



Memorandum of Understanding between EGI-InSPIRE and SHIWA





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BACKGROUND

The "Integrated Sustainable Pan-European Infrastructure for Researchers in Europe" project (hereafter referred to as "EGI-InSPIRE")¹ supports the transition from a project-based system to a sustainable pan-European e-Infrastructure, by supporting 'grids' of High-Performance Computing (HPC) and High-Throughput Computing (HTC) resources. EGI-InSPIRE, supported by EGI-InSPIRE, the central organization that provides a coordinating hub for European DCIs and 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 (ERA). A summary of EGI-InSPIRE is attached as Annex 1.

The - SHaring Interoperable Workflows for large-scale scientific simulations on Available DCIs² (hereafter referred to as "SHIWA") - is a combination of Collaborative projects & Coordination and support actions of the Seventh Framework Programme of the European Community (2010-2012) coordinated by MTA SZTAKI and funded by the EU to achieve the goals of the Capacities- Research Infrastructures activity area. The SHIWA project's main goal is to leverage existing workflow based solutions and enable cross-workflow and inter-workflow exploitation of DCIs by applying both coarse- and fine-grained strategies. The coarse-grained (CG) approach enables to combine workflows written in different workflow languages in order to reuse existing reuse and combine existing workflow applications written in various workflow languages. The CG approach treats existing workflows as black box systems that can be incorporated into other workflow applications as workflow nodes. The fine-grained approach addresses language interoperability by defining an intermediate representation to be used for translation of workflows across various systems (ASKALON, Pegasus, P-Grade, MOTEUR, Triana). SHIWA develops, deploys and operates the SHIWA Simulation Platform to offer users production-level services supporting workflow interoperability following both approaches. As part of the SHIWA Simulation Platform the SHIWA Repository facilitates publishing and sharing workflows, and the SHIWA Portal enables their actual enactment. Use cases targeting various scientific domains will serve to drive and evaluate this platform from a user's perspective. A summary of SHIWA is attached as Annex 2.

Institutions common to both projects are: MTA SZTAKI and CNRS.

ARTICLE 1: PURPOSE

The purpose of this Memorandum of Understanding (MoU) is to define a framework of collaboration between EGI-InSPIRE and SHIWA (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 that will bring visible benefits.

¹ http://www.egi.eu/projects/egi-inspire/

² <u>http://www.shiwa-workflow.eu</u>





ARTICLE 2: DEFINITIONS

For the purpose of this MoU:

- a) The term Virtual Research Community (VRC) refers to a group of large-scale research collaborations, or a number of separate VOs grouped according to research domain or computational technique. The group shares information and experience in achieving their goals through the usage of an e-Infrastructure (e.g., best practices, applications, training material).
- b) The term European Grid Infrastructure (EGI) refers to the production infrastructure the federated resources brought together by the participants within EGI.eu, or made accessible to the VRC through various MoUs that EGI.eu coordinates on behalf of the EGI community.

ARTICLE 3: 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:

- 1. VRC Integration
- 2. Dissemination

The specific activities to be carried out in the framework of the collaboration are^{$\frac{3}{2}$}:

A.1 VRC Integration

Parties Involved: <u>EGI-InSPIRE NA2.5 Task Leader (Gergely Sipos, EGI.eu)</u>; SHIWA Technical Coordinator (Kitti Varga, SZTAKI)

Description of work: This activity will explore the use of the SHIWA Competence Center and its solutions for integrating workflow based applications with EGI and the development of workflow technology to serve new communities of EGI. This activity offers an important opportunity to have requirements coming from e-Infrastructure communities served by SHIWA into EGI and, hence, influence the evolution of the support services, policies and procedures for workflow development, integration and sharing. It also provides information and support channel to the EGI user communities and will allow members to actively participate to the SHIWA Competence Center via the SHIWA Repository. SHIWA will develop and deploy an availability monitoring service for the SHIWA Repository based on the EGI availability monitoring infrastructure. EGI-InSPIRE will provide the necessary support to interface the existing and new EGI communities with the SHIWA Competence Center. Finally, this activity will provide SHIWA a channel for contributing to the wider EGI community through the provision of training material, application details, documentation and presentations that can be made available to through the EGI User Support services (e.g. Training Marketplace, Applications Database). SHIWA will feature relevant EGI training material and workflow applications in their Competence Center.

Expected outcome:

- M1.1: EGI-InSPIRE and SHIWA exchange information on active or potential communities to extend EGI communities and SHIWA workflow communities.
- M1.2: Development and deployment of availability monitoring for SHIWA Repository.
- M1.3: Exchange of training materials, applications, documentation between EGI and SHIWA support services and teams.
- M1.4: Exchanging and discussing e-Infrastructure requirements between SHIWA and EGI, following these requirements within EGI through the established requirement tracking processes.

³ Party leading the activity is underlined.





A.2 Dissemination

Parties Involved: <u>EGI-InSPIRE NA2.2 Task Leader (Catherine Gater, EGI.eu)</u>; SHIWA NA2 Leader (Kitti Varga, SZTAKI)

Description of work: The objective of this activity is to maximise the impact of both SHIWA and EGI-InSPIRE through the efficient coordination of dissemination. This will involve establishing contact points for communication channels and publications, as well as sharing time constraints relating to both parties. SHIWA and EGI-InSPIRE will collaborate and help each other in the production of dissemination material and also disseminate the progress and results from the collaboration within their respective communities.

Expected outcome:

- M2.1: Advertise the start of the collaboration in each Party's website with a dedicated static page and article or press release.
- M2.2: Organise joint topical workshop on e-Science Workflows
- M2.3: Organise joint activity at EGI Community Forum 2012.
- M2.4: Final report on the main achievements, open issues and future plans related to the collaboration between SHIWA and EGI-InSPIRE. The input must cover all of the activities that are defined in the Joint Work Plan section of the signed MoU.

ARTICLE 4: TIMELINE AND REPORTING

The EGI-InSPIRE NA2.3 Policy Development Team (PDT)⁴ will coordinate the periodic review of the progress of the activities defined in Article 3 (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 5 (Communication) shall be held, as often as necessary, to examine the progress in the implementing of this Agreement.

Date	Milestone	Achievement
Nov 2011	M2.1	Advertise the start of the collaboration in each Party's website with a dedicated static page and article or press release.
Dec 2011	M1.1	EGI-InSPIRE and SHIWA exchange information on active or potential communities to extend EGI communities and SHIWA workflow communities.
Jan 2012	M1.2	Development and deployment of availability monitoring for SHIWA Repository.
Jan 2012	M1.3	Exchange of training materials, applications, documentation between EGI and SHIWA support services and teams.
As needed	M1.4	Exchanging and discussing e-Infrastructure requirements between SHIWA and EGI, following these requirements within EGI through the established requirement tracking processes.
Feb 2012	M2.2	Organise joint topical workshop on e-Science Workflows in Budapest 9-10 February 2012.
Mar 2012	M2.3	Organise joint activity at EGI Community Forum 2012.

⁴ The Policy Development Team is part of the task NA2.3, project EGI-InSPIRE



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May 2012	M2.4	Final report on the main achievements, open issues and future plans related
		to the collaboration between SHIWA and EGI-InSPIRE. The input must
		cover all of the activities that are defined in the Joint Work Plan section of
		the signed MoU.

ARTICLE 5: 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 3 (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-InSPIRE: Sergio Andreozzi, sergio.andreozzi@egi.eu

SHIWA: Agnes Szeberenyi szeberenyi@sztaki.hu

Questions of principle or problems that cannot be solved at primary contact level are escalated to the EGI-InSPIRE Director and the SHIWA Project coordinator.

ARTICLE 6: RIGHTS AND RESPONSIBILITIES

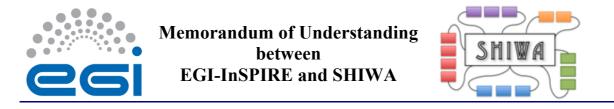
The procedure is set out in Annex 3.

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 co-located 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 authorised representatives of the Parties and shall remain in force until completion of the activities identified in Article 3 (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

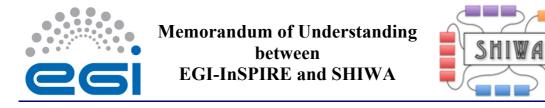
Annexes 1, 2, 3 and 4 attached hereto have the same validity as this MoU and together constitute the entire understanding and rights and obligations covering the cooperation accepted by the Parties under this MoU. Annexes may be amended following the provisions of Article 9 (Amendments).

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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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 EGI-InSPIRE Project Director

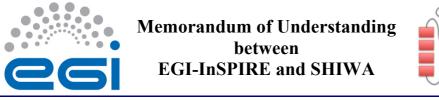
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Prof. Dr. Peter Kacsuk SHIWA Project Coordinator

11/11

11/2011

Date





Annex 1 EGI-InSPIRE 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 EGI-InSPIRE project will support the transition from a project-based system to a sustainable pan-European e-Infrastructure, by supporting 'grids' of high-performance computing (HPC) and high-throughput computing (HTC) resources. EGI-InSPIRE 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-InSPIRE 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.

Objectives

The objectives of the project are:

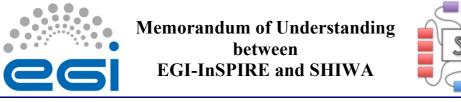
- The continued operation and expansion of today's production infrastructure by transitioning to a governance model and operational infrastructure that can be increasingly sustained outside of specific project funding.
- The continued support of researchers within Europe and their international collaborators that are using the current production infrastructure.
- The support for current heavy users of the infrastructure in earth science, astronomy and astrophysics, fusion, computational chemistry and materials science technology, life sciences and high energy physics as they move to sustainable support models for their own communities.
- Interfaces that expand access to new user communities including new potential heavy users of the infrastructure from the ESFRI projects.
- Mechanisms to integrate existing infrastructure providers in Europe and around the world into the production infrastructure, so as to provide transparent access to all authorised users.
- Establish processes and procedures to allow the integration of new DCI technologies (e.g. clouds, volunteer desktop grids) and heterogeneous resources (e.g. HTC and HPC) into a seamless production infrastructure as they mature and demonstrate value to the EGI community.

The EGI community is a federation of independent national and community resource providers, whose resources support specific research communities and international collaborators both within Europe and worldwide. EGI.eu, coordinator of EGI-InSPIRE, 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.

Consortium: The EGI-InSPIRE consortium has 50 partners with representatives of 42 National Grid Initiatives (NGIs) and European International Research Organisation (EIROs) in geographical Europe, and eight Asia Pacific partners, coordinated by EGI.eu a dedicated organisation established to provide an integrated sustainable pan-European Infrastructure for all researchers in Europe.

Duration: 48 months - EC Contribution: 25,000,000 € - Total Budget: cca. 72,000,000 €

Total Manpower: 9,241 Person Months.





Annex 2 SHIWA Description

The SHaring Interoperable Workflows for large-scale scientific simulations on Available DCIs (SHIWA) is a combination of Collaborative projects & Coordination and support actions of the Seventh Framework Programme of the European Community (2010-2012) co-ordinated by MTA SZTAKI and funded by the EU to achieve the goals of the Capacities– Research Infrastructures activity area.

Project objectives

The SHIWA project's main goal is to leverage existing workflow based solutions and enable crossworkflow and inter-workflow exploitation of DCIs by applying both coarse- and fine-grained strategies. The coarse-grained (CG) approach enables to combine workflows written in different workflow languages in order to reuse existing reuse and combine existing workflow applications written in various workflow languages. The CG approach treats existing workflows as black box systems that can be incorporated into other workflow applications as workflow nodes. The finegrained approach addresses language interoperability by defining an intermediate representation to be used for translation of workflows across various systems (ASKALON, Pegasus, P-Grade, MOTEUR, Triana). SHIWA develops, deploys and operates the SHIWA Simulation Platform to offer users production-level services supporting workflow interoperability following both approaches. As part of the SHIWA Simulation Platform the SHIWA Repository facilitates publishing and sharing workflows, and the SHIWA Portal enables their actual enactment. Use cases targeting various scientific domains will serve to drive and evaluate this platform from a user's perspective.

Fact sheet:

http://www.shiwa-workflow.eu/documents/10753/10933/SHIWAFactSheet.pdf?version=1.0

Participating SHIWA Members:

Members are from MTA SZTAKI:

Technical Coordinator and NA2 Leader: Kitti Varga <vargaki@sztaki.hu>





Annex 3 Rights and Responsibilities

A. GENERAL

1. SHIWA 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.

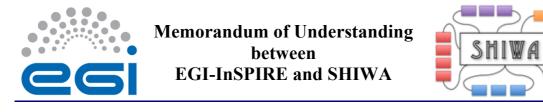
2. Intellectual property rights generated by a Party under this MoU shall be the property of that Party who shall be free to protect, transfer and use such Intellectual Property Rights as it deems fit.

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-InSPIRE and SHIWA 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 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.

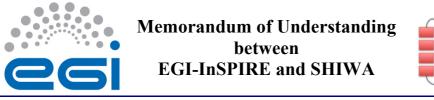
G. LIABILITY

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 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-InSPIRE.





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.