

# SYSTEM ENGINEERING, PROJECT MANAGEMENT E PA/QA, AIV

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On behalf of RSN5

## EASYREDMINE 4 INAF

Runa Briguglio – OAA

Project Management – System Engineering  
integration with EasyRedmine



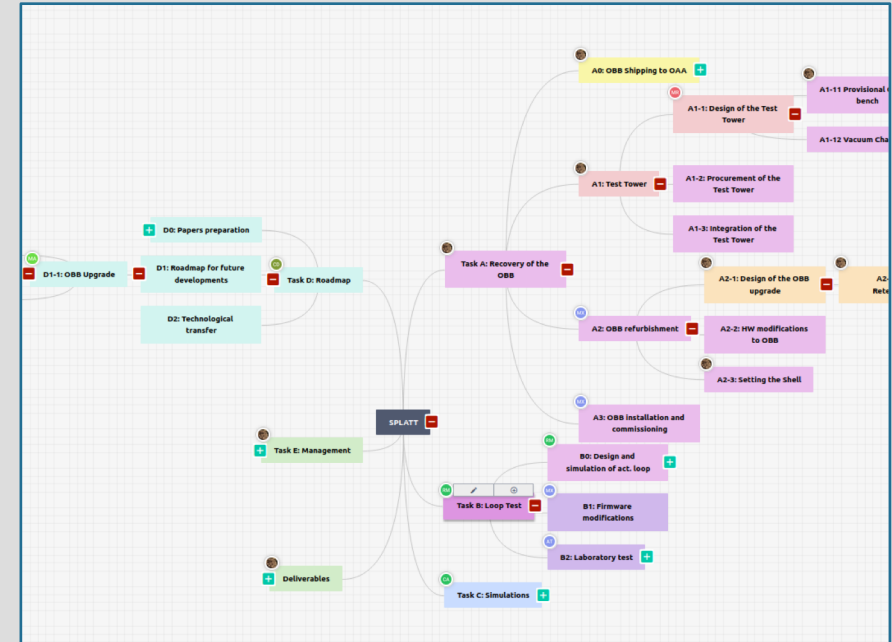
<https://drive.google.com/file/d/1-K5LwewB7aKO2yoYlBpBmc2SmbUpujyf/view?usp=sharing>

## EASYREDMINE

Web-based, graphical platform to:

- create and track projects
- organize the teamwork
- store and recover informations and results.
- build and manage the project.

- EasyRedmine is an INAF collaborative tool for Project Management & System Engineering.



- The «steep» learning curve is an advantage, in particular for medium/small projects
- Easy to use, and offers SE support
  - Requirements management
  - Product Tree
  - Tasks management

## STATUS @ INAF

- 350 licenses
- “informal” activity for platform customization and creation of ready-to-use templates (to enhance warm-up) tailored on INAF typical cases
- help yourself!

## Overview and HowTo (in progress):

- [sites.google.com/inaf.it/easyredmine4inaf](https://sites.google.com/inaf.it/easyredmine4inaf)
- [runa.briguglio@inaf.it](mailto:runa.briguglio@inaf.it)

## Server:

- [redmine.ict.inaf.it](https://redmine.ict.inaf.it)

## Vendor site:

- <https://www.easyredmine.com/>

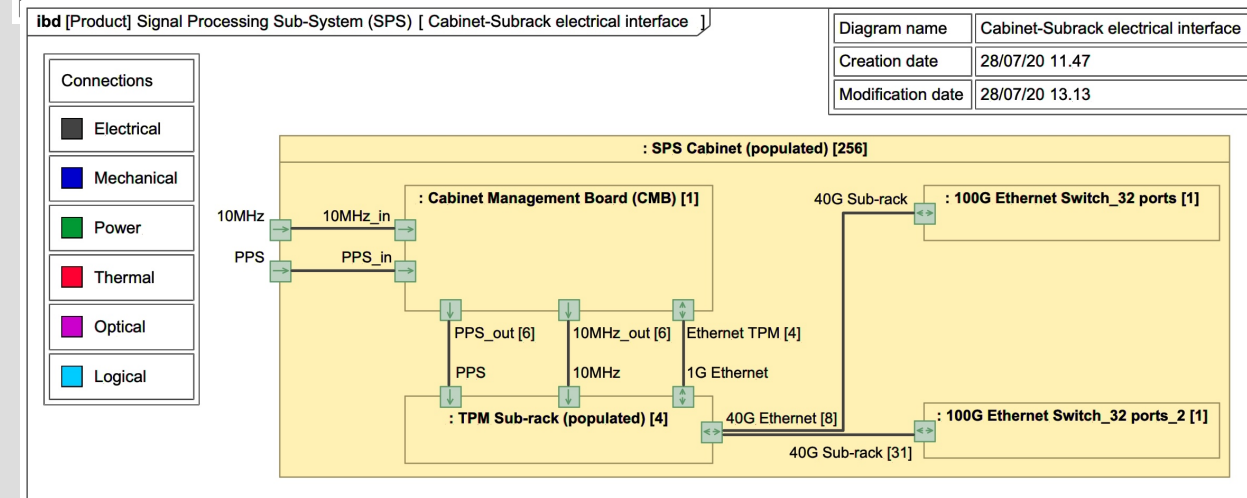
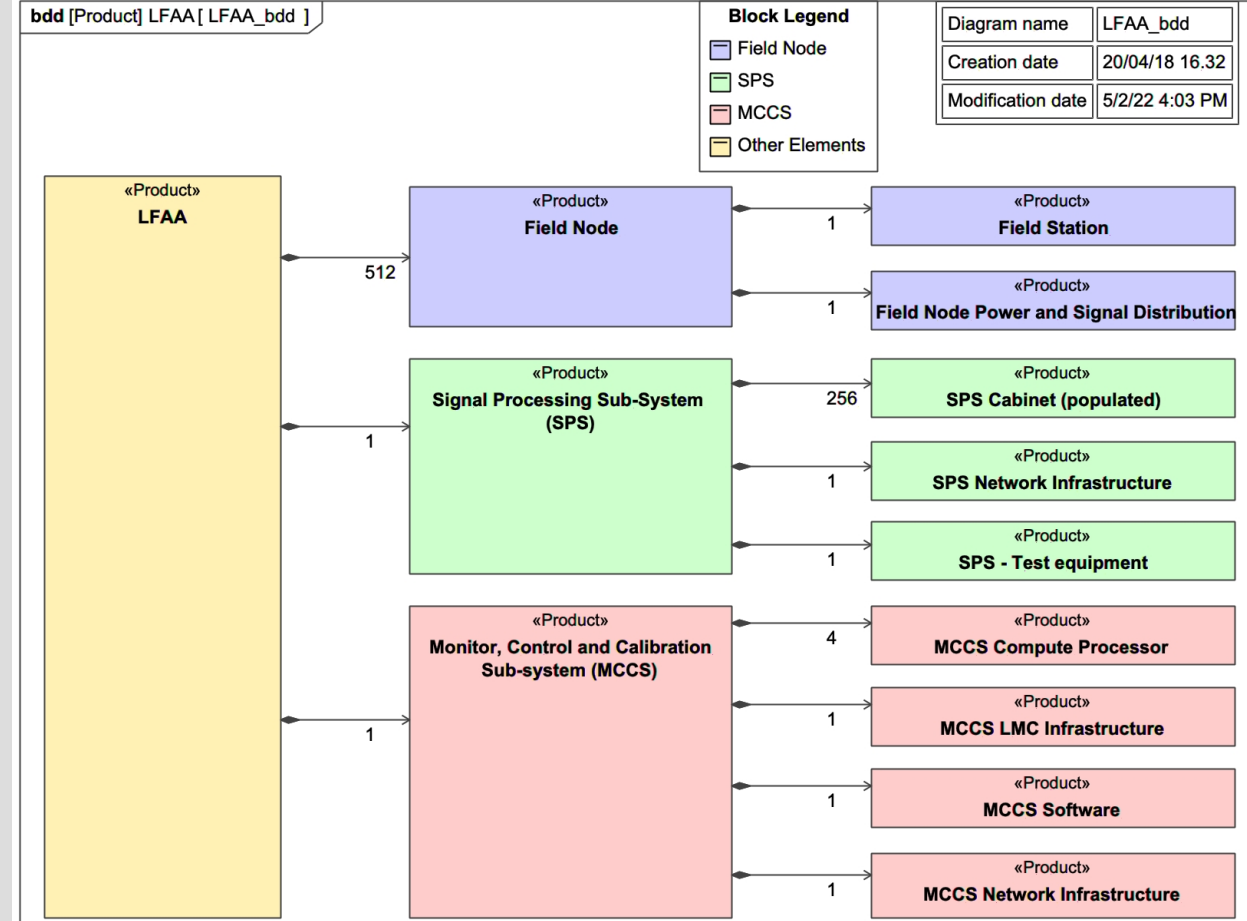
# MBSE IN SKA-LFAA

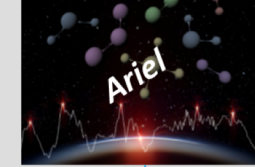
Carolina Belli – OAA

on behalf of the SKA team

MBSE methodologies have been applied for the realization of model of the low frequencies telescope of SKA (Square Kilometre Array), using the System Modeling Language (SysML). The chosen software has been Cameo System Modeler.

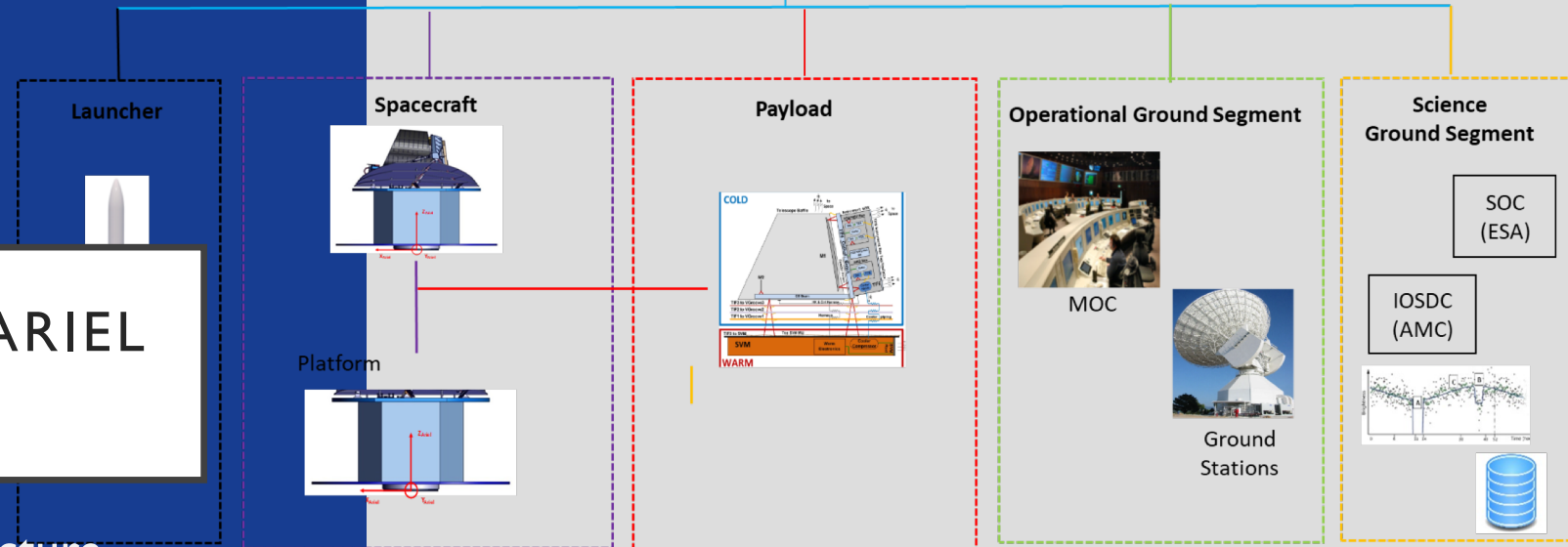
The two schemes are the Product Breakdown Structure of the element LFAA (Low Frequency Aperture Array) and the electrical interfaces within one of its sub-elements.



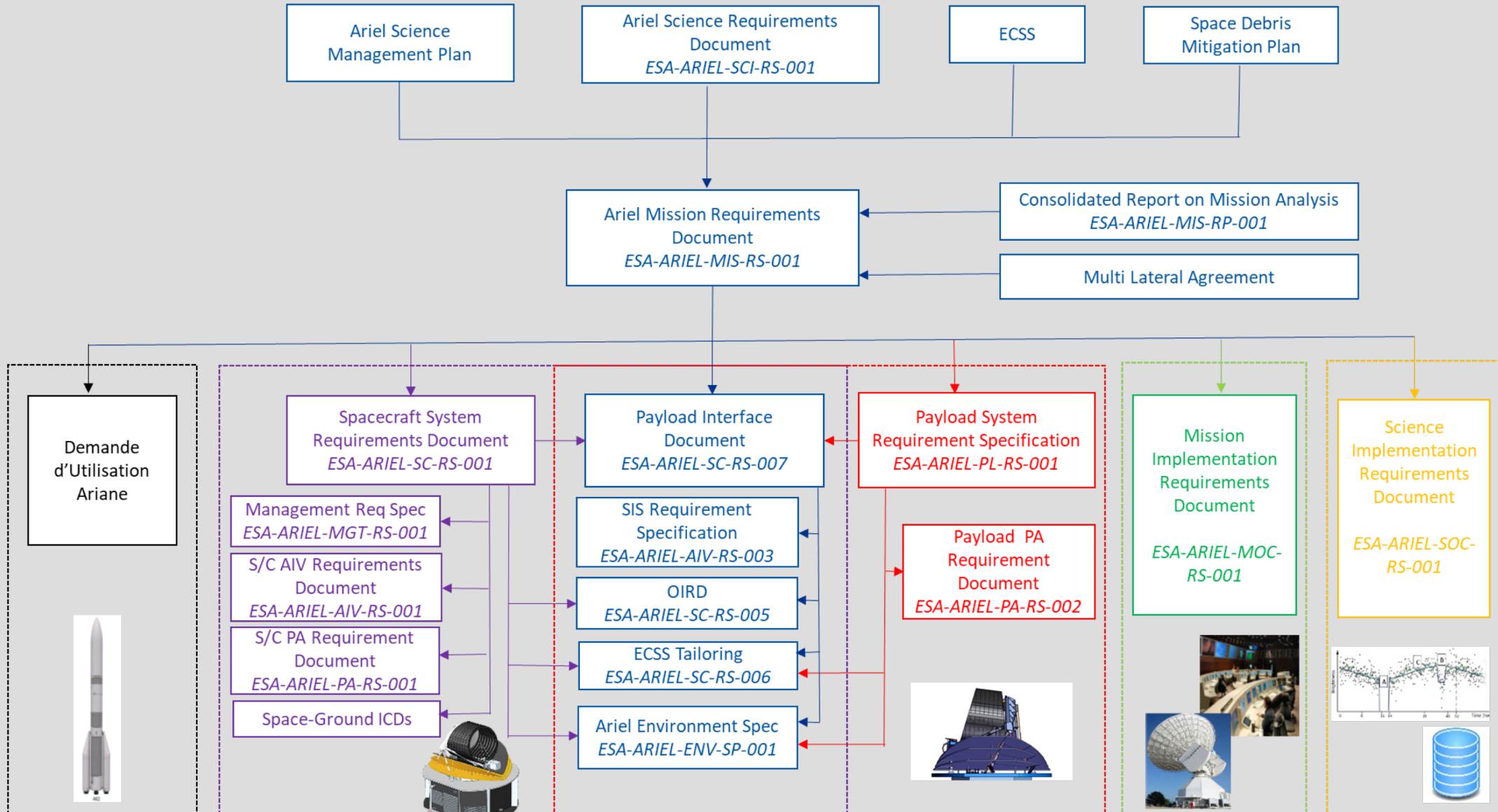


# MBSE USAGE WITHIN ARIEL PROJECT:

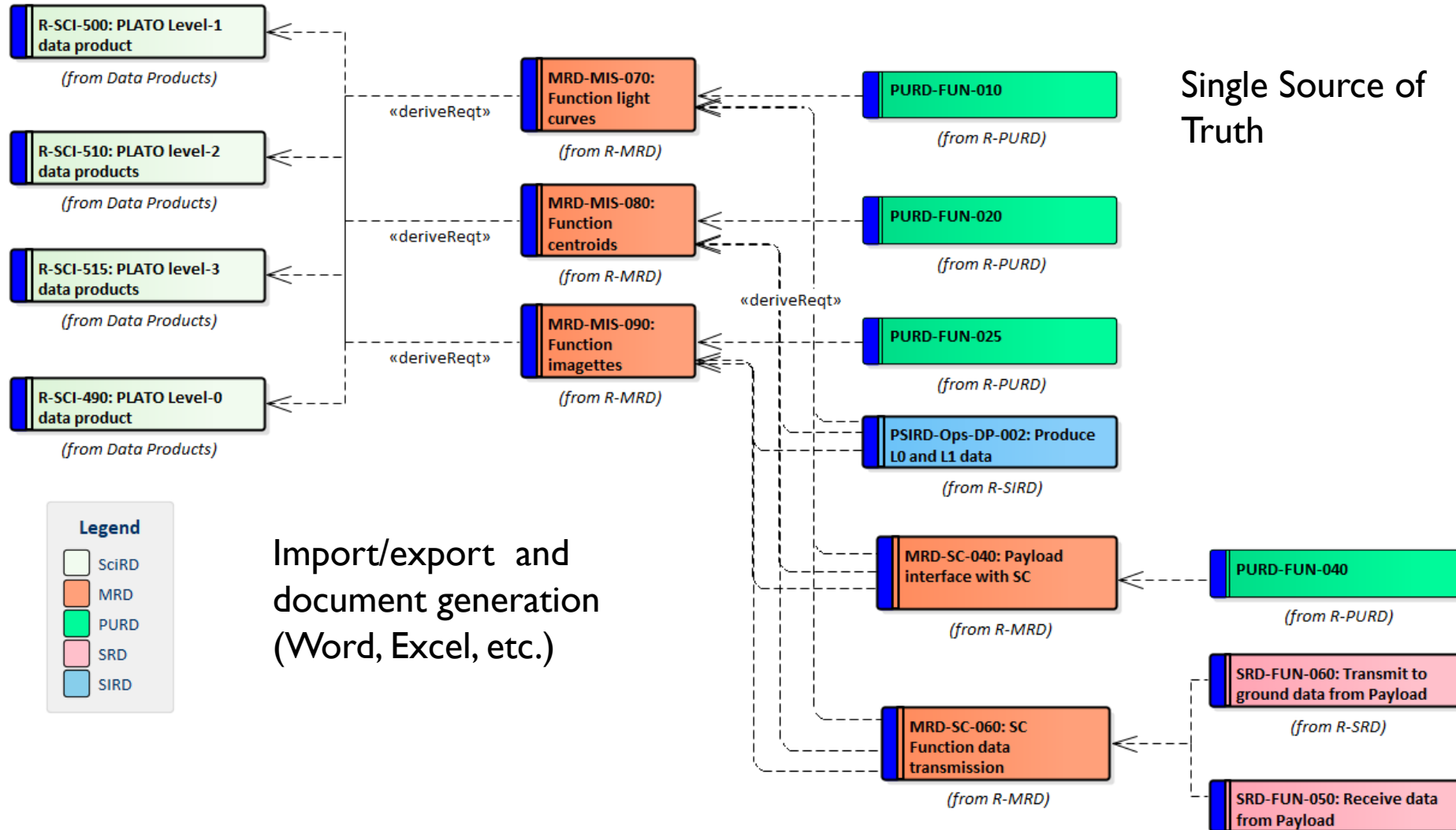
1. Modelling of mission architecture
  1. Interfaces
  2. Product breakdown / modes
2. Requirements management
  1. Flow down & Justification
  2. Traceability, Compliance & Verification



# MBSE IN ARIEL PROJECT: REQUIREMENT MANAGEMENT



# MBSE IN ARIEL PROJECT: REQUIREMENT MANAGEMENT





# MBSE IN ARIEL PROJECT: REQUIREMENT MANAGEMENT IN LIFE- CYCLE

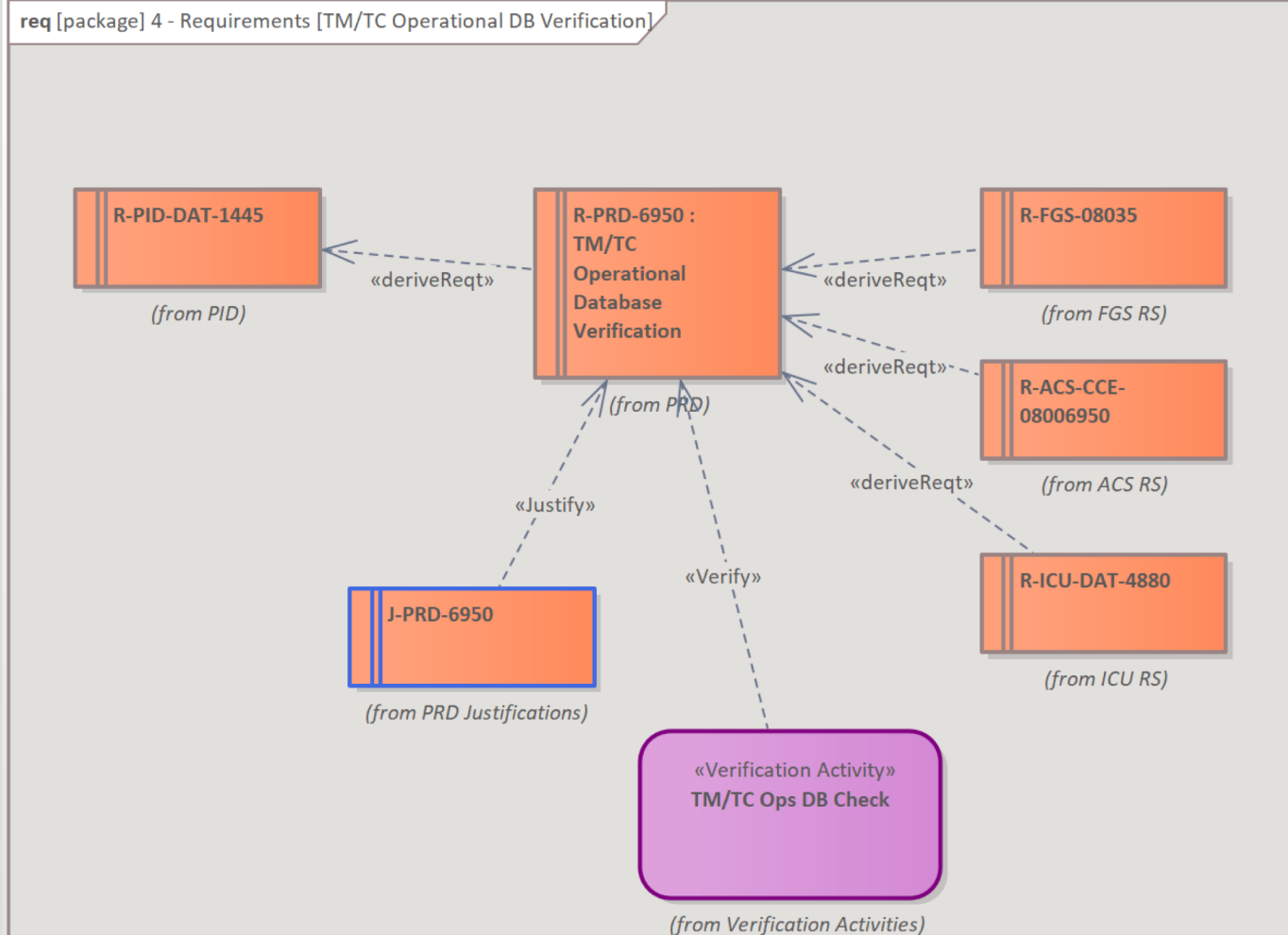


## Early:

- Direct link with architecture ↑
- Justification ↔
- Flow-down ↓

## Before:

- Test and verification planning (AIT – AIV)
- Verification Control Document set-up (DB)



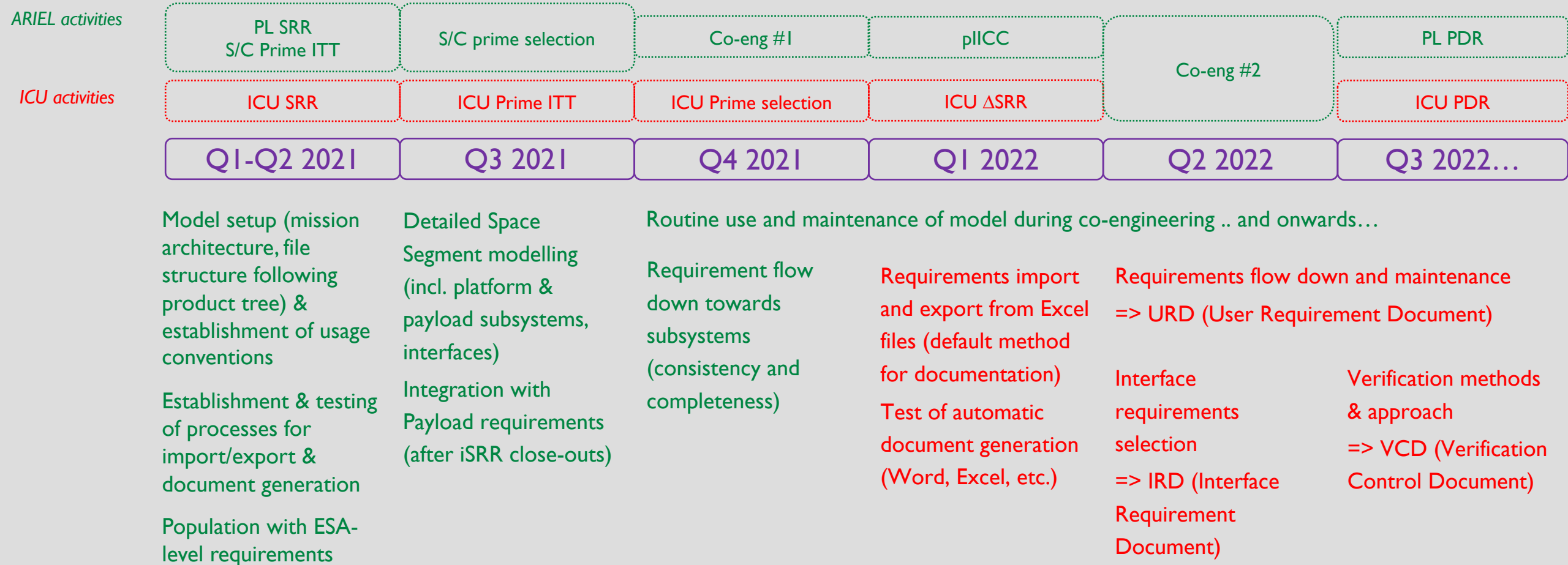
## Later:

- Traceability and completeness ↑
- Non Conformances & Requests For Deviation management ←

## After:

- Test and verification check
- Tests completeness
- Link to report documents
- Feed VCD DB

# ROADMAP OF MBSE DEVELOPMENT IN ICU (INSTRUMENT CONTROL UNIT)



## MORE INFO

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[andrea.balestra@inaf.it](mailto:andrea.balestra@inaf.it)

## INAF initiatives

AstroMBSE (Andrea Balestra coordinator)

- Reference point for all MBSE INAF initiatives.

## ESA initiatives

MBSE2022 (yearly conference, since 2020)

- 22-24 November 2022
- Airbus Leadership Academy in Toulouse (FR) + Hybrid Event

ESA MB4SE

- <https://essr.esa.int>
- SysML models, stereotypes, etc.