maraston [Physical Parameters]
- WP 4-3-09-3205: Roser Pellò/Roberto Saglia [Template Fitting Algorithms]
- WP 4-3-09-3209: Filipe Abdalla/Giuseppe Longo [Machine-Learning Algorithms]
- WP 4-3-09-3211: Stéphane Paltani [Science Coordination]
- WP 4-3-09-4101: Stéphane Paltani [Output Data Format]
- WP 4-3-09-4102: Francisco Castander [Photo-Z Combination]
- WP 4-3-09-4103: Stéphane Paltani [Spectroscopic Redshifts]
- WP 4-3-09-5101: Jean Coupon [Testing]
- WP 4-3-09-5103: Francisco Castander [Validation]

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10.10. OU-LE3 Management

10.10.1. OU-LE3 roles and responsibilities

The management team inside OU-LE3 are the three co-leads and the Validation Responsible (also known as IV&V Representative).

10.10.2. OU-LE3 leads

The leads are responsible for achieving the objectives of OU-LE3.

In particular, the Leads and the Deputy Leads are responsible for:

- Ensuring OU tasks are adequately described by the WBS/WS;
- Ensuring the consistency of the OU;
- Planning and prioritising OU activities;
- Designing the work breakdown structure for the OU activities;
- Appointing the work package managers;
- Managing the OU human resources and OU budget;
- Monitoring OU progress;
- Staying on schedule;
- Managing the relations with the LE3 primary SDC, SDC-FR (there is no auxiliary SDC);
- Reporting to the ECSGS Manager;
- Reporting to the ECSGS Scientist;
- Ensuring ECSGS Project Office directives are applied;
- Interacting with the ECSGS Project Office;
- Following the interactions with the SWGs under supervision of the ECSGS Scientist;

The Leads are members of the ECSGS Organisation.

10.10.2.1. OU-LE3 Validation Lead

The Validation Lead is in charge of:

- Evaluating the SGS-wide policy for IV&V;
- Preparing and maintaining of the product-specific Validation Plan;
- Managing the execution of the IV&V Plan and the product-specific Validation Plans;
- Managing of the products resulting from the execution of the product-specific Validation Plans;
- Preparing periodic product-specific Validation reports.
- Participating in regular meetings with the Euclid SGS IV&V Team.
- Attending the dedicated IV&V meetings.

10.10.2.2. OU-LE3 WP Managers

The WP manger is responsible for:

- Ensuring the tasks comprising the WP are adequate;
- Ensuring consistency in internal WP tasks;
- Planning and prioritising the WP activities;
- Managing the WP human resources and WP budget;
- Follow-up of WP activities and ensuring the WP remains on schedule;
- Managing the relations with the primary and auxiliary SDCs related to the WP activities;
- Reporting to the OU-Leads ;
- Communicating with other OU-LE3 WP Managers;
- Maintaining an updated WP description.

10.10.2.3. Monitoring mechanisms and reporting mechanisms to the Lead

OU-LE3 activities will be managed and coordinated using different mechanisms:

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- The main OU-LE3 activities and most important actions will be summarized on the OU-LE3 wiki pages hosted at the ESA RSSD Euclid wiki, http://wiki.cosmos.esa.int/euclid/index.php/EC_SGS_OU_LE3
- OU-LE3 activities and outstanding actions will be summarized and monitored on the OU-LE3 wiki pages hosted on the ESA RSSD wiki[2], together with a schedule for task completion as outlined in the OU-LE3 software development plan and associated documents.
  All members of the OU can post or edit the wiki pages.
- Each month, a teleconference will be held to monitor progress in each of the work packages and progress towards integration at the SDC level. The audience of this teleconference will be all concerned parties (including, but not limited to, WP leads and SDC representatives).
- Each WP lead will be expected to make a brief report at each teleconference. Afterwards, the following activities will take place:
  - The list of outstanding tasks, resource utilisation and project progress will be updated accordingly;
  - Minutes will be posted on the ESA RSD OU-LE3 pages, together with the updated task status;
  - Delayed tasks will be flagged for additional attention and supplementary meetings scheduled with the concerned parties in order to quickly resolve the issues raised;
  - Reports from the WP leaders submitted at the teleconference will be used to write the OU-level reporting documents for the project office.
- Once a year, a general OU-LE3 meeting will be held to review long-term goals and resolve any outstanding issues.
- Every six months the regular SGS "Garage day" meetings will be used to resolve outstanding issues concerning the SGS and more specifically interactions between the different OUs. The OU-leads will also participate in the relevant SWG meetings and teleconferences whenever possible.

It is expected that at each of the nodes the WP managers organise and plan tasks themselves at a finer-grained level in order to meet the objects laid out by the OU leads and discussed at the regular OU-wide teleconferences.
The minutes and notes of any such WP-level meetings should normally be accessible to the OU.

10.10.3. Appointed persons

This section lists the personnel appointed to the different OU activites.

- OU-LE3 Leads: J.-L. Starck, Enzo Branchini (Deputy), Filipe Abdalla (Deputy)
- OU-LE3 Integration, Verification, Validation Responsible: Bertrand Morin
- OU-LE3 Pipeline Implementation: Sandrine Pires
- OU-LE3 Representative for the SDC data model - Florent Sureau
- OU-LE3 WP Managers:
  - WP 4-3-10-2130: Enzo Branchini & Lado Samushia [Galaxy clustering - Implementation]
  - WP 4-3-10-2230: Carlton Baugh & Matteo Viel [Galaxy clustering - Validation]
  - WP 4-3-10-2140 Andrea Biviano & Sophie Maurogordato [Clusters of galaxies – Implementation]
  - WP 4-3-10-2240 Tommaso Giannantonio & Roser Pello [Clusters of galaxies - Validation]
  - WP 4-3-10-2150 Filipe Abdalla and Jean-Luc Starck [Weak Lensing- Implementation]
  - WP 4-3-10-2250 Benjamin Joachimi & Raiko Nakajima [Weak Lensing - Validation]
  - WP 4-3-10-2160 Isabel Hook [Time Domain – Implementation]
  - WP 4-3-10-2260 Jean-Philippe Beaulieu [Time Domain - Validation]
  - WP 4-3-10-2170 Mario Nonino [Milky Way and Nearby Objects – Implementation]

[2] http://wiki.cosmos.esa.int/euclid/index.php/EC_SGS_OU_LE3

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- WP 4-3-10-2270 Subhanjoy Mohanty [Milky Way and Nearby Objects – Validation]
- WP 4-3-10-2110 Sandrine Pires [Internal Data- Implementation]
- WP 4-3-10-2210 Elena Zucca [Internal Data – Validation]
- WP 4-3-10-2120 Sandro Bardelli [External Data - Implementation:]
- WP 4-3-10-2220 Martin Kilbinger [External Data – Validation]

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10.11. SDC-CH Management

10.11.1. SDC-CH Roles and responsibilities

The management figures inside the SDC-CH are the Lead, the Scientific Coordinator, the Technical Coordinator, the Verification Responsible (also known as IV&V Representative) and the PA/QA Reference Person (also known as PAQA Representative).

10.11.1.1. SDC-CH Lead

The Lead is responsible for the successful achievement of the SDC-CH objectives.
In particular, the Lead is in charge of:

- Ensuring the tasks coverage
- Ensuring the SDC consistency
- Planning and prioritising the SDC activities
- Designing the work breakdown structure for the SDC activities
- Appointing the work packages managers
- Manage the SDC human resources and SDC budget
- Following up the progress of the SDC activities and checking the staying on schedule
- Managing the relations with the OUs for which SDC-CH is the primary SDC for the corresponding Processing Functions, which is OU-PHZ.
- Managing the relations with the OUs for which SDC-CH is auxiliary SDC for the corresponding Processing Functions, which is OU-SHE and with the corresponding primary SDCs, which is respectively SDC-UK.
- Reporting to the ECSGS Manager
- Reporting to the Euclid SGS System Team Lead
- Ensuring ECSGS Project Office and System Team directives application
- Dialoguing with the ECSGS Project Office and System Team
- Following the interactions with the SWGs, under the ECSGS Scientist supervision

The Lead is member of the ECSGS Organisation Group and the Euclid SGS System Team.

10.11.1.2. SDC-CH Scientific Coordinator

The Scientific Coordinator is responsible of:

- Ensuring scientific consistency and scientific value of SDC-CH activities and products
- Ensuring scientific directives application
- Dialoguing with the ECSGS Scientist, and the OUs and SWGs dealing to the processing functions developed at SDC-CH

10.11.1.3. SDC-CH Technical Coordinator

The Technical Coordinator is responsible of:

- Ensuring technical consistency and technical value of SDC-CH activities and products
- Ensuring System Team directives application
- Dialoguing with the equivalent counterparts in the SDCs that are primary or auxiliary SDC for the processing functions developed at SDC-CH, and with the System Team

10.11.1.4. SDC-CH Verification Lead

The Verification Lead is in charge of:

- Evaluating of the SGS-wide policy for IV&V
- Preparing and maintaining of the product-specific Validation Plan. (TBD)
- Managing the IV&V Plan execution.
- Managing of the products resulting from the IV&V plan execution.
- Preparing periodic product-specific Verification reports.
- Participating to the joint periodic meetings with the Euclid SGS IV&V Team.
- Attending the dedicated IV&V meetings.

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10.11.1.5. SDC-CH PA/QA Lead

The PA/QA Lead is in charge of:

- Participating in the preparation and maintenance of the SGS PA Plan;
- Managing the local execution of the SGS PA plan;
- Handling the results produced by the execution of the PA plan;
- Preparing the PA reports;
- Attending the joint periodic meetings with the Euclid SGS PA Team;
- Attending the dedicated face-to-face meetings with the Euclid SGS PA Team.

10.11.1.6. SDC-CH WP Managers

The Manager of a WP is responsible of:

- Ensuring the WP tasks coverage
- Ensuring the WP activities consistency
- Planning and prioritising the WP activities
- Manage the WP human resources and WP budget
- Following up the progress of the WP activities and checking the staying on schedule
- Managing the relations with the primary and auxiliary SDCs related to the WP activities
- Reporting to the SDC-CH Lead
- Dialoguing with the other SDC-CH WP Managers
- Keeping the work package description up to date

10.11.2. Monitoring mechanisms and reporting mechanisms to the Lead

The SDC-CH team is a fully colocated team. It is following an Agile software development methodology. The work to-be-done according to this long term planning is described through Stories, each of them made of a number of Tasks and stored in a « backlog ». A planning meeting is held at the beginning of each month (our Sprint period according to Agile terminology) where tasks are allocated to the team members. The progresses are monitored during weekly meetings and the tasks are updated if necessary. At the end of the month, the results are discussed and evaluated before starting a new planning period.

All work package related reporting, concerning all aspect of the work such as progress status, technical issues, any possible problems or delays is done during the weekly meeting.

10.11.3. Appointed persons

In this section we indicate the persons that are presently appointed to the above described figures.

- SDC-CH Lead: Pierre Dubath
- SDC-CH Scientific Coordinator: position temporarily assumed by the Lead
- SDC-CH Technical Coordinator: Nikolaos Apostolakops
- SDC-CH Validation Responsible: Pavel Binko
- SDC-CH PA/QA Representative: Pavel Binko
- SDC-CH WP Managers:
    - WP 4-4-02-1000: Pierre Dubath
    - WP 4-4-02-2100: Pierre Dubath
    - WP 4-4-02-2209: Pierre Dubath
    - WP 4-4-02-2309: Pierre Dubath
    - WP 4-4-02-2305: Pierre Dubath
    - WP 4-4-02-3100: Pierre Dubath
    - WP 4-4-02-3209: Pierre Dubath
    - WP 4-4-02-3205: Pierre Dubath
    - WP 4-4-02-2208: Pierre Dubath
    - WP 4-4-02-2308: Pierre Dubath
    - WP 4-4-02-3208: Pierre Dubath

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- WP 4-4-02-3299: Pierre Dubath

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10.12. SDC-DE Management

10.12.1. SDC-DE Roles and responsibilities

The management figures inside the SDC-DE are the Lead and her/his Deputy, the Scientific Coordinator, the Technical Coordinator, the Verification Lead and the PA/QA Lead (also known as PAQA Representative).

10.12.1.1. SDC-DE Lead and Deputy

The Lead is responsible for the successful achievement of the SDC-DE objectives. The Lead is assisted by a Deputy Lead. In particular, the SDC-DE Lead and the SDC-DE Deputy are in charge of:

- Ensuring the tasks coverage
- Ensuring the SDC-DE consistency
- Planning and prioritising the SDC-DE activities
- Designing the WBS for the SDC-DE activities
- Appointing the WP managers
- Managing the SDC-DE human resources and SDC-DE budget
- Following up the progress of the SDC-DE activities and checking the staying on schedule
- Managing the relations with the OU-EXT for which SDC-DE is the primary SDC and with the corresponding auxiliary SDC which is SDC-NL
- Managing the relations with the OUs for which SDC-DE is auxiliary SDC, which are OU-MER and OU-SHE and with the corresponding primary SDCs, which are SDC-IT and SDC-UK respectively
- Reporting to the ECSGS Manager
- Reporting to the Euclid SGS System Team Lead
- Ensuring ECSGS Project Office and System Team directives application
- Dialoguing with the ECSGS Project Office and System Team
- Following the interactions with the SWGs, under the ECSGS Scientist supervision

The Lead and the Deputy Lead are members of the ECSGS Organisation Group and the Euclid SGS System Team.

10.12.1.2. SDC-DE Scientific Coordinator

The SDC-DE Scientific Coordinator is responsible for:

- Ensuring scientific consistency and scientific value of SDC-DE activities and products
- Ensuring scientific directives application
- Dialoguing with the ECSGS Scientist, and the OUs and SWGs dealing to the processing functions developed at SDC-DE

10.12.1.3. SDC-DE Technical Coordinator

The SDC-DE Technical Coordinator is responsible for:

- Ensuring technical consistency and technical value of SDC-DE activities and products
- Ensuring System Team directives application
- Dialoguing with the equivalent counterparts in the SDCs that are primary or auxiliary SDC for the processing functions developed at SDC-DE, and with the System Team
- Dialoguing with the Rechenzentrum Garching (RZG) which is operating the SDC-DE hardware

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10.12.1.4. SDC-DE Verification Lead

The SDC-DE Verification Lead is in charge of:

- Evaluating of the SGS wide policy for IV&V
- Contributing to the preparation and maintenance of the EXT Validation Plan
- Managing the IV&V Plan execution
- Managing of the products resulting from the IV&V plan execution
- Preparing periodic product-specific Verification reports
- Participating to the joint periodic meetings with the Euclid SGS IV&V Team
- Attending the dedicated IV&V meetings

10.12.1.5. SDC-DE PA/QA Lead

The SDC-DE PA/QA Lead is in charge of:

- Participating in the preparation and maintenance of the SGS PA Plan
- Managing the local execution of the SGS PA plan
- Handling the results produced by the execution of the PA plan
- Preparing the PA reports
- Attending the joint periodic meetings with the Euclid SGS PA Team
- Attending the dedicated face-to-face meetings with the Euclid SGS PA Team

10.12.1.6. SDC-DE WP Managers

Each Manager of an SDC-DE WP is responsible for:

- Ensuring the WP tasks coverage
- Ensuring the WP activities consistency
- Planning and prioritising the WP activities
- Manage the WP human resources and WP budget
- Following up the progress of the WP activities and checking the staying on schedule
- Managing the relations with the primary and auxiliary SDCs related to the WP activities
- Reporting to the SDC-DE Lead and Deputy Lead
- Dialoguing with the other SDC-DE WP Managers
- Keeping the WP description up to date

10.12.2. Monitoring mechanisms and reporting mechanisms to the Lead

All activities under the management of the SDC-DE are tracked on Redmine. WP Managers are responsible for keeping the information on the progress of their WP tasks up to date.

Weekly meetings among the SDC-DE core team (SDC-DE Lead and Deputy, SDC-DE Technical Coordinator, SDC-DE Verification Lead, SDC PA/QA Lead and WP Managers) are held to identify and discuss the work under development and to identify any problem areas. The minutes and action items from the weekly meetings are collected and tracked on Redmine.

The resources used for each WP as well as the efforts by individuals are tracked by the WP Managers and summarized in quarterly reports that are submitted to the SDC-DE Lead and Deputy by March 31st, June 30th, September 30th and December 31st. The quarterly reports also include a summary of the WP progress and potentially suggestions for WP modifications that could impact the funding or overall SDC-DE schedule and milestones. Based on the quarterly reports a dedicated progress meeting with all SDC-DE players will be held at the beginning of each quarter to discuss any changes to WPs, to funding or to any other in the road map of the SDC-DE.

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The SDC-DE Lead or Deputy and the SDC-DE Technical Coordinator meet bimonthly with a team from the RZG which is operating the SDC-DE hardware. The coordination of these meetings is under the responsibility of the SDC-DE Technical Coordinator, minutes and action items are collected and tracked on Redmine.

10.12.3. Appointed persons

In this section we indicate the persons that are presently appointed to the above described figures.

- SDC-DE Lead: Johannes Koppenhoefer
- SDC-DE Deputy: Frederic Raison
- SDC-DE Scientific Coordinator: Audrey Galametz
- SDC-DE Technical Coordinator: Antonello Piemonte
- SDC-DE Verification Lead: Frederic Raison
- SDC-DE PA/QA Lead: Frederic Raison
- SDC-DE WP Managers:
    - WP 4-4-07-1000: Johannes Koppenhoefer
    - WP 4-4-07-2100: Frederic Raison
    - WP 4-4-07-2206: Frederic Raison
    - WP 4-4-07-2207: Johannes Koppenhoefer
    - WP 4-4-07-2208: Ole Marggraf
    - WP 4-4-07-2300: Antonello Piemonte
    - WP 4-4-07-2306: Frederic Raison
    - WP 4-4-07-2307: Johannes Koppenhoefer
    - WP 4-4-07-2308: Oliver Cordes
    - WP 4-4-07-3100: Antonello Piemonte
    - WP 4-4-07-3200: Antonello Piemonte
    - WP 4-4-07-3205: Frederic Raison
    - WP 4-4-07-3206: Antonello Piemonte

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10.13. SDC-ES Management

10.13.1. SDC-ES Roles and responsibilities

The management figures inside the SDC-ES are the Lead and her/his Deputy, the Scientific Coordinator, the Technical Coordinator, the Verification Lead and the PA/QA Lead (also known as PAQA Representative).

10.13.1.1. SDC-ES Lead and Deputy

The Lead is responsible for the successful achievement of the SDC-ES objectives. The Lead is assisted by a Deputy Lead. In particular, the SDC-ES Lead and the SDC-ES Deputy are in charge of:

- Ensuring the tasks coverage
- Ensuring the SDC-ES consistency
- Planning and prioritising the SDC-ES activities
- Designing the WBS for the SDC-ES activities
- Appointing the WP managers
- Managing the SDC-ES human resources and SDC-ES budget
- Following up the progress of the SDC-ES activities and checking the staying on schedule
- Managing the relations with the OU-SIM for which SDC-ES is the primary SDC and with the corresponding auxiliary SDC which is SDC-FR (also SDC-FI)
- Managing the relations with the OU for which SDC-ES is auxiliary SDC, which is OU-PHZ and with the corresponding primary SDC, which is SDC-CH
- Reporting to the ECSGS Manager
- Reporting to the Euclid SGS System Team Lead
- Ensuring ECSGS Project Office and System Team directives application
- Dialoguing with the ECSGS Project Office and System Team
- Following the interactions with the SWGs, under the ECSGS Scientist supervision

The Lead and the Deputy Lead are members of the ECSGS Organisation Group and the Euclid SGS System Team.

10.13.1.2. SDC-ES Scientific Coordinator

The SDC-ES Scientific Coordinator is responsible for:

- Ensuring scientific consistency and scientific value of SDC-ES activities and products
- Ensuring scientific directives application
- Dialoguing with the ECSGS Scientist, and the OUs and SWGs dealing to the processing functions developed at SDC-ES

10.13.1.3. SDC-ES Technical Coordinator

The SDC-ES Technical Coordinator is responsible for:

- Ensuring technical consistency and technical value of SDC-ES activities and products
- Ensuring System Team directives application
- Dialoguing with the equivalent counterparts in the SDCs that are primary or auxiliary SDC for the processing functions developed at SDC-ES, and with the System Team
- Dialoguing with the Port d'Informacio Cientifica which is operating the SDC-ES hardware

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10.13.1.4. SDC-ES Verification Lead

The SDC-ES Verification Lead is in charge of:

- Evaluating of the SGS wide policy for IV&V
- Contributing to the preparation and maintenance of the EXT Validation Plan
- Managing the IV&V Plan execution
- Managing of the products resulting from the IV&V plan execution
- Preparing periodic product-specific Verification reports
- Participating to the joint periodic meetings with the Euclid SGS IV&V Team
- Attending the dedicated IV&V meetings

10.13.1.5. SDC-ES PA/QA Lead

The SDC-ES PA/QA Lead is in charge of:

- Participating in the preparation and maintenance of the SGS PA Plan
- Managing the local execution of the SGS PA plan
- Handling the results produced by the execution of the PA plan
- Preparing the PA reports
- Attending the joint periodic meetings with the Euclid SGS PA Team
- Attending the dedicated face-to-face meetings with the Euclid SGS PA Team

10.13.1.6. SDC-ES WP Managers

Each Manager of an SDC-ES WP is responsible for:

- Ensuring the WP tasks coverage
- Ensuring the WP activities consistency
- Planning and prioritising the WP activities
- Manage the WP human resources and WP budget
- Following up the progress of the WP activities and checking the staying on schedule
- Managing the relations with the primary and auxiliary SDCs related to the WP activities
- Reporting to the SDC-ES Lead and Deputy Lead
- Dialoguing with the other SDC-ES WP Managers
- Keeping the WP description up to date

10.13.2. Monitoring mechanisms and reporting mechanisms to the Lead

All activities under the management of the SDC-ES are tracked on Redmine. WP Managers are responsible for keeping the information on the progress of their WP tasks up to date.

Weekly meetings among the SDC-ES core team (SDC-ES Lead and Deputy, SDC-ES Technical Coordinator, SDC-ES Verification Lead, SDC-ES PA/QA Lead and WP Managers) are held to identify and discuss the work under development and to identify any problem areas.
Weekly phone conferences, sometimes more, with the OU-SIM team are held to track the progress of development work for the Processing Elements/Function.

The SDC-DEV team holds daily SRUM stand-ups to track the progress on short-term objectives (sprints).

The resources used for each WP as well as the efforts by individuals are tracked by the WP Managers and summarized in quarterly reports that are submitted to the SDC-ES Lead and Deputy, starting 2015. The quarterly reports also include a summary of the WP progress and potentially suggestions for WP

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modifications that could impact the funding or overall SDC-ES schedule and milestones. Based on the quarterly reports a dedicated progress meeting with the integrated SDC-ES/OU.SIM team will be held at the beginning of each quarter to discuss any changes to WPs, to funding or to any other in the road map of the SDC-ES.

The SDC-ES Lead or Deputy and the SDC-ES Technical Coordinator meet weekly, sometimes more often, with a team from the PIC services which is operating the SDC-ES hardware. The coordination of these meetings is under the responsibility of the SDC-ES Technical Coordinator..

10.13.3. Appointed persons

In this section we indicate the persons that are presently appointed to the above described figures.

- SDC-ES Lead: Christian Neissner
- SDC-ES Deputy: Nadia Tonello
- SDC-ES Scientific Coordinator: temporarily assumed by SDC lead
- SDC-ES Technical Coordinator: Pau Tallada
- SDC-ES Verification Lead: Nadia Tonello
- SDC-ES PA/QA Lead: Nadia Tonello
- SDC-ES WP Managers:
    - WP 4-4-06-1000: Christian Neissner
    - WP 4-4-06-2100: Pau Tallada
    - WP 4-4-06-2205: Nadia Tonello
    - WP 4-4-06-2209: Jorge Carretero
    - WP 4-4-06-230x: Pau Tallada
    - WP 4-4-06-3100: Christian Neissner
    - WP 4-4-06-320x: Nadia Tonello

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10.14. SDC-FI Management

10.14.1. SDC-FI Roles and responsibilities

The management figures inside the SDC-FI are the Lead and her/his Deputy, the Scientific Coordinator, the Technical Coordinator, the Verification Responsible (also known as IV&V Representative) and the PA/QA Reference Person (also known as PAQA Representative).

10.14.1.1. SDC-FI Lead

The Lead is responsible for the successful achievement of the SDC-FI objectives.
In particular, the Lead and the Deputy Lead are in charge of:

- Ensuring the tasks coverage
- Ensuring the SDC consistency
- Planning and prioritising the SDC activities
- Designing the work breakdown structure for the SDC activities
- Appointing the work packages managers
- Manage the SDC human resources and SDC budget
- Following up the progress of the SDC activities and checking that the SDC is staying on schedule
- Managing the relations with the OUs for which SDC-FI is an auxiliary SDC for the corresponding Processing Functions, which is OU-SIM, and with the corresponding primary SDC, which is SDC-ES.
- Reporting to the ECSGS Manager
- Reporting to the Euclid SGS System Team Lead
- Ensuring ECSGS Project Office and System Team directives application
- Dialoguing with the ECSGS Project Office and System Team
- Following the interactions with the SWGs, under the ECSGS Scientist supervision

The Lead is a member of the ECSGS Organisation Group and the Euclid SGS System Team.

10.14.1.2. SDC-FI Scientific Coordinator

The Scientific Coordinator is responsible of:

- Ensuring scientific consistency and scientific value of SDC-FI activities and products
- Ensuring scientific directives application
- Dialoguing with the ECSGS Scientist, and the OUs and SWGs dealing to the processing functions developed at SDC-FI

10.14.1.3. SDC-FI Technical Coordinator

The Technical Coordinator is responsible of:

- Ensuring technical consistency and technical value of SDC-FI activities and products
- Ensuring System Team directives application
- Dialoguing with the equivalent counterparts in the SDCs that are primary or auxiliary SDC for the processing functions developed at SDC-FI, and with the System Team

10.14.1.4. SDC-FI Verification Lead

The Verification Lead is in charge of:

- Evaluating of the SGS-wide policy for IV&V
- Preparing and maintaining of the product-specific Validation Plan. (TBD)
- Managing the IV&V Plan execution.
- Managing of the products resulting from the IV&V plan execution.
- Preparing periodic product-specific Verification reports.
- Participating to the joint periodic meetings with the Euclid SGS IV&V Team.
- Attending the dedicated IV&V meetings.

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10.14.1.5. SDC-FI PA/QA Lead

The PA/QA Lead is in charge of:

- Participating in the preparation and maintenance of the SGS PA Plan;
- Managing the local execution of the SGS PA plan;
- Handling the results produced by the execution of the PA plan;
- Preparing the PA reports;
- Attending the joint periodic meetings with the Euclid SGS PA Team;
- Attending the dedicated face-to-face meetings with the Euclid SGS PA Team.

10.14.1.6. SDC-FI WP Managers

The Manager of a WP is responsible of:

- Ensuring the WP tasks coverage
- Ensuring the WP activities consistency
- Planning and prioritising the WP activities
- Following up the progress of the WP activities and checking the staying on schedule
- Managing the relations with the primary and auxiliary SDCs related to the WP activities
- Reporting to the SDC-FI Lead and Deputy Lead
- Dialoguing with the other SDC-FI WP Managers
- Keeping the work package description up to date

10.14.2. Monitoring mechanisms and reporting mechanisms to the Lead

SDC-FI is a fully colocated team. Weekly meetings are held to identify and discuss the work under development and to identify any problem areas. The SDC-FI Lead and/or Deputy Lead will track the effort of individual staff members and will report the summary as required by the EC publishing rights policy.

10.14.3. Appointed persons

In this section we indicate the persons that are presently appointed to the above described figures.

- SDC-FI Lead: Elina Keihänen
- SDC-FI Deputy Lead: Hannu Kurki-Suonio
- SDC-FI Scientific Coordinator: Hannu Kurki-Suonio
- SDC-FI Technical Coordinator: Elina Keihänen
- SDC-FI Validation Responsible: Hannu Kurki-Suonio
- SDC-FI PA/QA Representative: Hannu Kurki-Suonio
- SDC-FI WP Managers:
  - WP 4-02-11-02-2200 (DQCT Interface with SDCs-DEV): Elina Keihänen
  - WP 4-02-11-03-3000 (VIS Quality Common Tools): Elina Keihänen
  - WP 4-02-11-03-3100 (NIR Quality Common Tools): Hannu Kurki-Suonio
  - WP 4-02-11-03-3200 (SIR Quality Common Tools): Jussi Väliviita
  - WP 4-02-11-03-3400 (SPE Quality Common Tools): Jussi Väliviita
  - WP 4-4-08-2000 (Implementation of SIM pipeline): Charles Kirkpatrick
  - WP 4-4-08-3100 (Integration of SIM pipelines): Elina Keihänen
  - WP 4-4-08-4000 (Production running of pipeline SIM): Valtteri Lindholm

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10.15. SDC-FR Management

10.15.1. SDC-FR Roles and responsibilities

The management figures inside the SDC-FR are the Lead and his Deputy, the Scientific Coordinator, the Technical Coordinator, the Verification Responsible (also known as IV&V Representative) and the PA/QA Reference Person (also known as PAQA Representative).

The SDC-FR Lead, its deputy, the SDC-FR Scientific Coordinator and the SDC-FR Technical coordinator constitute the SDC-FR core team.

The management support figures inside the SDC-FR are the Project Controller, the Risk Portfolio manager and the documentation & configuration management support.

For each French laboratory, there shall be one single local project manager in interface with the Euclid SDC-FR Lead.

10.15.1.1. SDC-FR Lead

The Lead is responsible for the successful achievement of the SDC-FR objectives.
The Lead is assisted by a Deputy Lead.
In particular, the Lead is in charge of:

- Ensuring the tasks coverage
- Ensuring the SDC consistency
- Planning and prioritising the SDC activities
- Designing the work breakdown structure for the SDC activities
- Appointing the work packages managers
- Manage the SDC human resources and SDC budget
- Following up the progress of the SDC activities and checking the staying on schedule
- Managing the relations with the OUs for which SDC-FR is the primary SDC for the corresponding Processing Functions, which are OU-VIS, OU-SPE, OU-LE3 and OU-EXT; and with the corresponding auxiliary SDCs, which are SDC-IT and SDC-UK
- Managing the relations with the OUs for which SDC-FR is auxiliary SDC for the corresponding Processing Functions, which are OU-SIM, OU-SIR and OU-MER; and with the corresponding primary SDCs, which are respectively SDC-ES and SDC-IT.
- Reporting to the ECSGS Manager
- Coordinating with the Euclid SGS System Team Lead
- Ensuring ECSGS Project Office and System Team directives adequate dispatching and application inside SDC-FR
- Dialoguing with the ECSGS Project Office and System Team
- (TBC) Following the interactions with the SWGs, under the ECSGS Scientist supervision
- Representing the SDC-FR entity in Organisation Groups, System Teams and EC
- Giving the formal clearance for the delivery of the SDC-FR deliverables

The Lead and the Deputy Lead are members of the ECSGS Organisation Group and the Euclid SGS System Team.

10.15.1.2. SDC-FR Scientific Coordinator

The Scientific Coordinator is responsible for:

- Ensuring scientific consistency and scientific value of SDC-FR activities and products
- Ensuring scientific directives adequate dispatching and application inside SDC-FR
- Dialoguing with the ECSGS Scientist, and the OUs and SWGs (TBC) dealing to the processing functions developed at SDC-FR
- giving the scientific clearance to the SDC-FR deliverables relating to the PFs under France responsibility (VIS, SPE, LE3) or contributions (LE1, SIM, SIR, EXT, MER)

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10.15.1.3. SDC-FR Technical Coordinator

The Technical Coordinator is responsible for:

- Ensuring technical consistency and technical value of SDC-FR activities and products
- Ensuring System Team directives adequate dispatching and application inside SDC-FR
- Dialoguing with the equivalent counterparts in the SDCs that are primary or auxiliary SDC for the processing functions developed at SDC-FR, and with the System Team
- Following-up the developments of the PFs under France responsibility (VIS, SPE, LE3) or contributions (LE1, SIM, SIR, EXT, MER)
- Giving the technical clearance to relevant deliverables

10.15.1.4. SDC-FR Verification Lead

The Verification Lead is in charge of:

- Evaluating of the SGS-wide policy for IV&V
- Managing the SGS IV&V Plan execution on the PF under France responsibility (VIS, SPE, LE3)
- Supporting the SGS IV&V Plan execution on the PF including French contribution (LE1, SIM, SIR, EXT, MER)
- Managing of the products resulting from the SGS IV&V plan execution.
- Preparing periodic product-specific Verification reports.
- Participating to the joint periodic meetings with the Euclid SGS IV&V Team.
- Attending the dedicated IV&V meetings.

10.15.1.5. SDC-FR PA/QA Lead

The PA/QA Lead is in charge of:

- Participating in the preparation and maintenance of the SGS PA/QA Plan;
- Managing the local execution of the SGS PA/QA plan;
- Handling the results produced by the execution of the SGS PA/QA plan;
- Preparing the PA reports;
- Attending the joint periodic meetings with the Euclid SGS PA/QA Team;
- Attending the dedicated face-to-face meetings with the Euclid SGS PA/QA Team.

10.15.1.6. SDC-FR Project Controller

The SDC-FR project controller is in charge of:

- Setting up and updating the SDC-FR overall planning
- Setting up and updating the SDC-FR overall budget
- Keep track of deadlines, internal and external milestones

10.15.1.7. SDC-FR Risk Portfolio Support

The SDC-FR Risk portfolio support is in charge of helping the SDC-FR Lead to:

- Gather risk sheets coming from involved labs
- Set up and update the SDC-FR risk portfolio
- Identify risk that are to be raised at EC SGS PO level

10.15.1.8. SDC-FR Documentation & Configuration Support

The SDC-FR Documentation support is in charge of helping the SDC-FR Lead to:

- Register and archive SDC-FR related documents
- Distribute SDC-FR related documents
- Maintain under configuration control SDC-FR related documents

10.15.1.9. SDC-FR WP Managers

The Manager of a WP is responsible for:

- Ensuring the WP tasks coverage
- Ensuring the WP activities consistency

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- Planning and prioritising the WP activities
- Managing the WP human resources and WP budget
- Following up the progress of the WP activities and checking the staying on schedule
- Managing the relations with the primary and auxiliary SDCs related to the WP activities
- Reporting to the SDC-FR core team
- Dialoguing with the other SDC-FR WP Managers
- Keeping the work package description up to date
- Coordinating and animating WP team activities
- Coordinating common activities with corresponding PF OU WP Manager

10.15.2. Monitoring mechanisms and reporting mechanisms to the Lead

SDC-FR activities are monitored through monthly activity reports coming from each French laboratory being involved. These reports follow a common template and are qualitative. This monthly report covers the following topics:

- Hot topics
- Management & Organization activities
- PA/QA activities
- IVV activities
- Per PF activities
  - Development
  - IVV
  - Operations
- SDC-FR PROD infra activities
- SDC-FR DEV infra activities

More detailed progress reports are requested at least twice a year and cover both qualitative and quantitative information and follow a common template. This progress report covers the following topics:

- Hot topics
- Quantitative report (available budget, consumed, balance)
  - Human resources follow-up (fixed positions and fixed term contracts)
  - Travels follow-up
  - Supplies and small equipment follow-up
- Qualitative report
  - Main activities
  - Progress
  - "Starfish retrospective"
    - Stop – These are the activities that do not bring value to the team. Activities that bring waste into the process.
    - Less – These are activities where an effort required to perform such activities is much smaller than a benefit. Or the activities that were brought into the team in past but did not show any overall improvements to a process.
    - Keep – Usually these are good activities or practices that team members want to keep. These activities are already being applied.
    - More – Activities on which a team should focus better, perform more often.
    - Start – Activities or ideas that a team wants to bring into the game.

A synthesis of the SDC-FR internal monthly activity report will be sent to the ECSGS Lead by the SDC-FR Lead or his Deputy.

A synthesis of the SDC-FR internal progress report will be sent to the ECSGS Lead by the SDC-FR Lead or his Deputy.

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A SDC-FR general assembly will be held once a year, to which the involved OUs and other SDCs leaders and main actors will be also invited. The scope of this annual meeting is to present the overall SDC activities, follow up and is the opportunity to exchange best practices, to raise potential issues and to agree on the main objectives and action plan for the next year.

A SDC-FR steering meeting will be held every 6 months, involving both SDC-FR core team and SDC-FR WPs' Leaders. This steering meeting could be also convened on demand in case of major or blocking issues. Over people may also participate such as the OU WP leaders of the PF under France responsibility (VIS, SPE, LE3).

A SGS-FR telecon is also organized twice a month that involves representative people coming from CNES and any French lab. This is the opportunity to tackle SGS wide point thus covering both OU and SDC activities.

For each PF under SDC-FR responsibility, dedicated teleconferences will be organized every month, involving corresponding OU and SDC people. The scope of these teleconferences is to follow-up the corresponding PF OU and SDC(s) activities, to coordinate the corresponding team(s) and to fix the main objectives and action plan for the next 2 months.

A SDC-FR long-term planning will be derived, elaborated and maintained from the EC SGS master planning, showing the general planning of each PF or contribution under French responsibility and also Dev and Prod infrastructures.

At development teams level, a more detailed schedule, depending on the selected process, either Agile or not, will be materialized and followed up either with the IceScrum tool (release and sprint planning and corresponding burn down chart) or with the Redmine tool (roadmap, tasks and corresponding Gantt chart).

The SDC-FR high level management activities, involving both SDC-FR core teams and relevant stakeholders, will be organized, coordinated and animated using an "Agile" approach and in particular using the IceScrum tool.

A light Scrum process will be applied here with 6 month releases, One to 2 months sprints and a bi-monthly point. No formal Product Owner and Scrum Master are needed. The main objective is to plan and follow-up the SDC-FR core team activities and to ensure a good visibility and coordination inside the core team. Features will be mainly driven by streams of activities and reviews, Stories by short term milestones and Tasks by related atomic actions.

10.15.3. Appointed persons

In this section we indicate the persons that are presently appointed to the above described figures.

WP Code	WP Name	Institution	Lead
4-4-03-xxxx	SDC-FR		
4-4-03-10xx	SDC-FR – Management & support		
4-4-03-1000	SDC-FR - Management	CNES	M. Poncet JJ. Metge (Deputy)
4-4-03-1010	SDC-FR – Scientific Coordination	APC	K. Ganga
4-4-03-1020	SDC-FR – Technical Coordination	CNES	J.J. Metge
4-4-03-103x	SDC-FR - Support		
4-4-03-1031	SDC-FR – Verification	CNES	JJ Metge
4-4-03-1032	SDC-FR – PA/QA	Equert s/c CNES	D. Bagot
4-4-03-1033	SDC-FR – Project Control	CNES	J. Le Galludec
4-4-03-1034	SDC-FR – Risk Porfolio	CNES	G. Hervet
4-4-03-1035	SDC-FR – Documentation & Configuration	MI-GSO s/c CNES	V. Besson-De-Nadai
4-4-03-2xxx	*SDC-FR - Development*		

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WP Code	WP Name	Institution	Lead
4-4-03-2100	SDC-FR - Development Infrastructure (CODEEN)	CNES APC	M. Poncet E. Aubourg
4-4-03-22xx	SDC-FR - Pipelines Implementation		
4-4-03-2211	SDC-FR – VIS LE1 PF implementation	IAP	O. Herent
4-4-03-2201	SDC-FR - VIS PF Implementation	IAP	S. Techene
4-4-03-2207	SDC-FR - SPE PF Implementation	LAM	P.Y. Chabaud
4-4-03-2210	SDC-FR - LE3 PF Implementation	Irfu	S. Pires B. Morin (Deputy)
4-4-03-2205	SDC-FR - SIM PF Implementation Contribution	CPPM	S. Kermiche
4-4-03-2204	SDC-FR - EXT PF Implementation Contribution	APC	M. Detournay
4-4-03-2206	SDC-FR - MER PF Implementation Contribution	IAS	L. Vibert
4-4-03-2203	SDC-FR - SIR PF Implementation Contribution	LAM	C. Surace
4-4-03-23xx	*SDC-FR - Pipelines support to V&V*		
4-4-03-2301	SDC-FR - VIS PF *support to* V&V	IAP	C. Grenet
4-4-03-2307	SDC-FR - SPE PF *support to* V&V	LAM	T. Fenouillet
4-4-03-2310	SDC-FR - LE3 PF *support to* V&V	Irfu	B. Morin
4-4-03-2305	SDC-FR - SIM PF *support to* V&V	CPPM	S. Kermiche
4-4-03-2304	SDC-FR - EXT PF *support to* V&V	APC	M. Detournay
4-4-03-2312	*SDC-FR – Euclid µPipeline support to V&V*	CNES	L. Chaoul (TBC)
4-4-03-3xxx	*SDC-FR – Production*		
4-4-03-3100	SDC-FR - Production Infrastructure	CNES CC-IN2P3	M. Poncet P.E. Macchi
4-4-03-32xx	*SDC-FR - Pipelines Operation*		
4-4-03-3205	SDC-FR - SIM PF Operation	CPPM	S. Kermiche
4-4-03-3204	SDC-FR - EXT PF Operation	APC	M. Detournay
4-4-03-3212	SDC-FR – Euclid µPipeline Operation	APC	K. Ganga

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10.16. SDC-IT Management

10.16.1. SDC-IT Roles and responsibilities

The management figures inside the SDC-IT are the Lead, who also has the role of Technical Coordinator, the Scientific Coordinator, acting also as SDC-IT Deputy Lead, the Verification Lead and the PA/QA Lead.

The SDC-IT Lead and the SDC-IT Scientific Coordinator constitute the SDC-IT core team.

10.16.1.1. SDC-IT Lead

The Lead is responsible for the successful achievement of the SDC-IT objectives.
The Lead is assisted by a Deputy Lead (role covered by the Scientific Coordinator).
In particular, the Lead and the Deputy-Lead are in charge of:

- Ensuring the tasks coverage
- Ensuring the SDC consistency
- Planning and prioritising the SDC activities
- Designing the work breakdown structure for the SDC activities
- Appointing the work packages managers
- Manage the SDC human resources and SDC budget
- Following up the progress of the SDC activities and checking the staying on schedule
- Managing the relations with the OUs for which SDC-IT is the primary SDC for the corresponding Processing Functions, which are OU-NIR, OU-SIR, OU-MER and with the corresponding auxiliary SDCs, which are SDC-NL (for NIR), SDC-FR (for SIR and MER),SDC-DE (for MER) and SDC-US (for NIR and SIR).
- Managing the relations with the OUs for which SDC-IT is auxiliary SDC for the corresponding Processing Functions, which are OU-LE3 and OU-SPE, and with the corresponding primary SDCs, which is SDC-FR.
- Managing the relations with the SOC, for the SDC-IT contribution to the LE1 Processing Function
- Reporting to the ECSGS Manager
- Reporting to the Euclid SGS System Team Lead
- Ensuring ECSGS Project Office and System Team directives application
- Dialoguing with the ECSGS Project Office and System Team
- Following the interactions with the SWGs, under the ECSGS Scientist supervision

The Lead and the Deputy Lead are members of the ECSGS Organisation Group and the Euclid SGS System Team.
With the role of Technical Coordinator, the Lead is also responsible of:

- Ensuring technical consistency and technical value of SDC-IT activities and products
- Ensuring System Team directives application
- Dialoguing with the equivalent counterparts in the SDCs that are primary or auxiliary SDC for the processing functions developed at SDC-IT, and with the System Team.
- Following-up the developments of the PFs under France responsibility (NIR, SIR, MER) or contributions (LE1, LE3, SPE).

10.16.1.2. SDC-IT Scientific Coordinator

- The Scientific Coordinator is responsible of:
- Ensuring scientific consistency and scientific value of SDC-IT activities and products
- Ensuring scientific directives application
- Dialoguing with the ECSGS Scientist, and the OUs and SWGs dealing to the processing functions developed at SDC-IT.

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10.16.1.3. SDC-IT Verification Lead

The Verification Lead is in charge of:

- Evaluating of the SGS-wide policy for IV&V
- Providing support and contribution to the product-specific Validation Plan.
- Managing the IV&V Plan execution.
- Managing of the products resulting from the IV&V plan execution.
- Preparing periodic product-specific Verification reports.
- Participating to the joint periodic meetings with the Euclid SGS IV&V Team.
- Attending the dedicated IV&V meetingss.

10.16.1.4. SDC-IT PA/QA Lead

- The PA/QA Lead is in charge of:
- Participating in the preparation and maintenance of the SGS PA Plan;
- Managing the local execution of the SGS PA plan;
- Handling the results produced by the execution of the PA plan;
- Preparing the PA reports;
- Attending the joint periodic meetings with the Euclid SGS PA Team;
- Attending the dedicated face-to-face meetings with the Euclid SGS PA Team.

10.16.1.5. SDC-IT WP Managers

The Manager of a WP is responsible of:

- Ensuring the WP tasks coverage
- Ensuring the WP activities consistency
- Planning and prioritising the WP activities
- Manage the WP human resources and WP budget
- Following up the progress of the WP activities and checking the staying on schedule
- Managing the relations with the primary and auxiliary SDCs related to the WP activities
- Reporting to the SDC-IT Lead and Deputy Lead
- Dialoguing with the other SDC-IT WP Managers and the WP managers of the auxiliary SDCs.
- Keeping the work package description up to date.

10.16.2. Monitoring mechanisms and reporting mechanisms to the Lead

The management of the activities performed by the Integrated OU/SDC Teams will be performed through periodic progress meetings dedicated to each Processing Function. In particular:

- Checkpoint teleconferences will be organized on a monthly basis. They are conceived as short meetings, to check the status of the development, with no actions raised.

- Regular progress meetings or teleconferences will be organized every 3 months. The objective of these meetings is to check the status of the development process with respect to the schedule, select new objectives and identify issues and possible solutions, identify any problem areas (technical, manpower or funding) that could impact on the Euclid Consortium activities. Actions will be raised and assigned.

The participants to these checkpoint and progress meetings are :

- The OU Lead
- The SDC-DEV Lead
- The Scientific Coordinator of SDC-IT
- The Technical Coordinator of SDC-IT (role covered by the SDC-IT Lead)
- The Validation Lead (from the OU organisation)
- The Verification and PA/QA Lead (from the SDC-IT organization)

The SDC Leads of the auxiliary SDCs will be systematically invited.

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Other participants will be invited on a case by case basis, depending upon the agenda and the priorities. The periodicity of these progress meetings will be adapted to the priorities and to the events of the Master Schedule (integrations, deliveries, reviews, external milestons, IVV challenges).

A detailed PF development schedule will keep track of the development status of each processing element, defining:

- The processing element main functionalities
- The maturity level of the processing element implementation
- The objectives and intermediate milestones with respect to the SGS Master Schedule milestones

Each PF detailed development schedule will be represented with Gantt charts and maintained as an annex of the SDC-IT Development plan, and updated according to the outcome of each checkpoint and progress meeting.

The work under development (tasks) will be monitored with the aid of an Issue Tracking System (e.g. Mantis), providing information such as:

- Assignee of the task
- Estimated effort
- Expected delivery date
- Actual start and completion time of the activity
- Hours logged to the issue

For each WP, a summary of the involved activities will be collected and reported by the WP Manager to the SDC-IT Lead and Deputy Lead on a regular basis (e.g. every 3 months).

10.16.3. Appointed persons

In this section we indicate the persons that are presently appointed to the above described figures.

- SDC-IT Lead and Technical Coordinator: Marco Frailis
- SDC-IT Scientific Coordinator and Deputy Lead: Davide Maino
- SDC-IT Verification Lead: Luca Tornatore
- SDC-IT PA/QA Lead: Tornatore
- SDC-IT WP Managers:

WP Code	WP Name	Institution	Lead
4-4-04-xxxx	**SDC-IT**		
4-4-04-10xx	**Management & Support**		
4-4-04-1000	Management	INAF-OATs	M. Frailis
4-4-04-1010	Scientific Coordination	UniMI	D. Maino
4-4-04-1020	Technical Coordination	INAF-OATs	M. Frailis
4-4-04-1031	Verification	INAF-OATs	L. Tornatore
4-4-04-1032	PA/QA	INAF-OATs	L. Tornatore
4-4-04-2xxx	**Development**		
4-4-04-21xx	**NIR PF Development**		
4-4-04-2100	NIR PF Implementation	INAF-OATs	M. Frailis
4-4-04-2110	Contribution to the implementation of the NISP raw images initialization	INAF-OAR	A. Grazian
4-4-04-2111	Contribution to the implementation of the Relative Astrometric calibration	INAF-OAPd	M. Radovich
4-4-04-2112	Contribution to the implementation of the Absolute Astrometric calibration	INAF-AOR	V. Testa

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WP Code	WP Name	Institution	Lead
4-4-04-2113	Contribution to the implementation of Image Resampling	INAF-AOR	V. Testa
4-4-04-2114	Contribution to the implementation of Cosmic ray rejection on multiple frames	ASDC	F. Faustini
4-4-04-2115	Contribution to the implementation of Image Stacking	INAF-AOR	V. Testa
4-4-04-2116	Contribution to the implementation of PSF derivation	INAF-OAR	A. Grazian
4-4-04-2117	Contribution to the implementation of Catalog Production	ASDC	G. Polenta
4-4-04-2118	Contribution to the implementation of Transient Identification	ASDC	F. Faustini
4-4-04-22xx	**SIR PF Development**		
4-4-04-2200	SIR PF Implementation	INAF-IASFmi	P. Franzetti
4-4-04-2210	Contribution to the implementation of the Spectra Location	INAF-IASFmi	M. Fumana
4-4-04-2211	Contribution to the implementation of Cosmic rays rejection	INAF-IASFmi	M. Fumana
4-4-04-2212	Contribution to the implementation of Flat Fielding	TBD	TBD
4-4-04-2213	Contribution to the implementation of Background Subtraction	INAF-OABo	P. Ciliegi
4-4-04-2214	Contribution to the implementation of Advanced de-contamination	ASDC	TBD
4-4-04-2215	Contribution to the implementation of Lambda and Flux calibration	INAF-IASFmi	M. Fumana
4-4-04-23xx	**MER PF Development**		
4-4-04-2300	MER PF Implementation	INAF-OATs	G. Galeotta
4-4-04-24xx	**SPE PF Development Contribution**		
4-4-04-2400	Contribution to SPE PF implementation	INAF-IASFmi	P. Franzetti
4-4-04-25xx	**LE3 PF Development Contribution**		
4-4-04-2500	Contribution to LE3 PF implementation	INAF-OATs	S. Galeotta
4-4-04-26xx	**NISP LE1 Development**		
4-4-04-2600	Implementation of the NISP Level 1 pipeline	INAF-OATs	M. Frailis
4-4-04-3xxx	**Production**		
4-4-04-31xx	**Infrastructure**		
4-4-04-3100	SDC-IT PROD infrastructure	INAF-OATs	G. Taffoni
4-4-04-32xx	**Pipelines Operations**		
4-4-04-3210	Production running of micro-pipelines	UniMI	D. Maino
4-4-04-3220	Production running of LE3 pipeline	INAF-OATs	L. Tornatore
4-4-04-3230	Production running of SIM pipeline	INAF-OATs	S. Galeotta
4-4-04-4xxx	**NISP Instrument Operations**		
4-4-04-4100	NISP Instrument Operations Team	INAF-IASFbo	L. Valenziano

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10.17. SDC-NL Management

10.17.1. SDC-NL Roles and responsibilities

The management figures inside the SDC-DE are the Lead and her/his Deputy, the Scientific Coordinator, the Technical Coordinator, the Verification Lead and the PA/QA Lead (also known as PAQA Representative).

10.17.1.1. SDC-NL Lead and Deputy

The Lead is responsible for the successful achievement of the SDC-NL objectives. The Lead is assisted by a Deputy Lead. In particular, the SDC-NL Lead and the SDC-NL Deputy are in charge of:

- Ensuring the tasks coverage
- Ensuring the SDC-DE consistency
- Planning and prioritising the SDC-NL activities
- Designing the WBS for the SDC-NL activities
- Appointing the WP managers
- Managing the SDC-NL human resources and SDC-NL budget
- Following up the progress of the SDC-NL activities and checking the staying on schedule
- Managing the relations with the OU-EXT-NL for which SDC-NL is the two primary SDC and with the corresponding auxiliary SDC which is SDC-DE.
- Managing the relations with the OUs for which SDC-NL is auxiliary SDC, which are OU-NIR and OU-EXT-DE and with the corresponding primary SDCs, which are SDC-IT and SDC-DE respectively.
- Managing the relations with the Euclid SOC and ESA SAT, required for the joint production of the EAS.
- Reporting to the ECSGS Manager
- Reporting to the Euclid SGS System Team Lead
- Ensuring ECSGS Project Office and System Team directives application
- Dialoguing with the ECSGS Project Office and System Team
- Following the interactions with the SWGs, under the ECSGS Scientist supervision

The Lead and the Deputy Lead are members of the ECSGS Organisation Group and the Euclid SGS System Team.

10.17.1.2. SDC-NL Scientific Coordinator

The SDC-NL Scientific Coordinator is responsible for:

- Ensuring scientific consistency and scientific value of SDC-NL activities and products
- Ensuring scientific directives application
- Dialoguing with the ECSGS Scientist, and the OUs and SWGs dealing to the processing functions developed at SDC-NL

10.17.1.3. SDC-NL Technical Coordinator

The SDC-NL Technical Coordinator is responsible for:

- Ensuring technical consistency and technical value of SDC-NL activities and products
- Ensuring System Team directives application
- Dialoguing with the equivalent counterparts in the SDCs that are primary or auxiliary SDC for the processing functions developed at SDC-NL, and with the System Team
- Dialoguing with the Donald Smits Centre for Information Technology (CIT) which is operating the SDC-NL hardware

10.17.1.4. SDC-NL Verification Lead

The SDC-NL Verification Lead is in charge of:

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- Evaluating of the SGS wide policy for IV&V
- Lead the preparation and maintenance of the EAS IV&V Plan
- Contributing to the preparation and maintenance of the EXT Validation Plan
- Managing the IV&V Plan execution
- Managing of the products resulting from the IV&V plan execution
- Preparing periodic product-specific Verification reports
- Participating to the joint periodic meetings with the Euclid SGS IV&V Team
- Attending the dedicated IV&V meetings

10.17.1.5. SDC-DE PA/QA Lead

The SDC-NL PA/QA Lead is in charge of:

- Participating in the preparation and maintenance of the SGS PA Plan
- Managing the local execution of the SGS PA plan
- Handling the results produced by the execution of the PA plan
- Preparing the PA reports
- Attending the joint periodic meetings with the Euclid SGS PA Team
- Attending the dedicated face-to-face meetings with the Euclid SGS PA Team

10.17.1.6. SDC-DE WP Managers

Each Manager of an SDC-NL WP is responsible for:

- Ensuring the WP tasks coverage
- Ensuring the WP activities consistency
- Planning and prioritising the WP activities
- Manage the WP human resources and WP budget
- Following up the progress of the WP activities and checking the staying on schedule
- Managing the relations with the primary and auxiliary SDCs related to the WP activities
- Reporting to the SDC-NL Lead and Deputy Lead
- Dialoguing with the other SDC-DE WP Managers
- Keeping the WP description up to date

10.17.2. Monitoring mechanisms and reporting mechanisms to the Lead

10.17.2.1. Mechanisms for internal SDC-NL/OU-EXT tasks

All activities under the management of the SDC-NL are tracked on Redmine. WP Managers are responsible for keeping the information on the progress of their WP tasks up to date.

Weekly meetings among the SDC-NL core team (SDC-NL Lead and Deputy, SDC-NL Technical Coordinator, SDC-NL Verification Lead, SDC PA/QA Lead and WP Managers) and the OU-EXT-NL core team are held to identify and discuss the work under development and to identify any problem areas. It should be noted that the SDC-NL and OU-EXT-NL are co-located and will operate as a single integrated team. The minutes and action items from the weekly meetings are collected and tracked on Redmine.

The work under development (tasks) will be monitored with the aid of the Issue Tracking System of Redmine, providing information such as:

- Assignee of the task
- Estimated effort
- Expected delivery date
- Actual start and completion time of the activity

Regular progress meetings or teleconferences will be organized every 3 months. The objective of these meetings is to check the status of the development process with respect to the schedule, select new objectives and identify issues and possible solutions, identify any problem areas (technical, manpower or

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funding) that could impact on the SDC-NL activities. Representatives of the OU-EXT-DE, SDC-DE and EAS SOC will be invited.

The SDC-NL Lead or Deputy and the SDC-NL Technical Coordinator meet bimonthly with a team from the CIT which is operating the SDC-NL hardware. The coordination of these meetings is under the responsibility of the SDC-NL Technical Coordinator, minutes and action items are collected and tracked on Redmine.

10.17.2.2. Mechanisms for OU-EXT Stage 2 Pipeline Development

The coordination of the activities performed by the OU-EXT-NL/SDC-NL and OU-EXT-DE/SDC-DE teams will be performed through periodic (monthly) progress telecons. The mandatory participants to these progress meetings are :

- The OU-EXT-NL and OU-EXT-DE Leads
- The SDC-NL and SDC-DE Leads
- The OU-EXT-NL and OU-EXT-DE Data Modellers
- The OU-EXT-NL and OU-EXT-DE Validation Leads
- The SDC-NL and SDC-DE PA/QA Leads

Other participants will be invited on a case by case basis, depending upon the agenda and the priorities.

Taking into account the geographic distribution of the expected participants, these progress meetings they will be handled through multi-sites teleconferences. Appending these meetings to the monthly OU-EXT telecoms would have clear organisational advantages, so they will be setup by the OU-EXT Lead and/or the OU-DE Lead. The periodicity of these progress meetings is set to 1 per months (TBC). This figure will be adapted to the priorities and to the events in the Master Schedule (integrations, deliveries, reviews, ...).

The OU-EXT-NL Lead and OU-EXT-DE Lead will be in charge of writing the minutes of these progress meetings and managing the list of actions raised during the meetings. The minutes and the actions raised during these meetings will be managed through Redmine in a project dedicated to this processing function. Minutes will be managed through Wiki pages. Actions will be managed through Issues.

10.17.2.3. Mechanisms for EAS Development

The coordination of the activities performed by the SDC-NL and SOC will be performed through periodic progress meetings. The mandatory participants to these progress meetings are :

- SOC EAS Lead
- SDC-NL Lead
- EAS WP Leads
- SOC System Engineer

The SOC Development Manager, SGS ST Lead and SAT Lead will be systematically invited. Other participants will be invited on a case by case basis, depending upon the agenda and the priorities.

Taking into account the geographic distribution of the expected participants, these progress meetings they will be handled through multi-sites teleconferences, setup by the SDC-NL lead . The periodicity of these progress meetings is set to 1 per months (TBC). This figure will be adapted to the priorities and to the events in the Master Schedule (integrations, deliveries, reviews, ...).

The SOC EAS Lead and SDC-NL Lead will be in charge of writing the minutes of these progress meetings and managing the list of actions raised during the meetings. The minutes and the actions raised during these meetings will be managed through Redmine in a project dedicated to this processing function. Minutes will be managed through Wiki pages. Actions will be managed through Issues.

10.17.3. Appointed persons

In this section we indicate the persons that are presently appointed to the above described figures.

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- SDC-NL Lead: Rees Williams
- SDC-NL Deputy: Andrey Belikov
- SDC-NL Scientific Coordinator: Gijs Verdoes Kleijn
- SDC-NL Technical Coordinator: Rees Williams (interim)
- SDC-NL Verification Lead: Gijs Verdoes Kleijn (interim)
- SDC-NL PA/QA Lead: Andrey Tsyganov
- SDC-NL WP Managers:
- WP 4-4-05-1000: Rees Williams
- WP 4-4-05-2100: Rees Williams
- WP 4-4-05-2220: Rychard Bouwens
- WP 4-4-05-2240: Gijs Verdoes Kleijn
- WP 4-4-05-2250: Andrey Belikov
- WP 4-4-07-2340: Gijs Verdoes Kleijn
- WP 4-4-07-2350: Andrey Belikov
- WP 4-4-07-2360: Andrey Tsyganov
- WP 4-4-07-3100: Rees Williams
- WP 4-4-07-3240: John McFarland
- WP 4-4-07-3250: Andrey Belikov
- WP 4-4-07-3260: John McFarland

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10.18. SDC-UK Management

10.18.1. SDC-UK Roles and responsibilities

The management roles within SDC-UK are the Lead, Deputy Lead, Scientific Coordinator, Technical Coordinator, Verification Lead, and PA/QA Lead. These roles constitute the SDC-UK core team.

For each UK WP, there shall be one project manager who coordinates activity with the Euclid SDC-UK Lead.

10.18.1.1. SDC-UK Lead

The Lead is responsible for the successful achievement of the SDC-UK objectives.
The Lead is assisted by a Deputy Lead.
In particular, the Lead is in charge of:

- Ensuring the tasks coverage
- Ensuring the SDC consistency
- Planning and prioritising the SDC activities
- Designing the work breakdown structure for the SDC activities
- Appointing the work packages managers
- Manage the SDC human resources and SDC budget
- Manage the progress of SDC activities and deadlines
- Manage the interactions with OU-SHE and OU-LE3
- Manage the delivery of all OU-SHE PFs and the OU-LE3 PFs for which SDC-UK is responsible
- Manage the interactions with other OUs and SDCs for which SDC-UK is auxiliary
- Report to the ECSGS Manager
- Coordinating with the Euclid SGS System Team Lead
- Ensure that ECSGS Project Office and System Team directives are applied at SDC-UK
- Maintain communications with the ECSGS Project Office and System Team
- Represent the SDC-UK entity in Organisation Groups, System Teams and EC
- Provide formal clearance for the delivery of SDC-UK deliverables

The Lead and the Deputy Lead are members of the ECSGS Organisation Group and the Euclid SGS System Team.

10.18.1.2. SDC-UK Scientific Coordinator

The Scientific Coordinator is responsible for:

- Ensuring scientific consistency and scientific value of SDC-UK activities and products
- Ensuring scientific directives are applied at SDC-UK
- Coordinating SDC-UK activities with the ECSGS Scientist and with the OU-SHE and OU-LE3 SWGs
- Providing guidance and support for OU-SHE developers to conform to Euclid programming rules
- Providing scientific clearance for SDC-UK deliverables relating to the OU-SHE PFs

10.18.1.3. SDC-UK Technical Coordinator

The Technical Coordinator is responsible for:

- Ensuring technical consistency and technical value of SDC-UK activities and products
- Ensuring System Team directives are applied at SDC-UK
- Ensuring SDC-UK computing infrastructure meets Euclid specifications

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- Coordinating SDC-UK activities with the equivalent counterparts in other SDCs and with the System Team
- Giving the technical clearance to relevant deliverables

10.18.1.4. SDC-UK Verification Lead

The Verification Lead is in charge of:

- Evaluating of the SGS-wide policy for IV&V
- Managing and supporting the execution of the SGS IV&V Plan for OU-SHE and OU-LE3 PFs for which SDC-UK is responsible
- Managing SGS IV&V products for OU-SHE and OU-LE3 PFs for which SDC-UK is responsible
- Preparing periodic product-specific Verification reports
- Participating in meetings with the Euclid SGS IV&V Team
- Attending the dedicated IV&V meetings

10.18.1.5. SDC-UK PA/QA Lead

- Participating in the preparation and maintenance of the SGS PA/QA Plan
- Managing the local execution of the SGS PA/QA plan
- Handling the results produced by the execution of the SGS PA/QA plan
- Preparing the PA reports
- Attending the joint periodic meetings with the Euclid SGS PA/QA Team
- Attending the dedicated face-to-face meetings with the Euclid SGS PA/QA Team

10.18.1.6. SDC-UK WP Managers

The Manager of a WP is responsible for:

- Ensuring the WP tasks coverage
- Ensuring the WP activities consistency
- Planning and prioritising the WP activities
- Managing the WP human resources and WP budget
- Following up the progress of the WP activities and checking the staying on schedule
- Managing the relations with the primary and auxiliary SDCs related to the WP activities
- Reporting to the SDC-UK core team
- Dialoguing with the other SDC-UK WP Managers
- Keeping the work package description up to date
- Coordinating and animating WP team activities
- Coordinating common activities with corresponding PF OU WP Manager

10.18.2. Monitoring mechanisms and reporting mechanisms to the Lead

SDC-UK activities will be coordinated through monthly meetings/telecons and documented on the Euclid Redmine. These meetings will include the SDC-UK core team, WP Managers, and any OU-SHE and OU-LE3 developers who wish to contribute. Quarterly progress reports of all SDC-UK activity will be provided to the ECSGS Manager. WP Managers are responsible for tracking the efforts and resources under their responsibility. They will report progress during the monthly SDC-UK meetings, and contribute documentation to be included in the Quarterly progress reports.

The SDC-UK core team will meet biweekly to discuss ongoing activities and to coordinate upcoming plans. These meetings will use an Agile approach to management. They will include planning and reporting for computing infrastructure, code development, and data production. Any pertinent notes or decisions will be documented on the Redmine.

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A SDC-UK long-term plan will be derived, elaborated and maintained from the EC SGS master plan, showing the general plan for each PF or contribution under UK responsibility and also Dev and Prod infrastructures.

10.18.3. Appointed persons

In this section we indicate the persons that are presently appointed to SDC-UK Core Team, and a list of WP leaders. Empty roles will be filled when funding allows, and new roles may be added as and when necessary.

Role Name	Institution	Person
SDC-UK Lead	WFAU	K. Noddle
SDC-UK Deputy Lead	WFAU	M. Holliman
SDC-UK – Scientific Coordinator	WFAU	R. Collins
SDC-UK – Technical Coordinator	WFAU	M. Holliman
SDC-UK – Verification Lead	WFAU	R. Blake
SDC-UK - PA/QA Lead		tbf

SDC-UK WP Managers

- WP4-4-01-0100 : Management (Edinburgh) - Keith Noddle
- WP4-4-01-1100 : Development Infrastructure (Edinburgh) - Mark Holliman
- WP4-4-01-1200 : Development Shear Pipeline - Ross Collins / Keith Noddle
- WP4-4-01-1300 : Development of LE3 Pipeline (Edinburgh) - Keith Noddle
- WP4-4-01-2100 : Production Infrastructure (Edinburgh/Cambridge) - Keith Noddle
- WP4-4-01-2200 : Production of Shear Operations (Edinburgh) - Keith Noddle
- WP4-4-01-2300 : Production of LE3 Operations (Edinburgh/Cambridge) - Keith Noddle

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10.19. SDC-US Management

10.19.1. SDC-US Roles and responsibilities

SDC-US is managed as part of the NASA Euclid Science Centre at IPAC (ENSCI), operated by the Infrared Processing and Analysis Centre (IPAC) at the California Institute of Technology (Caltech).

The management figures inside the SDC-US are the Lead, the Scientific Coordinator, the Technical Coordinator, the Verification Responsible (also known as IV&V Representative) and the PA/QA Reference Person (also known as PAQA Representative).

10.19.1.1. SDC-US Lead

The Lead is responsible for the successful achievement of the SDC-US objectives.
In particular, the Lead and the Deputy-Lead are in charge of:

- Ensuring the tasks coverage
- Ensuring the SDC consistency
- Planning and prioritising the SDC activities
- Designing the work breakdown structure for the SDC activities
- Appointing the work packages managers
- Manage the SDC human resources and SDC budget
- Following up the progress of the SDC activities and checking that the SDC is staying on schedule
- Managing the relations with the OUs for which SDC-US is an auxiliary SDC for the corresponding Processing Functions, which are OU-NIR and OU-SIR, and with the corresponding primary SDC, which is SDC-IT.
- Reporting to the ECSGS Manager
- Reporting to the Euclid SGS System Team Lead
- Ensuring ECSGS Project Office and System Team directives application
- Dialoguing with the ECSGS Project Office and System Team
- Following the interactions with the SWGs, under the ECSGS Scientist supervision

The Lead is a member of the ECSGS Organisation Group and the Euclid SGS System Team.

10.19.1.2. SDC-US Scientific Coordinator

The Scientific Coordinator is responsible of:

- Ensuring scientific consistency and scientific value of SDC-US activities and products
- Ensuring scientific directives application
- Dialoguing with the ECSGS Scientist, and the OUs and SWGs dealing to the processing functions developed at SDC-US

10.19.1.3. SDC-US Technical Coordinator

The Technical Coordinator is responsible of:

- Ensuring technical consistency and technical value of SDC-US activities and products
- Ensuring System Team directives application
- Dialoguing with the equivalent counterparts in the SDCs that are primary or auxiliary SDC for the processing functions developed at SDC-US, and with the System Team

10.19.1.4. SDC-US Verification Lead

The Verification Lead is in charge of:

- Evaluating of the SGS-wide policy for IV&V
- Preparing and maintaining of the product-specific Validation Plan. (TBD)
- Managing the IV&V Plan execution.
- Managing of the products resulting from the IV&V plan execution.
- Preparing periodic product-specific Verification reports.
- Participating to the joint periodic meetings with the Euclid SGS IV&V Team.

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- Attending the dedicated IV&V meetings.

10.19.1.5. SDC-US PA/QA Lead

The PA/QA Lead is in charge of:

- Participating in the preparation and maintenance of the SGS PA Plan;
- Managing the local execution of the SGS PA plan;
- Handling the results produced by the execution of the PA plan;
- Preparing the PA reports;
- Attending the joint periodic meetings with the Euclid SGS PA Team;
- Attending the dedicated face-to-face meetings with the Euclid SGS PA Team.

10.19.1.6. SDC-US WP Managers

SDC-US WP Managers will be members of ENSCI, which is managed by the Science Lead, who is responsible for human resources and budgets within SDC-US. The Manager of a WP is responsible of:

- Ensuring the WP tasks coverage
- Ensuring the WP activities consistency
- Planning and prioritising the WP activities
- Following up the progress of the WP activities and checking the staying on schedule
- Managing the relations with the primary SDC related to the WP activities
- Dialoguing with the other SDC-US WP Managers
- Keeping the work package description up to date

10.19.2. Monitoring mechanisms and reporting mechanisms to the Lead

IPAC has managed the US science and data centres for many space missions over the course of three decades. These projects included the ESA-led missions ISO, Herschel, and Planck, which presented similar challenges to Euclid. These projects all deemed the IPAC participation seamless and having a significant positive impact on the success of the mission.

The organizing philosophy that has enabled the success of each project is the close collaboration between research scientists and computer professionals. Scientists take the lead on setting science goals and developing algorithms, while the development of production code is safely in the hands of the engineers. Being co-located at IPAC, communication is both easy and frequent. This model maps well onto the OU/SDC distinction within the SGS.

The SDC-US Lead will track the effort of individual staff members and will report the summary as required by the EC publishing rights policy. The SDC-US Science and Technical coordinators will work with the SDC-US Lead to keep the WP development on schedule, and the Lead will notify the OUs and the Project Office of any changes.

10.19.3. Appointed persons

In this section we indicate the persons that are presently appointed to the above described figures.

- SDC-US Lead: Harry Teplitz
- SDC-US Scientific Coordinator: Peter Capak
- SDC-US Technical Coordinator: John Rector
- SDC-US Validation Responsible: Peter Capak
- SDC-US PA/QA Representative: John Rector
- SDC-US WP Managers: The following 6 WP are the responsibility of SDC-US. As ENSCI staffing ramps up, individual WP Managers will be assigned. For 2014, SDC-US Lead Harry Teplitz is responsible for the WP management.
    - WP 4-3-02-2200: Bad Pixel Masking
    - WP 4-3-02-2300: Non-Linearity and Saturation Flagging

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- WP 4-3-02-2400: Dark and Bias Subtraction
- WP 4-3-02-5200: Absolute Photometric Calibration
- WP 4-3-03-4410: Spectral De-contamination
- WP 4-3-03-4510: Absolute Spectral Flux Calibration

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