

An Italian SKA Roadmap

Open Discussion

INAF actions towards SKA science - I

- **how best increase scientific interest & expertise of IT community?**
 - advertise SKA science through dedicated seminars at INAF structures
 - encourage the exploitation of synergies with other facilities
 - data tutorials (exploit ARC expertise)

- **how to increase active participation of Italian scientists in International SKA WG?**
 - via Italian SKA Focus Group (update of White Book)
 - via involvement in SKA WG activities, e.g. data challenge (through Focus Group/ARC)
 - support visits to SKA HQ to interact with project scientists and SKAO staff

INAF actions towards SKA science - II

- **how best exploit Italian scientific/technical expertise?**
 - identify areas of expertise both scientific and technical (e.g. VLBI)
 - associate it to SKA MID/LOW and scientific requirements
 - identify ways to provide support

- **how to favour Italian scientific interests/projects towards the SKA?**
 - identify crucial scientific requirements for MID and LOW (e.g. Band 5, baselines, etc.)
 - identify crucial missing (technical) expertise to invest on
 - favour these discussions through national Focus groups?
 - establish synergy projects involving larger communities to get critical mass?
 - exploit precursors to increase technical expertise and scientific visibility at international level
 - support SKA-related science projects
 - how? PRINs? PhD students? other?

INAF actions towards SKA precursors

- **how best support groups involved in SKA precursors?**
 - support involvement in data processing (install pipelines, etc.)
 - e.g. ASKAPsoft (CINECA) and MeerKAT pipelines
 - Strong INAF Coordination on IT activities envisaged
- **how to increase scientific collaborations in precursor science?**
 - establish scientific/technical agreements
 - support visit exchanges within SKA precursors projects
 - identify crucial missing (technical) expertise to invest on
 - support science projects through (ad hoc PRINs? other forms?)

INAF actions towards technology - I

- **how best manage post-CDR phase?**
 - how best retain technical expertise in INAF after expiration of consortia?
 - National team are probably a good opportunity that also favour direct link with national industrial parties
 - But need to closely interact with SKAO, who coordinates the teams

INAF actions towards technology - II

- **how best exploit investment in SKA-LOW bridging?**
 - use this opportunity to increase SKA-LOW specific expertise
 - participate to all steps, incl. calibration
 - be adaptable (get ready to exploit final architecture adopted)
 - invest in software & hardware developments for other low-freq. precursors (in addition to LOFAR)? (MWA, HERA, etc...)

INAF actions towards technology - III

- **promote similar investments towards MID?**
 - how?
- **how best support ongoing SKA R&D activities in Italy from scientific point of view?**
 - exploit gained technical expertise for scientific projects (pipelines, visualization tools, calibration expertise, etc.)
 - develop PAF science case (ad hoc workshop?)

INAF actions towards SKA data centers

- **how best get involved in SKA data center business?**
 - exploit expertise built as part of IA2, ARC, AENEAS
 - exploit IT participation to EXASCALE EU project
 - seek EU funding to support development of EU Data Center
 - Strong INAF Coordination on IT activities envisaged
- **how best start SKA DC-like activities?**
 - start now by exploiting data challenges (IA2, ARC)
 - support coordination of INAF and host country efforts in data processing for precursors
 - installation and maintenance of pipeline
 - facilitate access to entire community
 - start building a user interface for data query and data processing assistance (built on ARC experience)
 - start training (e.g. tutorials – both general and science-specific)

Additional Inputs?

- Strengths
- Weaknesses
- Opportunities
- Threats

What's next?

- Any idea/input? send an email to skaboard.DS@inaf.it
- all presentations will be made available on line, incl. minutes of this discussion