ALMA and FP6: Opportunities & Strategy

TIMELY

- – Construction Phase 2003 → 2011 **2007**
  – Framework Programme 6 2003 → 2007

SPECIFIC NEED

- – Foster & structure the European Astronomical Community around the ALMA Project
  – Competition with North America in the best use of ALMA

PREPARATION & DEVELOPMENT

- – *Powerful set of European instruments at mm/submm*
  – *Coherent use to further strengthen European position*
  – *Training and development Plateform*

Possible Directions

- Strengthen collaboration among institutes to build a **STRONG EUROPEAN NETWORK** for future ALMA users
- Train **YOUNG GENERATIONS** of European astronomers to use the techniques of millimeter interferometry
- Develop **ENHANCED SCIENCE SOFTWARE** for ALMA
- Develop **ADVANCED INSTRUMENTATION** for ALMA

$\Longrightarrow$ **EUROPEAN ADDED VALUE**

Research Infrastructures in FP6

Support Schemes

- Transnational Access
- **Integrated Infrastructure Initiatives**
- Communication Netwrok Development (IST)
- Design Studies
- **Development of New Infrastructures**

Research Infrastructures in FP6

Integrated Infrastructure Inititatives (I3s), by consortia of infrastructure operators, users, etc....:

- to support the provision of essential services to the research community at European level
- combine *co-operation networks* with a *support activity*, such as *transnational access*, and/or *joint research projects*
- higher degree of flexibility and autonomy in carrying out the activities
- large contracts (several million Euros)

Research Infrastructures in FP6

I3s will cover (max level of funding):

- *Networking activities*, to help catalysing self-coordination and pooling of resources (100%)
- *Service activities*, typically transnational access, and other support services (e.g., analysis, materials, databases) (100%)
- *Joint Research projects*, to explore and develop higher performance techniques, instrumentation, etc. (50%)
- *Consortium Management* (100%)

Research Infrastructures in FP6

Transnational Access to individual major research infrastructures (as in FP5):

- to access to new user, in particular when coming from countries where similar infrastructures are not available
- mobility element
- 100% of necessary access costs (to a maximum of 20% of annual operating budget)

Development of New Infrastructures

- Optimizing **new or enhanced infrastructures** by providing limited support in **duly justified cases**.
- Catalysing effects in terms of **European added-value**
- Leaving main funding and long-term sustainability to national funding
- Maximum 10% of global budget (5 to 15 MEuros)

Opportunities for ALMA within the FP6

- Co-ordination and organisation of the activities in Europe, to prepare the community for an efficient use of ALMA, could be a central part of the **Networking Activities of an I3.**
- Optimized use of European mm/submm facilities and their opening to a wider community should be part of the **Transnational Access support scheme.**
- Training (post-docs, fellowship, workshops...) could be organized through a separate **RTN Proposal.**
- Advanced Science Software and Receiver Development, as an European Added Value to the ALMA Project, should be part of the **Development of New Infrastructures** scheme.

Preparation of the European Community

OPTICON

- Sub(mm) an visible/near-IR interferometry
- Co-ordinations of large optical/sub(mm) surveys
- Workshops on specific science topics
- Links with very very large telescopes

RADIONET

- Co-ordination mm/submm community
- Transnational access to key facilities (IRAM, JCMT)
- Key Programs
- Technical Workshops: Calibration, Image Techniques, Receivers..
- Workshop on specific science issues, including ALMA science drivers and links with radio community

Marie Curie Programme

Prioritization of the ALMA Enhancements

The ASAC re-affirms the prioritization of the ALMA enhancements as defined and documented in the ASAC October 2001 Report. The priorities were decided on scientific basis only.

1. *Top Priority:* Band 10 & the ACA
2. *Very High Priority:* Band 1 & Second Generation Correlator
3. *High Priority:* Band 4 & Band 8
4. *Medium Priority:* Band 2 & Band 5

Element of ALMA Construction Proposal

Software	
	Advanced Calibration & Imaging
	Archive Software Extension
	Dynamic Scheduler Algorithms
Receiver R&D	
	InP Amplifiers
	Junctions
	Band 1 Proto + 8 Receivers
2G Correlator	
Photonic LO	