

# ASTERICS Tech Forum 5

## Strasbourg, Feb 2019

# Tech Forums Through The Ages

# Way back in the mists of time...



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*Keith Noddle, Royal Observatory Edinburgh*

...emerged...



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*Keith Noddle, Royal Observatory Edinburgh*

# ...the AVO Demonstrator

Unfortunately I couldn't find a reference to this  
*anywhere*

It was shown at an event at Jodrell Banks late  
2002 (or was it 2003?) and is the first big VO  
related event I know about.

Over to the floor...!

# AVO Project

Start :1 Nov 2001 – End : 31 Oct 2004

# Then VO in Europe got organised

# Then VO in Europe got organised



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The European Virtual Observatory - VO Technology Centre

Fact Sheet

## Objective

A Design Study will be undertaken aimed at completing all technical preparatory work necessary for the construction of the European Virtual Observatory (Euro-VO). Euro-VO is a specifically European implementation of the Virtual Observatory (VOs) concept, and will produce a world leading infrastructure providing a unified virtual data resource and the ability to perform complex data discovery and manipulation tasks across the whole range of astronomy. Access to data and tools will be equally good across Europe, regardless of location. This will require establishing an alliance of data centres, and a VOs facility centre in support of the community, but crucially requires the construction of an infrastructural glue of software components, in the context of rapidly evolving background developments in IT and the grid. The VO-TECH project aims specifically at feasibility studies and design work aimed at integrating such new technologies into the Euro-VO. Key IT advances to build on are in intelligent resource discovery (ontology and the semantic web), data mining, and visualisation capabilities. These will be integrated via global astronomical interoperability standards coupled with the latest distributed grid computing services. Additionally this project covers design and preparatory work to ensure that data from the major European telescopes and facilities (as represented by the Opticon and RadioNet networks) is fully accessible through the Euro-VO.

## Programme(s)

FP6-INFRASTRUCTURES - Research infrastructures: Specific programme for research, technological development and demonstration: "Structuring the European Research Area" under the Sixth Framework Programme 2002-2006

## Project information

### VO-TECH

Grant agreement ID: 11892

Start date End date  
1 January 2005 31 December 2008

Funded under:

FP6-INFRASTRUCTURES

Overall budget:  
€ 4 605 840

EU contribution  
€ 3 291 600



Coordinated by:

THE UNIVERSITY OF EDINBURGH

United Kingdom



# VO-TECH Project

1 January 2005 - 31 December 2008

8 Consortium meetings

Fore-runners of the Tech Forum as we know it  
today

# A state of the art website was created

**EURO VO**  
TECHNOLOGY CENTRE

## The VOTECH Project

Overview

- Introduction
- Latest News
- FAQ
- Contacts


Collaboration

- Forums
- Project TWiki
- VO Partners

Partner Links

- Euro-VO Home
- AstroGrid
- CDS
- ESO
- INAF

### VOTECH



The VOTECH project is an EU FP6 funded design study which aims to complete the technical preparation for the construction of the European Virtual Observatory ([Euro-VO](#)). The Euro-VO is an integrated and coordinated program designed to provide the European astronomical community with tools, systems, research support, and data interoperability standards necessary to enable astronomers simplified access to the information they need to complete their research.

The idea of the Euro-VO is to make it feel as if all the astronomical data and tools are available on the astronomers desktop, even though they are actually located on systems spread out over the whole of Europe and even the rest of the world. The VOTECH project is responsible for completing the design work and feasibility studies on the backbone software components that will make the Euro-VO possible. For more information on the VOTECH project a more thorough summary is [available here](#).

### Further Information for Collaborators

The links on the left of the page offer comprehensive information on Euro-VO and VOTECH. In particular, the [Project TWiki](#) stores all documents relating to the project in a form that makes collaborative working easy.

# How they laughed

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## The VOTECH Project

**Overview**

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- Forums
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- AstroGrid
- CDS
- ESO
- INAF

### VOTECH



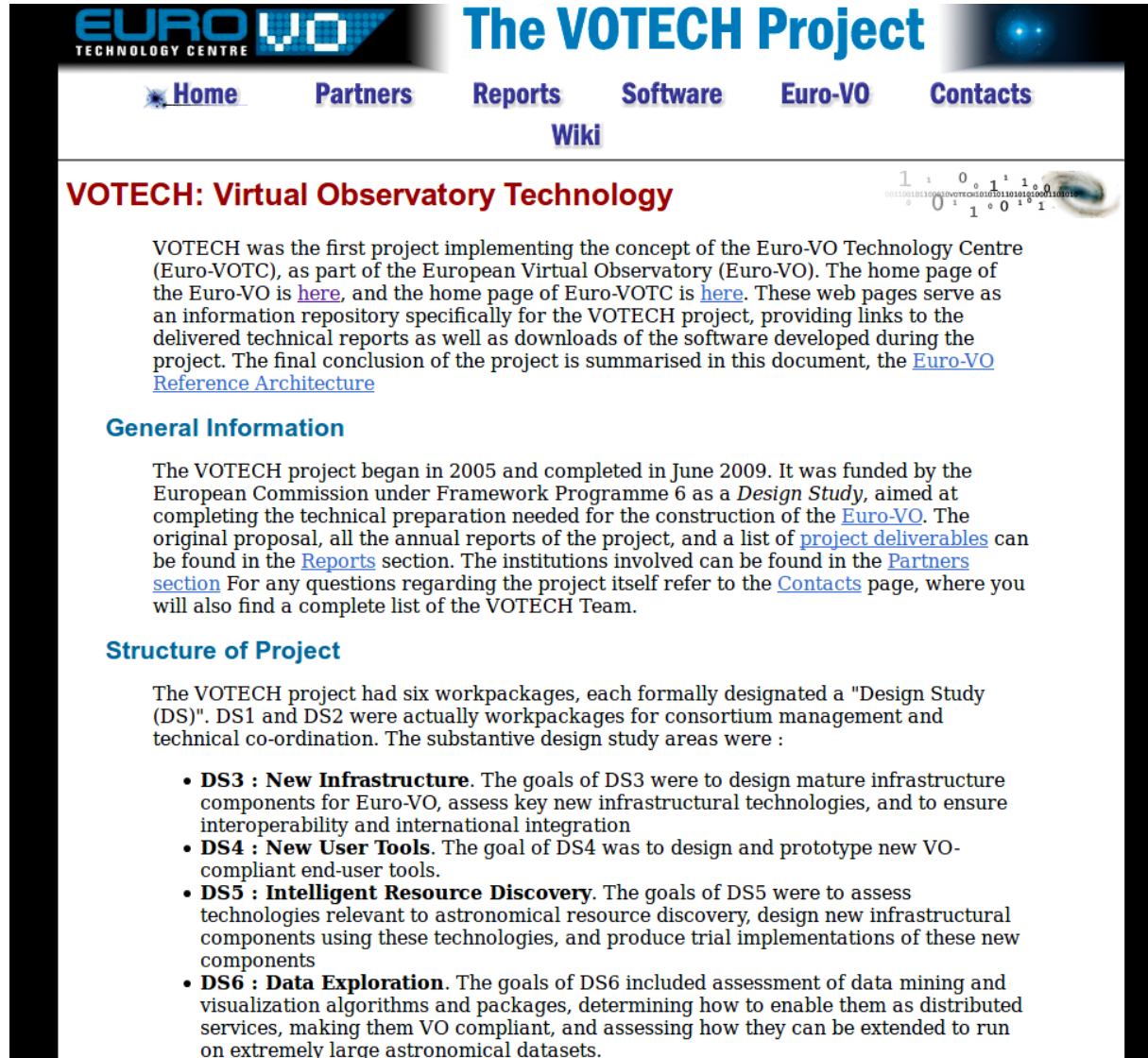
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# But eventually all was well



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## The VOTECH Project

[Home](#) [Partners](#) [Reports](#) [Software](#) [Euro-VO](#) [Contacts](#)

[Wiki](#)

### VOTECH: Virtual Observatory Technology

VOTECH was the first project implementing the concept of the Euro-VO Technology Centre (Euro-VOTC), as part of the European Virtual Observatory (Euro-VO). The home page of the Euro-VO is [here](#), and the home page of Euro-VOTC is [here](#). These web pages serve as an information repository specifically for the VOTECH project, providing links to the delivered technical reports as well as downloads of the software developed during the project. The final conclusion of the project is summarised in this document, the [Euro-VO Reference Architecture](#)

#### General Information


The VOTECH project began in 2005 and completed in June 2009. It was funded by the European Commission under Framework Programme 6 as a *Design Study*, aimed at completing the technical preparation needed for the construction of the [Euro-VO](#). The original proposal, all the annual reports of the project, and a list of [project deliverables](#) can be found in the [Reports](#) section. The institutions involved can be found in the [Partners section](#) For any questions regarding the project itself refer to the [Contacts](#) page, where you will also find a complete list of the VOTECH Team.

#### Structure of Project

The VOTECH project had six workpackages, each formally designated a "Design Study (DS)". DS1 and DS2 were actually workpackages for consortium management and technical co-ordination. The substantive design study areas were :

- **DS3 : New Infrastructure.** The goals of DS3 were to design mature infrastructure components for Euro-VO, assess key new infrastructural technologies, and to ensure interoperability and international integration
- **DS4 : New User Tools.** The goal of DS4 was to design and prototype new VO-compliant end-user tools.
- **DS5 : Intelligent Resource Discovery.** The goals of DS5 were to assess technologies relevant to astronomical resource discovery, design new infrastructural components using these technologies, and produce trial implementations of these new components
- **DS6 : Data Exploration.** The goals of DS6 included assessment of data mining and visualization algorithms and packages, determining how to enable them as distributed services, making them VO compliant, and assessing how they can be extended to run on extremely large astronomical datasets.

# The Wiki records plans, meetings, ..



## The VOTech Project

[Edit](#) [Attach](#) [Printable](#)

You are here: [TWiki](#) > [VOTech Web](#) > StageOne r5 - 28 May 2005 - 12:25:16 - TonyLinde

### Stage 01

The VOTech project is organised into six-monthly Stages. ~~Stage 01 is from January 2005 – June 2005.~~

**Note:** Stage 01 completion has been put back to end Sept 2005. New planning dates will be issued shortly.  
*Tony Linde, 28-May-2005*

- ↓ [Stage 01](#)
  - ↓ [Planning meetings](#)
  - ↓ [Stage Goals](#)

### Planning meetings

Planning meetings for each stage will normally take place in the months before the start of that stage, but since Stage 01 coincides with the start of the project itself, planning is taking place in Jan/Feb/Mar with a shorter activity period following it.

All the Stage 01 planning meetings are taking place in Leicester for convenience. Details for travelling to these meetings is at [StageOnePlanningMeetings](#).

The schedule for the DS meetings (21-24 Feb) is:

- [DS5: DS5PlanningStage01](#): 21st
- [DS4: DS4PlanningStage01](#): 22nd
- [DS3: DS3PlanningStage01](#): 23rd
- [DS6: DS6PlanningStage01](#): 24th

The VOTech TAP01 meeting will be held on 8-9 Mar 2005:

- [TAP01 Meeting page](#)

**VOTech**

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# Early DS3 Meeting agenda

## Agenda

10:00	<i>Coffee</i>		
10:30	Intro	KN	<a href="#">pdf</a>
10:40	Security	GR	<a href="#">.ppt</a>
11:10	DashBoard	NW	<a href="#">.pdf</a>
11:30	Workflows, Web Services ...	TB (for André Schaaff)	<a href="#">.pdf</a>
12:30	<i>Lunch</i>		
13:30	CEA	PH	
14:00	Discussions	All	
15:00	List requirements	All	
15:15	Cycle 1 scope	KN/All	
15:30	Summary and close	KN	
15:30	<i>Tea &amp; Coffee</i>		

# Meetings continued...

- Planning and Review meeting 01, Leicester, Feb 2005
- Planning and Review meeting 02, Edinburgh, Sep 2005
- Planning and Review meeting 03, Sorrento, Mar 2006
- Planning and Review meeting 04, Strasbourg, Sep 2006

# Then in Meeting 5...

...the Hack-A-Thon was introduced and the format of the Tech Forum meetings was born.

## Proposals

Please add below your (wiki)name, the person you want to work with and what issues you'd like to address:

[AndreSchaaff](#) and [CyrilPestel](#), to discuss with [DaveMorris](#) about VOSpace and iRODS/SRB

[AndreSchaaff](#) and [CyrilPestel](#), to discuss with [KevinBenson](#) about workflows, Taverna libraries, etc.

[AndreSchaaff](#) and [CyrilPestel](#), to discuss with [GuyRixon](#) about UWS schema and toolkit proposals

[MarkTaylor](#), [JonathanTedds](#) and [AnitaRichards](#) to discuss crossmatching (morning)

[MarkTaylor](#) and [GuyRixon](#) to get STILTS/CEA working.

[KevinBenson](#) and [AurelienStebe](#) to look at [DalToolkit](#) working for STAP (Time range protocol)

[NormanGray](#) to talk to [AlexandreRichard](#), to learn about the way the CDS ontology interworks with the SIMBAD object types

[ThomasBoch](#) and [FrancoisBonnarel](#) to discuss with [JeanMalapert](#) about instrument footprints

[FabioPasian](#) to discuss with [FrancoisBonnarel](#) and [ThomasBoch](#) about the use of the Healpix pixelisation scheme in Aladin

[ThomasBoch](#) to discuss with [JeanMalapert](#) about PLASTIC interactions between VirGO and Aladin

## Vocabularies

[SebastienDerriere](#), [NormanGray](#), [AndreaPreiteMartinez](#), [AlexandreRichard](#) ... for a vocab'athon session (practical semantics).

(Can I come too and annoy everyone? -- [TonyLinde](#)) (should we fix a rough time, since there's several of us? Say, just after lunch?)

-- [NormanGray](#))



# VO-TECH Meetings

- Planning and Review meeting 01, Leicester, Feb 2005
- Planning and Review meeting 02, Edinburgh, Sep 2005
- Planning and Review meeting 03, Sorrento, Mar 2006
- Planning and Review meeting 04, Strasbourg, Sep 2006
- Planning and Review meeting 05, Garching, Mar 2007
- Planning and Review meeting 06, Edinburgh, Oct 2007
- Planning and Review meeting 07, Strasbourg, Mar 2008
- Planning and Review meeting 08, Cambridge, Oct 2008

# EuroVO-AIDA



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## Euro-VO Astronomical Infrastructure for Data Access

[Fact Sheet](#)

[Results](#)

### Objective

EuroVO-AIDA aims at unifying the digital data collections of European astronomy, integrating their access mechanisms with evolving e-technologies, and enhancing the science extracted from these datasets. The concept of a Virtual Observatory (VObs) is that all the world's astronomical data should feel like it sits on the astronomer's desk top, analysable with a user selected workbench of tools and made available through standard interfaces across the whole range of astronomical research topics. VObs is embraced as a world-wide community-based initiative with the potential to transform and restructure the way astronomy research is done. Euro-VO is the European implementation of this idea, and the EuroVO-AIDA project is proposed to lead the transition of Euro-VO into an operational phase. EuroVO-AIDA integrates the technology, networking and service activities of Euro-VO into a fully functioning eInfrastructure. It will establish a Registry of VObs-compliant resources; support the network of data centres in deploying the VObs eInfrastructure; co-ordinate development of user tools for science extraction; and disseminate results to the astronomical community and identify their needs. The VObs interoperability standards will be updated taking into account feedback from implementation by data centre and from science usage. Specific emphasis will be placed on data access and data models, and on assessing innovative use of emerging technologies such as Web 2.0 by data centres for continuous improvement of the eInfrastructure. The result will be an operating knowledge infrastructure that enables and stimulates new scientific usage of astronomy digital repositories. Coordination of EuroVO-AIDA activities with the international VObs community is ensured, and discussions with other scientific communities will help to identify relevant generic tools and environments. Service activities are also identified for the support of outreach to higher education and the general public.

### Programme(s)

[FP7-INFRASTRUCTURES - Specific Programme "Capacities": Research Infrastructures](#)

### Project information

**EuroVO-AIDA**

Grant agreement ID: 212104

Status

Closed project

Start date

1 February 2008

End date

31 July 2010

Funded under:

FP7-INFRASTRUCTURES

Overall budget:

€ 3 511 582

EU contribution

€ 2 700 000



Coordinated by:

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France

Keith Noddle, Royal Observatory Edinburgh

# Tech Forum born

## Welcome to the Euro-VO AIDA Astronomical Infrastructure for Data Access

-- The project is finished and its Website is now an Archive - changes are not taken into account --

This is the web-based collaboration area of the Euro-VO Astronomical Infrastructure for Data Access project. This project is supported by EU in the framework of the FP7 [eInfrastructure Scientific Research Repositories](#) initiative (project RI2121104). It started on 1 February 2008, for a duration of 30 months.

The EuroVO-AIDA project ended on 31 July 2010. The [Euro-VO](#) activities continues in the partner countries and in the European international organisations ESA and ESO. Cooperation at the European and international level will be maintained for one year through a small 'bridging' project, Euro-VO International Cooperation Empowerment (EuroVO-ICE, [summary in the CORDIS site](#), [project TWiki](#)), EuroVO-ICE is a Coordination Action supported by EU in the framework of the FP7 initiative (INFRA-2010-2.3.3 Research Infrastructures, project 261541). It started on 1 September 2010.

### Highlights

- [Fifth Euro-VO Technology Forum](#) : March 16 -18, 2010 in Heidelberg
- [Second Community feedback Workshop](#) : 25-28 January 2010, Strasbourg
- **The EuroVO-AIDA Project also realizes an update of the DCA Census of European astronomical Data Centres.**
- EURO-VO in the ICT results: [e-Infrastructures give real boost to virtual observatories](#) - issued on 8 october 2009.
- [Fourth Euro-VO Technology Forum](#): 22 - 24 September 2009, Trieste
- [Second EuroVO-AIDA Research Initiative](#). Deadline 15 July 2009.
- [Data Centre Workshop on how to publish data in the VO](#) 22-26 June 2009, ESAC, Villafranca del Castillo
- [EuroVO-AIDA Hands-on workshop](#) : 30 March - 2 April 2009, ESO, Garching
- [Third Euro-VO Technology Forum](#) : 16- 18 March 2009, Strasbourg *Due to a strike warning on March 19, the meeting will be held March 16 -18*
- Full Harvestable [EuroVO Registry of Resources](#) has been released (13 Mar 2009)
- [EuroVO-AIDA Workshop MultiWavelength astronomy and the Virtual Observatory](#) : December 1-3 2008, ESAC, Villafranca del Castillo
- [Second Euro-VO Technology Forum \(with VO-TECH\)](#) : 29 September - 2 October 2008, Cambridge, UK
- [First EuroVO-AIDA Research Initiative](#). Deadline 15 June 2008.
- [First Euro-VO Technology Forum](#) (with VO-TECH): March 17 - 19 2008, Strasbourg

# Hack-A-Thon becomes integral

## Provisional Agenda

<b>Mon 16</b>	10:00	Registration - <i>Coffee</i>	
	10:30	Welcome	<a href="#">FrancoiseGenova</a>
	10:45	AIDA: Project Review and Milestones (including Wp2 Report)	<a href="#">FrancoiseGenova</a>
	11:15	WP1 Report	<a href="#">FrancoiseGenova</a>
	11:45	WP3 Report ( <a href="#">pdf</a> )	<a href="#">AurelienStebe</a>
	12:30	Lunch	
	14:00	WP4 Overview ( <a href="#">pdf</a> )	<a href="#">PaoloPadovani</a>
	14:45	<a href="#">WP5 report (pps)</a>	<a href="#">MassimoRamella</a>
	15:30	<a href="#">WP6 Report</a>	<a href="#">KeithNoddle</a>
	16:15	<a href="#">WP7 Report</a>	<a href="#">PedroOsuna</a>
	17:00	Close	
<b>Tues 17</b>	09:30	Introduction to Day Two	
	09:45	<a href="#">WP8 report</a>	<a href="#">ThomasBoch</a>
	11:00	<a href="#">Hack-a-thon</a> / Science & Management meetings	
	12:30	Lunch	
	14:00	<a href="#">Hack-a-thon</a> / Science & Management meetings	
	17:00	Close	
<b>Weds 18</b>	09:30	<a href="#">Hack-a-thon</a>	
	11:00	WP3 Plans ( <a href="#">pdf</a> )	<a href="#">AurelienStebe</a>
	11:30	WP4 Input to other Work Packages ( <a href="#">pdf</a> )	<a href="#">PaoloPadovani</a>
	12:00	WP5 Plans	<a href="#">MassimoRamella</a>
	12:30	Lunch	
	14:00	WP6 Plans	<a href="#">KeithNoddle</a>
	14:30	WP7 Plans	<a href="#">PedroOsuna</a>
	15:00	WP8 Plans ( <a href="#">pdf</a> )	<a href="#">ThomasBoch</a>
	15:30	Wrap-up	
	16:00	Close of meeting	

# Planning the agenda



# Hack-A-Thon taken seriously

## Third Technology Forum Hack-a-thon

- Discussion on Generic dataset protocol (Francois Bonnarel, Pedro Osuna (partially), Jesus Salgado)
  - Now objectives of this task are very close to Generic Data Set one
  - Agreed to find a way to easily describe type of resource (SIA, SSA, etc) so clients could know "a priori" the expected response and decide if they can handle it
  - Discussion on how to express extensions; three approaches:
    - Attached; several resources of different types in the same response
    - Detached; links to external services associated. The type will be defined in the original response
    - Both; Allow both approaches and leave the data provider to use one or another depending, e.g., of the kind of association between record
  - Details to be added to the specific WP7, Task 5 pages
- Discussion on Photometric datamodel (Mireille Louys, Francois Bonnarel, Alberto Micol, Carlos Rodrigo, Pedro Osuna, Jesus Salgado)
  - Small changes on the model agreed:  
Removal of "short-cut" Photometry Filter - SED. There are two ways to get the Photometry Filter details in the old filter: through every photometry point and from the SED, in case all the photometry points described have the same photometry filter associated. As per ML suggestion, this latest shortcut (SED-Photometry filter) should be removed to prevent circular loops  
Change of some multiplicity description expressed in a non-standard way
  - Discussion about transmission curve. In the present model, there is only one transmission curve associated to the photometry filter. However, as per AM comments, the real transmission curve for a photometry filter is a component of different things from the Air conditions (for ground based observations), observation angle, instrument conditions, etc. Moreover, the components that give value to the final measurement are also a combination of the real source emission and background. This is not present in the model. JS considers this is raw data so it should be reduced. CR points out that all the catalogs are already reduced to prevent this ambiguity so the values can be converted to flux just by using the zero point and the wavelength of reference. It was decided to do not enter in this details and only describe pure photometry filter characteristics in the photometry filter class that will be used by, e.g., the Filter Profile Service
  - Discussion on filter details varying with the time. The filters change with the time, because of modifications, degradation, etc... so the filter transmission has a range of validity. The discussion was about how to handle it
- Discussion between Sébastien, Brice and Norman on the possible interaction between CDSAnnotations and SKUA
- A discussion required with Mireille, Anita, François on Radio cubes
- A discussion required including Thomas (?), Mireille, Fabien and Alberto on simplification of the Char datamodel (utypes)
- Discussion between Aurélien, Dave and Noel on Curation Tool basic agreements and development tools details/organisation
- Discussion between Mark Taylor and Alberto Micol about how service providers can find out which applications are consuming their services. HTTP User-Agent request header? Mark to follow up on IVOA Apps list.

# Then came EuroVO-ICE



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## Euro-VO International Cooperation Empowerment

Fact Sheet

Results

### Objective

Astronomy has been a pioneer in the conceptualization and implementation of a science driven 'virtual infrastructure', essential to optimize the science return of the large infrastructures of the discipline. The concept of a Virtual Observatory (VObs) is that all the world's astronomical data should feel like they sit on the astronomer's desk top, analysable with a user selected workbench of tools and made available through standard interfaces across the whole range of astronomical research topics. VObs is embraced as a world-wide community-based initiative with the potential to transform and restructure the way astronomy research is done. The European Virtual Observatory, Euro-VO, is the European implementation of this idea. The astronomical VObs is undergoing significant evolution with the beginning of its operational phase. Some activities are critical and have to be maintained to assess their evolution and prepare them for being sustained on the long term. The EuroVO-ICE project is a 2-year focussed project which aims at preparing all the necessary measures to continue the pioneering work of Euro-VO and sharing its concepts with other scientific disciplines, (1) by exploring the key points for long term sustainability, including the international, European, and national perspectives, and (2) by assessing how to maximize the impact of the work on the VObs development and of Euro-VO achievements by building partnership with other 'neighbouring' disciplines – time for this coordination is now mature thanks to projects recently selected to be supported by EU funding.

### Programme(s)

[FP7-INFRASTRUCTURES - Specific Programme "Capacities": Research Infrastructures](#)

### Project information

## EuroVO-ICE

Grant agreement ID: 261541

Status

Closed project

Start date

1 September 2010

End date

31 August 2012

Funded under:

FP7-INFRASTRUCTURES

Overall budget:  
€ 232 167

EU contribution  
€ 210 000



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# Then CoSADIE



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## Collaborative and Sustainable Astronomical Data Infrastructure for Europe

Fact Sheet

Results

### Objective

The Collaborative and Sustainable Astronomical Data Infrastructure for Europe (CoSADIE) project will undertake actions aimed at designing a sustainable version of the already successful European Virtual Observatory (Euro-VO). The concept of a Virtual Observatory (VOs or VO) is that all the world's astronomical data should feel like they sit on the astronomer's desktop workspace, analysable with a user selected workbench of tools and made available through standard interfaces across the whole range of astronomical research topics. VOs is embraced as a world-wide community-based initiative with the potential to transform and restructure the way astronomy research is done. The European Virtual Observatory, Euro-VO, is the European implementation of this idea. The astronomical Virtual Observatory has been identified as one of the important infrastructures of astronomy in the recent European strategic exercise performed by the Astronet ERA-NET. The VOs is currently in transition towards operational phase. This proposal is centred on the development of strategies and coordination structures, through a feasibility study for a sustainable European Virtual Observatory giving access to the open, highly diverse, highly distributed data holdings of astronomy. It also aims at disseminating results among and gathering requirements from the scientific community (users) and the data providers. It will co-ordinate European technical activities, and includes the promotion and monitoring of international standards, and their adoption through the International Virtual Observatory Alliance. Co-operation and interface with the grid and cloud will also be assessed, with a particular consideration towards EGI.eu and OGF. Specific care will be taken to consolidate the high impact VOs outreach activities towards education and the general public.

### Programme(s)

FP7-INFRASTRUCTURES - Specific Programme "Capacities": Research Infrastructures

### Project information

## CoSADIE

Grant agreement ID: 312559

Status

Closed project

Start date

End date

1 September 2012 28 February 2015

Funded under:

FP7-INFRASTRUCTURES

Overall budget:  
€ 635 429

EU contribution  
€ 475 000



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# Finally ASTERICS



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## Astronomy ESFRI and Research Infrastructure Cluster

Fact Sheet

Reporting

Results

### Objective

ASTERICS (Astronomy ESFRI & Research Infrastructure Cluster) aims to address the cross-cutting synergies and common challenges shared by the various Astronomy ESFRI facilities (SKA, CTA, KM3Net & E-ELT). It brings together for the first time, the astronomy, astrophysics and particle astrophysics communities, in addition to other related research infrastructures. The major objectives of ASTERICS are to support and accelerate the implementation of the ESFRI telescopes, to enhance their performance beyond the current state-of-the-art, and to see them interoperate as an integrated, multi-wavelength and multi-messenger facility. An important focal point is the management, processing and scientific exploitation of the huge datasets the ESFRI facilities will generate. ASTERICS will seek solutions to these problems outside of the traditional channels by directly engaging and collaborating with industry and specialised SMEs. The various ESFRI pathfinders and precursors will present the perfect proving ground for new methodologies and prototype systems. In addition, ASTERICS will enable astronomers from across the member states to have broad access to the reduced data products of the ESFRI telescopes via a seamless interface to the Virtual Observatory framework. This will massively increase the scientific impact of the telescopes, and greatly encourage use (and re-use) of the data in new and novel ways, typically not foreseen in the original proposals. By demonstrating cross-facility synchronicity, and by harmonising various policy aspects, ASTERICS will realise a distributed and interoperable approach that ushers in a new multi-messenger era for astronomy. Through an active dissemination programme, including direct engagement with all relevant stakeholders, and via the development of citizen scientist mass participation experiments, ASTERICS has the ambition to be a flagship for the scientific, industrial and societal impact ESFRI projects can deliver.

### Programme(s)

[H2020-EU.1.4.1.1. - Developing new world-class research infrastructures](#)

### Project information

## ASTERICS

Grant agreement ID: 653477

[Project website](#)

Status

Ongoing project

Start date

1 May 2015

End date

30 April 2019

Funded under:

H2020-EU.1.4.1.1.

Overall budget:

€ 14 991 194

EU contribution

€ 14 991 194



Coordinated by:

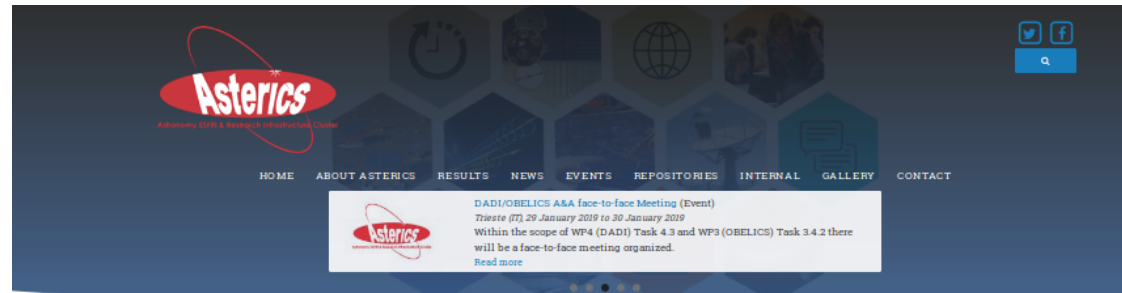
STICHTING ASTRON, NETHERLANDS

INSTITUTE FOR RADIO ASTRONOMY

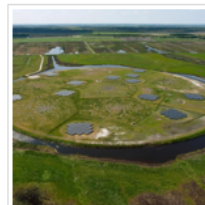
Netherlands

Keith Noddle, Royal Observatory Edinburgh

# ...and now



Bringing together the astronomy, astrophysics  
and particle astrophysics communities



### MULTI-MESSENGER ASTROPHYSICS

Multi-messenger astrophysics helps obtaining a more comprehensive understanding of events and objects in space by looking at different messengers and wavelengths simultaneously with different instruments.



### DATA

The astrophysical ESFRN projects will generate rich and complex, multi-dimensional datasets, and the exploitation of this unique combination of astronomy "Big Data" requires a common data infrastructure for data discovery, access and interoperability.



### TIMING

The scientific drive towards combining and aligning data from different facilities in order to comprehensively study multi-messenger and transient events requires interoperability between hybrid data streams with unprecedented time synchronization across



### CITIZEN SCIENCE

Part of our mission is to engage with the general public as well as technical audiences. That is why we are developing citizen science experiments that address science questions, while involving the public in knowledge discovery.

## UPCOMING EVENTS



RDA Thirteenth Plenary Meeting  
02 - 04 March 2019, Philadelphia (United States)  
Research Data Alliance Thirteenth Plenary Meeting



The New Era of Multi-Messenger Astrophysics Conference  
25 - 29 March 2019, Groningen (Netherlands)  
A meeting of international researchers to review recent scientific and technological progress, and to continue planning the future of multi-messenger astrophysics.



Third ASTERICS-OBELICS International School  
08 - 12 April 2019, Annecy (France)  
We are pleased to announce the third ASTERICS-OBELICS International School that will be held at LAPP, Annecy from 8 to 12 April 2019.

[ASTERICS event organiser tool \(Indico\)](#)

Keith Noddle, Royal Observatory Edinburgh

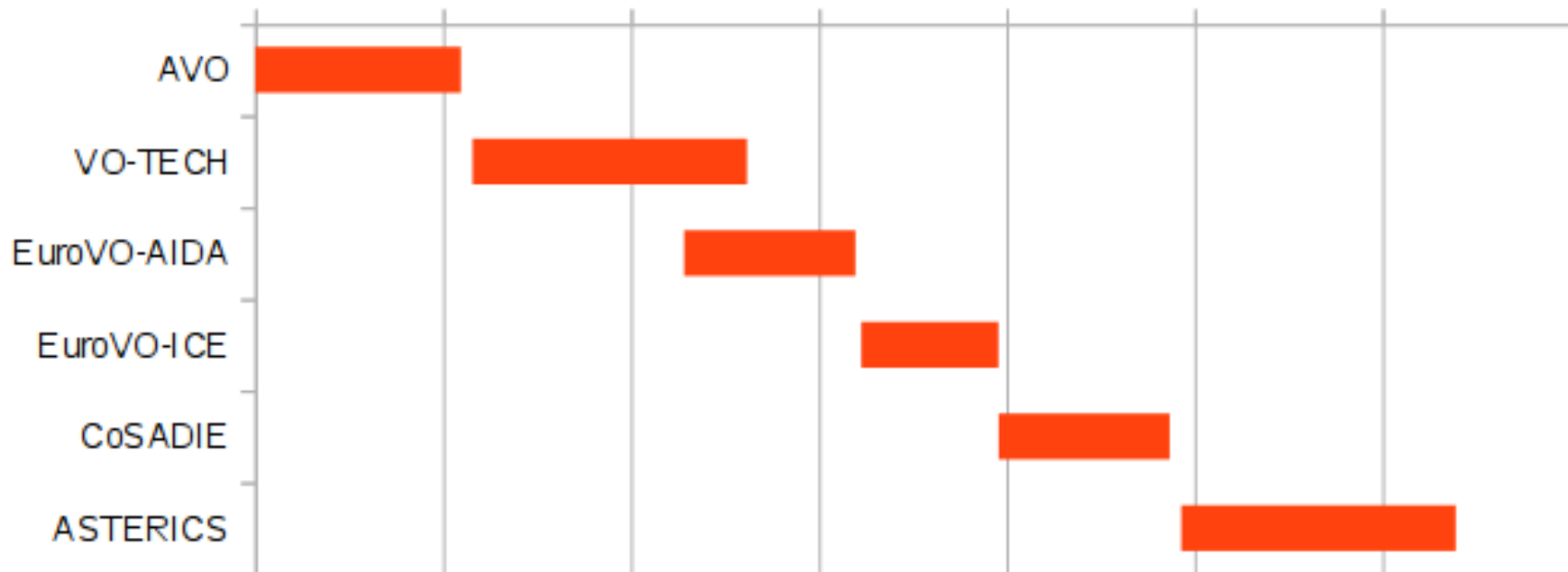
# Projects and Tech Forums

Project	Start	End
AVO	1 Nov 2001	31 Oct 2004
VO-TECH	1 Jan 2005	31 Dec 2008
EuroVO-AIDA	1 Feb 2008	31 Jul 2010
EuroVO-ICE	1 Sep 2010	31 Aug 2012
CoSADIE	1 Sep 2012	28 Feb 2015
ASTERICS	1 May 2015	30 Apr 2019

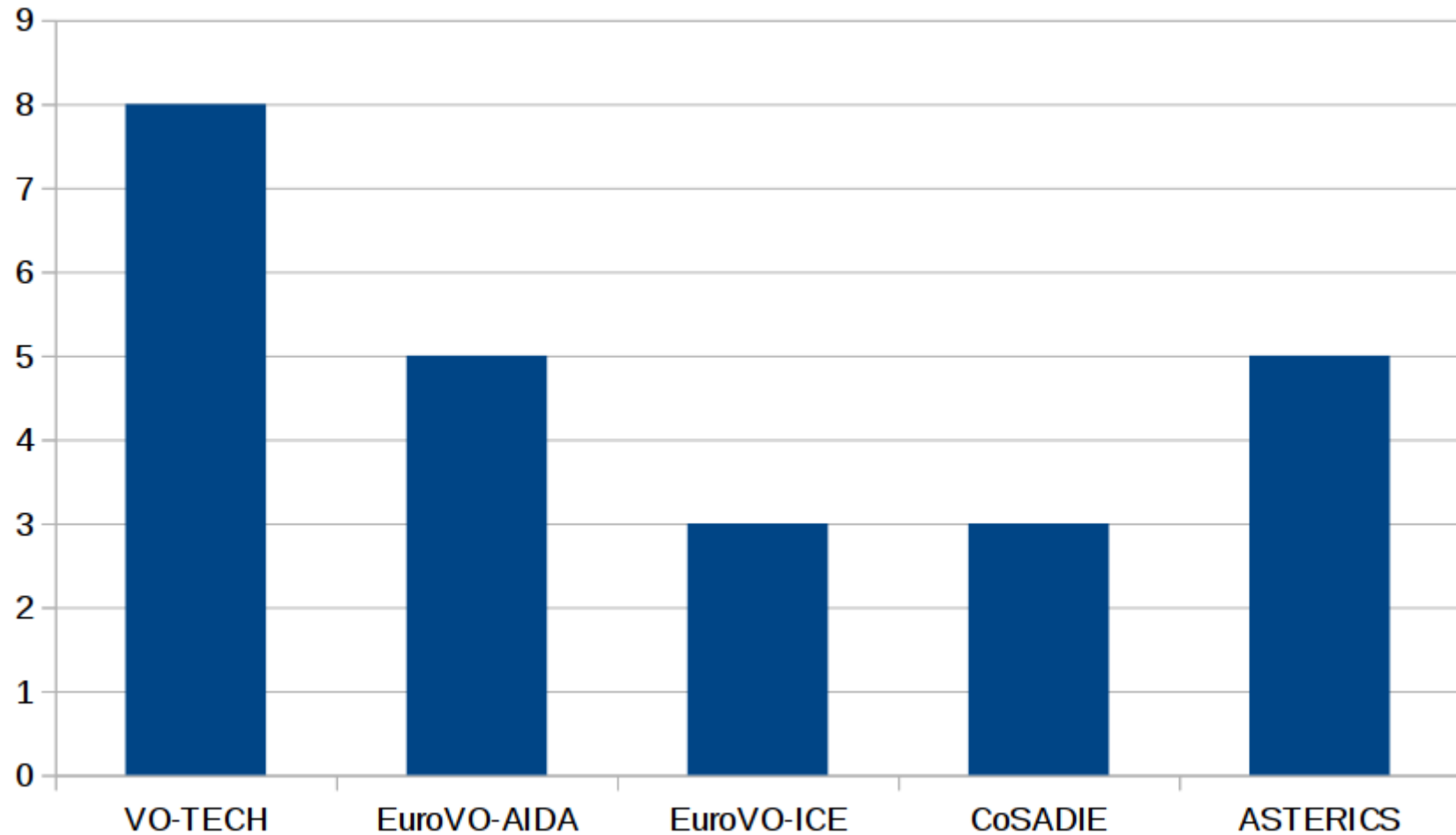
# Projects and Tech Forums

1. AVO 1 November 2001 31 October 2004
2. VO-TECH 1 January 2005 31 December 2008
  - Planning and Review meeting 01, Leicester, Feb 2005
  - Planning and Review meeting 02, Edinburgh, Sep 2005
  - Planning and Review meeting 03, Sorrento, Mar 2006
  - Planning and Review meeting 04, Strasbourg, Sep 2006
  - Planning and Review meeting 05, Garching, March 2007
  - Planning and Review meeting 06, Edinburgh, Oct 2007
  - Planning and Review meeting 07, Strasbourg, Mar 2008
  - Planning and Review meeting 08, Cambridge, Oct 2008
3. EuroVO-AIDA 1 February 2008 31 July 2010
  - First Euro-VO Tech Forum, Strasbourg, Mar 2008
  - Second Euro-VO Tech Forum, Cambridge, Oct 2008
  - Third Euro-VO Tech Forum, Strasbourg, Mar 2009
  - Fourth Euro-VO Tech Forum, Trieste, Sep 2009
  - Fifth Euro-VO Tech Forum, Heidelberg, Mar 2010
4. EuroVO-ICE 1 September 2010 31 August 2012
  - Euro-VO Tech Forum 1, Edinburgh, Oct 2010
  - Euro-VO Tech Forum 2, Trieste, Apr 2011
  - Euro-VO Tech Forum 3, Strasbourg, May 2012
5. CoSADIE 1 September 2012 28 February 2015
  - First CoSADIE Tech Forum, Edinburgh, Jan 2013
  - Second CoSADIE Tech Forum, Strasbourg, Sep 2013
  - Third CoSADIE Tech Forum, Trieste, Mar 2014
6. ASTERICS 1 May 2015 30 April 2019
  - First ASTERICS Tech Forum, Strasbourg, Sep 2015
  - Second ASTERICS Tech Forum, Edinburgh, Mar 2016
  - Third ASTERICS Tech Forum, Strasbourg, Mar 2017
  - Fourth ASTERICS Tech Forum, Edinburgh, Apr 2018
  - Fifth ASTERICS Tech Forum, Strasbourg, Feb 2019

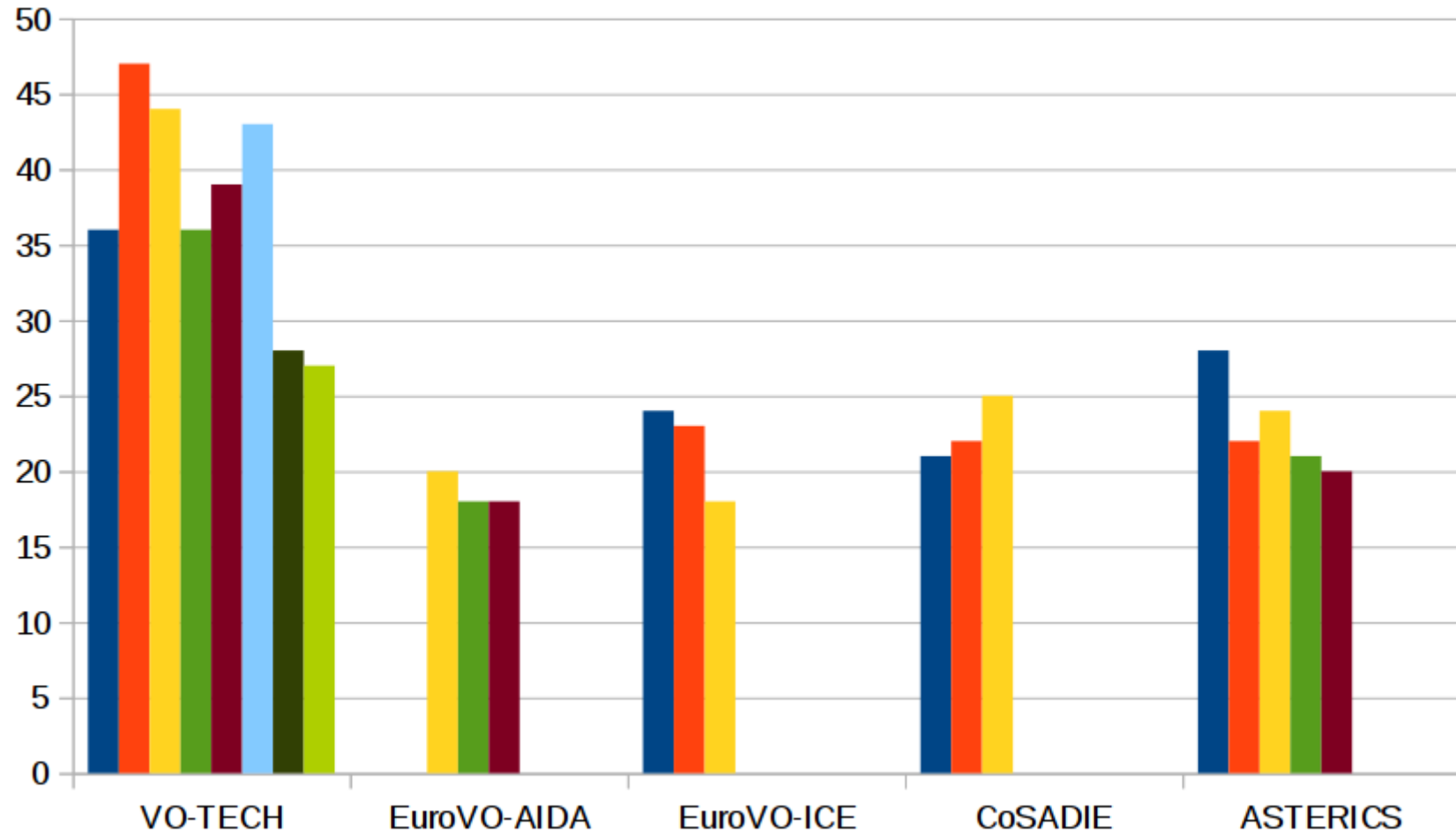
# Projects and Tech Forums



# Tech Forum / Project



# Talks / Tech Forum






# VO-TECH Stage 01 (Feb '05)

## Agenda

10:00	Coffee		
10:30	Introduction/Scope	<a href="#">SebastienDerriere</a>	<a href="#">.pdf</a>
11:00	Planning for Stage01	All	
-	Suggested use cases	<a href="#">SebastienDerriere</a>	<a href="#">.pdf</a>
-	Convergence of registries, Data Models and protocols	<a href="#">AnitaRichards</a>	<a href="#">.ppt</a> , <a href="#">.sxi</a>
-	Discussion, Short Term Planning	All	
12:30	Lunch		
13:30	Scope & Outlook to Iterations 2-6	All	
15:00	Summarize → Work plan	<a href="#">SebastienDerriere</a> +All	
15:30	Tea & Coffee, Adjourn		



# ASTERICS TF5 (Feb '19)

<b>Wed Feb 27</b>
<b>Provenance Session</b> (and more) Session Chair: Keith Noddle
<b>9h00 - 9h25</b>  Mireille Louys : IVOA Provenance Data model: a synthetic view
<b>9h25 - 9h50</b> Francois Bonnarel : CDS implementation of ProvTAP for HiPS provenance
<b>9h50 - 10h15</b> Markus Nullmeier : Searching in provenance with custom ADQL functions
<b>10h15 - 10h30</b> Discussion
<b>10h30</b> Coffee Break
<b>Presentation Session</b> Session Chair: Mark Allen
<b>11h00 - 11h25</b> Laurent Michel :  IVOA DM-WG overview
<b>11h25 - 11h50</b> Morten Franz:  EST presentation
<b>11h50 - 12h15</b> Matthieu Baumann : Modular components for quick retrieval of VO data sets
<b>12h15 - 12h25</b> Francois Bonnarel : Feedback on development of multidimensional data standards and implementations
<b>12h15 - 12h30</b> Discussion
<b>12h30</b> Lunch
<b>14h</b> Hackathon [ Amphitheatre + Salle de reunion coupole]
<b>15h30</b> Coffee Break
<b>16h00</b> Hackathon [ Amphitheatre + Salle de reunion coupole]
<b>17h30</b> Close
<b>19h30</b> Dinner (Celebrating Tech Forums since VOTech) Restaurant: Le Gruber, 11, rue du Maroquin 67000 STRASBOURG (  <a href="https://www.legruber.com">https://www.legruber.com</a> )

# EuroVO-ICE TF1 (Oct '10)

Weds 20th	
09:00	Coffee
09:15	Plans for Day Two [Keith]
<b>Presentations</b>	
09:30	New User Interfaces and interactions [André] ( <a href="#">.pdf</a> )
10:00	Distributed cross matching using OGSA-DAI [Aly] <a href="#">pdf</a>
10:30	VOWarehouse [Alex]
11:00	Coffee
11:30	TAPSH [Markus] ( <a href="#">Slides and Notes</a> )
12:00	Remote collaboration using SAMP and XMPP [Aly]
12:30	Lunch
<b>Hack-a-thon afternoon</b>	14:00
	SED builder : Discission about issues that need to be addressed before then next IVOA meeting
	Searching the VO by classes of sources/lists of objects : brainstorming session
	DAL 2 Architecture : EuroVO perspective for Interop( <a href="#">.txt</a> )
	ObsTAP discussion
	VAMDC demo and discussion





# Four stages of Technology Evolution

Make it possible

Make it easy

Make it automatic

Make it invisible

# Four stages of Technology Evolution

Make it possible ✓

Make it easy ✓

Make it automatic ✓

Make it invisible ✓

