



**INAF**  
ISTITUTO NAZIONALE DI ASTROFISICA  
OSSERVATORIO ASTROFISICO DI CATANIA

# Project Management System Engineering PA/QA, AIV/AIT @ INAF-OACT

*E. Sciacca  
+ OACT colleagues*

# Outline

In this contribution we highlight the expertise of the staff of the Catania Astrophysical Observatory on the following areas:

- System Engineering
- Project Management
- Product Assurance / Quality Assurance
- Assembly Integration Verification / Testing.

In particular, the main activities concerning the management of:

- National projects (e.g. MOSAICO)
- European projects (e.g. H2020 NEANIAS)
- Array of telescopes (in particular ASTRI-MiniArray & ASTRI-Horn, CTA, SKA)
- Space Missions (in particular PLATO).



# National Project

# MOSAICO-Metodologie Open Source per l'Automazione Industriale e delle procedure di CalcOlo in astrofisica



## 06 Close-out and Dissemination

Preparation of the project documentation for the final review, validation and support to the external audit. Dissemination of the final results



## 05 Monitoring & Reporting

Preparation and submission of project reporting and relevant costs on periodical basis



## 04 Cost management

Based on UE requirements with respect to the project reporting, budget management (euro 852.000,00), on periodical basis estimate and control of the direct and indirect costs



PI F. Schillirò  
PM T.C.Pulvirenti

## Scouting & Planning management



Once defined the duration, 07/01/2020 - 31/12/2023 and approved the financing of the project, develop schedule, milestones and deliverables.

## Stakeholders management



Coordination of the activities with the various stakeholders: Partner Organization (INAF), Principal Investigator, Team (15 Resources), Lead partner (SRS Engineering)

## RUP for supplies and services



Responsible of the documentation and the correct implementation of the procedures for the procurement of supplies and services required for the project

- Participation and leading in several european projects: FP7, H2020 and forthcoming Horizon Europe
- Experience in Proposal preparation phase and Project management phase.



**REDMINE**  
flexible project management



SharePoint



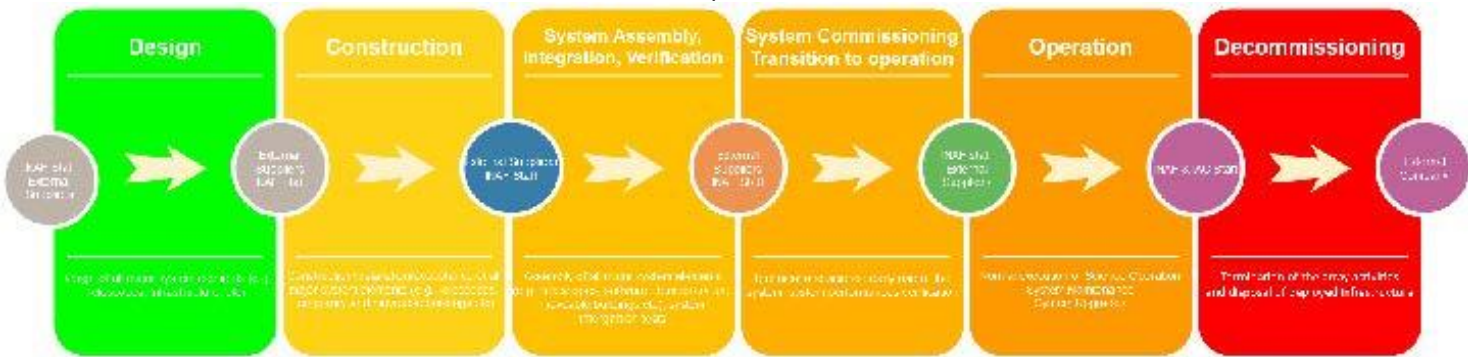
# ASTRI Mini-Array AIV activity

The ASTRI Mini-Array consists of a group of **nine** innovative Imaging Atmospheric Cherenkov telescopes. The ASTRI Mini-Array is an INAF project to build and operate an observatory to study astronomical sources emitting at **very high-energy** in the TeV spectral band. AIV phase consists of the assembly, integration and verification of all the sub-systems. For one telescope:

- AIV on mechanical structure
- Integration and verification of optics
- Integration and verification of the Cherenkov Camera
- System tests on the array functionalities (future)



One common database for **tracking requirements** will be part of the ASTRI Mini-Array **Enterprise Architect platform**. It shall be ensured that each item have at least the following attributes: Responsible, Parent requirements (traceability), Source and/or Rationale, Verification method, Priority, Status



Google Drive

**ENTERPRISE ARCHITECT**  
SPARX SYSTEMS

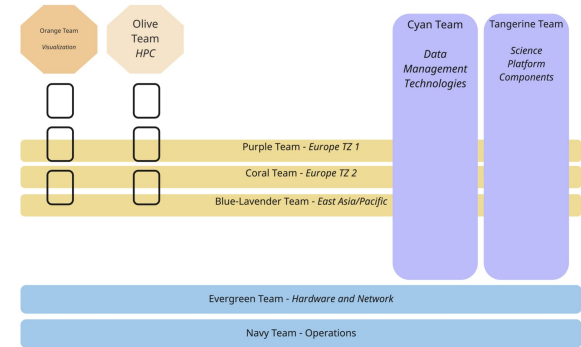
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# SKA Regional Centre - Scaled Agile Framework® (SAFe®)

SRC has identified 4 Prototypes (Data management Technologies, AAI, Science Platform, Data Visualisation) to be developed within **The Scaled Agile Framework**, or **SAFe**, an agile framework for development teams. Scrum is built on transparency, inspection, adaptation, and short learning cycles. Key values are incremental delivery and fast feedback.

Teams are cross-functional, self-organizing entities that can define, build, test, and deploy increments of value. Every Team has one **Product Manager** (or Product Owner) and one **Scrum Master** (or technical coordinator).

For the **Orange Team** (Visualisation) those roles are in charge to INAF.



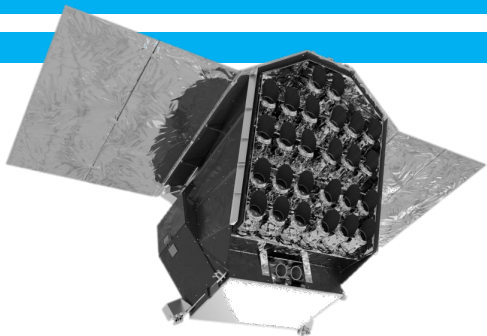
Local Expertise:

Certified SAFe® 5 Product Owner/Product Manager (Fabio Vitello IRA Bologna, Affiliated OACT)

Certified SAFe® 5 Scrum Master (Giuseppe Tudisco)



# PLATO space mission: Project Management & MAIV @OACT



PLANetary Transits and Oscillations of stars (PLATO) is the M3 mission in ESA's Cosmic Vision programme. Its objective is to detect terrestrial exoplanets in the habitable zone of solar-type stars and to characterize their bulk properties. PLATO Payload is based on a **multi-telescope configuration** (26 telescopes).

**INAF** will deliver to **ESA 31 Telescope Optical Units (TOU)**, the Instrument Control Unit (**ICU**) and the whole sets of **Cameras** (Telescopes+Focal Plane+Electronics) fully integrated and tested. TOU, ICU and Camera Project Managers as well as MAIV Managers for Cameras are based @OACT.

**INAF** CAMERA SYSTEM **esa**



## Project Management

- **Isabella Pagano**, Camera Scientist
- **Andrea Busatta**, Camera System Project Manager
- **Flavia Calderone**, Camera System Document Configuration Manager

## MAIV

- **Nicolas Gorius**, Camera MAIV Manager
- **Claudio Arena**, Camera MAIV Engineer

**INAF** TOU **esa**



## Project Management

- **Isabella Pagano**, TOU Project Manager
- **Flavia Calderone**, Project Office

**INAF** ICU **esa**



## Project Management

- **Rosario Cosentino**, ICU Project Manager





*F. Schillirò, T. C. Pulvirenti (MOSAICO), E. Sciacca, U. Becciani (EU Projects), V. Giordano (ASTRI), F. Vitello, G. Tudisco (SKA), I. Pagano, F. Calderone (PLATO)*

