EUROPEAN COMMISSION

Community Research

SEVENTH FRAMEWORK PROGRAMME

TEMPLATE FOR THE TECHNICAL REVIEW REPORT

The template hereafter provides the structure for the technical review report that needs to be prepared by the expert(s) after the review.

For the projects managed by DG RTD and DG ENTR and the Research Executive Agency (REA), technical review reports have to be completed and submitted only via the specific IT reporting tool system (so-called SESAM). A "quick guide" explaining how the users can use this specific IT reporting tool is available at the following address: http://webgate.ec.europa.eu/sesam.

If the expert feels that he/she does not have the competence or the information to answer a question, he/she must declare it in the corresponding sections.

TECHNICAL REVIEW REPORT

Grant Agreement number: 606740

Project Acronym: **GENIUS**

Project title: Gaia European Network for Improved data User Services

Funding Scheme: Call FP7-SPACE-2013-1: SPA.2013.1.2-01 Exploitation of space science and exploration data.

Project starting date: 01/10/2013

Project duration: 42 months

Name of the scientific representative of the project's coordinator and organisation: Dr. Xavier **Luri**, University of Barcelona. xluri@am.ub.es

Project web site: http://genius-euproject.eu/ http://gaiaverse.eu/

Type of technical review:

☑ Periodic regular/foreseen technical review

☐ Unforeseen Technical Review

Period covered by the technical review report: from **01/10/2014** to **30/09/2015**.

Date and place of review meeting (if applicable): **26/10/2015**; University of Barcelona.

Name of expert: Patrick **Moriarty**

Name of expert drafting the report: Patrick **Moriarty**

☑ Individual report

☐ Consolidated report

Name of the Project Officer: Giuseppe Giovanni **Daquino**

1. OVERALL ASSESSMENT

a. Executive summary

Comments, in particular highlighting the scientific/technical achievements of the project, its contribution to the State of the Art and its impact:

The Gaia mission is designed to provide measurements of unprecedented precision for more than one billion celestial objects, thereby providing data which can be used *inter alia* to generate a greatly improved map of the Galaxy. The objective of the GENIUS project is to provide the interface and tools for effective access to the Gaia data archive, empowering users of these data and allowing them to exploit fully the potential of this flagship mission.

The previous review report (covering the period 01/10/2013 – 30/09/2014) already recorded promising progress towards this objective. In the current reporting period (01/10/2014 – 30/09/2015), the Consortium has maintained its momentum. While some minor deviations from the original work plan are noted in later sections, these are unlikely to have a significant impact on the overall project, which appears to be well placed to reach its target by the end of the funding period.

Noteworthy points from this reporting period include:

- refinement and extension of the archive requirements specification
- continued cooperation with the Japanese nanoJasmine and Jasmine teams
- implementation of enhancements to archive system features and tools
- deployment of a prototype visualisation server at ESAC
- upgrade of the CSUC data-mining testbed
- implementation of validation tests at ESAC using real Gaia data (TGAS subset)
- adaptation of the VO tool VOSA for use with the Gaia archive
- highly effective interaction with the Gaia DPAC, particularly CU9
- gaiaverse.eu web portal enhanced and fully operational
- involvement of the External Advisory Board.

☐ Excellent progress (the project has fully achieved its objectives and technical goals for the period or has even exceeded expectations).

☑ Good progress (the project has achieved most of its objectives and technical goals for the period with relatively minor deviations).

☐ Acceptable progress (the project has achieved some of its objectives; however, corrective action will be required)

☐ Unsatisfactory progress (the project has failed to achieve critical objectives and/or is not at all on schedule).

b. Overall recommendations (e.g. on overall modifications, corrective actions at WP level, or re-tuning the objectives to optimise the impact or keep up with the State of the Art, or for other reasons, like best use of resources, re-focusing…).

No major modification to the work plan is required. Although some minor deviations are noted, including delays for a few deliverables (see Section 2c below), these do not represent a critical risk to the project as a whole. However, the status of delayed deliverables should be closely monitored and their delivery duly notified, and particular care should be taken to avoid any further slippages.
No realignment of the objectives is envisaged, and there is no necessity for corrective action in relation to individual Work Packages. There is, however, one administrative issue which must be resolved as a matter of some urgency; this concerns the role of the CSIC/INTA beneficiary, and is detailed in Section 4 below.
Management of the project in this reporting period has been excellent, and the enthusiasm and commitment of the individual participants are commendable. The participants are encouraged to continue their efforts and maintain their focus so as to ensure successful completion of the project. It is particularly important to monitor closely the progress in Work Package 3, most of whose deliverables are concentrated at the endpoint of the project.
Given the significance of the Gaia mission, the contribution of the GENIUS project deserves to be better appreciated. While it is not necessary to replicate existing Gaia publicity material, wider awareness of GENIUS could be achieved with very little effort; for example, groups or websites already promoting the Gaia mission could highlight the GENIUS project, actively advertising the interface it provides as the gateway to exploiting the potential of Gaia and strongly encouraging its use.

2. OBJECTIVES and WORKPLAN

a. Progress towards project objectives: Have the objectives for the period been achieved? In particular, has the project as a whole been making satisfactory progress in relation to the Description of Work (Annex I to the grant agreement)?

✓		
Yes	Partially	No

Comments

There is no doubt that the project as a whole has made excellent progress compared to the formal Description of Work (DoW). For the most part, the specific objectives for this review period have been achieved. While a few deliverables have been delayed to some extent, as discussed below, these instances have been carefully considered and justified, and it is not envisaged that they will impact in any significant way on the overall execution of the project.

b. Progress in individual work packages: Has each work package (WP) been making satisfactory progress in relation to the Description of Work (Annex I of the grant agreement)?

✓		
Yes	Partially	No

Comments

WP1 – Management: See Section 4 below.

WP2 – Tailoring to the end-user community
Progress in Tasks 2.2-2.4 is broadly in line with the DoW. Collection and analysis of user requirements is nominally complete (Deliverable D2.5), though extension and refinement of requirements will continue into 2016. The requirements specification for the projection module (D2.3) has been delivered. Work on surveys and crossmatching algorithms is progressing satisfactorily. The requirements specification for data retrieval across archives (D2.4) has been delivered. For Tasks 2.5-2.6, most of the effort is scheduled for next year but some preliminary work has been done for Task 2.5.

WP3 – Aspects of archive system design
All tasks in this WP are progressing satisfactorily. Considerable effort has been devoted to customising and enhancing data access infrastructure, services and standards, a Web2.0 end-user interface demonstrator (D3.2) has been set up, and preliminary work has been carried out on subsystem containerisation. Milestone 9 (MS9) is delayed by up to six months (Sec. 2c), but this will not adversely affect overall execution of the WP. However, for this WP, it is particularly important to monitor progress carefully, as most of the deliverables are scheduled for delivery only at the end of the project (month 42).

WP4 – Tools for data exploitation
Excellent progress has been made in the tasks for this WP. The visualisation server has been improved, the visualisation client deployed at ESAC, and tests using simulated data with live connections conducted successfully. Tests on a data-mining testbed confirmed the need for a more powerful set up for large-scale testing; an upgraded system is now deployed at CSUC, and work has been done on identifying real use cases for implementation of the data-mining framework. The VO SED analyser, VOSA, has been substantially upgraded, and has been adapted to access Gaia photometry data (this corresponds to D4.3, though the deliverable document makes no reference to GENIUS).

WP5 – Tools for data validation and analysis
This WP (Task 5.1) is closely linked with DPAC CU9, and is well managed through regular teleconferences, progress meetings, and plenary meetings. Task 5.1 also oversees a common software environment and common tools, and integration of the validation software at ESAC. Good progress has been made in Task 5.2, with the internal consistency checking tools (D5.3) delivered on schedule. For Task 5.3, which compares Gaia data with a realistic Galaxy model, tests for proper motion and parallax have been developed, model reliability has been tested, and the tests have been applied to TGAS. Good progress has been made in preparing tests and catalogues to confront with Gaia data (Task 5.4), with prototype external validation tools (D5.6) now operational at ESAC. Some progress is reported on outlier identification (Task 5.5). Progress in developing tests for specific object classes (Task 5.6) has been excellent, but much remains to be done to improve the robustness of the tests.

WP6 – Support activities
This WP deals with simulations and science alerts. So far, only small-scale simulations have been generated, with larger-scale simulations postponed to 2016 (see Sec. 2c); the associated deliverable (D6.3) is correspondingly delayed. This adjustment is a perfectly reasonable realignment of the project schedule in the context of the wider Gaia effort. The second public science alerts prototype (D6.4) was deployed on schedule. This WP made only light use of project resources during the reporting period, with most of the effort now expected in the next two years.

WP7 – Dissemination.
Work in this WP has progressed very well, in line with the DoW. An Editorial Board was set up to define and supervise the content of the community portal, and an enhanced version of the gaiaverse.eu portal was delivered ahead of schedule (D7.3).

c. Milestones and deliverables: Have planned milestones and deliverables been achieved for the reporting period?

☐	✓	☐
Yes	Partially	No

Comments

The vast majority of the deliverables for the period have been delivered on schedule in accordance with the DoW, and most of the milestones for the period were reached satisfactorily. Compared to the original work plan, the following differences are noted in relation to deliverables D1.5, D2.5 and D6.3:

- D1.5: A plenary midterm meeting was originally scheduled for July 2015; while this meeting took place in September 2015 (jointly with the Gaia DPAC CU9), the associated midterm review (MS8) was postponed to November 2015 to coincide with the DPAC plenary meeting. This delay was agreed with the PO at the first-year review meeting of GENIUS and is entirely reasonable.
- D2.5: With the first public release of Gaia data originally scheduled for mid-2015, it had been planned to complete the compilation of user requirements for GENIUS by October 2015. A very comprehensive set of requirements has already been established, and the current status of this task (as of 05/11/15) is considered satisfactory; however, given that public release of Gaia data will not now take place until mid-2016, it is anticipated that further refinements to the requirements will continue until shortly before then. The deliverable is therefore provisionally approved, subject to submission of an updated report by 01/06/2016.
- D6.3: The second catalogue of simulated data was scheduled for delivery by October 2015. However, the requirements for the simulations have changed from the initial provisions, not least because of the evolving Gaia data processing schedule. An updated error model is being developed, to take account of current improvements in understanding of the instruments, and it is now anticipated that the simulations catalogue will not only satisfy Gaia needs but will also support other missions (e.g., PLATO, EUCLID). It is therefore proposed to delay release of the second catalogue data until 2016. While this postponement is acceptable, it is important that the delivery of the catalogue be appropriately notified and monitored.

It is noted that, as was the case for some deliverables in the previous reporting period, the documentation for Deliverable 4.3 makes no reference to the GENIUS project.

MS8-MS12 were scheduled for this reporting period. For MS8, see discussion of D1.5 above. MS10 and MS11 (review of tools for exploitation and validation, respectively) were achieved satisfactorily, with dedicated sessions during the joint GENIUS/CU9 meeting in September 2015. MS 9 (user prototype archive review), set for October 2015, has been postponed by up to six months to align with the CU9 Gaia Data Release 1 rehearsal and GACS beta test; this change is entirely sensible and will not adversely affect the overall project schedule. MS12 (release of prototype archive tools to the community) was also set for October 2015, but is being delayed in line with the change in date of the Gaia DR1 rehearsal.

All of above adjustments are considered to be relatively minor administrative realignments of the work plan, and they are not expected to have any knock-on effects or to impact significantly on the overall project schedule.

DELIVERABLES LIST STATUS			
No.	**Title**	**Suggested Actions (Approve/Reject)**	**Remarks**
1.5	Midterm meeting (plenary)	approve	Delay to 20/11/15 agreed at first-year review; delivery to be notified. See *Comments* above.
1.6	Semestral report 4	approve	Delivered 28/10/2015; delay due to confusion re need for separate semestral report.
2.3	Requirements specification for generic projection module	approve	Delivered 06/10/15 instead of 01/04/15.
2.4	Requirements specification for data retrieval across archives	approve	Delivered 01/10/15 instead of 01/04/15.
2.5	Conclusion of requirements update gathering exercise	approve	Deliverable status satisfactory as of 05/11/15.
3.2	Web2.0 user interface demonstration prototype deployment	approve	
4.3	Delivery of second prototype of exploitation tools	approve	No mention of GENIUS in deliverable documentation.
5.3	Delivery of internal consistency checking tools	approve	Task completed on schedule; documentation submitted 28/10/15.
5.6	Delivery of prototype external validation tools	approve	
6.3	Delivery of second simulated catalogue data	postponed	Delayed to 2016; delivery to be notified. See *Comments* above.
6.4	Deployment of second public science alerts prototype	approve	
7.3	Upgraded public version of the community portal	approve	

d. Relevance of the objectives in the coming periods: Are the objectives for the coming period(s) i) still relevant and ii) still achievable within the time and resources available to the project?

i ☑ Yes ☐ Partially ☐ No

ii ☑ Yes ☐ Partially ☐ No

Comments

(i) The objectives of this project are more relevant and timely than ever, with the Gaia satellite delivering data to the archive and with the first public release of Gaia data now scheduled for mid-2016.

(ii) The Consortium is well capable of completing the project in a timely fashion. Even though release of the first Gaia catalogue has been delayed by nine months compared to the original expectation, the risk of such an eventuality was factored into the GENIUS work plan. The project schedule has been carefully managed to minimise the impact of the delay and to ensure that the objectives of GENIUS can still be achieved within the proposed time frame and using the resources allocated.

e. For Networks of Excellence (NoEs) only:

Has the Joint Programme of Activities been realised for the period, with all activities foreseen satisfactorily completed?

☐ Yes ☐ Partially ☐ No

Comments

Not applicable.

f. For ERA NET only:

Has the Joint Programme of Activities been realised for the period, with all activities foreseen satisfactorily completed?

☐ Yes ☐ Partially ☐ No

Comments

Not applicable.

3. RESOURCES

a. Assessment of the use of resources: To the best of your estimate, have resources used, i.e. personnel resources and other major cost items, been utilised (i) for achieving the progress, (ii) in a manner consistent with the principle of economy, efficiency and effectiveness[1]. Note that both aspects (i) and (ii) have to be covered in the answer.

i

✓ Yes	Partially	No

ii

✓ Yes	Partially	No

Comments

Based on the detailed information furnished by the Consortium via documentation, deliverables and presentations at the review meeting, it is clear that the resources provided have been deployed in a very efficient and effective manner. The funding has been channelled wholly and exclusively into execution of the project, with no evidence of unjustified or excessive expense, and the progress achieved so far represents an excellent return for the resources committed.

b. Deviations: If applicable, please comment on large deviations with respect to the planned resources.

Comments

No major deviations in the use of resources are evident. So far, 48% of overall funding and 51% of person-month allocation have been committed, in line with projections.
A minor adjustment involved the redeployment of a small amount of funding not required for software licences to allow for upgrade of the data-mining testbed at CSUC. This is an entirely reasonable and effective use of the resources.
In addition, with the withdrawal of CSIC from the Consortium, any outstanding funds for this beneficiary will be reallocated to University of Barcelona (see detailed discussion in Section 4c below).

The principles of economy, efficiency and effectiveness: refers to the standard of "good housekeeping" in spending public money effectively. Economy can be understood as minimising the costs of resources used for an activity (input), having regard to the appropriate quality and can be linked to efficiency, which is the relationship between the outputs and the resources used to produce them. Effectiveness is concerned with measuring the extent to which the objectives have been achieved and the relationship between the intended impact and the actual impact of an activity. Cost effectiveness means the relationship between project costs and outcomes, expressed as costs per unit of outcome achieved. Guide to Financial Issues, Version 30/06/2010p.37.

4. IMPLEMENTATION OF THE PROJECT

a. Management: Has the project management been performed as required?

✓		
Yes	Partially	No

Comments

Managing the GENIUS Consortium, comprising as it does thirteen partners in nine countries, represents a very considerable challenge. During this reporting period, management execution has been exemplary, through the efforts of the coordinator and the project manager. Smooth operation of the project is facilitated by a system of monthly teleconferences (enhanced through Webex), a Twiki for internal information exchange, and regular reports.

Given the nature of the GENIUS project, effective coordination with the Gaia Data Processing and Analysis Consortium (DPAC), particularly its Coordination Unit 9 (CU9) is crucial. Such coordination is greatly facilitated by the fact that the coordinator of GENIUS also leads CU9, and is further strengthened through joint teleconferences and the joint plenary meeting held in September 2015.

The External Advisory Board appointed at the end of the previous reporting period has been provided with project reports and other relevant documentation, and will take part in the midterm review (MS8, November 2015). The Board features an impressive line-up, and the project is certain to benefit from its input.

b. Collaboration between beneficiaries: Has the collaboration between the beneficiaries been effective?

✓		
Yes	Partially	No

Comments

It is clear that the beneficiaries in this project have a good understanding both of the overall scope of the project and of the relevance of their individual efforts. Consequently, the level of collaboration and cooperation between the beneficiaries is excellent, and this has contributed in no small part to the substantial progress achieved thus far. Interaction between the beneficiaries is greatly facilitated by the communication infrastructure put in place, including the Twiki, teleconferences, meetings, and the svn system for code and document sharing.

It is to be noted that a number of beneficiaries (UBR, UFC, UNIGE, ULB) whose formal contribution was encompassed entirely within the first two years of the project have expressed their intention to remain involved in the effort using their own funding.

c. Beneficiaries' roles: Do you identify evidence of underperforming beneficiaries, lack of commitment or change of interest of any beneficiaries?

✓		
Yes	Partially	No

Comments

It is important to stress at the outset that there is no implication that any of the researchers engaged in this project are failing in any way in terms of their commitment to, interest in, or performance of any aspect of the project. Indeed, in all these respects, the individual members of the Consortium have performed above expectation.

The issue discussed in this section relates instead to a purely administrative matter involving one of the beneficiaries, which has led to some difficulties in the financial management of the project. The GENIUS project is a collaboration effort between 13 entities, one of which is the Agencia Estatal Consejo Superior de Investigaciones Cientificas (CSIC). CSIC itself is an umbrella organisation for multidisciplinary research which has 135 institutes/centres throughout Spain, including the Centro de Astrobiologia (CAB) in Madrid. CSIC joined the GENIUS Consortium on the basis of the significant contribution to be made by Dr. E. Solana at CAB. However, CAB is itself a joint venture between CSIC and INTA, the Instituto Nacional de Tecnica Aerospacial, and it subsequently transpired that Dr. Solano's employment at CAB is with INTA, and that his work cannot be funded through CSIC – a fact that only became apparent after Dr. Solano had already invested considerable effort in GENIUS in line with the project's DoW. To resolve this issue, it is proposed that CSIC will resign from the Consortium while INTA will be installed as a beneficiary as of the commencement of the project, so that work already done by Dr. Solano can be duly funded; in addition, the outstanding CSIC budget will be reallocated for administration by the University of Barcelona so that contracts required for future INTA work can be expedited. It is crucial that this resolution of the issue be implemented as a matter of urgency.

5. USE AND DISSEMINATION OF FOREGROUND

a. Impact: Is there evidence that the project has/will produce significant scientific, technical, commercial, social, or environmental impacts (where applicable)?

✓			
Yes	Partially	No	Not applicable

Comments

There is no question that this project will have enormous impact at a variety of levels. The Gaia mission is a major European success story, and the precision data it will deliver for more than a billion objects over its projected lifetime will be a treasure trove for decades to come. In terms of resources, the GENIUS project is a relatively small part of the overall Gaia endeavour, but its role is crucial in providing the exploration, visualisation and analysis tools needed for full and effective exploitation of Gaia data.

The cooperation among the project beneficiaries, and their interaction with the wider Gaia community, strengthens the European research effort and demonstrates clearly the benefits of pan-European collaboration.

Furthermore, GENIUS has the potential for significant impact beyond the scientific community, using the web portal to engage public attention, promote the Gaia mission and European scientific research in general, and foster among the people of Europe a sense of ownership of the products deriving from projects of this nature.

The degree and quality of the access provided by GENIUS to the wealth of information delivered by Gaia will have a significant impact not only for professional astronomers, but also for amateur astronomers, for school and college astronomy-related projects, and for members of the general public interested in hands-on investigation of the Galaxy or of the properties of specific classes of celestial object.

a.1. Is there an impact on participating Small and Medium Enterprises (SMEs)?

			✓
Yes	Partially	No	Not applicable

Comments

No SME beneficiaries.

a.2. Is there an exploitation potential for the participating SMEs?

☐	☐	☐	☑
Yes	Partially	No	Not applicable

Comments

No SME beneficiaries.

b. Use of results: Is the plan for the use of foreground, including any update, appropriate? Namely, please comment on the plan for the exploitation and use of foreground for the consortium as a whole, or for individual beneficiary or groups of beneficiaries and its progress to date.

☑	☐	☐
Yes	Partially	No

Comments

The primary output of GENIUS will be the tools developed for access to and effective exploitation of the Gaia catalogue. These tools will benefit the European astronomical community as a whole, the beneficiaries themselves, and potentially the wider public.

The plans for releasing the project results, and for maintaining and updating the tools as required, are entirely appropriate and have been progressing broadly as scheduled. It is anticipated that operational and fully documented final versions of the tools will be delivered on schedule.

In the course of developing the infrastructure required to access and exploit the Gaia data, a number of advances have already been made which have proved useful to the members of the Consortium, and which will also benefit other projects and missions, particularly where massive datasets are involved (for example, enhancements to VO tools and protocols, visualisation techniques, virtual machines, models of the Galaxy, simulations, and statistical analysis).

c. Dissemination: Have the beneficiaries disseminated project results and information adequately (publications, conferences…)?

☑	☐	☐
Yes	Partially	No

Comments

The GENIUS project *per se* is not designed to produce scientific results, but rather to facilitate the exploitation of the Gaia catalogue, which will of course lead to many important discoveries. Consequently, the main thrust of dissemination efforts for the project has centred on development of the gaiaverse portal, coordinated with other Gaia-related websites. Thus far, the measures for disseminating information related to the project have been appropriate, for example, via the portal and by announcing availability of tools such as the science alerts prototype through appropriate fora. As noted in the previous review report, it may be appropriate to highlight publications which include GENIUS-derived results. In addition, the Consortium should be proactive in publicising and promoting the project to the wider public, making every effort to encourage use of gaiaverse, not only as a source of information about and celebration of the Gaia mission, but as a genuine portal giving the ordinary European access to the reality of the Galaxy.

d. Please identify potential information that should be disseminated to:

- Policy makers

There is no project-specific information of relevance to policy makers.

- The scientific community

General information about the objectives and progress of the project.
Information about availability of new versions or prototypes developed in the course of the project. While such information is already being distributed fairly satisfactorily, efforts could perhaps be made to broaden the scope of the distribution.

- The general public

General information about the project, its objectives and progress, and how it complements the Gaia mission. This information is already being disseminated well by means of the gaiaverse portal. However, as mentioned in Section 5c above, efforts could be made to advertise the existence of the portal, and to promote and encourage use of the Gaia catalogue by everyone, not just professional or amateur astronomers.

- A specific group of end users

Two specific groups of end users may be mentioned: (i) teachers and students in schools and colleges and (ii) amateur astronomers. The information of relevance to these end users is broadly similar to that provided to the general public, but could be more specifically tailored. In the case of teachers/students, for example, this might take the form of suggestions for suitable projects, together with advice on how to go about applying the GENIUS tools to them. Contacts have already been established with amateur astronomers in the context of the Gaia Archive Preparations; it can be expected that these users will be particularly interested in information about the development and operation of the science alerts system.

e. Involvement of potential users and stakeholders: Are potential users and other stakeholders (outside the consortium) suitably involved (if applicable)?

✓			
Yes	Partially	No	Not applicable

Comments

As noted in previous sections, potential users of the Gaia archive include not only the astronomical community but also amateur astronomers, teachers, students, and even the general public. The GENIUS project already explicitly incorporates input from professional and amateur astronomers to establish the requirements which drive design of the catalogue interface and development of the underlying infrastructure. The Gaia mission, the cornucopia of data it delivers, and the right to full and effective access to the archive containing these data belong to all the people of the European Union. GENIUS will provide that access. The Consortium should make every effort to publicise that facility and to encourage the widest possible range of users to exploit it.

f. Links with other projects and/or programmes: Is the consortium interacting in a satisfactory manner with other related Framework Programme projects and/or other R&D national/international programmes, standardisation bodies (if relevant), existing relevant networks?

✓		
Yes	Partially	No

Comments

GENIUS is not a stand-alone project, and links with other programmes are crucial. In that respect, interaction between the Consortium and other groups has been excellent. In particular, GENIUS is very closely aligned with the Gaia DPAC, particularly its CU9; GENIUS and DPAC have many members in common, and indeed the coordinator of GENIUS also leads CU9. Shared meetings and teleconferences, involving participants from both GENIUS and CU9, have contributed greatly to efficient coordination. GENIUS also interacts well with the nanoJasmine and Jasmine projects in Japan, with the Japanese beneficiary (Kyoto University) deeply involved in those projects. In addition, involvement of GENIUS partners in VO projects has contributed significantly to progress in the development of the data exploitation framework.

6. OTHER ISSUES

If applicable comment on whether other relevant issues (e.g ethical, policy-related/regulatory, safety and gender issues) have been handled appropriately.

✓		
Yes	Partially	No

Comments

There are no ethical, regulatory, or safety issues associated with this project.

As regards gender issues, the Consortium has been proactive in its approach to gender balance both among its own members and in the composition of its External Advisory Board, and has adopted a number of measures to facilitate effective participation by female researchers. The Consortium is to be commended on its efforts in these areas.

7. FLAG THE PROJECT

☐ Highlight as a success/case story

☒ High visibility/media attractive project

☐ Substantial R&D breakthrough character

☐ Project linked to R&D national/international programmes

☐ Project with an impact on EU policies (click on which EU policy: http://ec.europa.eu/policies/index_fr.htm)

☐ Project with an impact on promoting Joint Programming (especially for ERA-NET)

☐ Outstanding Use/Exploitation of results

☐ Significant R&D participation from outside EU

☐ Involvement of non-RTD actors in the field (economic, policy makers, civil society, end-users, standardisation bodies…)

☒ Good innovation potential

☐ No Flag

☐ Other

Comments

Name of the expert:	Patrick Moriarty
Date:	10 November 2015
Signature: