



# Science Working Group Meeting

## AVO Demo No. 2

ESO

January 27/28 2004



1. browsing & selecting data

2. compute hardness ratios from X-ray catalog

3.1.1 display spectrum in Specview

3.1.2 classify as AGN type 1 or 2

3.1.3 derive X-ray power from spectral catalog

YES  
FOSS2  
spec

3.2.1 ACE computes optical flux from ACS image

3.2.2 geom. x-match X-ray/optical catalogues

3.2.3 derive Lx ratio

3.2.4:1 for type 1:  
 $\log L_x = \log(f_x/f_I) + 43.45$

3.2.4:2 for type 2:  
 $\log L_x = \log(f_x/f_I) + 43.45$

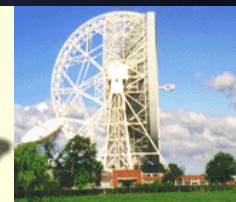
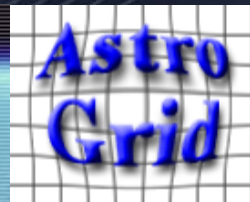
3.2.5 derive X-ray power from X-ray flux and z

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AGN type = 2  
AND  
 $L_x > 10^{44}$  erg/s

5. found QSO of type 2

WELCOME TO AVO FIRST SCIENCE!



# AVO Phase A Project



ASTROPHYSICAL VIRTUAL OBSERVATORY

# Project Team

## Resources

- Framework Program 5 - Research Technology and Development Project
- 50/50 EC/partners funding
- Total 5 million €
- 54 man years of effort over 3 years



# Work Program

## Science

## Interoperability

## Technology

- Define key research areas

- Development and

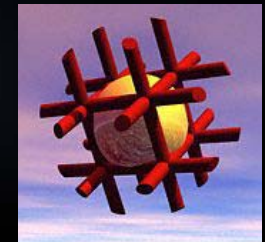
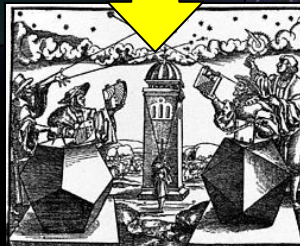
- Study and

## *Demonstrations*

complex multi-wavelength astronomy projects

description and data discovery

that allow distributed computation, manipulation and visualization of data



# EURO-VO

## The Future

VO connecting  
all  
European  
astronomical  
data  
centres  
and  
providers



AVO Grid+Net



EURO - VO

2005+



- Persistent
- Data Standards
- User support
- IVO link



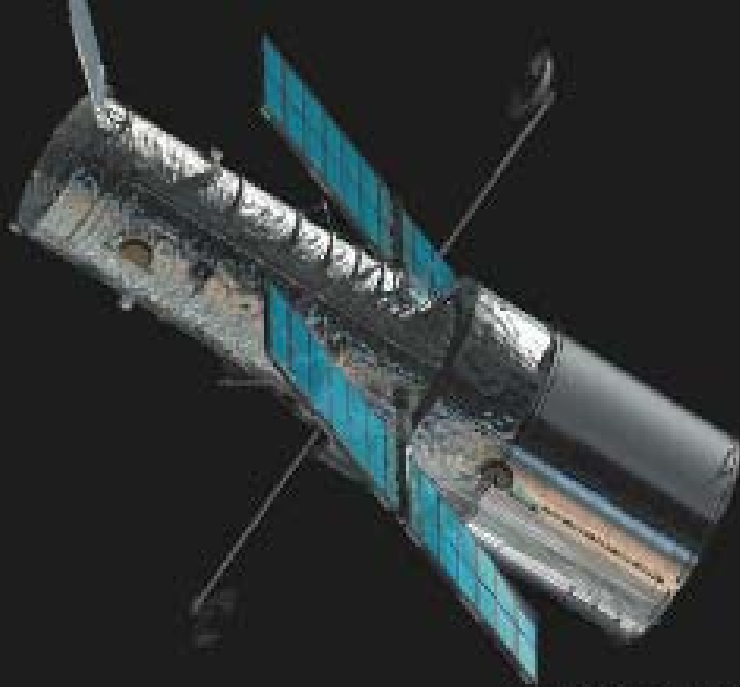
- Distributed
- R&D
- VO Technologies for new projects and facilities

# EURO-VO

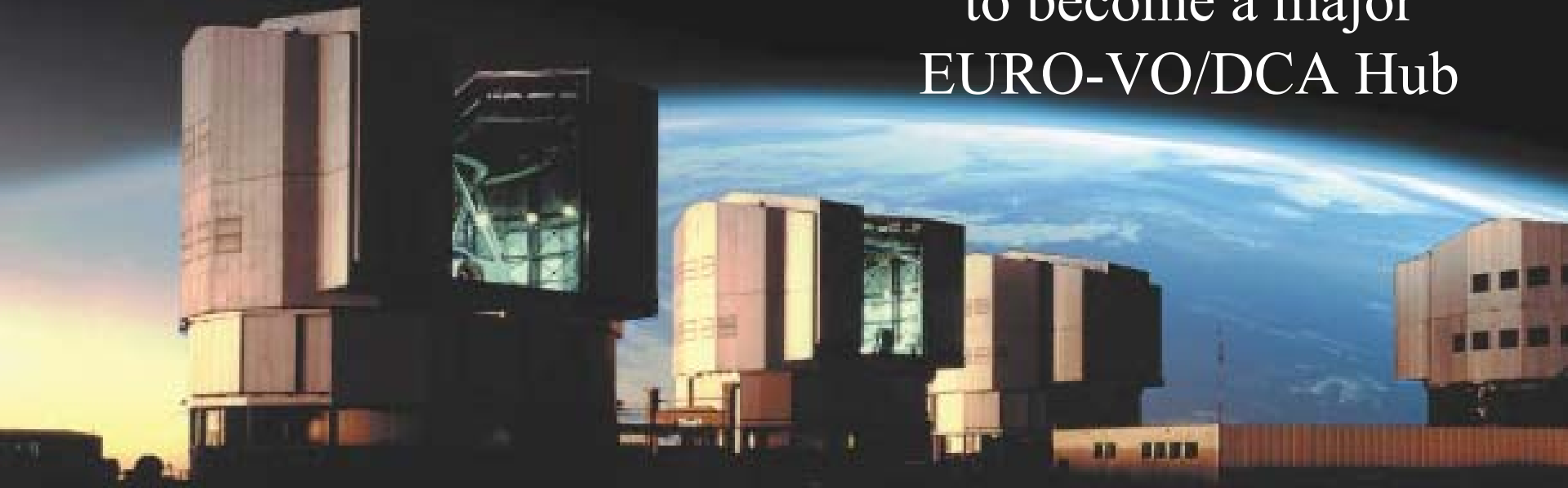
## Resources - 4 Years

- Data Centre Alliance
  - UK, France, Germany, Italy, Netherlands, Spain, ESO, ESA [initially 15 Centres]
  - 2 FTE per centre + 100 kEuro/yr upgrades
- Facility Centre
  - 4 support scientists (registries, outreach, project support = ASTROVIRTEL II)
- Technology Centre
  - 11 FTE development staff
- TOTAL : 15.5 Million Euro
- EC: 8 Million Euro

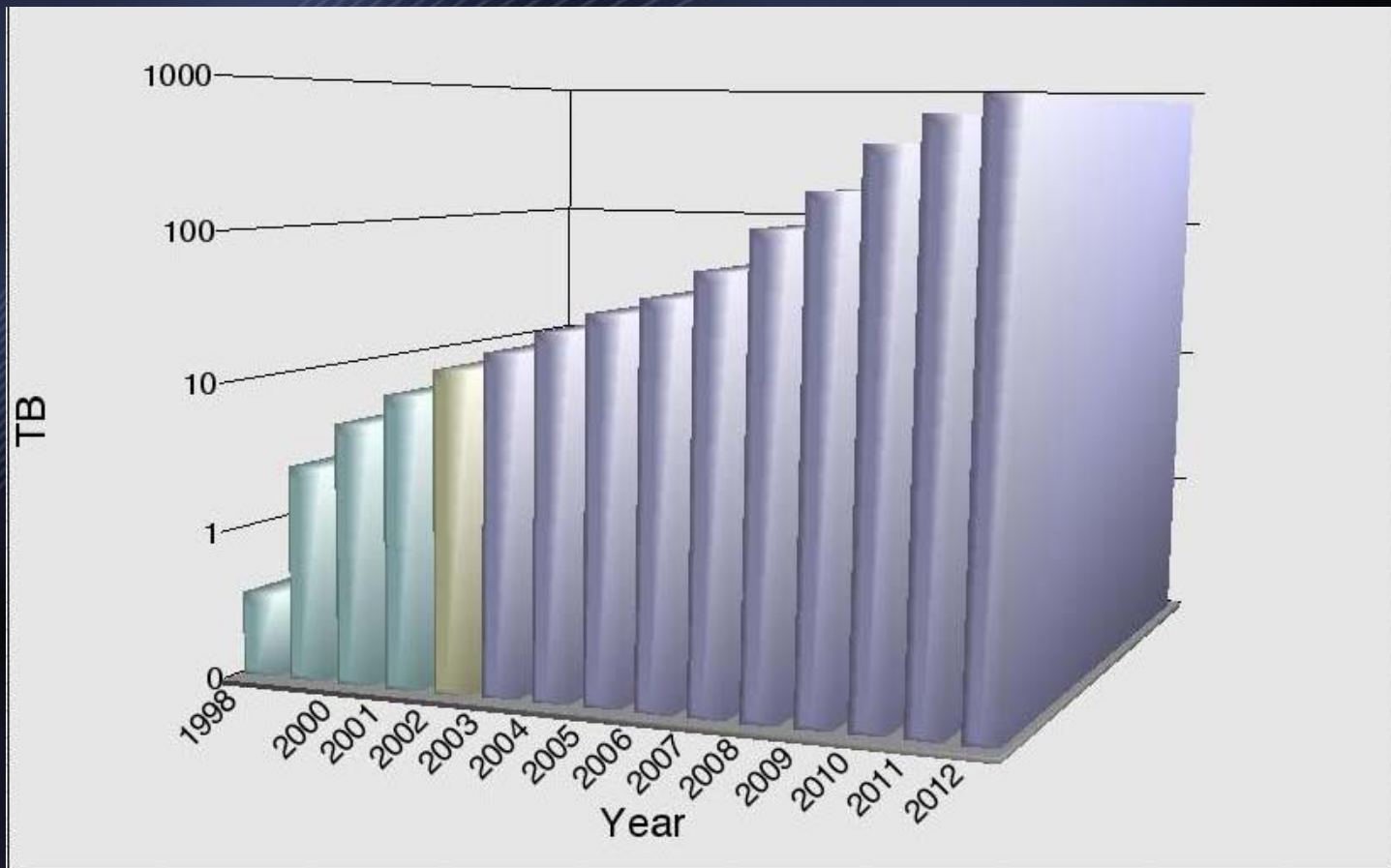




The ESO/STECF Archive  
to become a major  
EURO-VO/DCA Hub

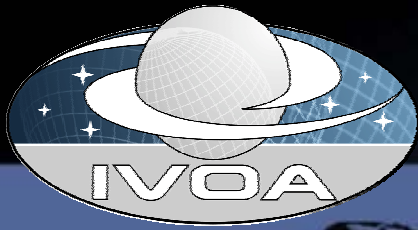


# ESO/STECF Science Archive Facility holdings



# EURO-VO Startup

- EURO-VO component proposals to FP6 in 2003 failed
- Next proposal opportunity in late 2005
- **EURO-VO is too important to be left TOTALLY to the EC competitions**
- EURO-VO partners will sign MOU in July 2004 to start project
- ESO will contribute 4 new FTEs for 18 months starting in July 2004 for EURO-VO DCA and VOTC work program
- VOTC proposal to FP6 design studies call in March 2004 for 2-3 Million Euro

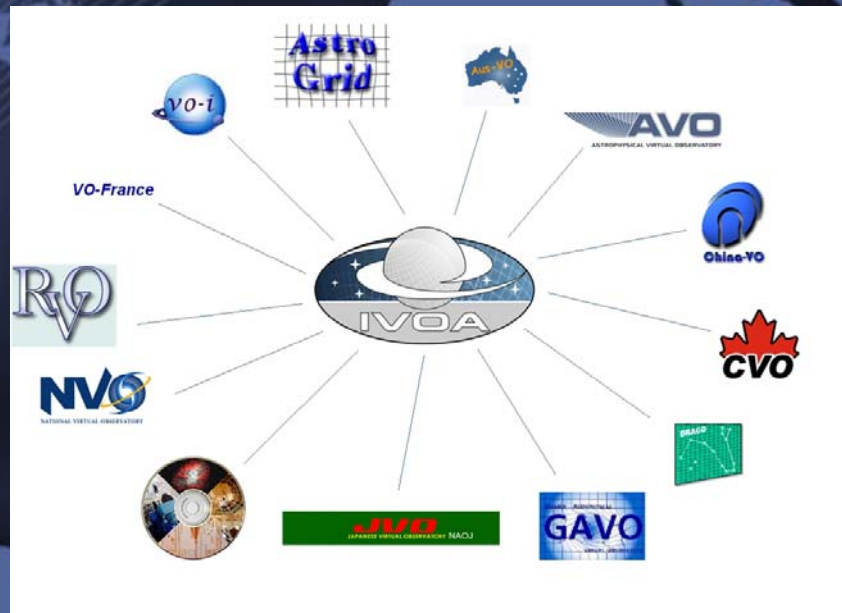


# International Virtual Observatory Alliance



## Resources

- 25 million € over the next 3-5 years
- 14 projects





# Roadmap

- June 2002 - IVOA formed
- January 2003 Coordinated Demo 1
  - New, introductory functionality
- August 2003 International Demo
  - IAU Sydney, international access
- January 2004 Coordinated Demo 2
  - Definition of new standards for data access and data discovery
- January 2005 Coordinated Demo 3
  - Complex new functions for knowledge discovery + the Grid





# Key VO Infrastructures

- Registries
- Data Models
- Uniform Content Descriptors
- Data Access Layer
- VO Query Language
- VOTable
- **AIM IS TO LOOSE CONTROL!**

