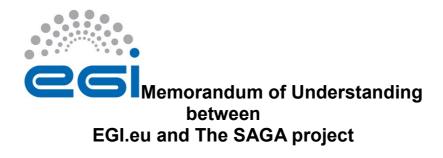
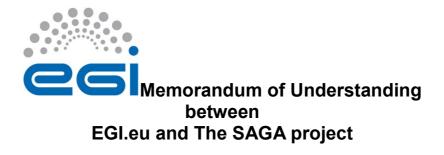
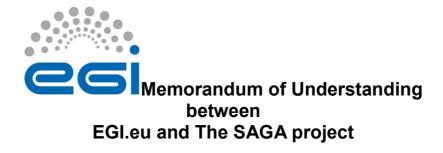


Memorandum of Understanding between EGI.eu and The SAGA Project





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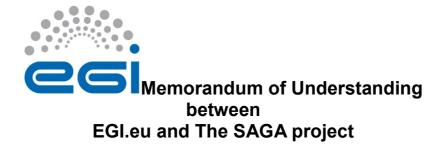


BACKGROUND

The Stichting European Grid Initiative Foundation (hereafter referred to as "EGI.eu") has been created under the Dutch law with the mission to create and maintain a pan-European Grid Infrastructure in collaboration with its Participants, i.e. the National Grid Initiatives (NGIs), and Associated Participants (e.g. European International Research Organisations - EIROs) in order to guarantee the long-term availability of a generic e-infrastructure for all European research communities and their international collaborators. In its role of coordinating grid activities between European NGIs EGI.eu will: 1) operate a secure integrated production grid infrastructure that seamlessly federates resources from providers around Europe; 2) coordinate the support of the research communities using the European infrastructure coordinated by EGI.eu; 3) work with software providers within Europe and worldwide to provide high-quality innovative software solutions that deliver the capability required by our user communities; 4) ensure the development of EGI.eu through the coordination and participation in collaborative research projects that bring innovation to European Distributed Computing Infrastructures (DCIs). A summary of EGI.eu is attached as Annex 1.

The SAGA Project (hereafter referred to as "SAGA") represents a community of developers and end users, which collectively work to (1) create and maintain the SAGA API specification documents, (2) implement the SAGA API and its middleware bindings, (3) create higher level of programming abstractions based on SAGA, and (4) deploy and support the SAGA implementations on a variety of DCIs. SAGA is an active project since about 2003, and spans, as a rough estimate, about 20 academic groups from about 10 countries, and a number of individual contributors. A more detailed description of the SAGA Project is attached as Annex 1.

ARTICLE 1: PURPOSE



The purpose of this Memorandum of Understanding (MoU) is to define a framework of collaboration between EGI.eu and SAGA (hereafter also referred to as "the Party" or the "Parties"). The Parties recognise, by this MoU, the opening of a wider and longer-term cooperation in activities which will bring visible benefits.

ARTICLE 2: JOINT WORK PLAN

The parties contribute to enable the vision of providing European scientists and international collaboration for sustainable distributed computing services to support their work. In this broad context, the specific goals of the collaborations are:

- to provide robust, well-designed, user-centric services to scientific user communities
- to define and monitor SLA for third-level support on incidents and requests
- to accelerate the development of standards within production grid infrastructures
- to disseminate the results of this collaboration within the remit of each project's dissemination and communication activities such as joint events
- to exchange ideas and collaborate on the definition of sustainability models
- to collaborate in business relationships development

The specific activities to be carried out in the framework of the collaboration are 1:

A.1 User and operation-centric Software

Parties Involved: EGI.eu (Michel Drescher); SAGA (Shantenu Jha)

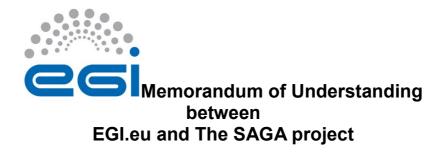
Description of work: evolve software and tools based on requirements gathered through EGI-InSPIRE and SAGA within the various scientific communities within EGI and expressed through the EGI Technology and UMD Roadmaps; particular focus on finding a common strategy in the setup and deployment of tools for service access.

Expected outcome:

M1.1: Input from SAGA to the regular revisions of the UMD Roadmap

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¹Party leading the activity is underlined.



M1.2: Participation of SAGA into regular requirements gathering activities undertaken by EGI which will be reported to the UCB A.2 Standards Parties Involved: EGI.eu (Sergio Andreozzi, Michel Drescher), SAGA (Andre Merzky) Description of work: contribute, steer and advance high-priority standards as identified in the EGI Standards Roadmap (Deliverables D2.5/12/19/24) and in the roadmap of the OGF's SAGA Working Group. **Expected outcome:** M2.1: Define a prioritised list of standards relevant to both projects and a roadmap for their adoption within EGI-InSPIRE and SAGA. Updated annually for inclusion in EGI-InSPIRE Standards Roadmap and OGF's SAGA Working Group roadmap M2.2: Release of software components supporting standards based interfaces and their deployment into production A.3 Operational Support Parties Involved: EGI.eu (Tiziana Ferrari), SAGA (Andre Merzky) **Description of work:** agree and monitor SLA. **Expected outcome:** third-level user support for incidents and requests M3.1: Establish and sign an SLA for third-level incident support, general user support requests, the delivery of any software for inclusion in UMD to the specified requirements (i.e. functional, non-functional, quality, etc.) M3.2: Review the SLA after 12 months from signing M3.3: Review the SLA after 24 months from signing A.4 Dissemination Parties Involved: EGI.eu (Catherine Gater), SAGA (Shantenu Jha) Description of work: disseminate the progress and final results of the collaboration within EGI and SAGA communities. **Expected outcome:** M4.1: Advertise the start of the collaboration in each party website with a dedicated static page, article and press releases M4.2: Joint technical sessions at EGI and SAGA community events disseminating the progress and results of the collaboration A.5 Sustainability Models

Parties Involved: EGI.eu (Sergio Andreozzi), SAGA (Ole Weidner)

Description of work: in work supported by EGI-InSPIRE explore how EGI.eu through its participants (NGIs and EIROs) can help sustain the software provided by SAGA that it relies on. This should include a periodic survey of which communities use the SAGA software, a survey of successful business models for sustaining open source projects and the identification of possible strategies to integrate the SAGA sustainability plan into the larger EGI sustainability plan. The possibility to develop joint strategy for engaging business partners should also be considered.

Expected outcome:

☐ M5.1: Survey of user base for SAGA software in EGI. Updated annually.
☐ M5.2: Survey of sustainability strategies for open source projects.
Explore joint sustainability strategies for the SAGA software and EGI. Updated annually for inclusion in the deliverables related to EGI-InSPIRE and SAGA Sustainability Plans, and their relation to SAGA's community activities

A.6 Training

Parties Involved: EGI.eu (Steve Brewer, Gergely Sipos), SAGA (Ole Weidner) **Description of work:** develop complementary training strategy focusing on software installation, configuration and usage by end users.

Expected outcome:

☐ M6.1: Training sessions at EGI and SAGA events with SAGA training EGI.eu and NGI trainers as required

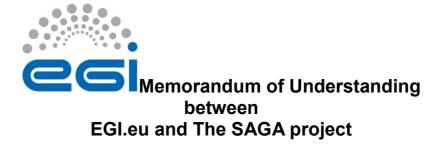
ARTICLE 3: TIMELINE AND REPORTING

The EGI.eu Policy Development Team (PDT) will coordinate the periodic review of the progress of the activities defined in Article 2 (Joint Work Plan), follow-up the milestones defined below and distribute reports to both Parties. Special meetings between the points of contact designated under Article 4 (Communication) shall be held, as often as necessary, to examine the progress in the implementing of this Agreement.

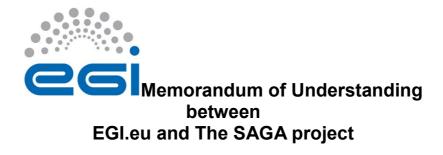
Date ²	Activity	Additional Information
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²If not specified, the deadline is the last working day of the month

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04/2011	M4.1	The milestone is achieved by advertising the start of the collaboration
04/2011	M3.1	The milestone is achieved by signing the SLA
06/2011	M1.1	Requires a report listing the inputs to the UMD Roadmap for the EGI-InSPIRE deliverable due in Jul 2011 (report led by SAGA, Andre Merzky)
08/2011	M2.1	Requires a report listing the standards relevant to both projects and a roadmap for their delivery to be used as input to the Standards Roadmap for the EGI-InSPIRE deliverable update due in Sep 2011 (report led by EGI.eu, Sergio Andreozzi)
11/2011	M4.2	Requires a report on dissemination activities (report led by EGI.eu, Catherine Gater)
12/2011	M1.1 (update)	Requires a report listing the inputs to the UMD Roadmap for the EGI-InSPIRE deliverable due in Jan 2012 (report led by SAGA, Andre Merzky)
31/2011	M5.1	Requires a survey to evaluate the user base for SAGA software in EGI (report led by EGI.eu, Tiziana Ferrari)
01/2012	M5.2	Requires a report providing a survey on sustainability strategies for open source projects and exploring joint sustainability strategies for the SAGA software and EGI to also be considered as input for the EGI-InSPIRE Deliverable D2.13 (report led by EGI.eu, Sergio Andreozzi)
04/2012	M3.2	The milestone is achieved by revising the SLA
06/2012	M1.1 (update)	Requires a report listing the inputs to the UMD Roadmap for the EGI-InSPIRE deliverable due in Jul 2012 (report led by SAGA, Andre Merzky)
08/2012	M2.1 (update)	Requires a report listing the standards relevant to both projects and a roadmap for their delivery to be used as input to the Standards Roadmap for the EGI-InSPIRE deliverable update due in Sep 2012 (report led by EGI.eu, Sergio Andreozzi)
11/2012	M4.2 (update)	Requires a report on dissemination activities (report led by EGI-InSPIRE, Catherine Gater)
12/2012	M1.1	Requires a report listing the inputs to the UMD Roadmap for



	(update)	the EGI-InSPIRE deliverable due in Jan 2013 (report led by SAGA, Andre Merzky)
01/2013	M5.1 (update)	Requires a report providing a survey on sustainability strategies for open source projects and exploring joint sustainability strategies for the SAGA software and EGI to also be considered as input for the EGI-InSPIRE Deliverable D2.20 (report led by EGI.eu, Sergio Andreozzi)
04/2013	M3.3	The milestone is achieved by revising the SLA

ARTICLE 4: COMMUNICATION

The Parties shall keep each other informed on all their respective activities and on their progress and shall consult regularly on areas offering potential for cooperation. Joint working groups may be established to examine in detail proposals in areas assigned to them by the Parties referred to in Article 2 (Joint Work Plan) and to make recommendations to the Parties.

Each Party shall designate a "point of contact" that shall be responsible for monitoring the implementation of this MoU and for taking measures to assist in the further development of cooperative activities. Such points of contact shall be the ordinary channel for the Parties' communication of proposals for cooperation. The primary point of contact for each Party is:

EGI.eu: Sergio Andreozzi (sergio.andreozzi@egi.eu)
SAGA: Shantenu Jha (sjha@cct.lsu.edu)

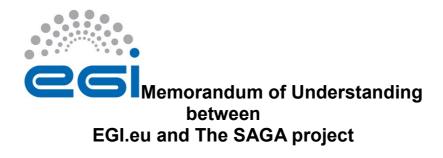
Questions of principle or problems that cannot be solved at primary contact level are escalated to the EGI.eu Director and the SAGA Project Director.

ARTICLE 5: PARTICIPATION IN EGI.EU GROUPS

SAGA agrees to name a technical representative (with deputy) for the EGI Technical Board (TCB): Andre Merzky (Shantenu Jha).

SAGA agrees to name a technical representative (with deputy) for the EGI Security Coordination Group (SCG): Andre Merzky (Shantenu Jha).

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SAGA agrees to regularly attend the meetings of EGI TCB and SCG as observer. SAGA will become a voting member in both groups after signing the SLA.

ARTICLE 6: RIGHTS AND RESPONSIBILITIES

The procedure is set out in Annex 3.

ARTICLE 7: FUNDING

Each Party shall bear the costs of discharging its respective responsibilities under this MoU, including travel and subsistence of its own personnel and transportation of goods and equipment and associated documentation, unless otherwise agreed in this MoU.

Each Party shall make available free of charge to the other Party any office/meeting space needed for the joint activities.

The Parties' obligations hereunder are subject to their respective funding procedures and the availability of appropriated funds. Should either Party encounter budgetary problems in the course of its respective internal procedures that may affect the activities carried out under this MoU, that Party shall notify and consult with the other Party in a timely manner in order to minimise the negative impact of such problems on the cooperation. The Parties shall jointly look for mutually agreeable solutions.

In order to reduce the impact on travel costs, face-to-face meetings should be colocated with other events where participants are likely to attend. Meeting via teleconferences should be considered when the nature of the discussion does not strictly require a face-to-face presence.

ARTICLE 8: ENTRY INTO FORCE, DURATION AND TERMINATION

This MoU will enter into force when signed by the authorized representatives and shall remain in force until completion of the activities identified in Article 2 (Joint Work Plan), or upon termination of the projects in which the Parties participate, or upon three (3) months prior written notice by one Party to the other. In the event of termination, the parties shall endeavour to reach agreement on terms and conditions to minimise negative impacts on the other Party. In the event of the continuation of the present cooperation, the Agreement may be extended and/or amended by mutual agreement in writing.

ARTICLE 9: AMENDMENTS

The MoU may be amended by written agreement of the Parties. Amendments shall be valid only if signed by the authorized representatives of the Parties.

ARTICLE 10: ANNEXES

Annexes 1, 2, 3 and 4 attached hereto have the same validity as this MoU and together constitute the entire understanding and rights and obligations covering the cooperation accepted by the Parties under this MoU. Annexes may be amended following the provisions of Article 9 (Amendments).

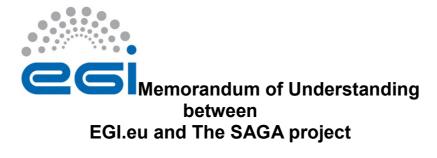
ARTICLE 11: LANGUAGE

The language for this MoU, its interpretation and all cooperative activities foreseen for its implementation, is English.

ARTICLE 12: GOVERNING LAW - DISPUTE RESOLUTION

The terms of this MoU shall be interpreted in accordance with their true meaning and effect independently of national and local law. Provided that if and insofar as this MoU does not stipulate, or any of its terms are ambiguous or unclear reference shall be made to the substantive laws of Belgium. Disputes shall be resolved by amicable settlement or failing which by arbitration in accordance with the procedure set out in Annex 4.

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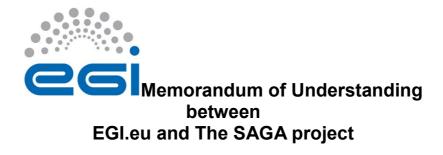
Memorandum of Understanding between EGI.eu and The SAGA Project

IN WITNESS WHEREOF, the Parties have caused their duly authorised representatives to sign two originals of this Memorandum of Understanding, in the English language.

The following agree to the terms and conditions of this MoU:

Dr. Steven Newhouse	Dr. Shantenu Jha
EGI.eu Director	The SAGA Project, Project Lead
Date	Date

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Annex 1 EGI.eu Description

To support science and innovation, a lasting operational model for e-Infrastructure is needed – both for coordinating the infrastructure and for delivering integrated services that cross national borders. The objective of EGI.eu (a foundation established under Dutch law) is to create and maintain a pan-European Grid Infrastructure in collaboration with National Grid Initiatives (NGIs) and EIROs in order to guarantee the long-term availability of a generic e-infrastructure for all European research communities and their international collaborators.

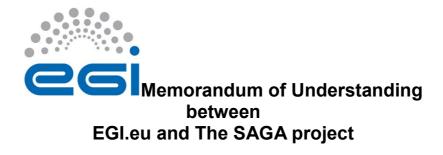
In its role of coordinating grid activities between European NGIs, EGI.eu will:

- Operate a secure integrated production grid infrastructure that seamlessly federates resources from providers around Europe
- Coordinate the support of the research communities using the European infrastructure coordinated by EGI.eu
- Work with software providers within Europe and worldwide to provide highquality innovative software solutions that deliver the capability required by our user communities
- Ensure the development of EGI.eu through the coordination and participation in collaborative research projects that bring innovation to European Distributed Computing Infrastructures (DCIs)

The EGI.eu is supporting 'grids' of high-performance computing (HPC) and high-throughput computing (HTC) resources. EGI.eu will also be ideally placed to integrate new Distributed Computing Infrastructures (DCIs) such as clouds, supercomputing networks and desktop grids, to benefit the user communities within the European Research Area.

EGI will collect user requirements and provide support for the current and emerging user communities. Support will also be given to the current heavy users of the infrastructure, such as high energy physics, computational chemistry and life sciences, as they move their critical services and tools from a centralised support model to one driven by their own individual communities.

The EGI community is a federation of independent national and community resource providers, whose resources support specific research communities and international 5 April 2011



collaborators both within Europe and worldwide. EGI.eu, coordinator of EGI, brings together partner institutions established within the community to provide a set of essential human and technical services that enable secure integrated access to distributed resources on behalf of the community.

The production infrastructure supports Virtual Research Communities – structured international user communities – that are grouped into specific research domains. VRCs are formally represented within EGI at both a technical and strategic level.

Annex 2 SAGA Project Description

The core of the SAGA project is organized around the open source software project (http://saga.cct.lsu.edu), led by Prof. Shantenu Jha, with Andre Merzky and Ole Weidner leading the OGF Specification and Project Management aspects of the Project. Funding for the SAGA project has come from multiple sources, including US NSF, UK EPSRC, internal research funds from LSU, Rutgers University and NIH. The team has worked together for more than 4 years and will be funded at current levels for the immediate future. Multiple proposals are being developed for core development and extension to work with production grid infrastructure, such as NSF XD. SAGA has collaborators and contributors in major projects and many countries.

The SAGA community is approximately 100 people, in approximately 10 countries. The primary components of the SAGA community in addition to the core team described above comprises of:

- OGF specification community
- Core (C++) development community / group
 - related development efforts
 - JavaSAGA
 - jSAGA
 - Python
 - adaptor development efforts
- user community
 - diverse backgrounds
 - scientists
 - students
 - DCI operators
 - MW and tool developers
 - deployments
 - contributions
 - higher level frameworks/abstractions
 - feedback, tickets
 - adaptors

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Annex 3 Rights and Responsibilities

A. GENERAL

- 1. SAGA agrees to adhere to applicable policies and procedures relating to the use of the production infrastructure.
- 2. A Party which makes material, equipment or components available to the other Party, for the purposes of activities under this MoU shall remain the proprietor of such material, equipment or components.
- 3. Each Party shall remain fully responsible for its own activities, including the fulfilment of its obligations under any grant agreement with the European Commission or under any consortium agreement related thereto.

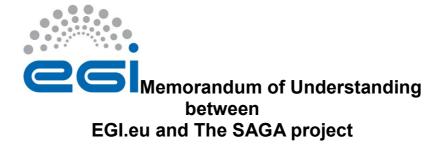
B. PERSONNEL

- 1. Each Party shall be solely responsible for any personnel hired to carry out work under this MoU.
- 2. In case personnel employed by one Party temporarily carries out work under this MoU on the premises of another (hereafter referred to as "secondment"), the following provisions shall apply:
- (a) The persons seconded shall be subject to all regulations, including, in particular, safety regulations, applicable on the site of the Party they are seconded to.
- (b) The personnel seconded by a Party to another shall remain employees of the Party having seconded them and such Party, as employer, shall bear exclusive responsibility for the payment of salary and for the procurement of adequate social security and insurance, including third party liability insurance and health insurance.
- (c) Unless otherwise agreed by the Parties concerned, Intellectual Property Rights generated by personnel seconded by a Party to another shall be owned by the Party having seconded such personnel.

C. INTELECTUAL PROPERTY RIGHTS AND LICENSE

1. "Intellectual Property Rights" shall mean all intellectual creations including but not limited to inventions, know-how, layouts, drawings, designs, specifications, computer programs, reports, processes, protocols, calculations and any other matter and protected by intellectual property rights, whether registered or not, including patents, registered designs, copyrights, design rights and all similar proprietary rights and applications for protection thereof.

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- 2. Intellectual property rights generated by a Party under this MoU shall be the property of that Party who shall be free to protect, transfer and use such Intellectual Property Rights as it deems fit.
- 3. Notwithstanding the foregoing each Party shall grant the other a non-exclusive royalty free, perpetual license to use the Intellectual Property Rights generated by it under this MoU for use within its project or for the exploitation the results thereof. Such license shall include the right to sublicense the entities involved in the project.

D. JOINTLY OWNED RESULTS

- 1. Results that were jointly generated by both Parties will be jointly owned by the Parties, hereinafter referred to as ("Jointly Owned Results") and each of the Parties shall be free to use these Jointly Owned Results as it sees fit without owing the other Party any compensation or requiring the consent of the other Party. Each Party, therefore, for example and without limitation, has the transferable right to grant non-exclusive, further transferable licenses under such Jointly Owned Results to third parties. Each Party shall be entitled to disclose such Jointly Owned Results without restrictions unless such Jointly Owned Results contain a Joint Invention in which case no disclosure must be made prior to the filing of a priority application.
- 2. With respect to any joint invention resulting from this MoU (i.e. any invention jointly made by employees of both Parties), the features of which cannot be separately applied for as Intellectual Property Rights and which are eligible for statutory protection requiring an application or registration (herein referred to as "Joint Invention"), the Parties shall agree on which Party will carry out any filling as well as any further details with regard to persecuting and maintaining of relevant patent applications.

E. PUBLIC RELATIONS

- 1. Any publication by a Party resulting from the activities carried out under this MoU shall be subject to prior agreement of the other Party not be unreasonably withheld.
- 2. EGI.eu and SAGA may each release information to the public, provided it is related only to its own part of the activities under this MoU. In cases where the activities of the other Party are concerned prior consultation shall be sought. In all relevant public relations activities, the contribution of each Party related to activities covered by this MoU shall be duly acknowledged.

F. CONFIDENTIALITY OF INFORMATION

1. The Parties may disclose to each other information that the disclosing Party deems confidential and which is (i) in writing and marked "confidential", or (ii) disclosed orally, and identified as confidential when disclosed, and reduced in writing 5 April 2011

and marked "confidential" within fifteen (15) days of the oral disclosure (hereafter referred to as "Confidential Information"). Confidential Information shall be held in confidence and shall not be disclosed by the receiving Party to any third party without the prior written consent of the disclosing Party.

2. Notwithstanding the foregoing a Party is entitled to disclose Confidential Information which it is required by law to disclose or which, in a lawful manner, it has obtained from a third party without any obligation of confidentiality, or which it has developed independently from any Confidential Information received under this MoU, or which has become public knowledge other than as a result of a breach on its part of these confidentiality provisions.

G. LIABILITY

- 1. Each Party shall use reasonable endeavours to ensure the accuracy of any information or materials it supplies to the other Party and of any other contribution it makes hereunder and promptly to correct any error therein of which it is notified. The supplying Party shall be under no obligation or liability other than as stated above and no warranty or representation of any kind is made, given or to be implied as to the sufficiency, accuracy or fitness for a particular purpose of such information, materials or other contribution or as to the absence of any infringement of any proprietary rights of third parties through the possession or use of such information, materials or other contribution. The recipient Party shall be entirely responsible for its use of such information, materials or other contribution and shall hold the other Party free and harmless and indemnify it for any loss or damage with regard thereto.
- 2. Except in case of gross negligence or wilful misconduct, neither Party shall be liable for any indirect or consequential damages of the other Party, including loss of profit or interest, under any legal cause whatsoever and on account of whatsoever reason.

H. PARTICIPATION IN SIMILAR ACTIVITIES

1. Parties are not prevented by this MoU from participating and activities similar to those described in this document with third parties. There is no obligation to disclose any similar activity to the other party. However, when considered of mutual benefit, both parties are encouraged to involve the other party in similar activities to the goal of disseminating the knowledge about EGI.eu.

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Annex 4 Settlement of Disputes

- 1. All disputes or differences arising in connection with this MoU which cannot be settled amicably shall be finally settled by arbitration in accordance with the procedure specified below which shall be adapted in the light of the number of Parties involved.
- 2. Within thirty (30) calendar days of written notification by a Party to the other Party of its intention to resort to arbitration, the first Party shall appoint an arbitrator. The second Party shall appoint an arbitrator within three (3) months of the appointment of the first arbitrator. The two arbitrators shall, by joint agreement and within ninety (90) calendar days of the appointment of the second arbitrator, appoint a third arbitrator, who shall be the Chairman of the Arbitration Committee.
- 3. If the second Party fails to appoint an arbitrator or the two arbitrators fail to agree on the selection of a third arbitrator, the second or, as the case may be, the third arbitrator, shall be appointed by the President of the Court of Justice of the European Communities.
- 4. Unless otherwise agreed by the Parties concerned within thirty (30) calendar days of the provision of notice referred to in Article 12 above, the arbitration proceedings shall take place in Brussels and shall be conducted in English. The Parties shall within one month of the appointment of the third arbitrator agree on the terms of reference of the Arbitration Committee, including the procedure to be followed.
- 5. The Arbitration Committee shall faithfully apply the terms of this MoU. The Arbitration Committee shall set out in the award the detailed grounds for its decision.
- 6. The award shall be final and binding upon the Parties, who hereby expressly agree to renounce any form of appeal or revision.
- 7. The costs including all reasonable fees expended by the Parties to any arbitration hereunder shall be apportioned by the Arbitration Committee between these Parties.

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