



Setting the stage for SKA: planning training and support for the community

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EUROPEAN ARC
ALMA Regional Centre || Italian

Main purposes and criteria:

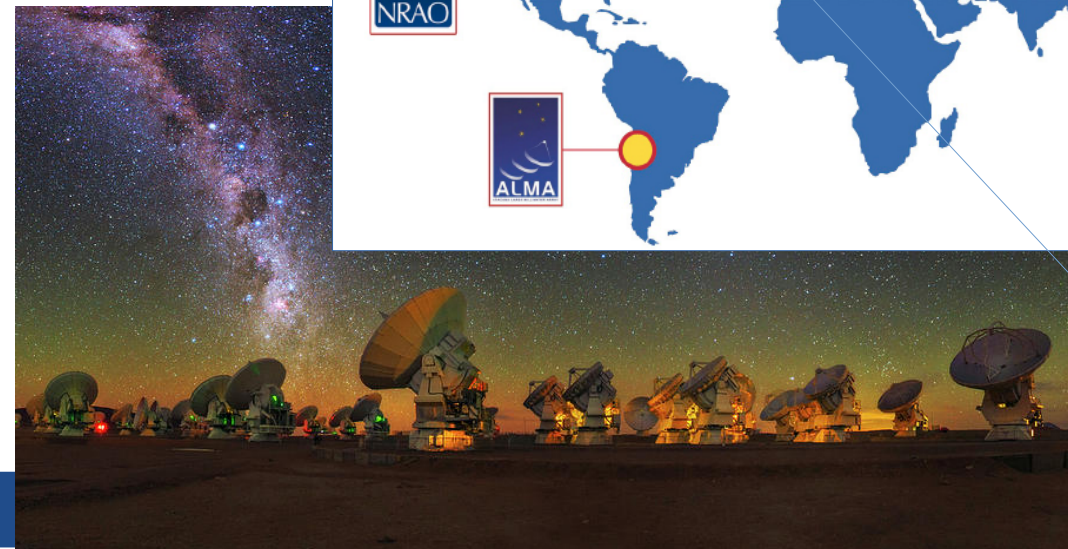
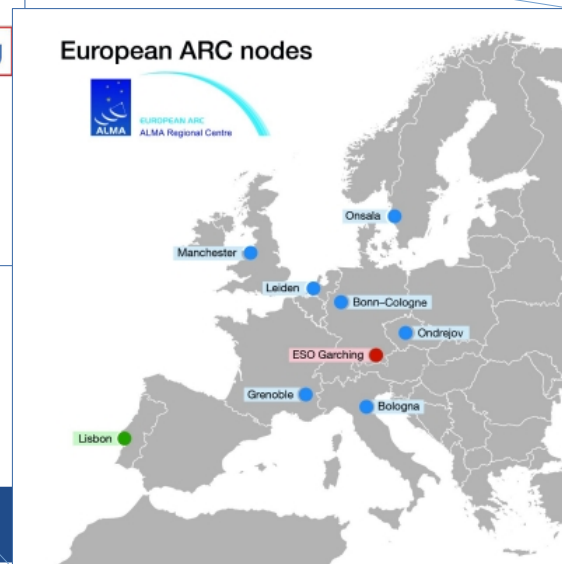
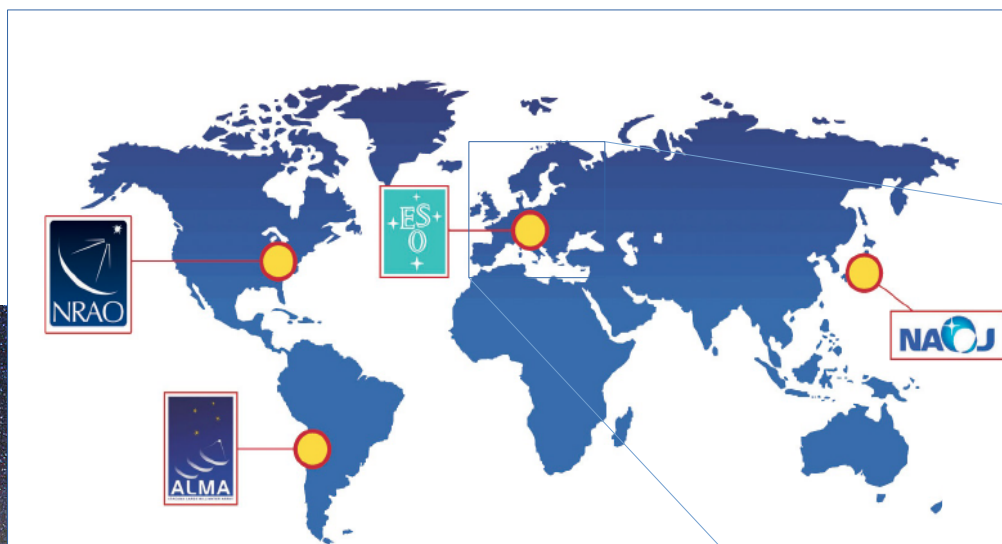
- Identify the **user needs**
- Define the **user interaction scheme**
- Plan **data access and visualization interfaces**
- Plan for **community building and knowledge distribution** and creation including users beyond the radio astronomical community and beyond the SKA partnership
- **Within Europe but towards the SKA Alliance**



- **Observers** are the proposers of new observations, single or coordinated in small groups or large collaborations. This category will evolve with the telescope development.
- **Data Scientists** exploit the archive product content for their own purposes. This class might partially overlap with the previous, and is potentially the largest, depending on the accessibility of the archive.
- **Software Engineers** includes developers of software and tools. Might belong also to the above classes, but are mostly interested in technical details.

THE ALMA REGIONAL CENTRE EXPERIENCE

- The ALMA Regional centre in its first 8yrs of activity has been:
- a new approach/interface towards a new telescope
 - a reference point for users of any level of career and expertise
 - a support for improving the observations and the archive usage while the telescope was evolving
 - a distributor of knowledge, exploiting the capillarity of the network



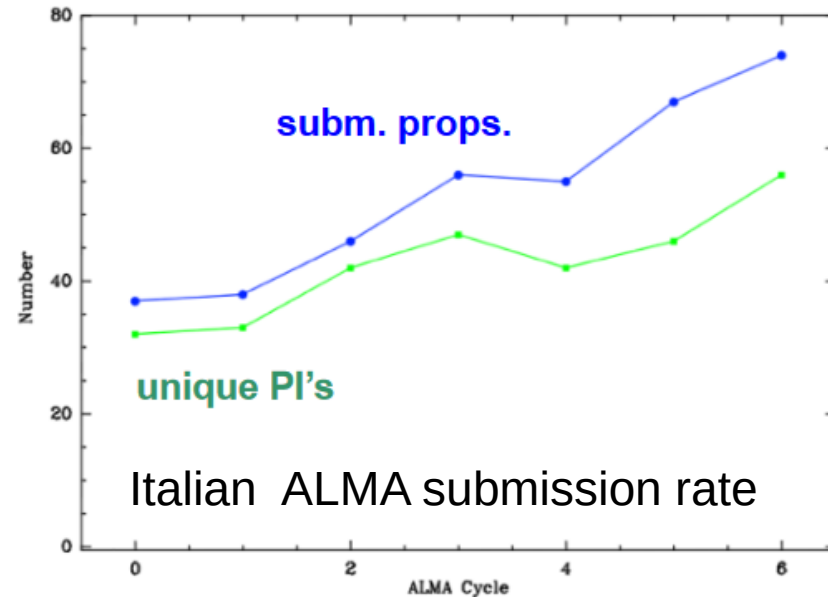
The IT ARC gives support in any project phase and archive mining since the first observations, contributed to commissioning, now is involved in telescope upgrade.

The ARI-L development project will produce homogeneous images and calibrated ms in the ALMA archive for past cycles.

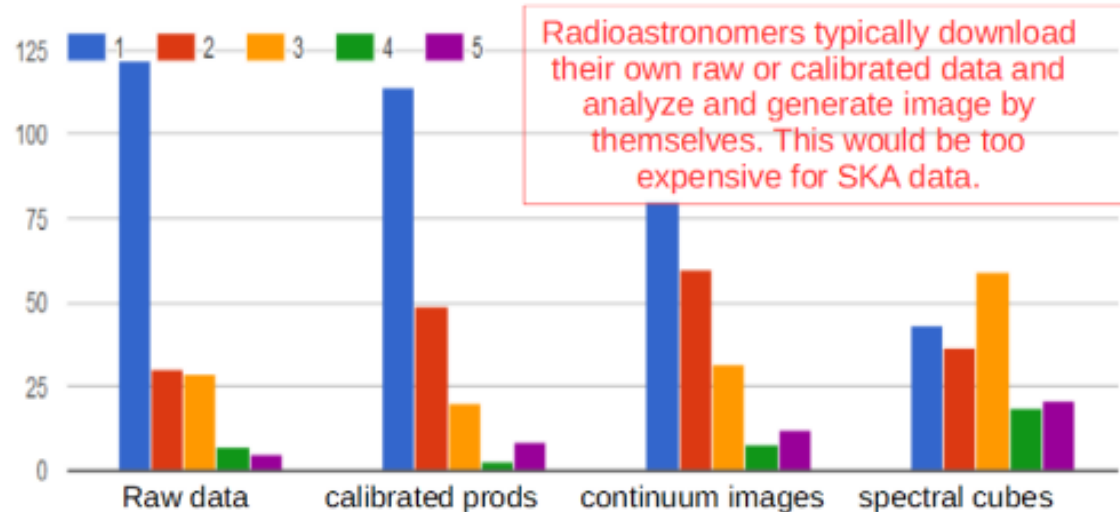
The Italian ARC is joining the Network of Interferometry Centres of Expertise

Lessons learned:

- plan interfaces/pipeline well in advance and in a flexible manner
- network your structure and exploit the expertise in the community
- prepare your community before the telescope start observing



USER NEEDS AND HABITS



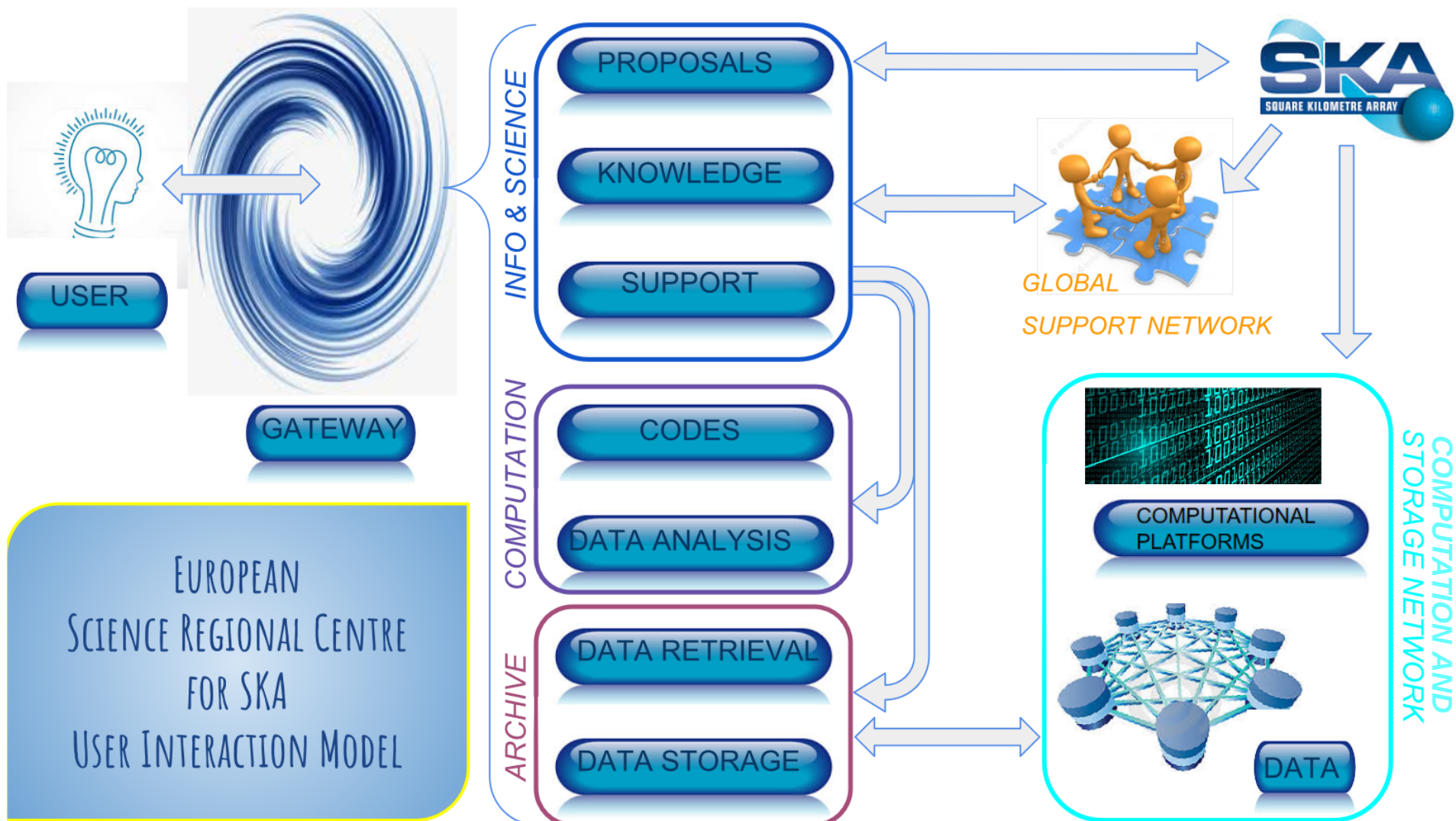
SYSTEM REQUIREMENTS

- DATA SIZE → STORAGE
 - TRANSFER
 - COMPUTATION
 - TIME
- VARIOUS DATA AND PRODUCT FORMAT
(e.g. observatory vs advanced products)

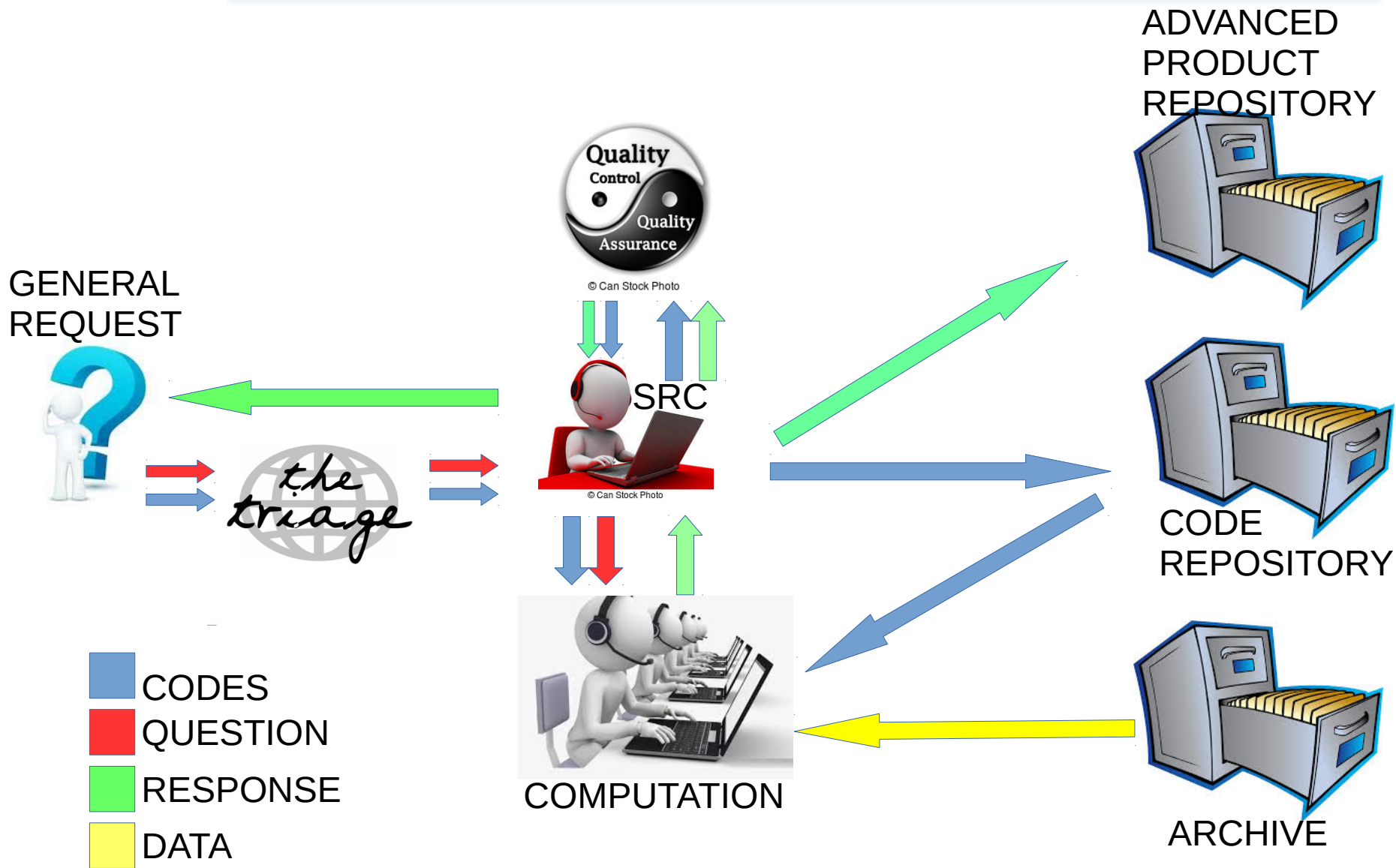
The ESRC is the interface, access the archive, offers the computation platform. It must be trustworthy and resilient.

See D5.1 and D5.2 in <https://www.aeneas2020.eu/project-deliverables/>

GAPS TO MIND TOWARDS SKA



EXAMPLE OF AN INTERACTION EVENT





OUR BEST RESOURCE: TIME!!!

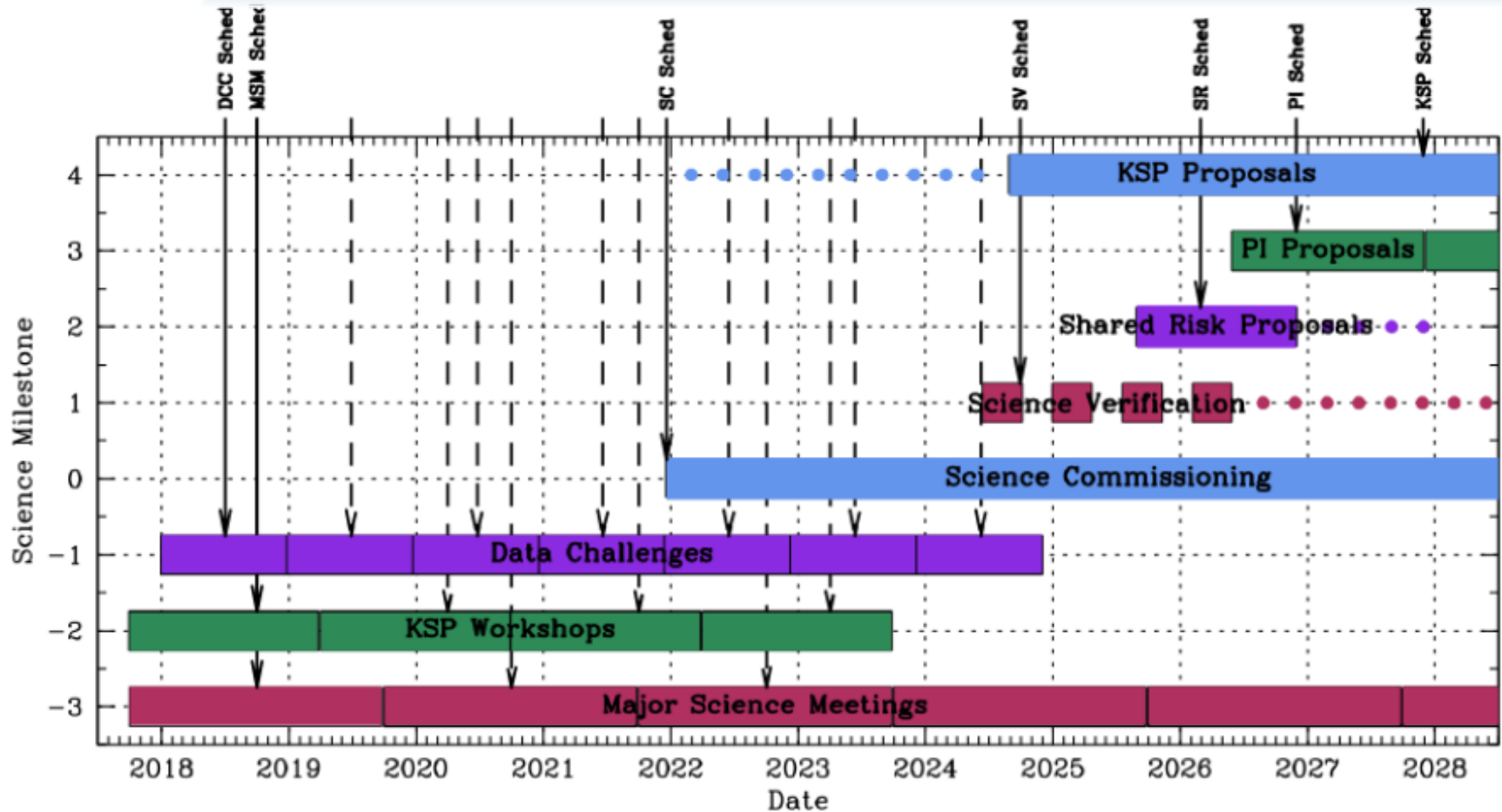
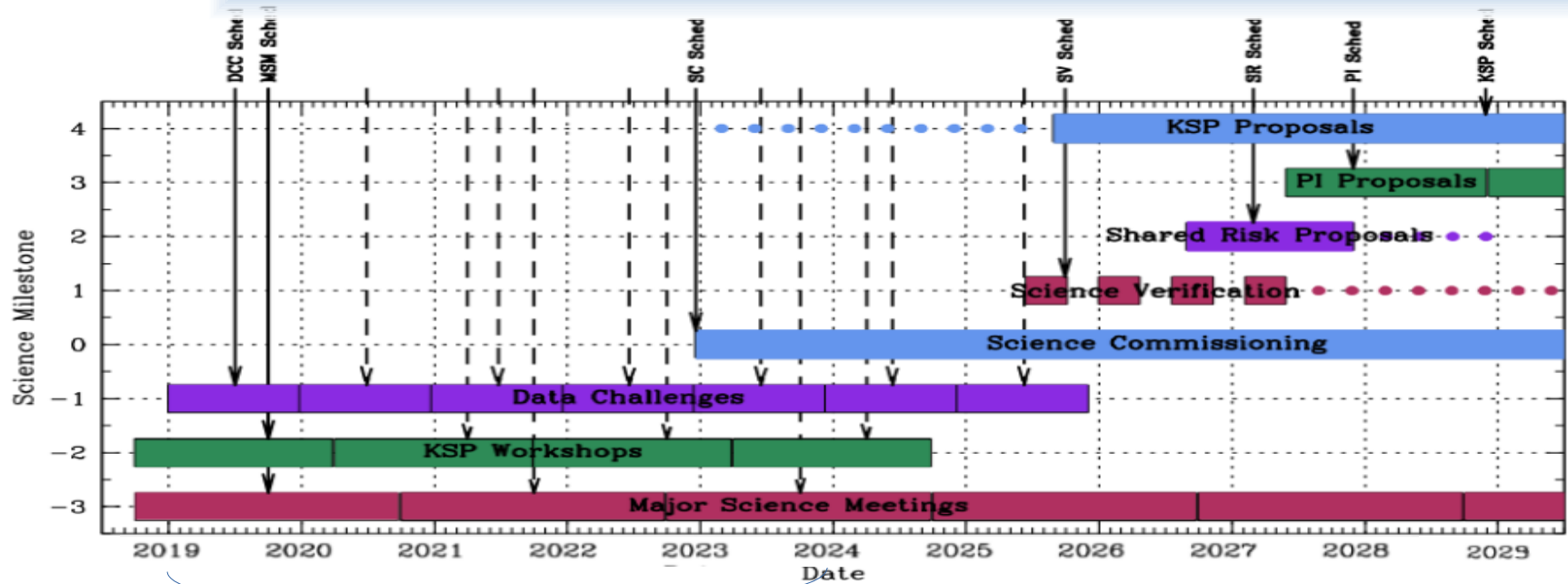


Fig. Timeline of Major SKA1 Science Milestones for an Assumed Availability Date of AA2 and AA4 ([Science Planning Document \(Rev 02, 15/11/17\)](#)) (Indeed we are already 1 yr late with DC)

A TRAINING PLAN FOR EUROPEAN SKA COMMUNITY



Cognitive

- acquiring the general overview and basic knowledge on the system capabilities (i.e. data structure and handling)
- building awareness on the gaps and issues

Practice

- dirty hands-on simulations, data from precursors and lately on SKA data
- test tools/interfaces and workflows

Action

- proposing as PIs
- mining the archive
- maintaining and distributing the knowledge

Training phases:



FACE → SKA FORMING THE ASTRONOMICAL COMMUNITY IN EUROPE TOWARDS THE SKA (PI: MASSARDI)

Joined consortium (including several AENEAS partners) being built to

- **distribute knowledge** (events and info)
- **prepare new generations** (interaction with uni and phd courses)
- **grow the community** (interactions with less-expert groups in SKA-partner countries but also interaction with non-SKA-partners countries in Europe)

Events in 2019 in Italy :

- **Basics for SKA** → informative seminar cycles
- **SKA data challenges** activities and events

DATA CHALLENGE #1:

Source extraction and classification in continuum extragalactic surveys.
Main purpose is to manage data and get feedbacks.

IN ITALY:

Data are hosted by the IA2 facility.

A computational platform will be offered by INAF in the framework of the CHIPP project.

Support and information will be offered to the participants by the ARC.

We will participate (also in the framework of AENEAS WP5) to give/get hints on data content, metadata structure, SRC interaction model.

A gateway to the challenges for Italian users is under construction.

Stay tuned!!!!

SKA website:

<https://astronomers.skatelescope.org/ska-science-data-challenge-1/>