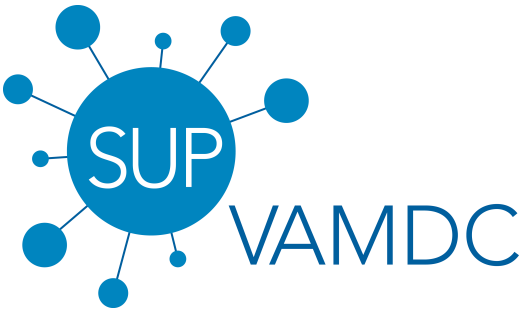

SUP@VAMDC

Support at the Virtual Atomic and Molecular Data Centre

D1.4

–

SUP@VAMDC Project Plan Year 2

Version 3.6

Grant agreement no: 313284

Combination of Coordination and Support Actions

Project Information

Project acronym:	SUP@VAMDC
Project full title:	Support at the Virtual Atomic and Molecular Data Centre
Grant agreement no.:	313284
Funding scheme:	Combination of Coordination and Support Actions
Project start date:	01/12/2012
Project duration:	24 months
Call topic:	INFRA-2012-3.3 Scientific Data Infrastructure
Project web sites:	http://www.sup-vamdc.vamdc.eu
	http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/SUP-VAMDC

Consortium:

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Document

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Authors:	M.L. Dubernet, Y.A. Ba and EPT Team
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List of participants:

Beneficiary Number *	Beneficiary name	Beneficiary short name	Country	Date enter project**	Date exit project**
1(coordinator)	Observatoire de Paris[1]	OBSPARIS	France	Month 1	Month 24
2	The Chancellor, Masters and Scholars of the University of Cambridge	UCAM	UK	Month 1	Month 24
3	Uppsala Universitet	UU	Sweden	Month 1	Month 24
4	Open University	OU	UK	Month 1	Month 24
5	Universitaet zu Koeln	KOELN	Germany	Month 1	Month 24
6	University College London[3]	UCL	UK	Month 1	Month 24
7	Korea Atomic Energy Research Institute	KAERI	Korea	Month 1	Month 24
8	Institute University of South Africa	UNISA	South Africa	Month 1	Month 24
9	Tata Institute of Fundamental Research	TIFR	India	Month 1	Month 24

In addition to the legal Beneficiaries, SUP@VAMDC has external partners who are supported to attend SUP@VAMDC main events and an associate member with no support. Detailed explanations are given in the implementation section of Description of Work. Below is the list of those partners.

Name	Institute	Status
Dr Yuri Ralchenko	Atomic Spectroscopy Group, NIST, USA	External
Dr Larry Rothman	The Harvard-Smithsonian Center for Astrophysics, Cambridge, USA	External
Dr Brian Drouin	The Propulsion Laboratory, NASA	External
Dr Carlos Gonzales	The Chemical and Biochemical Reference Data Division	External
Prof. Stephen Buckman	Atomic and Molecular Physics Laboratory, Canberra, Australia	External
Prof. Michael Brunger	The Electron Scattering and Modelling Group, Flinders University, Australia	External
Dr Izumi Murakami	National Institute for Fusion Science, Japan	External
Prof. Milton Fujimoto	Universidade Federal of Parana, Brazil	External
Dr Bas Braams	Atomic and Molecular Data Unit, IAEA, Vienna	Associate

Abstract	The objective of D1.4 is to describe SUP@VAMDC Project Plan, with a detailed view of Year 2. It provides the general strategy of Year 2, its communication strategy, planning of work packages, work details, name of people in charge of board and working in WP.

Versioning and Contribution history

Version	Date	Reason for modification	Modified by
V0.1	01/03/2013	First Draft	M.L. Dubernet
		Inputs from the nodes on the different contributions	
V1.0	22 Sept. 2013		M.L. Dubernet
	March 2014	Plans Done by WP leaders (KPI, metrics) and Discussed at EPT Teleconf	U. Heiter, G .Rixon, M.L. Dubernet, C.M. Zwölf
V2.0	22 May 2014	Re-focused objective for Year 2	M.L. Dubernet and WP leaders
v3.0	25 May 2014	Improved Version - circulated for comments (WP1, WP2, WP5 are finished)	M.L. Dubernet
v3.1	26 May 2014	Communication Strategy + some remarks on WP3-T5	ML Dubernet with inputs from F. Portier-Fozzani, T. Marquart
v3.2	26 May 2014	WP4 plans are updated	U. Heiter
v3.3	26 May 2014	Milestones & Final Check circulated	M.L. Dubernet
v3.4	26 May 2014	Milestones changed UU	U. Heiter
v3.5	26 May 2016	Inclusion Table of Meetings	F. Portier-Fozzani
v3.6	26 May 2014	Milestones & Final Check	M.L. Dubernet

Final Version (v3.6) released by		Circulated to	
Name	Date	Recipient	Date
M.L. Dubernet	May 2014	Mrs Kalfin	May 2014

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I. Reference Document

The reference document is the Description of Work that amended on July 2013 and formally approved by the commission at the end of November 2013 (end of Year 1).

II. General Strategy for Year 2

The partners are re-focused on specific objectives:

- OBSPARIS focuses mainly on marketing/communication in particular relation with the new website, but as well through leaflets describing scientific use cases, presenting tools in an attractive way, on activating social networks/forum, on coordinating MoU, on coordinating Roadmap, on some upgrades of the infrastructure at the level of the available manpower. OBSPARIS coordinates WP1 and WP2
- UCAM focuses mainly on connection to closed domains (RADAM), on inclusion of NIST-ADB from the USA, on inclusion of LXCAT and on some upgrades of tutorials and infrastructure in WP5. UCAM coordinates WP5.
- OU focus mainly on the connection to the RADAM community
- UU focuses mainly on providing tutorials, on helping small groups to be part of VAMDC e-infrastructure, on developing a user application. In addition UU coordinates WP4
- KOELN focus mainly on support to interstellar medium via connection between databases and user clients, and via working on the inclusion of JPL in VAMDC
- UCL focus mainly on supporting investigation of possibilities in Brazil, on inclusion of HITRAN in VAMDC from the USA, on connection to Industry.
- TIFR focus mainly on organising Indian community to be part of VAMDC, inclusion of 1-2 Indian nodes
- UNISA focus mainly on dissemination of VAMDC in Africa

Details at each Node

OBSPARIS: Fabrice Portier-Fozzani (on contract via sup-vamdc) on WP1, WP2 (mainly Roadmap), WP1/WP3 (communication/marketing). Yaye Awa Ba (on contract via sup-vamdc) on WP1/WP2/WP3/WP4/WP5 for implementation of Website, on WP3/WP5 for upgrade of tools for education, on WP5 for various tasks where OBSPARIS is involved. N. Moreau involved in WP3/WP5 WP5 for upgrade of tools for education and for astro community, on WP5 for various tasks where OBSPARIS is involved. C.M. Zwölf on WP2 (Technical MoU, Connection to RDA, writing part of Roadmap, AAA). F. Delahaye on WP5 for supervision of connection to atomic physics in SPECTCOL and other application tools for the portal. D. Egret (small involvement) on WP2/"data citation" and on WP2/MoU. A. Karzprzak from the legal department of OBSPARIS for the MoU, ML Dubernet for

coordination of SUP@VAMC, Roadmap, Supervision of upgrade of Tools for education, supervision of communication, supervision of Roadmap, Supervision of OBSPARIS Team
UCAM: N. Walton on WP1, WP2 (MoU and Roadmap), G. Rixon on WP2 (Roadmap, MoU), on WP3 (support to RADAM, LXCAT, NIST Chemistry), on WP4 (support to India, NIST Atomic Division), WP5 (supervision of developer, Species Database), Developer XX (WP5 activities where UCAM is cited)
OU: N. Mason on WP1, WP2 (MoU and Roadmap), WP3 (scientific link to RADAM, LXCAT), WP4 (scientific link to India, APAN, DCN)
UCL: J. Tennyson on WP1, WP2 (MoU, Roadmap), C. Hill (on contract) on WP2 (Roadmap), on WP3 (Business, Tutorials), on WP4 (HITRAN)
KOELN: C. Endres (on contract) on WP1, WP2 (MoU, Roadmap), WP3 (Support to Astro Community), WP4 (Support to JPL), WP5 (species database)
KAERI, UNISA, TIFR in WP4 only

III. Communication Strategy

The metrics to any communication strategy are to define :

- [M.CS.1] what do we want to achieve with this strategy?
- [M.CS.2] what are our targets?
- [M.CS.3] what type of information do we need?
- [M.CS.4] what are the products/services we want to communicate on?
- [M.CS.5] which tools are we going to use?

The goal of the communication strategy is to introduce the project's activities and services to stakeholders and to possible collaborators or partners, such as researchers producing and/or using atomic and molecular data, such as teachers and university lecturers, such as industrials, such as citizens. The objective is to make our activities and services known so that collaborations can be initiated and VAMDC become useful to a larger audience. [M.CS.1], [M.CS.2]

The targets were already defined in the SUP@VAMDC Annexe I of work and Year 1 has allowed to collect information about the request from researchers, about the working environment and the needs of lecturers, industries, and citizens. [M.CS.3]. The actions linked to [M.CS.3] have been in Year 1: tutorials in small working groups, in conferences and dissemination in conferences and workshops.

Meanwhile a communication strategy can only be based on products and/or services that can be offered to the clients [M.CS.4]; those products and/or services must be adapted to the needs of the different clients, and therefore the step [M.CS.3] is essential to understand what should be offered. At the end of VAMDC (Dec. 2012) there were a portal (http://portal.vamdc.eu), a key application for users (SPECTCOL), a key application for producers (TapValidator), a software for implementation of databases (Node Software), a set of Java Libraries that can be used by producers and users to implement and to access

VAMDC databases. In Year 1 in parallel to [M.CS.3], we improved the services to researchers and created some prototypes for education [M.CS.4], both actions provide more ground for communication actions in Year 2.

In Year 2, we will continue [M.CS.4] on the basis of the conclusions drawn from Year 1 [M.CS.3], and in parallel we will continue [M.CS.3] through tutorials and dissemination.

Obviously tutorials and dissemination participate to [M.CS.5] and will be carried out throughout Year 2. Table 1 in Appendix I gives the list of planed events.

In Year 1 [M.CS.5] has been handled through the re-design of the main website of the "VAMDC Consortium" where each sector of activity/services is well identified, where the communication of events, news, forum, contact are well identified, where a "Virtual Tour" is proposed.

In Year 2 the key pages of the new website will be developed by an external contractor from March 2014-May 2014. From June 2014 to July 2014, the specific pages for each sector will be created and the editorial content achieved within SUP@VAMDC. This includes the re-organisation of the existing tutorial and user guides materials, and the creation of new content concerning description of software, the description of use cases and of success stories for research, education, industry and outreach.

In Year 2 from June 2014, leaflets linked to the above descriptions will be developed for downloads with the objective of reaching a leaflet for each software, at least one science use case per developed product.

In Year 2 from June 2014, the descriptions of the potential services will be developed for all sectors. Those correspond to possible collaborations and partnerships.

In Year 2 from September 2014, all tools developed in June-August 2014, will be advertised through social networks, use of networks mailing lists (users and producers of data). No such large scale advert could have been done before the availability of communication tools (important milestone being the availability of the "template website").

Key Performance Indicators

- [KPI.CS.1] all sectors are filled on the main website
- [KPI.CS.2] one leaflet and one page for each software
- [KPI.CS.3] one science use case per developed product
- [KPI.CS.4] 2-3 success stories for research
- [KPI.CS.5] description of services for all sectors
- [KPI.CS.6] activity of social network, of networks mailing lists, of forums - At least 2 active
- [KPI.CS.7] follow up of statistics of download and visits in Year 2 to measure impact of Year 2 communication

List of Meetings corresponding to the different milestones for Year 2. Some meetings have changed in coherence with the re-focus of work in Year 2. All meetings are related to objectives of WP2 to WP5.

Venue/type	**Audience**	**Visibility** **/web site (if exists)**	**Impact**	**Motivation for attending / organising event**	**Name of Principal SUP@VAMDC author / organizer**
IAEA / Emol data evaluation and methodology meetings 5-6 December 2013.	Senior Academic staff	Meeting limited to less than 10p.	Agreement method for data review and set guidelines for evaluation of scattering data	IAEA is the pan National body that can impose protocols and adopt methods. Milestone MS #33	N J Mason
National (Indian) meeting on Spectroscopy and Dynamics of Molecules and Clusters, Feb. 2014	about 100 participants working on Chemical dynamics	Good for this thematic	Applications in the field	Presentation on VAMDC Milestone MS #37	E Krishnakumar
Cosadie Tech Forum	30 persons (main actors of	Good http://www.cosadi	VAMDC was presented as data centre serving the Astro	The latest software developments have been presented, for maximising their	Nicolas Moreau and

CoSADIE - Collaborative and Sustainable Astronomical Data Infrastructure for Europe Third Technology Forum, 12-13 March 2014, Trieste, Italy	European VO projects) mostly members of IVOA community	e.eu/twiki/bin/view/CoSADIE/TechForum3	community. some participants were interested by the possibility to access some participants were interested by the possibility to access data fitting their needs thanks to a transformation	adoption (Taverna Workflow for driving the new VAMDC XSAMS processors) The aim of the conference is to share information related to technological developments in the Virtual Observatory. We decided to present the XSAMS processors that are the tools we use to convert XSAMS files into another format which is more convenient for end users. The aim of this presentation was to reinforce relations between VAMDC and the IVOA on the topic of atomic and molecular data. Cosadie forum participants are mostly developpers of established softwares (Aladin, Topcat). It is useful to present them our technology and see if it is possible to include it in their applications or establish new collaborations. Replace MS #28	Carlo Maria Zwölf
RDA-3d Pleeanry (Dublin, Ireland on March 26 to 28, 2014)	400 persons assisted RDA	Excellent https://www.rd-alliance.org/rda-third-plenary-meeting.html	VAMDC joined the working group on data	The RDA data citation Working group has a large visibility into the RDA huge community. We joined their joint effort since they propose solutions and strategies for problems we are facing about data citation-	Carlo Maria Zwölf

				Replace MS #28	
VAMDC – India meeting at IUAC New Delhi 2 – 4 April, 2014	Invitation for 70 leading scientists, including a dozen astronomers for this meeting. http://www.prl.res.in/~bhala/Vamdc/	Good http://www.prl.res.in/~bhala/Vamdc/index.php?r=site/meetings	Applications in the field Four special interest group formed to produce databases, tools. Two prototype nodes demonstrated.	VAMDC : Scientific community animation Promote node building Milestone MS #37	E Krishnakumar & 41 other scientists
Quantemol Industry Event, 4 April 2014 Talks and Demonstration	30p.	Medium http://www.quantemol.com/workshop-2014/program/ http://www.quantemol.com/wordpress/wp-content/uploads/2014/04/Hill-Quantemol-Workshop-2014.pdf	Many favourable comments and impressions; wider recognition of the VAMDC services; requests for LXCAT implementation and data on surfaces	on behalf of UK Collaborative Computational Project on Quantum Dynamics (CCPQ) MS # 36 for UCL	Jonathan Tennyson
IST-Africa	40 persons on	Very good	Many new contacts for future	Aperture to Africa potential partners. Get	Carlo Maria

(06 - 09 May 2014, Mauritius)	parallel session	http://www.ist-africa.org/Conference2014/default.asp	african educational and institutional partners	visibility from Research and Education Network African Infrastructure- Replace MS #28	Zwölf & Yaye-Awa Ba
XXXVII Brazilian Meeting on Condensed Matter Physics, Costa do Sauípe, Brazil, May 2014, Poster	Brazilian and South America researchers ~1500 participants distributed in 12 Areas, such as: ATO, OPT, EST, BIO, etc	Good http://www.sbfisica.org.br/~enfmc/xxxvii/	Many new end-users.	To prospect for end-user for VAMDC Portal and to disseminate VAMDC for Brazilian researchers Milestone MS #37	Milton M Fujimoto (Jonathan Tennnyson and Christian Hill)
International symposium on molecular spectroscopy (Champaign-Urbana, Illinois), June 16-20, 2014	International scientist on molecular spectroscopy and astrochemistry	High http://isms.illinois.edu/	Many data providers who might wish to publish their data through VAMDC. Many users of spectroscopic databases.	Attract users and publishers. Coordination with other data providers (Splatalogue). Coordination with JPL catalogue MS # 36 for KOELN	Christian Endres
HITRAN/ ASA Conference, SAO, Cambridge MA, USA 23-25 June 2014 Talks and Posters	International, ~100 participants Includes atmospheric, planetary, and remote-sensing community	Worldwide http://www.cfa.harvard.edu/hitran/HITRAN-Conference2014/hitran14.html	Presents the status and future of molecular spectroscopic databases, the structure, validation, and applications Fosters new measurement and calculations HITRAN in VAMDC	This joint meeting takes place every two years, alternating between the USA and FRANCE. Promotes new collaborations in the international community MS # 30	Laurence S. Rothman
HITRAN Biennial	50p.	High,	Wide participation from across the atmospheric	Biennial meeting of HITRAN users and committee.	Laurence S. Rothman

meeting, 23-25 June 2014 Talks and External Partners meeting		http://www.cfa.harvard.edu/hitran/	spectroscopy and radiative transfer fields - HITRAN in VAMDC	MS # 30	C. Hill to give a talk and tutorial
4th East African Astronomical Society Workshop Kigali, Rwanda, July 2014 Presentation on VAMDC	African Astronomers ~50 people	https://sites.google.com/site/eaasconference2014/	Introduce VAMDC to some developing nation astronomers	Introduce participants to VAMDC Milestone MS #37	Derck Smits, Unisa, South Africa
Middle East Africa Regional IAU Meeting III Beirut, Lebanon Sept 1 – 6, 2014 Presentation on VAMDC	Middle East/African Astronomers	http://www.mearim3.org/	Mainly Observational Astronomers, some with interest in spectroscopy	Introduce participants to VAMDC Milestone MS #37	Derck Smits, Unisa, South Africa
EPSC Conference in Lisbon 07 – 12 September 2014	European Planetary Science Congress 2014	Good http://www.epsc2014.eu/information/general_information.html	Connection with europlanet	Making links MS # 34	Nigel J Mason
V Symposium of Electronic	Undergraduate, postgraduate	Good	Many new end-users.	To prospect for end-user for VAMDC Portal and	Milton M Fujimoto

Structure and Molecular Dynamics, Pirenópolis-Go, Brazil, Sep 15-19, 2014 Talk and/or Tutorial	students and new researchers, ~ 90 participants	http://www.seedmol.unb.br/		to disseminate VAMDC for Brazilian researchers Milestone MS #37	(Jonathan Tennnyson and Christian Hill)
VAMDC Annual meeting Institute of Astronomy, University of Cambridge, UK: 15-17 September 2014	VAMDC Partners ~40p.	http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/CycleTwoProjectMeeting	Review of VAMDC progress, celebration of success	Review of SUP@VAMDC project, strategic development for next phase of VAMDC Milestone MS #38	Nicholas Walton/ Marie-Lise Dubernet
VAMDC expert group (review committee) meeting Institute of Astronomy, University of Cambridge, UK: 15-17 September 2014	External users of VAMDC ~20 p.	http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/CycleTwoProjectMeeting	Strategic advice for the development of VAMDC	Review Committee Milestone MS #32	Marie-Lise Dubernet/ Nicholas Walton
VAMDC User meeting Institute of	Science users of A+M data - ~30p.	http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/CycleTwoP	Presentations from users and developers of VAMDC showing use of VAMDC and challenges for future	Show how VAMDC is providing science and technological benefit to the wider scientific community	Nigel Mason/ Nicholas Walton

Astronomy, University of Cambridge, UK: 15-17 September 2014		rojectMeeting	extension	Milestone MS #43	
VAMDC Producer meeting Institute of Astronomy, University of Cambridge, UK: 15-17 September 2014	A+M data producers ~ 30p.	http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/CycleTwoProjectMeeting	Presentations from VAMDC producer partners Showing how their data is better utilised with access via VAMDC	Feedback from producers with input for future development and support of publishing interfaces Milestone MS #44 and #46	Ulrike Heiter/ Guy Ricon
VAMDC Producer meeting Institute of Astronomy, University of Cambridge, UK: 15-17 September 2014	A+M data all ~ 80p.	http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/CycleTwoProjectMeeting	Discussions on VAMDC potential use in Education	Feedbacks about experience at OBSPARIS Milestone MS #45	ML Dubernet
ICAMDATA	International	Good	VAMDC applications	Ideas of new developments and new	Nigel J Mason

held in Jena, Germany, from 21 to 25 September, 2014	Conference on Atomic and Molecular Data and Their Applications	http://www.icamdata.uni-jena.de/		collaborations MS # 34	
Workshop in Ethiopia on VAMDC *(* : note : effective dates depend on geopolitical situation)*	Ethiopian Physics community	Still in planning stage, no dates yet. Probably after Sept. 2014	Developing community of physicists who have probably not heard of VAMDC yet.	Introduce VAMDC to physics community in Ethiopia Milestone MS #37	Derck Smits, Unisa
Final meeting of the Nano-IBCT Cost action Oct 27 -31, 2014, Boppard am Rhein Germany,	partners	good	Databases work	RADAM databases will be reviewed and their integration to VAMDC completed MS # 34	Nigel J Mason

XII Workshop on Molecular Physics and Spectroscopy, Brazilia-DF, Brazil, 9-12 Nov, 2014, Talk and/or tutorial	postgraduate students and Brazilian researchers (most of them in spectroscopy Area) ~130 participants	Good, http://www.wfme.ufba.br/	Many new end-users / providers.	To prospect for end-user for VAMDC Portal, to disseminate VAMDC for Brazilian researchers. To prospect for new providers for some VAMDC nodes. MS # 37	Milton M Fujimoto (Jonathan Tennnyson and Christian Hill)

IV. Detailed Work packages Plans

A. WP1 – MGT: Project Management

List of Actions/Tasks

Task	Activity description	Input Year 2	Output Year 2	Start Date Year 2	Completed	End Date
Task 2	Mailing Lists - WIKI	Year 1 WIKI	Maintenance - Upgrades	Dec. 2013	Maintenance	November 2014
Task 2	Plan's Documents and content	Year 1 Review	Plan year 2	Version 1-Jan. 2014	yes	Revised May 2014
Task 2	EPT Teleconf. Preparation, Attendance, Follow up	Previous EPT	Follow up of activities and plans up till next EPT	From March 2014, every week whenever possible	On-going	November 2014
Task 2	Year 1 Final Scientific and Budget Report	WPs reports, Plans, financial Information	A document	December 2013	yes	January 2014
Task 2	Review Year 1	Information from EU, All reports	1 day presentation with bashing from morning till evening. Low attendance from Senior Node Leaders.	February 2014	Reports received mid-April 2014	February 2014
Task 2	Revised Deliverables	Review In February - Oral information	First set of revised Deliverables with EPT teleconf every week	March 2014	yes	March 2014
Task 2	Revised Deliverables	Reports received mid-April 2014	Following reviewers comment, after sick leave of coordinator who came back to work on the 5th May 2014 - All Year 1 deliverables re-done and sent - Redress Letter -	5th May 2014	yes	End May 2014
Task 2	General Management of the network	Review of VAMDC project	Employment of a new person marketing/communication/management for 1rst April 2014 (late approval of amendement)	Dec. 2013	yes	March 2014
Task 2	Update of Self-	From nodes and	Follow up by WP leaders & Project	May 2014	on going	November 2014

	Evaluation Matrix -via the Task List	WP leaders	Manager			
Task 2	Total Re-design of Website	Design- Nov. 2013	Website Implemented by contract, filled and additional pages by internal work.	March 2014	on-going	Mid-July 2014: Full Site; End September 2014: Fully updated
Task 2	External Communication	Accounts done	Improve & use Facebook account, twitter account	August 2014	on going	November 2014
Task 3	Reports Year 2	Plans Year 2	Prepare Reports during Project	July 2014	on going	November 2014
Task 3	Final Report	Roadmap- MoU- Reports Yr 1 and Yr 2	Prepare Final Report during Project	July 2014	on going	November 2014
Task 3	Final Review	All reports	Asked to be in Paris rather than in Brussels.	February 2014	no	February 2014

Details about Management Plan

General Procedures

The Project management will follow exactly what is written in the DoW - Annexe I - apart from the following:

The EPT teleconf will occur every week and the EPT mailing list will be extended to all participants of SUP@VAMDC.

Management of WP

The management of each WP is written at the start of the WPs plans. It just re-calls what was planed in Annexe I.

Quality management of Deliverables:

- The schedule for reporting in Year 2 is on http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/MGT:T2

- Node Reports and Work Package Reports must be uploaded end of October 2014 on the WIKI.

- All deliverables are written in terms of strategy, metrics, KPI and actions. The layout is the same than the layout of Year 1 revised deliverables. The Year 2 reports will start to be prepared and filled from July 2014. The final report will start to be prepared and filled from July 2014.

- November,2014: Review of all documents by all SUP@VAMDC members. The process is to work for a week via mail, and have a teleconf at the end of each week with all members of SUP@VAMDC (as it has been done for the revised deliverables in Year 1)
- End of November 2014 : Scientific Deliverables ready.

- End of January 2014: financial deliverables ready only at that date because EU nodes administration offices never report when they are told. They usually wait up till one day prior to EU official deadline for reporting.

B. WP2 - Policies and Strategy

In WP2 we re-focus activities to finalizing the MoU and all its appendices, to writing the Roadmap, to organising and to attending the Final Annual Meeting. The objective is to have the MoU signed by 3-4 partners in September 2014.

The activities linked to Publishers are limited to following what is happening on data citation at the EU supported project "Research Data Alliance" and the ADS/NASA Group that has advanced view on the subject. The activities linked to connection to other networks are targeted to the network ETFLA where there is a concrete occasion to propose VAMDC as "an access service".

a. List of Actions/Tasks

WP2 is split into 4 Tasks:

- Task 1 : Coordination (lead: OBSPARIS)
- Task 2: Developing Partnership with other networks (lead: OU)
- Task 3: Developing a global A+M e-infrastructure (Lead: OBSPARIS)
- Task 4: Annual Meeting (Lead: UCAM)

Tasks	Activity description	input Year 2 (entry to task in Yr2)	output Year 2 (expected results)	starting Date	completed (yes or no)	expected date of completion
Task 1	Coordination of WP2	Management according to List of Actions in Plans Year 2	Follow up allowing respect of deadlines, clear and timely reporting - Reports Year 2	Dec. 2013	on going	Up till end of End of Final Reporting

Task 1	Review Committee	Decision on composition	Assessment of Roadmap -	April 2014	on-going	Sept. 2014: Assessment Oct 2014: Feedback
Task 1	Roadmap	Roadmap Draft - Year 1 - 70%	Roadmap 100%, accessed by Review Committee, Published	May 2014	on-going	July-14: Sent to Review Oct: 2014: Return from Review Committee End 2014: Edited
Task 2 Other Networks	Connection to other networks	New	Be included in a Collaboration as an "Access" to that collaboration - test of the MoU	January 2014	on-going	September 2014
Task 2 Publishers	Rules for collaboration	New - Other Collaborations	Roadmap about "Data Citation"	January 2014	on-going	September 2014
Task 3 Global Infrastructure	MoU	Draft MoU Year 1 - 70%	MoU finalized	May 2014	on-going	mid-July 2014
Task 3 Global Infrastructure	MoU	Final MoU Year 2 -	Signatures	Mid-July 2014	on-going	November 2014
Task 3 Global Infrastructure	Writing Technical MoU	Draft Year 1	Finalised Version	June 2014	no	mid-July 2014
Task 3 Global Infrastructure	Licences	Proposition/Decision from developer's group	Licences to be approved by Institutes -"Use of Foreground" - part of MoU	June 2014	no	mid-July 2014
Task 3 Global Infrastructure	Study of AAA	None	Study available, circulated and part of Roadmap	June 2014	no	July 2014
Task 4	Preparation Annual Meeting and follow up	EPT decisions	Program for Node Presentations, WP presentations, expert meeting, Board/WP Boards/EPT meetings. WIKI and Website- user and producer Workshop	June 2014	on-going	September 2014
Task 4	Attendance Annual Meeting	Task Above	Node Presentations, WP presentations, expert meeting,	September 2014	no	November 2014

			Board meeting about MoU issues, Roadmap, Review Committee, Board/EPT/WP board meeting for reminder of Reporting Procedures			

b. Task 1: Coordination (lead: OBSPARIS)

Task 1 of WP2 deals with the coordination of the work, with the organisation of the Review Committee and with the edition of the VAMDC Roadmap.

Coordination of WP2 (CMZ)
Metrics ("measurable quantity")

- [M.C.1] Connection between all partners
- [M.C.2] Information on progress of WP2 activities for all partners

Key Performance Indicators ("goal value of quantities listed under Metrics")

- [KPI.C.1] WP2 Board formed and Tools for communication established
- [KPI.C.2] All partners incl. WP2 leader updated on a regular basis, at least every two months

Roadmap (MLD - FPF)
The roadmap document will handle the following timelines :

- 3 years (specific objectives)
- 5 years (broader objectives)
- 10 years (foreseen objectives)

and should handle all issues related to organisation and sustainability of VAMDC

Metrics

- [M.WR.1] Each Section is drafted by mid June 2014
- [M.WR.2] Validation by SUP@VAMDC and VAMDC members by mid-July 2014
- [M.WR.3] Final Version of Roadmap after Review by Committee
- [M.WR.4] Set up a system that allows to measure how to match the roadmap

Key Performance Indicators

- [KPI.WR.1] Work is Done
- [KPI.WR.2] Number of Approval (more than 1/2 react; 2/3 approve]
- [KPI.WR.3] Formal Publication of Final Roadmap Document and Dissemination to Stakeholders
- [KPI.WR.4] System into place with at least 1 working example to demonstrate concept

Actions:

1) Use the weekly EPT teleconferences and e-mails to converge rapidly
2) 1rst Face-to-face Meeting for initial draft - Paris-Jussieu - mid April 2014

3) Final Draft mid-July 2014 sent to Review Committee
4) Revision of text after recommendation for mid-october 2014
5) Approval of Final Roadmap - Board of SUP@VAMDC by Board of VAMDC via mail at the end of October 2014

Review Committee (CMZ)
The review committee should access the roadmap written by SUP@VAMDC at the end of the project. It should cover most aspects of the roadmap sections.

Metrics
- [RC.1] Number and Origin of people involved
- [RC.2] Activity of the Review Committee

Key Performance Indicators
- [KPI.RC.1] The right choice is done with respect to impact
- [KPI.RC.2] Review Committee ready
- [KPI.RC.2] Edition of recommendations

Actions:
1) Confirm Composition of Committee - End of April 2014
2) Send mail to Committee for first Contact - May 2014
3) Send Draft Roadmap to Committee by mid-July 2014 for review
4) Meeting of Review Committee mid-September 2014

c. Task 2: Developing Partnership with other networks (lead: OBSPARIS)

SubTask 2.1: Connection to scientific networks (MLD)
There is no further work planned in Year 2 related to the evaluation/validation within the SUP@VAMDC project.

With respect to other Networks, other scientific networks identified in Year 1 are related to "Planetary Sciences" supported by the RI "EuroPlanet" and to the "European Task Force for Laboratory Astrophycics (ETFLA)" initiative (http://www.labastro.eu/) connected to Astronet EU project that aims at long term planning of the development of European Astronomy. Plans in Year 2 are to participate to the ETFLA activities.

We mentioned in Report D2.1 that other scientific networks identified in Year 1 are related to the "European Task Force for Laboratory Astrophycics (ETFLA)" initiative

(http://www.labastro.eu/) connected to Astronet EU project that aims at long term planning of the development of European Astronomy.

Plans in Year 2 are to participate to the ETFLA activities. We plan to attend ETFLA meeting in London in order to define the possible concrete collaboration. Among the envisaged possibilities is the creation of a new portal for astrophysics only that would access to other databases. The interest for VAMDC to participate in that project lies in the provision of "Access" to this network.

This connection to a new network constitutes a typical implementation and benchmark of the rules set in the MoU (see Task 3) concerning "VAMDC Brand", "Use of foreground" since some ETFLA laboratory are members of VAMDC.

Metrics

- [M.CP.1] Put into action the MoU and its rules

KPI

- [KPI.CP.1] Estimation of Trade fairness for VAMDC

SubTask 2.2: Connection to Publishers (CMZ-DE)

Another key group of stakeholders **are the academic publishers** (see Annexe I - DoW)

Year 1 activities have focused on contacting Editors and Publishers, and having brainstorming about the entry points for collaborations with Editors. Our brainstorming led to the following entry points:

- can the publishers/editors adopt our standards for storing their on-line data ?
- can VAMDC and the publishers/editors have agreements on data citation ?

and N. Mason's contact with editors to the inclusion of T. Spicer from Springers into the Review Committee.

At the end of Year 1 we figured out that our lack of sustainability plan could not encourage any concrete collaborations during the SUP@VAMDC project and that questions posed above were discussed by a working group at the EU supported project "Research Data Alliance".

Year 2 Plans:
Therefore our action in Year 2 is to initiate collaboration with RDA and with the ADS group at Harvard/CFA. The outcome of these actions will be to write in the Roadmap the relevant strategy to adopt in connection to RDA work. We believe that the issue of data citation can only be handled in a wider context and in connection to the work performed in other e-science networks.

Indeed the RDA/WDS publishing data Interest group (https://www.rd-alliance.org/internal-groups/rdawds-publishing-data-ig.html) brings together all stakeholders involved in publishing research data including researchers, discipline specific and institutional data repositories, academic publishers, funders and services providers. This working group has defined a set of proved strategies and workflows for optimizing the interaction with publishers/editors and technical solutions for addressing the main issue related to the data citation.

Metrics

- [M.CP.1] Define the entry points for collaboration
- [M.CP.2] Contacts with ad hoc groups specialized in handling interactions between the research-data and the publishers.
- [M.CP.3] Answers from the ad hoc groups.
- [M.CP.4] Define the framework for collaboration

Key Performance Indicators

- [KPI.CP.1] The number, the feasibility and the impact of the entry points
- [KPI.CP.2] The number of Contacts and the corresponding impact
- [KPI.CP.3] The number of Answers and the corresponding impact
- [KPI.CP.4] Ability to write feasible roadmap with the Publishers/Editors

Actions: Attend events at RDA, follow RDA working group, interact with ADS NASA, write roadmap

d. Task 3: Developing a global A+M e-infrastructure (lead: OBSPARIS)

MoU (MLD)

It has been decided in Year 1 to draft an MoU and not to create any legal entity at this stage. The important aspect of the MoU is to have rules of participation to the VAMDC consortium, decisions bodies with their composition, roles and voting rules, financial issues, main goals of the MoU, technical rules of collaboration within the VAMDC Consortium, organisation of Consortium so that maintenance and upgrades can be handled. Another aspect of the MoU is to get signatures of a core number of nodes in July 2014, knowing that other nodes can join later

Metrics:

- [MoU.1] To Agree on the Legal MoU among the maximum numbers of current VAMDC members - End June 2014
- [MoU.2] To Agree on the technical By Laws among the members of VAMDC members -End June 2014
- [MoU.3] Signatures starting July 2014
- [MoU.4] Implementation of MoU

Performance Indicators:

- [KPI.MoU.1 to .3] Ability to keep deadlines
- [KPI.MoU.1] Ability to federate the maximum number of VAMDC at the time of signature. Objective is to get the signature of the nodes holding major e-infrastructure items such registries, species database, portal, standards, processors and a few databases (minimum 3 nodes)
- [KPI.MoU.2] Technical By Law approved by at least 3 VAMDC members (their specificity is described above)
- [KPI.MoU.3] Signature of at least 3 VAMDC members (their specificity is described above)
- [KPI.MoU.4.1] Several key features of MoU put into place: the board members, the working groups and their chair, the technical organisation
- [KPI.MoU.4.2] Legal aspects of MoU already tested

Actions:

- Up till End May 2014: Discuss the main issues on the sup-vamdc.board@sympa.obspm.fr and vamdc.board@sympa.obspm.fr mailing lists + face-to-face meetings
- Review up till End of June 2014
- Signature of MoU or Consortium Agreement July 2104

Actions: Interact with legal departments, partners for MoU. In parallel implementation of legal scheme.

AAA Strategy (CMZ)

We will carry out the studies for a AAA strategy for the VAMDC infrastructure. The document will be ready by the end of the spring 2014. It will contain a detailed description of the studied strategies with their cost, their advantages and disadvantage and their adequacy with respect of the long term VAMDC business model.

Metrics:

- [M.AAA.1] Ability to propose strategies/models for introducing AAA in the VAMDC infrastructure.
- [M.AAA.2] Adequacy of the retained strategy with respect of the long term VAMDC business model.
- [M.AAA.3] Feasibility of the retained strategy.

Performances indicators

- [KPI.AAA.1]: We are focusing on three methods. A final indicator will be computed once the document is ended.
- [KPI.AAA.2] Will be computed once the document is ended (end of spring 2014).

- [KPI.AAA.3]: Will be computed once the document is ended (end of spring 2014).

Actions:
- Write document
- Discuss issues up till mid-June 2014
- Include it in the Roadmap for discussions with the Review Committee

e. Task 4: Annual Meeting at UCAM

The annual meeting is planed at UCAM for Year 2 (exchange with OU that handled Annual meeting in year 1) during week of 15th of September

Metrics
- [M.AM.1] Organize program for presentation of nodes and workpackages, boards meetings (LOC)
- [M.AM.2] Organize expert meeting with open session to scientific community (SOC)
- [M.AM.3] Have all communication items (LOC)

Key Performance Indicators
- [KPI.AM.1] Actual Program is organised with all presentations and boards meetings (LOC)
- [KPI.AM.2] A panel of external speakers will be selected by SOC (July 2014)
- [KPI.AM.3] Program and Talks on the WEB (LOC)

Actions: Organise websites for advert, Send mails to advert conference

C. WP3 - Connection to a wider audience

In WP3, we focus activities :

1. on communication/marketing for all users, including Education, Business, Outreach : Website, leaflets, social networks
2. on following up with the RADAM (continuation of Year 1)
3. on providing tutorials and helping small groups to be part of VAMDC e-infrastructure (continuation of Year 1)
4. we keep one support action to astronomy as it corresponds to KOELN main activity: support to Interstellar Medium User

a. List of Tasks and Timeline

WP3 is split into 5 Tasks:

- Task 1: Coordination (lead: OBSPARIS)
- Task 2: Support to user communities and to other molecular domains (Lead: OBSPARIS)
- Task 3: Support to Education (Lead: OBSPARIS)
- Task 4: Connection to Business and Outreach (Lead: UCL)
- Task 5: Support to small producers (Lead: UU)

Task	Activity description	input Year 2 (entry to task in Yr2)	output Year 2 (expected results)	starting Date	completed (yes or no)	expected date of completion
T1	coordination WP3	Management according to List of Actions in Plans Year 2	Follow up allowing respect of deadlines, clear and timely reporting - Report Yr 2	Dec. 2013	on going	Up till end of End of Final Reporting
T2	Communication	Software	Science Use Cases onWebsite, Leaflets	June 2014	on going	September 2014

T2	User Meeting MS30	Dissemination Tutorials	USer Meeting in USA (HITRAN)	June 2014	no	June 2014
T2	User Meeting MS43	Dissemination Tutorials	User Meeting at Annual Meeting (UCAM)	September 2014	no	September 2014
T2	NIST-Chemistry	1rst April - Meeting Head of Division in Paris	**CLOSED** **no result**	1rst April 2014	**CLOSED**	1rst April 2014
T2	RADAM technical support	2 nodes completed[1], 4 under construction	4 nodes[2] completed by Nano-IBCT project with SUP@VAMDC support	December 2013	no	September 2014
T2	Support to user Community	Connection with LIME Code	Defining the connection between LIME and VAMDC	Dec. 2013	no	Sept. 2014
T2	Support to user Community	Python Librairies	Further Developing Python libraries for user support (linked to above contact)	Dec 2013	no	Sept. 2014
	ST1	*spectcol vN+1*	*shifted to WP5*		*no*	
T3	ST2	spectol	Information provided on Website, leaflets & marketing	June 2014	no	July 2014
T3	ST3	Specview	Science Use Cases for education	June 2014	no	July 2014
T3	ST4	Guided Tour	inclusion of info in order to help teacher to prepare lectures	June 2014	no	Oct 2014
T3	ST5	Secondary Schools	leaflets, information on website, social	June 2014	no	July 2014

[1] Themed nodes: ion interactions; dissociative electron attachment.
[2] Themed nodes: positron interactions ; electon elastic scattering ; electron inelastic scattering ; photon interaction.

			network			
Task 4	Citizen Scientists	CLOSED	ROADMAP ONLY	June 2014	no	July 2014
Task 4	Data Requirements for SMEs and Industries	Initial DB with information on Industries (Year 1)	Enrich Database	Dec. 2013	n	June 2014
Task 4	General SMEs and Industry Activities	Dissemination	Industry's event - Report from J. Tennyson	March 2014	yes	March 2014
Task 5	Communication-Tutorial (UU)	Tutorial Materials	Producer Meeting at UU (MS31)	September 2014	on-going	Sept. 2014
Task 5	Communication-Tutorial (UCAM)	Tutorial Materials	Producer Meeting at UCAM	September 2014	no	Sept. 2014
Task 5	Small Groups and their Data	Year 1 continuation	Li-Hong Xu for CDMS/JPL and Masseron for VALD	Dec 2013	on-going -	Sept. 2014
Task 5	Inclusion database of different type - Plasmas Data from LXCAT (complete new field)	Dicussions at different events with L. Pitchford and with several partners of SUP@VAMDC	Meeting with G. Rixon & N. Mason - Tutorials - One node implemented	Dec. 2013	on going -	Sept. 2014

b. Task 1: Coordination (lead: OBSPARIS)

Metrics ("measurable quantity")

[M.C.1] Connection between all partners

[M.C.2] Information on progress of WP3 activities for all partners

Key Performance Indicators ("goal value of quantities listed under Metrics")

[KPI.C.1] WP3 Board formed and Tools for communication established

[KPI.C.2] All partners incl. WP3 leader updated on a regular basis, at least every two months

c. Task 2: Support to user communities and to other molecular domains (Lead: OBSPARIS)

This task is divided into 2 sub-tasks

Sub-Task 2.1 aims at impacting a large range of "research users"

The user communities have been targeted in year 1 in accordance with the type of databases that are currently accessible in VAMDC (http://portal.vamdc.org/vamdc_portal/nodes.seam). The strategies have been defined and implemented. In Year 2 there is a continuity of implementation. The New item in Year 2 will be the development of communication/marketing actions mainly through our new website, through leaflets, through use of different networks of communication.

Metrics ("measurable quantity")

[M.UC.3] Implement Strategies to impact those communities

[M.UC.4] Marketing Actions

Key Performance Indicators ("goal value of quantities listed under Metrics")

[KPI.UC.3] Number of implemented Strategies - 3 at least -

[KPI.UC.4.1] Measure of completeness of Website for users

[KPI.UC.4.2] At 5 science use cases identified and advertised

Actions in Year 2:

1) The first strategy is to improve our current services and tools in order to meet the users requirements. These strategy implies to organise tutorial sessions at user community meetings and to gather feedbacks from those communities.

In Year 2 we plan 2 main tutorials. One meeting is the "User Meeting 4" (milestone) that will take place at the same time as the HITRAN conference in Harvard (USA). The objective is to demonstrate the new features of VAMDC and to encourage the “atmospheric community” to include in VAMDC more useful databases for “atmospheric sciences”.
The other User Meeting (MS43) will be at the final SUP@VAMDC meeting at UCAM. The aim of this meeting will be to collect ideas about useful interfaces and tools for post SUP@VAMDC.

2) Shifted to WP5 in Year 2: Another strategy consists in porting the VAMDC capabilities and facilities into tools developed by institutes outside the consortium.

The work on SPECVIEW will be continued in Year 2 with the following features added in order to meet users needs, such as the visualisation of quantum numbers associated to lines [KPI.UC.3] (OBSPARIS). In addition as part of support to users (as described in education section) we plan to link SPECVIEW to the astrophysical image visualisation software called "ALADIN" (http://aladin.u-strasbg.fr/) that is used by the whole astronomy community [KPI.UC.3]; thus automatically enlarging the usage of VAMDC (OBSPARIS).
We focus here our efforts on tools/software that are widely used. The actual deliverable will be part of WP5 (see actions and descriptions in WP5 Plans below).

3) Shifted to WP5 in Year 2: Another strategy consists in providing the scientific community with innovative tools for easily handling and processing results a) coming from the VAMDC interface portal (http://portal.vamdc.eu), b) in a standalone tool such as SPECTCOL. The needs having been identified in Year 1. These improvements will be carried in WP5 in Year 2 (see WP5 Actions and descriptions in Plans for WP5 below).

4) Another Strategy consists in providing support so that external users can implement our VAMDC plugin in their software. We will concentrate mainly on what has been successful up till now. In Year 1 KOELN developed a python library which provides access to the VAMDC network and which can be included into user clients.

- In Year 2 KOELN will continue to support the MyXCLASS project at the level of quality check [KPI.UC.3]
- In Year 2 KOELN plans to invite Christian Brinch this year to work on the integration and needs of his client LIME (the link is: http://www.nbi.dk/~brinch/lime.php). [Note: LIME is a new and innovative non-LTE spectral line radiation transfer code for 3D models in arbitrary geometries. The transport is done on a random density-weighted Delaunay grid. The code can predict line strengths and profiles of molecular transitions as well as the intensity of the thermal continuum radiation for disks around young stellar objects, proto-stellar envelopes, molecular clouds and similar environments].
- KOELN plans to extend the python library towards his needs. They prefer to include client after client, so they can support the VAMDC implementation of Christian Brinch’s client until a beta version is ready. They expect that, similarly to the implementation of myXCLASS, there will be substantial support needed and that

solving Christians issues may already solve issues concerning other clients, which will then simplify the work for the next client and so on. [KPI.UC.3]

5) In Year 2 OBSPARIS plans to work on communication actions [KPI.UC.4] connected to promotion of our current tools presenting success stories and scientific use cases on our new Consortium Website. The objective is to trigger new collaborations.

Sub-Task 2.2 aims at exploring the possible connection and complementary approaches with close domains such as chemistry and biology : RADAM & NIST-Chemistry (UCAM)

The strategy is to connect to the well-know NIST department of Chemistry and Biology, and to pursue our activity with a biology related domain: the RADAM community that deals with radiation damage. From google search it is obvious that all databases related to chemistry and biology are handled by private chemistry and pharmaceutical companies. These systems are closed systems and therefore the obvious choice to go forward is to collaborate the NIST division of Chemistry and Biology as a starting point. Unfortunately that division went under full re-structuration in 2013-2014 and has just appointed a "Data Manager" (Bob Hanish from the International Virtual Observatory Alliance in the USA).

It is impossible for us at such late stage to plan any reasonable work with that division, therefore we close this action within SUP@VAMDC as the outcome is too much dependent on the availability of the new "Data Manager".

2) Connection to RADAM (OU, UCAM)

The remaining nodes of the RADAM network are expected to become available during year 2. They will be accessible from the dedicated RADAM portal, and that portal will also see the non-RADAM nodes in VAMDC. A sub-set of the RADAM nodes will be compatible with VAMDC; the others deal with biologic data that need different, incompatible formats. We will register the VAMDC-compatible nodes into the VAMDC system, making them visible to VAMDC applications and UIs.

The Nano-IBCT Cost action will hold its final meeting October 27 -31 October 2014 in Boppard am Rhein where the RADAM databases will be reviewed and their integration to VAMDC completed. UCAM will provide technical support during Year 2.

Metrics:

[M.R.1] RADAM nodes accessible from RADAM portal
[M.R.2] VAMDC nodes accessibile in VAMDC portal
[M.R.3] RADAM nodes registered in VAMDC

Key Performance Indicators:

[KPI.R.1] New nodes: positron interaction (Madrid); Electron elastic scattering (Belgrade); electron inelastic processes (Madrid/Gdansk); photon interactions (Rome/Tolouse)

[KPI.R.2] At least one VAMDC node visible in RADAM portal (proof of concept)

[KPI.R.3] New nodes: same list as KPI.R.1

d. Task 3 - Support to Education (Led by OBSPARIS)

The roadmap On Education for Year 2 is removed from all nodes apart OBSPARIS as a measure of efficient use of resources. The main focus of Year 2 will be communication/marketing actions. The necessary upgrades of tools will be carried out in WP5.

Metrics ("measurable quantity")

[M.SE.4] Implement Strategies to impact those communities

[M.SE.5] Communication

Key Performance Indicators ("goal value of quantities listed under Metrics")

[KPI.SE.4] Number of implemented Strategies (at least 3)

[KPI.SE.5] 1 communication action per strategy

Strategy for Year 2

A - Related to University teaching (fundamental physics end)

- **ST1** shifted to WP5: OBSPARIS will focus on impacting further this community via implementing in SPECTCOL a feature to calculate partition function, visualise them as a function of temperature and visualise population of energy levels [KPI.SE.4]. *Because of re-focus this new feature might not be added (see WP5 Plans), therefore ST2 will be done indicating potentiality of SPECTCOL rather than showing that particular example.*
- ***ST2*** Marketing/communication [KPI.SE.5] towards colleagues from other universities, using in particular our Education Website and social network, proposing to help them to produce such tools, or to include new features within SPECTCOL

B- Related to University teaching (users end)

- **ST3** OBSPARIS will focus on [M.SE.4] impacting further this community. The actions will be implementing in SPECVIEW more "education like" features such as well as linking SPECVIEW TO ALADIN. While WP5 will develop the tool, WP3 will develop the science use cases that will be advertised on our website. Note that this new feature will be subject to availability of permanent manpower at OBSPARIS. If not available only the science use case will be done in WP3 as potentiality.

- **ST4** In order to help teachers to prepare their lecture, more information on the content of databases will be provided through our information system, either in the portal or on our website. The additional information on the portal is done in WP5: the species contained in the database will be directly visualised from the database description on our portal. A richer information on our website is part of the marketing/communication strategy of the project [M.SE.5].

C. Related to Secondary Teaching
Overall our experience related to Secondary Teaching showed that we must produce a significant effort in order to produce useful tools for secondary teachers. This means that [KPI.SE.3] is not realistic, and that any further work with secondary teachers would request a lot of interaction, design and implementation of specific tools.

- **ST5** Year 2 we will advertise possible collaboration on our Website, but no "contact actions" are planed in Year 2 [M.SE.5].

e. Task 4 - Connection to Business and Outreach (Lead: UCL)

Sub-Task 4.1 - Support to Citizen Scientist Projects
No manpower is available to follow up on citizen projects in spite of the recommendation from Reviewers. In Year 2 plans will be drawn up for the roadmap for the Citizen Scientist projects involving the VAMDC infrastructure.

Key Performance Indicators for Year 2
[KPI.SCS.1]: Create a roadmap for the application of spectroscopy to citizen science and the promotion of the VAMDC infrastructure to the Citizen Science (ask Nigel to find somebody at OU to start the brainstorming and follow up: FD, CH, CE, UH)

Sub-Task 4.2 - Data Requirements for SMEs and Industry
The strategy of Year 2 is to gain further knowledge of SMs/Industries

Metrics:
[M.3]: Timely conduction of survey and analysis

Key Performance Indicators:
[K.3]: Survey conducted and analysed by mid-September

Actions planned in Year 2:
We will conduct a survey of identified companies and research institutes to acquire more details of their AM data requirements and present data sources. We will gather a feedback on data requirements from Industry engagement event (MS36)

Sub-Task 4.3 - General SME and Industry Activities
The strategy is to reach more widely at Industrial partners through different aspects of the VAMDC e-infrastructure that might interest them.
Metrics:
[M.4]: Attendance of organised meetings

Key Performance Indicators:
[K.4]: Attendance of 20 at Industry engagement event

Actions planned in Year 2:
Industry engagement event is hosted at UCL on 4/4/14 to promote the VAMDC infrastructure to large and small businesses to include a tutorial on using the VAMDC portal (Milestone MS36)

f. Task 5 Support to small producers research groups (UU)

The strategy is to continue the inclusion of producers already known in VAMDC into the e-infrastructure. There will be no attempt to advertise widely the inclusion of new producers since the rules of collaboration are not defined yet. Such marketing/communication actions will come once the VAMDC Consortium has its Technical MoU and status into place, i.e. by the end of the project.

Goal: Give support to data providers wanting to join the VAMDC infrastructure

Metrics:
[DP.1] Organization of data producer meetings
[DP.2] Support implementation of VAMDC Standards for new data providers

Key performance indicators:
[KPI.DP.1] Data producer meetings held.
[KPI.DP.2] Informed decision on whether a new VAMDC node is suitable for each data provider. Technical support given.

Actions for year 2:
a) Organize and carry out two more data producer meetings, one each by UU (Milestone - MS 31) and UCAM (Milestone MS44 at Annual Meeting) [DP.2].
b) Continuation of support for VAMDC nodes in progress. (DP.3). This last action will cover the small producers already contacted in Year 1: data from T. Masseron (UU), data from Li-Hong Xu (KOELN). An important focus of Year 2 will be the introduction of plasmas data in VAMDC (UCAM, OU) with a meeting planed in April 2014 (LXCAT)

D. WP4 - Extension towards other e-infrastructure and EU schemes

In WP4, the activities are mainly carried out by our regional partners:

- India through the organisation of the 2nd Indian Meeting. We would like to point out that collaboration in a continent such as India is a long term process where local politics and local resources will determine the outcome of work. It is planed that at least one node from India will be available and we think that it is already an excellent start as an example to the Indian Community. The benefit of VAMDC can only be judged by this community via the tools that they can use for their research (as mentioned at their Year 1 meeting). This fact triggered improvements of the e-infrastructure planed in Year 2.
- South Africa will continue to advert as much as possible. The connection of our partner to the astronomy community is very important because of large ESFRI projects such as SKA and CTA are located in Africa. Therefore any actions of communication from our SA partner increases visibility of VAMDC. In addition in Year 2 OBSPARIS will attend the European-African IST Conference (http://www.ist-africa.org/conference2014/) presenting the VAMDC e-infrastructure in order to understand the type of cooperation that can be put into place with Africa.
- Korea is are planning many dissemination activities and possible connection of their database.
- Activities of dissemination in Brazil will continue in order to set up future collaborations (after SUP@VAMDC).

Other WP4 activities will mainly involve getting our USA external partners ready to register in VAMDC their node from the USA, and as a result they can become full members of the "VAMDC Consortium". SUP@VAMDC will bring support to these external partners.

a. List of Tasks and Timeline

WP4 is split into 3 Tasks:
Task 1: Coordination (lead: UU)
Task 2: Extension to Regional Partners
Task 3: Support towards external partners

Task	Activity description	Input Year 2	Output Year 2	starting date	complete (yes, no)	end date
Task 1	Coordination	WP4 plan Yr 2	WP4 report Yr 2	Jan 2014	no	Nov 2014
Task 2 2.1	Extension to Korea (1)		Workshop	19-24 Jan 2014	yes	
Task 2 2.1	Extension to Korea (2)	Already existing info on AMODS	Linkage between VAMDC and AMODS on the AMODS webpages in a more user-friendly way. Information on VAMDC extended.	Jun 2014	no	Nov 2014
Task 2 2.1	Extension to Korea (3)	AMODS initial content	Updated AMODS content	Jun 2014	no	Nov 2014
Task 2 2.2	Extension to South Africa (1)		Attend MEARIM III	Sep 2014	no	Sep 2014
Task 2 2.2	Extension to South Africa (2)		Write article for SAIP newsletter	Jun 2014	no	Jun 2014
Task 2 2.2	Extension to South Africa (3)		Create webpage about VAMDC on Unisa website	Jun 2014	no	Jul 2014
Task 2	Extension to Africa	Invitation received, IST advertised on VAMDC website	Invited paper at IST – Possibilities for cooperation with Africa	May 2014	yes	
Task 2 2.3	Extension to India (1)	1st Indian database Meeting	2nd Indian database Meeting	April 2014	yes	
Task 2 2.3	Extension to India (2)	website Yr 1	website upgraded with more info	Jun 2014	no	Nov 2014
Task 2 2.3	Extension to India (3)	tutorials at UCAM/Yr1	ANAND database to be connected	Jun 2014	no	Sep 2014
Task 2 2.3	Extension to India (4)	Work in WP2	Data evaluation discussed	Jul 2014	no	Jul 2014

Task 3 3.1	Implementation DCN/APAN	Visit Australia in Yr 1	Include data from Flinders into LXCAT - Agreement	Jun 2014	no	Nov 2014
Task 3 3.1	Implementation DCN/APAN	sub-set of ALADDIN in VAMDC	Complete release of ALADDIN through VAMDC (VAMDC compliant data only)	Jun 2014	no	Nov 2014
Task 3 3.2	Support towards USA HITRAN	Milestones	User meeting USA (HITRAN conference, molecules)	Jun 2014	no	Jun 2014
Task 3 3.2	Support towards USA HITRAN	sub-set of HITRAN at UCL	HITRAN-USA registered as VAMDC node	Jun 2014	no	Nov 2014
Task 3 3.2	Support towards USA JPL	CMDS/JPL collaboration	Conference in the USA: a) Coordination of JPL/CDMS towards Splattalogue b) Coordination towards scientific data providers and users	Jun 2014	no	Jul 2014
Task 3 3.2	Support towards USA JPL	Prototype JPL node	JPL as a fully VAMDC compliant accessible node	Jan 2014	no	Nov 2014
Task 3 3.2	Support towards USA JPL	Political Agreement	Timeline and roadmap of moving JPL node to JPL/USA	Jun 2014	no	Nov 2014
Task 3 3.2	Support towards USA NIST-Atomic database	Preliminary assessment of data-sample	Prototype node built by UCAM for NIST. Finished node installed at NIST.	May 2014	no	Sep 2014
Task 3 3.2	Support towards USA NIST		VAMDC-USA meeting related to atoms organised by NIST	Nov 2014	no	Nov 2014
Task 3 3.3	Extension to Brazil		Attendance of Physics Meeting - (ENFMC) - Portal Test	May 2014	yes	
Task 3 3.3	Extension to Brazil		Attendance of Atomic & Molecular Physics conference - VAMDC tutorial - Young people	Sep 2014	no	Nov 2014
Task 3 3.3	Extension to Brazil		VAMDC-Brazil website set up	Jun 2014	no	Nov 2014
Task 3 3.3	Extension to Brazil		Investigation on molecular database as VAMDC node	Jun 2014	no	Nov 2014

b. Task 1: Coordination (lead: UU)

Task 1 of WP4 deals with the coordination of WP4 activities.

Metrics ("measurable quantity")
[M.C.1] Connection between all partners (legal, regional, external)
[M.C.2] Initiation of VAMDC promotion
[M.C.3] Information on progress of WP4 activities for all partners

Key Performance Indicators ("goal value of quantities listed under Metrics")
[KPI.C.1] WP4 Board formed
[KPI.C.2] Introduction to VAMDC provided to all partners
[KPI.C.3] All partners updated on a regular basis, at least every two months

c. Task 2: Extension to Regional Partners

The goal of Task 2 is to promote VAMDC in regions (Korea, South Africa, India) and to engage with regional partners. Although we have identified interest in these countries outside Europe, the success requires other components available at the national level: human resources, technical infrastructure, user and/or publisher communities that are fully aware of the VAMDC issues. No work had ever been done with those countries/continents within VAMDC.

Metrics applicable to each sub-task:
[M.R.1] Visibility of VAMDC in region ("promotion")
[M.R.2] Integration, development, and exploitation of VAMDC technology in region
[M.R.3] Adaptation of VAMDC standards and technology in region

Key Performance Indicators
[KPI.R.1a] One regional meeting held per year with VAMDC demonstration or tutorial
[KPI.R.1b] Information on VAMDC presented on regional website
[KPI.R.2] VAMDC standards implemented for at least one database per region
[KPI.R.3] Recommendations for adaptation of VAMDC standards and/or technology submitted to VAMDC consortium by regional A+M community

Sub-Task 2.1 - Extension to Korea (KAERI)
A workshop has been organized from 19 to 22 January 2014 at the Gi-Jang area of Busan city which is the second largest city in Korea, located at the south eastern part of Korea. This workshop was on High Energy Density Sciences in Asia (HEDS in Asia 2014) and major leaders of Korea, China, Japan, and India in the field of HEDS participated. In this workshop KAERI introduced the activities of VAMDC to the Asian scientists who are mostly involved in the high energy density plasma physics. **[KPI.R.1a]**

KAERI will establish the linkage between VAMDC and AMODS on the AMODS webpages (http://amods.kaeri.re.kr) in a more user-friendly way. The information on VAMDC will be extended. **[KPI.R.1b]**

The AMODS database (or any database in Korea) cannot be registered as a VAMDC database due to security issues. Thus, **[KPI.R.2]** cannot be achieved for KAERI.

KAERI will add an additional A+M database in AMODS on several aspects of HEDS areas, such as opacity, hydrodynamic simulations, as well as some results of experiments performed at the major large laser facilities in the world. Recommendations for necessary adaptations of VAMDC standards and/or technology related to such data will be formulated. **[KPI.R.3]**

Sub-Task 2.2 - Extension of VAMDC to South Africa (UNISA, OBSPARIS)

Actions in Year 2 will focus on achieving **[KPI.R.1a]** and **[KPI.R.1b]**, and to further promote VAMDC in Africa as far as possible:

- Attend the Middle East Africa Regional IAU Meeting, MEARIM III, September 2014 in Beirut, Lebanon, if the political situation permits.
- Write an article for Physics Comment, a newsletter of the SAIP.
- Include information on VAMDC on a South African website.
- Contact astronomers in Mauritius, Botswana, Ghana, Uganda, and Egypt; do presentations if possible.
- Contact the Spectroscopic Society of SA and see if a talk or workshop on VAMDC can be arranged.
- Explore other possible meetings (e.g. Regional meeting of East-African Astronomical Society in Rwanda), mainly for users, interested in applications such as specview.
- Explore possible attendance at radio astronomy meetings.
- Write an article for Monthly Notes of the Astronomical Society of South Africa (MNASSA) to advertise VAMDC to the amateur and professional astronomy community in SA.

In addition in Year 2 OBSPARIS will attend the European-African IST Conference (http://www.ist-africa.org/conference2014/) presenting the VAMDC e-infrastructure in order to understand the type of cooperation that can be put into place with Africa.

Sub-Task 2.3 - Extension of VAMDC to India (TIFR, OU)

Workshops on the VAMDC e-infrastructure for producers and users of A+M data in India was held 2-4 April 2014 (at Inter University Accelerator Centre, New Delhi, "Atomic and Molecular Data for Application"), and in Nov 2014 a follow-up of the VAMDC-India meeting held in Year 1 is proposed. This will be supported by UCAM via a tutorial at the

meetings. G Rixon (UCAM) will also provide personal support at TIFR to local IT people. **[KPI.R.1a]**

The VAMDC-India website (http://www.prl.res.in/~bhala/Vamdc/) will be regularly updated with information on VAMDC activities, including announcements, meetings, and links to webpages related to A+M data. **[KPI.R.1b]**

An Indian node leader will visit the UK (OU) in June-July 2014 to discuss progress of the Indian database community. The Anand database is to be connected as a VAMDC node. **[KPI.R.2]**

The issue of data evaluation will be discussed within the Indian A+M community, and recommendations for implementing data evaluation in VAMDC will be submitted to the VAMDC consortium. An Indian node leader will attend a database/data evaluation workshop July 4-6 2014 (in Windsor) where other members of the Indian community will attend. **[KPI.R.3]**

d. Task 3: SUP@VAMDC Support towards external partners

The goal of Task 3 is to ensure interoperability between VAMDC and other existing A+M schemes/networks, that is, to promote and monitor the adoption and adaptation of common standards. The external partners were already chosen in the Annexe I-DoW. Some partners were new such as the APAN network, the Brazilian partner, other partners in the USA were already known through nothing concrete had been done during VAMDC previous project: NIST atomic database, JPL database; the HITRAN database (USA) had been implemented at a prototype level during the VAMDC project at UCL and continuation of collaboration/support was needed in order to transfer technology to the USA. The ultimate objective is to have nodes registered from the USA and from other institutes in other countries. This ultimate objective will depend upon the availability of their local resources since no funding for manpower goes to these external partners.

Metrics

[M.E.1] Visibility of VAMDC in regions covered by A+M networks ("promotion")
[M.E.2] Adoption of VAMDC standards by networks and linked databases
[M.E.3] Adaptation of VAMDC standards by networks

Key Performance Indicators

[KPI.E.1] VAMDC and interoperability discussed during at least one meeting organized by the relevant community addressed in each sub-task, and information on VAMDC presented on a website for at least one community addressed in one of the sub-tasks

[KPI.E.2] VAMDC standards implemented for at least one database linked to one network or community addressed in one of the sub-tasks (keeping in mind that external partners to not receive EU funding)

[KPI.E.3] Recommendations for adaptation of VAMDC standards and/or technology submitted to VAMDC consortium by at least one A+M network or community addressed in each sub-task

Sub-Task 3.1 - Discussion of interoperability issues with APAN and DCN (OU, UCL, OBSPARIS)

Actions towards **[KPI.E.2]** will be continued:

APAN/Australia (Michael Brunger, Flinders Univ.):
The partners at Flinders University did not receive funding from the Australian Research Council in order to establish a node; therefore the future plan at Flinders is to include their data into the LXCat database for data required for modelling low temperature plasmas (maintained in Toulouse, http://fr.lxcat.net). There is currently a collaborative project between LXCat and VAMDC (see WP3 Task 5) with discussions planned in April 2014 in order to define the roadmap for inclusion of LXCat within VAMDC.

APAN partners M. Brunger and S. Buckman will attend the SPIG 2014 meeting (26−29 Aug 2014, Belgrade, Serbia, http://www.spig2014.ipb.ac.rs/invited.html), where workshops on electron molecule data will be held.

IAEA/DCN (Bas Braams, Vienna, Austria):
The connection of the ALADDIN database to VAMDC will be completed by November 2014, supported by UCL. The complete atomic and molecular part will be accessible through VAMDC, but data on solids and on particle-surface interaction will be excluded.

NIFS/DCN (Izumi Murakami, Japan):
The NIFS partners will work on their database integration into the VAMDC infrastructure, following the discussions at the workshop held in Oct/Nov 2013. For the purpose, the NIFS partners will try to apply for travel budget of one-month invitation of one person from VAMDC to NIFS in 2014.

Further recommendations for adaptation will result from the implementation actions during Year 2. **[KPI.E.3]**

Sub-Task 3.2 - Support toward towards the USA (UCL, KOELN, OBSPARIS)

HITRAN node (Larry Rothman):
The 13th Biennial HITRAN conference will take place in Cambridge, MA, USA on 23-25 June 2014. This is an important meeting in the atmospheric radiative transfer community and is well-attended by the active experimental and theoretical spectroscopists who provide data

to HITRAN as well as the atmospheric and planetary modellers who use it. Further details are available at the conference website:
http://www.cfa.harvard.edu/hitran/HITRAN-Conference2014/hitran14.html
C. Hill will attend this meeting and continue outreach activities to this community, in addition to presenting the latest status of the HITRAN database node and its place in the VAMDC infrastructure. **[KPI.E.1]**
The final handover of the HITRAN node from UCL (Ch. Hill) to the HITRAN team and hitran.org is planned. UCL will continue to support and maintain the HITRAN node, and address security issues. **[KPI.E.2]**

JPL node (Brian Drouin):
Christian Endres (KOELN) will attend the International Symposium on Molecular Spectroscopy taking place on 16-20 June 2014 in Champaign-Urbana, Illinois (USA). At the mini-symposium "Astronomical Molecular Spectroscopy in the Age of ALMA" VAMDC will be discussed with the radio astronomy community. Further details are available at the conference website: http://isms.illinois.edu/ **[KPI.E.1]**
The JPL node will be installed on a server hosted by JPL (Ch. Endres, KOELN). The access to CDMS and the JPL catalog through one infrastructure is regarded by the astrochemical community as one of the key features of VAMDC. Thus, the main focus will be put on the availability of the data and the improvement of its quality in order to fully match VAMDC standards. People at JPL will be educated on VAMDC standards and software tools in order to take over administration of their node and to provide local support of VAMDC. The timeline will be decided at the meeting in Champaign-Urbana. A possible date is foreseen in autumn 2014, provided that hardware, software, manpower, and security issues can be solved. The quality of the JPL node will be improved. **[KPI.E.2]**

NIST node (Yuri Ralchenko, Gaithersburg, USA, Atomic Spectroscopy Group):
A VAMDC-USA meeting will be organized at NIST towards the end of Year 2, where the benefits of VAMDC and new tools developed in WP5 are to be demonstrated to potential new users throughout the USA, in particular those familiar with the services offered by the NIST Atomic Spectroscopy Group. **[KPI.E.1]**
The NIST Atomic Database will be implemented as a VAMDC node. Development will be supported by UCAM and NIST will maintain the node thereafter. **[KPI.E.2]**

Recommendations for adaptation will result from the work with the NIST database and the meetings in the USA. **[KPI.E.3]**

Sub-Task 3.3 - Extension of VAMDC to Brazil (UFPR, UCL)

Actions towards **[KPI.E.1]** will be continued:

M. Fujimoto attended the meeting Encontro Nacional de Física da Matéria Condensada (ENFMC), 12-16 May 2014, Costa do Sauípe, BA. This is the biggest national meeting in physics (in Brazil), with around 1500 participants. Many areas are concentrated here: Optics,

Surfaces and Thin Films, Magnetism and Magnetic Materials, Medical Physics, Semiconductors, Nano, Atomic and Molecular Physics, Superconductivity and Strongly Correlated Systems, Statistics, Polymers and Complex Fluids, Materials, Biophysics. Our target audience to disseminate the VAMDC project are the participants related to the Atomic and Molecular Physics area. There are researchers working with electron scattering who need molecular properties, and researchers working with interactions of photons with atoms and molecules, e.g. astrophysicists who need transition data for atoms and molecules. The aim is that more people will start searching data they need in the database nodes available through the VAMDC Portal.

The Simpósio de Estrutura Eletrônica e Dinâmica Molecular will take place in Pirenópolis, GO, on 15-19 September 2014. This meeting concentrates areas such as Electronic Structure Calculations: methods and applications, Thermodynamics applied to chemical reactions, as well as Spectroscopy and reactivity. The target audience is more related to undergraduate students who are completing their courses and post-graduate students, but it is designed to allow interchange between researchers of different areas. Our objective in this meeting is to present the VAMDC project and how to use the Portal to retrieve data, especially for newer/younger researchers. We are negotiating with the organizing committee to present a VAMDC Portal tutorial there.

In November 2014 (date and location to be confirmed), the annual "Workshop em Física Atômica Molecular e Espectroscopia (WFME)" will take place. The main objective of this meeting is to join experimental and theoretical experts in Atomic and Molecular Physics and Quantum Chemistry working in Atomic and Molecular Spectroscopy in Brazil and discuss the possibilities of scientific collaboration. This is a specific meeting about Atomic and Molecular Spectroscopy. This is potentially the best community to present the VAMDC project. M. Fujimoto is a member of the organizing committee and will suggest to have a talk on the VAMDC Project and/or a brief tutorial about how to use the VAMDC Portal. The target audience is more related to newer/younger researchers and astrophysicists. The organizing committee is deciding about the place and period. The meeting can be placed in Pirenópolis, GO, or Brasília, DF, and the period will be chosen between 9-12 or 11-14 November, 2014.

The Brazil VAMDC website will be set up. **[KPI.E.1]**

The possibility of including a database of theoretical thermodynamic quantities for molecules in a VAMDC node will be explored. **[KPI.E.2]**

At the meetings listed above, recommendations for adaptation of VAMDC standards and/or technology will be gathered and consolidated. **[KPI.E.3]**

E. WP5 - Operational Support for dissemination of Data

In WP5, Year 2 should be very rich because feedbacks from users in Year 1 (in WP3 and WP4) have led us to decide upon enhancements of the e-infrastructure. Therefore a strong effort should be made by UCAM, OBSPARIS in order to provide most of the developments in WP5 with some contributions from KOELN and from UU. The objective is to have friendly user interface and tools that allows getting information easily, that allow learning how to query the databases, that allow friendly visualisation of data which can connect to the Virtual Observatory tools. The reviewers should be aware that the astronomy community is the main user of our e-infrastructure, and nearly the only financially supporting community either because the EU nodes are located in Institutes of Astronomy or because the node leaders carry out molecular/atomic research activities linked to astronomy. While meeting the needs of the astrophysical community we provide useful example of what can be done for other communities and this last aspect requires advertising/marketing/communication that are carried out in WP3.

Note: The effort at OBSPARIS might be reduced because of re-focusing, see below the list of Tasks.

a. List of Actions in Tasks and planed TimeTable

WP5 is split into 5 Tasks:

- Task 1: Coordination (lead: UCAM)
- Task 2: Direct support to users (lead: OBSPARIS)
- Task 3: Tutorials for users (lead: UU)
- Task 4: Maintenance and enhancement of the infrastructure

Task	Activity description	Input Year 2	Output Year 2	start date 2014	complete (yes - no)	end date 2014
Task 1	Coordination	Procedures from Kick-Off meeting Year 2 Plans	Teleconf WIKI updated Report Yr 2	December 2013	ongoing	November 2014
Task 2	Communication	NONE	answer RT request from users	December 2013	ongoing	November 2014
T2	Operate the NAGIOS monitoring-system	Already existing at end of VAMDC	Check Operation and add new services	December 2013	ongoing	November 2014
T2	Support documentation		complete user guides	June 2014	no	September 2014
T2	communication		Documentation Leaflet & Web Page for each Software RE-organise previous information linked to tutorial&support	June 2014	no	August 2014

			documentation in new website			
T2	Support documentation		improve Dictionnary	June 2014	no	August 2014
T3-1	New Tutorial Materials	None	Update self-paced exercices	July 2014	no	July 2014
T3-2	New Tutorial Materials	None	6 Screencast videos	Dec. 2013	no	September 2014
T3-3	New Tutorial Materials	None	Tutorial talks are packaged	July 2014	no	July 2014
T3-4	New Tutorial Materials	None	VM images are released	April 2014	yes	May 2014
T4	T4.1: system integration	v12.07 since Feb 2013	Upgrade of 12.07	December 2013	no	September 2014
T4	T4.2: new data nodes	Existing databases	Registration of 7 new nodes	April 2014	no	September 2014
T4	*T4.3 key applications*	*SPECTCOL*	*Upgrades for research Handle Atomic Data*	*September 2014*	*no*	*November 2014*
T4	T4.3 key applications	SPECVIEW	Upgrades for research Better identification of Lines	Feb. 2014	yes	May 2014
T4	*T4.3 key applications*	*SPECVIEW*	*Upgrades for research&Education Link Aladin-Specview*	*May 2014*	*no*	*November 2014*
T4	T4.3 key applications	None	New Application for synthesis of stellar spectra	April 2014	no	September 2014
T4	T4.4 Revised Web-Portal (1)	VAMDC Portal	New Portal release with direct association databases-tools to be used	June 2014	no	November 2014

T4	*T4.4 Revised Web-Portal (2)*	*VAMDC Portal*	*New Portal release with "Beginner Feature"*	*June 2014*	*no*	*November 2014*
T4	T4.4 Revised Web-Portal (3)	VAMDC Portal	New feature to combine outputs from different databases	December 2013	no	June 2014
T4	T4.5 Better display of data	new	Ergonomic display of molecular spectroscopy	Mars 2014	yes	June 2014
T4	T4.5 Better display of data	new	Display of Collisional data	Fev. 2014	yes	June 2014
T4	T4.6 Species Database	KOELN version of Species DB	Main Data Update	April 2014	no	June 2014
T4	T4.6 Species Database	S/w prototype (ex QUB, VAMDC project)	Managing software available	June 2014	no	July 2014
	T4.7 Release process for VAMDC software		Procedure defined to release software	June 2014	no	June 2014
	T4.8 Educational Project		*SPECTCOL (population LTE)*	*September 2014*	*no*	*November 2014*
	T4.8 Educational Project		Improve information about content of databases for teachers	April 2014	yes	May 2014
T4	T4.9 Planning for future enhancement	Brainstorming full VAMDC	Technical Upgrades in the VAMDC Roadmap	April 2014	no	November 2014

Note: Task in Italics means that they are not promised at OBSPARIS. The directly SUP@VAMDC supported manpower at OBSPARIS is refocused on the website and re-organisation of technical documentation. Therefore other work will be performed once those 2 items are performed at the expected level. The permanent staff of OBSPARIS has already contributed a lot in the first part of Year 2 and might be less available in the second part of Year 2.

b. Task 1: Coordination (lead: UCAM)

Metrics ("measurable quantity")

[M.C.1] Connection between all partners

[M.C.2] Information on progress of WP5 activities for all partners

Key Performance Indicators ("goal value of quantities listed under Metrics")

[KPI.C.1] WP5 Board formed and Tools for communication established

[KPI.C.2] All partners incl. WP5 leader updated on a regular basis, at least every two months

c. Task 2: direct support to users (lead: OBSPARIS)

The direct support to users goes through the help desk, the monitoring of the e-infrastructure via NAGIOS, the availability of information on the website. The explanations and rationale are given in D5.1 (Report Year 1 for WP5)

Metrics:

[M.S.1] Number of help requests requests logged in RT that have been resolved.

[M.S.2] Time needed to notify service operators of service outage

[M.S.3] Completeness of user-guides w.r.t. supported software-products

[M.S.4] Fraction of Dictionary terms with suitable explanations

[M.S.5] Documentation Leaflet & Web Page for each Software, Re-organisation of technical infiormation on new web-site

Performance indicators:

[KPI.S.1] All help requests addressed within 1 week and 80% resolved within 1 month. ("resolved" can mean "scheduled for later development")

[KPI.S.2] Any outage of a registered service notified to the operator within 6 hours.

[KPI.S.3] All supported software products have a user guide.

[KPI.S.4] All commonly-used Dictionary terms have explanations on the dictionary site.

[KPI.S.5] Completion of communication for software, Re-organisation complete

Plans for year 2:

- Log all support requests in RT. Ensure that the responses satisfy KPI.S.1 [All partners]
- Continue NAGIOS monitoring. Ensure that the WP leader can extract availability figures for services. [OBSPARIS]
- Complete the suite of user guides [UCAM, UU for web pages; UU for data-provider videos]
- Improve the dictionary to meet KPI.S.4. [UCAM]
- Create the documentation webpage and leaflet for software; re-organisation of technical information

c. Task 3: tutorials for users (lead: UU)

A set of tutorial material is planed to be available from our website.

Metrics:

[M.T.1] Coverage of end-user facilities with self-paced tutorials
[M.T.2] Coverage of data-provider facilities with self-paced tutorials
[M.T.3] Coverage of data-provider facilities with workshop materials

Performance indicators:

[KP.T.1] Self-paced exercises exist for end-user features.
[KP.T.2] Screencast videos exist for data-provider features.
[KP.T.3.1] Slides available for introductory talk of workshop.
[KP.T.3.2] Files available for worked-example data-nodes.
[KP.T.3.3] Virtual-machine image available containing environment for node building.

The tutorial materials may be viewed at http://tutorial.vamdc.eu/ .

Plans for year 2:

- Release the final six videos in the data-provider tutorial. [UU]
- Collect and publish the introductory slides for workshops. [UCAM]
- Update and publish the VM images for node-building. [UCAM]
- Update tutorial materials to match developments in the infrastructure. [All partners.]

The "self-studying e-tutorial for education", mentioned in the year-1 plans for WP5, is now understood to be the education-related work of WP3. The software support for this work is included in WP5 task 4.

d. Task 4: maintenance and enhancement of the infrastructure

The maintenance and enhancement of the infrastructure are directly linked to the feedbacks and needs expressed in the WP3 and WP5 work packages from Year 1, through key applications for users (specview, spectcol see WP3-Task 2 explanations), through better visualisation of data, through inclusion of new data nodes, through improvement of the species database that ensure part of the interoperability, through design of a new portal for beginners, through dedicated software for education as concrete prototype items must be available for education in order to assess the potentiality of VAMDC.

Metrics

[M.M.1] System availability rate
[M.M.2] Number of new nodes registered and working

[M.M.3] Off-line display
[M.M.4] Update to Specview
[M.M.5] Update to Spectcol
[M.M.6] Spectral synthesis tool
[M.M.7] Grotrian display of atomic levels
[M.M.8] Revised web-portal development process status
[M.M.9] Documented release process
[M.M.10] Improvement of Species Database Functionalities and database
[M.M.11] More Flexible and User Friendly Display of Data
[M.M.12] Library support for user-programmers
[M.M.13] Plan for Technical Upgrades for the Roadmap

Performance indicators and goals:
[KPI.M.1.1] At least 95% availability of core system (portal, registry)
[KPI.M.1.2] At least 80% availability of data nodes, averaged over all active nodes
[KPI.M.2] 7 new nodes registered
[KPI.M.3.1] Display application available for download from VAMDC site
[KPI.M.3.2] Display application beta-tested by Indian partners
[KPI.M.4.1] One Specview improvements submitted to STScI for release
[KPI.M.4.2] One New version of Specview available for download from STScI.
[KPI.M.5] One New version of SpectCol available for download from VAMDC site
[KPI.M.6.1] Spectral-synthesis tool designed
[KPI.M.6.2] Spectral-synthesis tool available as beta version.
[KPI.M.7] Grotrian display available
[KPI.M.8.1] Portal released and users moved over to it
[KPI.M.8.2] Portal contains the beginners' mode UI
[KPI.M.8.3] All features of current portal remain available via "expert" mode
[KPI.M.8.4] Ability to merge XSAMS outputs
[KPI.M.8.5] Recommendations in portal result-page of best tools to use on output of each database
[KPI.M.9.1] Document the release process
[KPI.M.9.2] Apply the release process in the releases from June 2014.
[KPI.M.10.1] Species from all nodes collected
[KPI.M.10.2] All species data entered into the species node
[KPI.M.10.3] Procedure in operation to update the portal database from the node
[KPI.M.10.4] Procedure for acquiring new species data as species are added to nodes.
[KPI.M.11] New Display for Molecular Spectroscopy and for Collisional Data from Portal
[KPI.M.12] Packaging and Documentation of Library support for user-programmers
[KPI.M.13] Plan for Technical Upgrades in the Roadmap

Sub-task 4.1: system integration (lead: UCAM)

In year 2, we will enhance the 12.07 system. We will not make a new system-release to extended standards.

Sub-task 4.2: new data-nodes (lead: UCAM)
In year 2, we expect to register 7 new nodes: 3 nodes from RADAM, 1 node from NIST, 1 node for LXCat, 2 nodes from Indian partners.

Sub-task 4.3: key applications (lead: OBSPARIS)
VAMDC supports a few, key applications that add important features to the service infrastructure and engage users of other communities.

In year 2, OBSPARIS will continue to develop SpectCol and Specview.
SpectCol will be extended with displays of atomic data in order to become a standalone tool, handling of the partition function and a better handling of the zero point of energy-levels in molecules. This task is not a priority for the engineer who is directly supported by SUP@VAMDC, therefore re-focus of objectives towards communication implies that this task might not be done.

Specview will be given better labeling of lines (identifying energy levels of the associated species). Data exchange between Specview and CDS' display application Aladin will be performed; this improves interoperability with IVOA. *The latter will be done only if permanent staff is available.*

UU will develop a new application for synthesis of stellar spectra, taking data from any VAMDC node with atomic data. This application will be built as a XSAM-processing service, and will be built in two stages. Initially, the application will process data supplied in a single, XSAMS file (typically the output of a single database in VAMDC). This stage of the application is intended to be in beta test by the end of year 2. Subsequently, the application will be improved to combine data from multiple databases.

Sub-task 4.4: revised web-portal (lead: OBSPARIS)
Reports from partners at the year-1 meetings suggest that the existing web-portal is too complex and too general for beginning users. A simpler form of portal was pre-designed, the full design will be done in Year 2. It supports a few, common use-cases, with the current, general portal retained as an advanced mode. *This new portal will be implemented and released in year 2 if OBSPARIS permanent manpower allows it (this requires quite a lot of time).*

Additional new features of the revised portal are an ability, via an XSAM-processing service, to combine output from multiple databases (done by UCAM); and association of the query results from each node with the best tools (data-transforming services and desktop applications) to use with the data from that node (by OBSPARIS permanent staff as it is within reach).

Sub-task 4.5: better display of data (lead: OBSPARIS)
Display of atomic spectroscopy is covered by the work of OBSPARIS in year 1, but the displays for molecular spectroscopy and molecular collisions are not yet sufficient.

Revised and new displays will be developed during year 2. That for molecular spectroscopy will use the same format and technology as the atomic-spectroscopy display, while the collisions display will be an innovative tool. These displays are new XSAMS-processor services.

NIST offer us code for a display of atomic energy-levels as a Grotrian diagram. Their display currently works with their own Atomic Spectra Database. We will develop it to take data from the XSAMS output of a VAMDC query, and thus to be available from the web portal as a visualisation of VAMDC query-results. This is not a high priority and it will be done if permanent manpower is available at OBSPARIS.

Our Indian partners have asked for off-line display of data in XSAMS files. This will be provided through upgraded to the SpectCol application as described in task 4.3. This task is not a priority for the engineer who is directly supported by SUP@VAMDC, therefore re-focus of objectives towards communication implies that this task might not be done

Moreover, a standalone format conversion application will be developed. It will embed XSAMS processors, making them usable without a network connection. The application will provide both a graphical user interface and a command line interface. The latter will make it possible to call the application from a script, for example to convert a XSAMS file into another format directly usable from another software. It is very simple to include new processors into the application so its long-term maintenance should be straightforward. Moreover, an advanced user could write his own processor if he needs a particular output format.

Sub-task 4.6: species database (lead: UCAM)
The VAMDC database of species lists the molecular species included in the VAMDC data-nodes and states the various identifies (InChI, names, formulae) associated with each, to allow cross-identification between databases. At the end of year 1, the database exists as a special data-node and a copy of the data is included in the web portal.

The species database is supposed to contain the union of all the species in all the VAMDC nodes, but currently does not cover the latest complex systems added for example by the RADAM community; this was noted by end users of the RADAM databases at the Indian Meeting.
In year 2, we will complete the coverage and will set up procedures for maintaining completeness of coverage. Initially, we will collect all the species data from the data nodes and enter it into the species-database node (UCAM/KOELN; target end of May 2014). We

will then update the web-portal's species list from the species node (OBSPARIS, target end May 2014). Have brought the species database up to date, we will install procedures to update it automatically and periodically from the data nodes (UCAM, target June 2014).

Sub-task 4.7: release process for VAMDC software (lead: UCAM)
VAMDC lacks a defined process for releasing software, particularly the key applications developed in WP3 and released by WP4. In Year 1, the release was ad-hoc (developers add their products to the VAMDC web-site directly). In year 2, we will have a defined process, and that process will include testing (by VAMDC members other than the developers of a product) before release.

Sub-task 4.8: software to support education projects (lead: OBSPARIS)
The education-related projects in WP3 require some dedicated features in VAMDC applications. These features are adapted for students rather than professional researchers. In year 1, SpectCol was upgraded with a display of energy levels suitable for education. *In year 2, SpecCol will receive further education-related upgrades, including display of energy state population at Local Thermodynamical Equilibrium (and partition function). This task is not a priority for the engineer who is directly supported by SUP@VAMDC, therefore re-focus of objectives towards communication implies that this task might not be done.*

Another issue from WP3-Year 1 was the difficulty for teachers to find rapidly information about the content of databases. Therefore in Year 2 the content of databases will be available very simply from the "VAMDC databases" section of the VAMDC portal.

Sub-task 4.9: planning for future infrastructure (lead: UCAM)
A workshop for VAMDC contributors was held, at the end of year 1, to review the completeness and correctness of the infrastructure. From these discussions, a design study of proposed improvements has been recorded. Some of these changes are considered urgent and will be attempted during year 2, while others will be undertaken by the VAMDC consortium after the close of the SUP@VAMDC project. That study is annex 1 of this deliverable. In year 2, a technical roadmap for the VAMDC consortium will be produced, extending the planning into the years following SUP@VAMDC.

V. Management structure

The management structure of SUP@VAMDC is shown in Fig 1 of section B2 of Part B, page 12 of DoW - Annexe I.

1. Main Evolution from Year 1 to Year 2

The November 2013 Amendement has changed the governing structure in order to distribute in a more efficient way the different roles

- A deputy director for sustainability has been added to the ET (C.M. Zwölf , see below)
- The coordination of EPT has been supplemented by C.M. Zwölf
- The coordination of WP2 is replaced by C.M. Zwölf and supplemented by N. Mason
- Mrs Y.A Ba is replaced in the role of Assistant Project Manager by Mr F. Portier-Fozzani on the 1rst April 2014

The main elements of the structure are:

2. Executive Team (ET)

- M.L. Dubernet, SUP@VAMDC Coordinator (to be replaced by N. Piskunov in case of absence)
- C.M. Zwölf, EPT co-coordinator, WP2 co-coordinator and deputy director for sustainability and legal issues
- Y.A. Ba, then F. Portier-Fozzani from 1rst April 2014, Project Manager Assistant
- N. Walton, EPT co-coordinator and technical deputy director
- N. Mason, WP2 co-coordinator and science deputy director

3. Project Board (PB):

PB Webpages are at http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/SVPB

These pages includes links to all Board Meetings including Agenda and Minutes

Name	Institute	Status
M.L. Dubernet & C. Zeippen	Observatoire de Paris (OBSPARIS)	Partner 1
N. Walton	The Chancellor, Masters and Scholars of the University of Cambridge (UCAM)	Partner 2
N. Piskunov (represented at time by U. Heiter)	Uppsala Universitet (UU)	Partner 3
N. Mason	Open University (OU)	Partner 4
S. Schlemmer (represented at times by C. Endres)	Universitaet zu Koeln (KOELN)	Partner 5

J. Tennyson	University College London (UCL)	Partner 6
Y. Rhee	Korea Atomic Energy Research Institute (KAERI)	Partner 7
D. Smits	Institute University of South Africa (UNISA)	Partner 8
E. Krishnankumar	Tata Institute of Fundamental Research (TIFR)	Partner 9
Dr Yuri Ralchenko	Atomic Spectroscopy Group, NIST, USA	External
Dr Larry Rothman	The Harvard-Smithsonian Center for Astrophysics, Cambridge, USA	External
Dr Brian Drouin	The Propulsion Laboratory, NASA	External
Dr Carlos Gonzales	The Chemical and Biochemical Reference Data Division	External
Prof. Stephen Buckman	Atomic and Molecular Physics Laboratory, Canberra, Australia	External
Prof. Michael Brunger	The Electron Scattering and Modelling Group, Flinders University, Australia	External
Dr Izumi Murakami	National Institute for Fusion Science, Japan	External
Prof. Milton Fujimoto	Universidade Federal of Parana, Brazil	External
Dr Bas Braams	Atomic and Molecular Data Unit, IAEA, Vienna	Associate

Executive Project Team (EPT)

EPT Webpages are at http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/SVEPT
These pages include all EPT teleconferences with their agenda and minutes

Role	Name	Partners
EPT coordinators	C. M. Zwölf, N. Walton	OBSPARIS, UCAM
WP1 Leader	M.L. Dubernet	OBSPARIS
WP2 Leaders	C.M. Zwölf, N. Mason	OBSPARIS, OU
WP3 Leader	C. Endres	KOELN
WP4 Leader	U. Heiter	UU
WP5 Leader	G. Rixon	UCAM

Work Package Boards (WPB)
WP2 : All Board Members, D. Egret (OBSPARIS), C. Zeippen (OBSPARIS), F. Portier-Fozzani, C.M. Zwölf
WP3: Y.A. Ba, C. Hill, G. Rixon, M.L.Dubernet, T. Marquardt, C. Endres, N. Moreau, F. Portier-Fozzani
WP4 : U. Heiter, B. Braams, D.J. Drouin, C. Gonzales, C. Hill, E. Krishnankumar, C. Endres, F. Delahaye, Yoon Jung-Sik, L. Rothman, M. Bruenger, M. Fujimoto, N. Mason, N. Moreau, D. Smits, S. Buckman, T. Marquart, Y. Rhee, Y. Ralchenko, F. Portier-Fozzani
WP5: G. Rixon, C. Endres, J. Tennyson, N. Moreau, P. Le Sidaner, T. Marquart, Y.A. Ba, F. Portier-Fozzani

VI. List of Key People at Partners Institutes for Year 2 (Beneficiaries are described in detail in DoW, section B2.2 in Part B, page 15) -

Name	Institute	Status
M.L. Dubernet, Y.A. Ba (all WP), C.M. Zwoelf (WP2), C. Zeippen (WP2), D. Egret (WP2), F. Delahaye (WP3-4), N. Moreau (WP3-4-5), F. Portier (WP1,WP2,WP3)	Observatoire de Paris (OBSPARIS)	Partner 1
N. Walton, G. Rixon	The Chancellor, Masters and Scholars of the University of Cambridge (UCAM)	Partner 2
N. Piskunov, E. Stempels, U. Heiter (WP4), T. Marquart	Uppsala Universitet (UU)	Partner 3
N. Mason	Open University (OU)	Partner 4
C. Endres, S. Schlemmer	Universitaet zu Koeln (KOELN)	Partner 5
J. Tennyson	University College London (UCL)	Partner 6
Y. Rhee	Korea Atomic Energy Research Institute (KAERI)	Partner 7
D. Smits	Institute University of South Africa (UNISA)	Partner 8
E. Krishnakumar	Tata Institute of Fundamental Research (TIFR)	Partner 9
M. Fujimoto	Universidade de Parana	External Partner with Strong EU Support

VII. Deliverables for Year 2

Deliverables for Year 2 are confirmed as described **in the DoW-November 2013**. There are included here for convenience.

Deliverable number	Deliverable name	WP number	Lead beneficiary	Estimated indicative person-months	Nature	Dessemination level	Delivery date
D1.4	Annual SUP@VAMDC Project Plan – Year 2	WP1	OBSPARIS	1.00	Report	PU	13
D1.5	Final Budget and Review Report of SUP@VAMDC	WP1	OBSPARIS	7.00	Report	PU	24
D2.2	Global A+M Infrastructure and Open Science – Year 2	WP2	OU	9.00	Report	PU	24
D2.3	Final Roadmap Document	WP2	OBSPARIS	8.00	Report	PU	24
D3.2	Wider audience: User Communities, Schools, Scientist citizen, Small Research Groups, SMEs – Year 2	WP3	OBSPARIS	20.00	Report	PU	24
D4.2	Extension to "Regions" and adoption of common standards – Year 2	WP4	UU	27.00	Report	PU	24
D5.2	Operational Support Material, Design Study for upgrade of infrastructure – Year 2	WP5	UCAM	7.00	Report	PU	24

VIII. Milestones for Year 2 (as described in DoW - November 2013)

Milestone number	Milestone name	WP number	Delivery date from Annex I [3]	
MS28	Citizens/SMEs Meeting 4 REPLACED	WP3 WP2-WP3-WP4	Month 13 Year 2	At OBSPARIS; Minutes on Website At OBSPARIS; Minutes on Website --> IST: more efficient in order to extend coverage of VAMDC through looking for collaboration (research, education, possibly companies); user support: CoSADie; Publishers
MS30 -	User Meeting 4 in USA	WP3	Month 15	Minutes on Website - June 2014 - Harvard
MS31	Producer Meeting	WP3	Month 15	At UU; Minutes on Website - September 2014-
MS32	Review Committee	WP2	Month 16	Meeting organised by OBSPARIS, with local organisation at UCAM- September 2015
MS33	External Partner Meeting	WP2	Month 17	Located at UCL - done differently - see list of meetings
MS34	Expert Group Meeting 2	WP2	Month 17	Located at UCL – Same as External Partner Meeting done differently - see list of meetings
MS35	Education Workshop 5.1, 5.2, 5.3	WP3	Month 18	At KOELN, UCL, UU; Minutes on Website KOELN replaced by Additional User Meeting UCL -- replaced by a Citizen Meeting in Year 1 (see report Task4-WP3) - DONE UU -- done at UCAM Annual Meeting- Sept 2014
MS36	Citizens/SMEs Meetings 5.1, 5.2, 5.3 REPLACED AT KOELN&UU	WP3	Month 18	At KOELN, UCL, UU; Minutes on Website KOELN replaced by Additional Producer Meeting in the USA UCL - April 2014 - DONE (report done) UU - Additional Producer Meeting
MS37	Working Meetings in non-ERA 3.1, 3.2, 3.3	WP4	Month 18	Organized at UNISA, UFPR, TIFR; Minutes on Website; Tutorials+Producer+User Meetings 3 conferences will be attended in Brazil 1 large meeting in India (report done)+another 1 Attendance of conferences in SA
MS38	Annual Meeting 2	WP2	Month 22	Located at UCAM – Program, Talks, Minutes on Website - OK
MS39	PB Meeting 3	WP1	Month 22	Minutes on Websites - OK
MS40	EPT Meeting 3	WP1	Month 22	Minutes on Websites - OK
MS41	WP2 Board Meeting 3	WP2	Month 22	Board Meeting at UCAM during Annual Meeting 2 OK
MS42	WP3 Board Meeting 3	WP3	Month 22	Minutes on Website. Located at Annual Meeting 2 – UCAM – OK

[3] Month in which the milestone will be achieved. Month 1 marking the start date of the project, and all delivery dates being relative to this start date.

MS43	User Meeting 5	WP3	Month 22	Minutes on Website. Located at UCAM - Annual Meeting 2 - OK
MS44	Producer Meeting 5	WP3	Month 22	At Annual Meeting 2 – UCAM – Minutes on Websites - OK
MS45	WP4 Board Meeting 3	WP4	Month 22	At Annual Meeting 2 – UCAM - OK
MS46	Tutorial 3	WP4	Month 22	At Annual Meeting 2 – UCAM – Material Available OK
MS47	WP5 Board Meeting 3	WP5	Month 22	At Annual Meeting 2 – UCAM – Minutes on Websites - OK