EGI-Engage

Quality plan for Period 1

D 1.1

Date	11 June 2015
Activity	NA1
Lead Partner	EGI.eu
Document Status	FINAL
Document Link	https://documents.egi.eu/document/2487

Abstract

We describe the quality process implementation for EGI-Engage to ensure that outputs generated are high quality, timely and fit-for-purpose. This will be achieved by ensuring that all project management processes are conducted in a quality manner (quality assurance) and by developing quality criteria for the outputs themselves (quality control). The document also details the software quality assurance processes and service management standards that will be adopted to ensure quality of digital artefacts like software and services delivered in EGI-Engage. These processes are applied to all software and services components used to implement the technical infrastructure of EGI and its service catalogue. As such, the definition and implementation of these processes is internally supported by EGI through participants' fees.

The EGI-Engage project is co-funded by the European Union (EU) Horizon 2020 program under Grant number 654142 http://go.egi.eu/eng

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DELIVERY SLIP

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DOCUMENT LOG

Issue	***Date***	***Comment***	***Author/Partner***
v.1	04/06/2015	First draft for comments and external review	M. Krakowian, EGI.eu
v.2	08/06/2015	First version for AMB and PMB review	M. Krakowian, EGI.eu
Final	11/06/2015	Final version for approval	T. Ferrari. EGI.eu

Contents

1 Introduction

This document defines how the quality process for the project EGI-Engage will be implemented to ensure that the project outputs are delivered and satisfies the specified quality requirements. This will be achieved by ensuring that all project management processes are conducted in a quality manner (quality assurance) and by developing quality criteria for the outputs themselves (quality control).

Project Quality Management, according to Project Management Body of Knowledge 5th edition[1], includes all the processes and activities performed that determine quality policies, objectives and responsibilities to ensure the project will satisfy the requirements. It uses policies and procedures to implement quality management system and support continuous the improvement process. It addresses both quality management of the project and quality of deliverables of the project.

The goals of Quality Management as defined in Project Management Body of Knowledge are:

- **Customer satisfaction:** to ensure customer expectations are properly recognized and met;
- **Prevention:** to prevent mistakes;
- **Continuous improvement:** to identify and recommend necessary changes;
- **Management responsibility:** to ensure participation of all members of the project team to meet project objectives.

It also contains three processes:

- **Plan Quality Management** goal is to identify the quality requirements of the project and document steps required to demonstrate project compliance. It provides guides and directions on how quality will be managed and validated.
- **Quality Assurance** is a systemic pattern of action to ensure that the product conforms to quality requirements and standards defined by the previous process. It is a management function such as reviews, or a process for checking work items. It is the systematic measurement, comparison with a standard, monitoring of processes and an associated feedback loop that confers error prevention. It ensures the availability of quality project management processes.
- **Quality Control** monitors and checks the correctness of the project outcomes to assess performance and recommend necessary changes. It inspects the accomplished work to ensure its alignment with the project scope.

EGI-Engage project will use the structure of the quality processes defined in Project Management Body of Knowledge to plan and organize quality management activities as described in the next section.

[1] http://www.pmi.org/PMBOK-Guide-and-Standards.aspx

2 Quality Management in EGI-Engage

The Quality Manager role has been explicitly assigned to Małgorzata Krakowian – Senior Operations Officer at EGI.eu – who is responsible for the creation and management of Plan Quality Management, Quality Assurance and Quality Control processes within EGI-Engage.

2.1.1 Plan Quality Management

Within this process, the Quality Manager is responsible for creation and maintenance of the EGI-Engage Quality Plan[2] to provide clear guidelines for all work package leaders on how quality will be managed and validated. The guidelines provided to the project cover topics such as communications within the project, deliverable and milestone management and review process.

On a yearly basis the quality plan will be reviewed and a report on quality status will be produced to meet changed conditions or objectives during the project life span according to the following schedule:

- Project month 03: D 1.1 Quality plan for Period 1 (M01-M12)
- Project month 14: D 1.3 Report of quality status and quality plan for Period 2 (M13-M30)
- Project month 29: D 1.5 Report of quality status for Period 2 (M13-M30)

2.1.2 Quality Assurance

The Quality Assurance process will be responsible for assessing if quality guidelines (see section 3), defined in the Quality Plan, are being followed and whether these are still appropriate for the project.

Project outputs (Milestones and Deliverables[3]) will be reviewed according to the review process for deliverables and milestones described in section 3.3.

The regular review of the project outputs will be performed via periodic reports, produced according to following schedule:

- Project Month 06: Milestone 1.2 First intermediate report (M01-M06)
- Project Month 12: Project Periodic Report (first period, M01-M12)
- Project Month 18: Milestone 1.3 Second intermediate report (M13-M18)
- Project Month 24: Project Periodic Report (second period, M13-M24)
- Project Month 30: Project Periodic Report (third period, M25-M30)
- Project Month 30: Project Final report (M01-M30)

[2] https://wiki.egi.eu/wiki/EGI-Engage:Quality_Plan

[3] https://wiki.egi.eu/wiki/EGI-Engage:Deliverables_and_Milestones

Building regular reviews will ensure that quality improvement can be carried out throughout the life of the project.

Communication with Activity Managers will be ensured through the Activity Management Board (AMB)[4], which will be responsible for regularly monitoring the progress of the project and of the day-to-day management of the individual activities within the project, which will be undertaken by the Activity Managers. AMB has representation from all the work packages.

The Project Management Board (PMB) – acting as the executive and supervisory body of the project, reporting and accountable to the Collaboration Board – will participate in all the processes of the project quality management.

2.1.3 Quality Control

The Quality Control process will collect and monitor the Key Performance Indicators (KPIs) and activity metrics (see section 4). Based on results, the process will identify necessary improvements and suggest implementation actions to the relevant project boards. It will also be responsible for collection of lessons learned, i.e. the learning gained from performing the project.

[4] https://wiki.egi.eu/wiki/EGI-Engage:AMB

3 Quality guidelines

3.1 Project communication and outputs

All outputs produced by staff activities within EGI-Engage (funded and unfunded effort) shall be recorded so that they can be reported by the project. The following procedures shall be used:

- Meetings run by EGI-Engage: The meetings shall be recorded in the EGI Indico server[5] and all presentations and material provided for the meeting, including any minutes, shall be attached to the appropriate agenda page.
- Presentations, Posters, and publication: Presentations and/or papers presented at other meetings attended by EGI-Engage staff shall be recorded in the EGI document repository[6]. A link to the meeting and a summary of the outcome should be recorded in the 'notes' section of the document. A dedicated EGI-Engage tag is available to qualify documents, milestones, papers, presentations and other documentation relevant to the project.
- Mailing Lists: As the majority of the communication within the project will be electronic, having a coherent record of that work is essential. All mailing lists must use the EGI.eu based mailing lists which allow groups defined within the single sign on to be linked to mailing lists, access to wiki space, document access, etc.
- Requirements and actions gathering: Requirements and actions gathering should be performed through EGI RT system[7] with group based access control provided through the EGI SSO system. Incidents related to the services delivered in production will be managed through the EGI helpdesk, GGUS[8].
- Websites: The main EGI website[9] is used for all 'official' 'static' information about the project. Individual services developed within the project have their own hostname in the egi.eu domain. The EGI wiki[10] should be used as workspace for all project activities, hosting dynamic content that is maintained and developed within each project activity. Virtual team projects and special interest group agendas supported by EGI-Engage will be also accessible via Indico[11]. Wiki editorial rights have access control provided through the EGI SSO system[12]. Other third party websites or wikis should not be used to host EGI-Engage related material in order that the egi.eu domain becomes the definitive source of project information.

[5] http://indico.egi.eu

[6] http://documents.egi.eu

[7] http://rt.egi.eu

[8] http://helpdesk.egi.eu/

[9] http://egi.eu

[10] http://wiki.egi.eu

[11] https://indico.egi.eu/indico/categoryDisplay.py?categId=163

[12] https://www.egi.eu/sso/

3.1.1 Templates

All outputs from EGI-Engage, e.g. project deliverable, presentations, and technical reports, should use EGI-Engage templates available on main website under the "Logo and templates"[13] section.

3.1.2 Acknowledgement

The following acknowledgement statements should be used for EGI-Engage outputs unless the output already uses one of the recognised project templates, where appropriate acknowledgements are already included:

- For materials such as documents, presentations and reports, this statement should be used: *This material by Parties of the EGI-Engage Consortium is licensed under a Creative Commons Attribution 4.0 International License[14]. The EGI-Engage project is co-funded by the European Union (EU) Horizon 2020 program under Grant number 654142 http://go.egi.eu/eng*
- Work other than software that cannot be reused without explicit permission *Copyright © 2015-2017 Parties of the EGI-Engage Consortium. The EGI-Engage project is co-funded by the European Union (EU) Horizon 2020 program under Grant number 654142.*
- For scientific publications generated by efforts funded by the project
    - To acknowledge EGI and the project
      This work used the European Grid Infrastructure (EGI) and is co-funded by the EGI-Engage project (Horizon 2020) under Grant number 654142.
    - To acknowledge EGI, the project and specific countries providing resources
      This work used the European Grid Infrastructure (EGI) through resources from Country_1, Country_2, … and is co-funded by the EGI-Engage project (Horizon 2020) under Grant number 654142.

3.1.3 Service and Software Provisioning

Quality of services produced within EGI-Engage project will be ensured by the adoption of the EGI Services management standard FitSM[15], a international standard developed by the FedSM project. It is a lightweight IT service management standard to support organisations and distributed organisations in defining service management processes and responsibilities in order to provide value to their customers. This is done through defining a set of requirements, general principles that encompass subsequent processes in order for Services Providers to comply with their customer's expectation for quality, guaranty and value.

During FedSM project lifetime, EGI.eu and its partners gathered experience in IT service management and developed processes and procedures[16] that will be applied to services produced

[13] http://www.egi.eu/about/logo_templates

[14] http://creativecommons.org/licenses/by/4.0/

[15] http://fitsm.eu

[16] https://wiki.egi.eu/wiki/Instructions_for_Production_Tools_teams

by the EGI-Engage project. The maintenance and support of FitSM is a responsibility of "IT Education Management Organization"[17], a no profit organization that will ensure that chosen standard is maintained.

The software produced within the project will follow the well established "software provisioning process" that has been adopted since 2010, based on the definition of quality criteria, quality verification and software validation in a controlled production environment of the federated EGI infrastructure[18]. Quality criteria are periodically updated to keep them abreast with technological and standard developments. Software provisioning processes are applied to all software components internally developed by EGI-Engage as well as to externally sourced software produced by collaborating initiatives, participated projects and generally speaking external technology providers. The definition and implementation of these processes is supported by the EGI Participants through annual fees. These are adopted by EGI-Engage but not supported by project funding.

The development activities within the project will augment capabilities of existing open source software. The resulting software code, tools and interfaces developed as part of EGI-Engage will be released as open source code and the full access will be provided via publicly available source code repositories such as GitHub, SourceForge, Subversion (SVN), Concurrent Version System (CVS) etc.

Software developers will be able to choose their preferred source code repository to better integrate with existing practices, nevertheless they will need to

1) ensure that the contribution is openly accessible,
2) add the metadata information needed to enable reuse,
3) communicate the URL to the consortium.

In order to comply with the open access policy and maximise possibility for reuse of results, EGI-Engage software code, tools and interfaces that fall under the joint ownership will be published under an OSI-approved license[19]. If no existing OSI license is being used, we propose the adoption of the Apache 2.0 license. Free and unrestricted access to research result is a measurable barrier to uptake by SME's and can slow down innovation in measurable terms[20], and the consortium will make it a priority to comply with the Horizon 2020 Mandate in full support of Europe 2020 Initiative's Economic Growth Agenda.

[17] http://www.itemo.org/

[18] https://wiki.egi.eu/wiki/Software_Provisioning_Process

[19] http://opensource.org/licenses

[20] Houghton, John, Alma Swan, and Sheridan Brown. "Access to Research and Technical Information in Denmark." Monograph, April 2011. http://eprints.soton.ac.uk/272603/

3.2 Document management

All documents, presentations and other material that form an official output of the project (not just milestones and deliverables) are placed in the document repository[21] to provide a managed central location for all material.

Access to documents is linked to the EGI single sign on (SSO) system[22], which can be used to generate an account and password. Once logged into the document repository using the created account, it is possible to create new document items or update existing ones through the 'Create or change documents or other information' link.

3.2.1 Content

All documents will be written in English and use document formats described in the following section. References to external document and a Glossary to terms not listed on the website must be recorded. The correct capitalisation of the project name is EGI-Engage. English date format must be used (DD/MM/YYYY) when required.

3.2.2 Formats and tools

The following tools and formats will be recognised within the project:

- Word Processing: 'Word Format' allowing its use on MS Office on Windows/Mac and OpenOffice on Linux
- Spreadsheet: 'Excel Format' allowing the use of MS Office on Windows/Mac.
- Presentation: 'Powerpoint Format' allowing the use of MS Office on Windows/Mac.

Final version of all formal documents (milestones and deliverables) must be available in PDF format.

3.2.3 Document naming convention

Filenames must use the following format in order to link any item back to other versions placed in the document repository. The filename format is:

EGI-Engage<DOCUMENT IDENTIFIER>-V<VERSION>

DOCUMENT IDENTIFIER	The document identifier is dependent on the document type. If the document is: • Deliverable: Use the deliverable name: e.g. D1.1, D5.5, etc. • Milestone: Use the milestone name: e.g. M1.2, M5.4, etc. • Activity: Use the activity code: e.g. SA1, NA3, etc.

[21] http://documents.egi.eu/

[22] https://www.egi.eu/sso/

	• Committee/Board: Use an acronym based on the committee or board name: e.g. TCB, OMB, UCB, USAG, SPG, etc. • Other: If the source of the material cannot be identified then ignore this section.
VERSION	This is the version number generated by the document repository for the particular repository identifier. Versioning rule: • +0.1 – new version of draft • +1.0 – new version of approved document

Example: EGI-Engage-M3.1-V1.0.pdf

The title of documents uploaded to document repository must be in the following format:

<DOCUMENT IDENTIFIER> Title (from the first page of the document)

Example: M3.1 User Support Contacts

3.2.4 Document metadata

The cover page of the document (along with the footer running throughout the document) contains metadata (marked in yellow) that needs to be reviewed and completed:

- Title: This must be the title of the milestone or deliverable as described in the Description of Work.
- Deliverable/Milestone code: e.g. D1.1 or M1.1. Delete if not required.
- Document identifier: With a correctly formulated filename (see 'Naming Convention') this field can be updated in MS Word by highlighting, right clicking and selecting 'Update Field'.
- Date: This field records the last date the document was saved and can be updated in MS Word by highlighting, right clicking and selecting 'Update Field'.
- Activity: Enter the work package name (WP1, WP2, etc.) that is producing this document.
- Lead Partner: Enter the recognised short name within the EGI-Engage project of the lead partner.
- Document Status: This will move through the following states for milestones and deliverables, which will be internally tracked via RT:
    - TOC (Table of Contents)
    - Draft
    - Review
    - AMB/PMB Review
    - Final

- Document Link: The URL in the EGI document repository that provides access to the document.
- Abstract: An abstract describing the document's contents and main conclusions. On submission of the final version this should be entered into the relevant field in the repository metadata.

3.2.5 Repository metadata

When creating the entry in the document repository there are a number of compulsory metadata fields that need to be completed. Where possible these values should be copied from the corresponding document metadata. The Repository Metadata includes the following items:

- Title
- Abstract
- Keywords
- Notes and changes
- Media type
- Submitter: Select the person submitting the document.
- Authors: Select the people involved in writing significant portions of the document.
- View: Select the groups able to view the document. Documents that are drafts may be restricted to the groups within the project that are working on the document. Documents that are complete must be marked public.
- Modify: The 'office' group must me marked as able to modify the document.
- Topics: Select the topics relevant for the material. These will generally include 'EGI-Engage', committee/board that the material is coming from
    - Any output from EGI-Engage would minimally have the topics 'EGI-Engage'
    - There are also documents that are generated within the community that go beyond the scope of just the EGI-Engage project (e.g. operational policy documents) would minimally have the topics from 'EGI' category selected.

3.2.6 Access to documents

Access to internal or confidential documents is controlled at SSO group level, with SSO IDs being assigned to particular groups depending on their permissions to view or modify documents. Public documents are available to all, without restriction or the requirement to log in. Restricted documents can only be viewed and/or modified by logging in using an account with the correct permissions.

3.3 Review process for deliverables and milestones

The formal outputs from the project (milestones and deliverables) pass through a formal review process. The review process provides staged deadlines during the process to ensure the output is available to the EC at the end of the project month (PM) that the material is due.

Other outputs from the project, such as documents that are neither deliverables nor milestones, may use modified versions of the official document templates and are also reviewed internally.

Depending of the type of milestone and deliverable, different inputs to the process are expected and required as detailed in the following list.

- **R:** Document, report
  - Input: full report
- **DEM:** Demonstrators, pilots, prototypes, plan design
  - Input: Delivery of the product, short 1-4 page report
- **DEC:** Website, press & media actions, events
  - Input: Delivery of the product, short 1-4 page report
    - Events: in addition feedback on satisfaction is provided
- **OTHER:** software, technical diagram etc.
  - Non-user facing software
    - Input: delivery, UMD software provisioning process[23], short 1-4 report based on the staged rollout process outcome
  - User facing software
    - Input: delivery, feedback on satisfaction is provided, short 1-4 page report
  - Other
    - Input: short 1-4 page report

The review process for a milestone and a deliverable is identical except for:

- Milestones are expected to have
  - two reviews produced by a reviewer and the moderator;
  - reviewers: 1 external, 1 Activity Managers Board member.
- Deliverables are expected to have
  - three reviews produced by two reviewers and one moderator;
  - reviewers: 1 external, 1 Project Management Board member or reviewer appointed by a PMB member, 1 Activity Managers Board member.

Where possible, the reviewers are selected from relevant EGI's functional areas (i.e. Operations, User Community, Technology and Policy) that are not directly involved in the production of the output.

3.3.1 Roles

Roles in the review process are identified below:

- **Reviewer**: Responsible for providing a review of the document on the EGI review form so that responses from the document authors to the reviewer can be tracked. A change tracked version of the document can be provided with corrections for spelling,

[23] https://wiki.egi.eu/wiki/EGI_Verifier_Guideline

formatting and other minor issues. The reviewer is generally from the activity and organisation that is not responsible for producing the document.

- **Moderator**: Responsible for deciding in cases of conflicting reviews which elements of a review must be implemented by the author. The decision to follow or reject a reviewer's comment must be tracked in the review document. The moderator is normally an EGI-Engage task leader not from the activity producing the document. The moderator is also a reviewer.
- **Editor**: The person from the activity and the partner who is responsible for the document and for collecting input from relevant project tasks. They may rely on others within the activity to provide and/or collect the information needed. The editor cannot be a moderator or reviewer.
- **Quality Manager (QM):** The project office provides administrative support for the process.
- **Shepherd**: The shepherd is a member of the AMB (normally the activity manager or the deputy) who is responsible for overseeing the production of the document. The Shepherd will work with the Editor to ensure that the work is done in a timely manner, and report to the AMB on its progress.
- **AMB Chair**: the Technical Director or deputy.

An individual could hold one or more of these roles if they are not in conflict with each other.

3.3.2 Workflow of review process

The workflow for the review process is described below. All steps are recorded in the EGI Request Tracked tool.[24]

Time before submission	Role	Action	Request Tracker Action
>2 months	QM	Assign ticket in EGI RT to WP leader responsible for the document	Assigned to WP leader
2 months	Shepherd	Assign Editor	Remains blank with CC to editor
7 weeks	Shepherd	Ensure the editor has provided an annotated table of contents that is available online (doc DB) and circulated to the AMB	Set state to ToC
5 weeks	Shepherd	The draft is stable and undergoes review within the activity	Set state to Internal Review
4 weeks	Shepherd	The document is ready for external review.	Set state to External Review

[24] http://rt.egi.eu/

Immediately	Shepherd	Shepherd • notifies reviewer(s), moderator, AMB and PMB (via the AMB chair) that the document is available for review • confirm expected review completion date with reviewers	Enter completion date as Due Date in RT
Immediately	Shepherd	Notify the Editor that review is complete	Set state to Being Revised
Immediately	Editor	Notify the Shepherd an updated document is available	Set state to External Review
Immediately	Shepherd	The external review is complete. Notify the AMB and PMB that the document has completed external review	Set state to AMB/PMB Review
1 week	QM/AMB Chair	A clean PDF version of the document is generated by the QM and placed in the document repository with updated meta-data. AMB chair notifies the PMB	Set state to Final
Deadline	AMB Chair	Document is delivered to the EC	Set state to With EC

4 Metrics

The objectives of EGI-Engage project are as follows:

- Objective 1 (O1): Ensure the continued coordination of the EGI Community in strategy and policy development, engagement, technical user support and operations of the federated infrastructure in Europe and worldwide.
- Objective 2 (O2): Evolve the EGI Solutions, related business models and access policies for different target groups aiming at an increased sustainability of these outside of project funding. The solutions will be offered to large and medium size RIs, small research communities, the long tail of science, education, industry and SMEs.
- Objective 3 (O3): Offer and expand an e-Infrastructure Commons solution
- Objective 4 (O4): Prototype an open data platform and contribute to the implementation of the European Big Data Value.
- Objective 5 (O5): Promote the adoption of the current EGI services and extend them with new capabilities through user co-development;

In order to achieve these objectives, a number of Key Performance Indicators (KPIs) have been defined to support management to follow up on project's activities quality and project's activities progresses.

In addition, each of the activity set within a specific work package is managed by an Activity Manager who will ensure provision of a list of activity metrics, which will provide progress status against the activity. The Quality Manager with Activity Manager will control that the defined metrics are Specific, Measureable, Attainable, Relevant and Time-bound (SMART) prior to allowing activity participants to report against them.

KPIs and activity metrics will be tracked using the Metrics Portal[25], which is openly available for consultation. Values are either collected manually or extracted as applicable from a number of EGI tools. Metrics are gathered every 6 months as part of report process. KPIs are also reported in intermediate and periodic reports; relevant metrics and KPIs are analysed as applicable.

[25] http://metrics.egi.eu/

4.1 Key Performance Indicators

These indicators will be available on http://www.egi.eu/about/egi-engage/metrics.html and updated on a periodic basis (every 6 month).

*Type: Cumulative (cum), per period (pp), average (avg)

Objective	Impact	Metric ID	Impact and Metric	Type *	Polarity	Target PM12	Target PM24	Target PM30
O4	**Increased availability and efficiency in use of research data, EGI supports FAIR data: Findable, Accessible, Interoperable, Reusable**	KPI.1.JRA2.OpenData	Number of open research datasets that can be published, discovered, used and reused by EGI applications/tools	cum	Up	0	10	20
O1, O2	**Easier integration and interoperability of compute and data resources across communities and national borders**	KPI.2.SA1.Intergation	Number of RIs and e-Infrastructures integrated with EGI	cum	Up	9	11	13
O1, O2		KPI.3.SA1.Software	Number of new registered software items and VM appliances	pp	Up	50/50	60/60	70/70
O1, O2	**Better portability of applications across different providers**	KPI.4.SA1.Cloud	Number of providers offering compute and storage capacity accessible through open standard interfaces	cum	Up	25	30	35
O5	**Increased adoption of compute/data intensive services**	KPI.5.SA2.Users	Number of researchers served by EGI	cum	Up	40 000	45 000	47 000
O3		KPI.6.JRA1.AAI	Number of users adopting federated IdP	cum	Up	TBD	TBD	TBD
O5		KPI.7.SA2.U	Number of research communities served	pp	Up	20	20	20

		sers						
O2		KPI.8.SA1.Users	Number of VO SLAs established	cum	Up	4	8	10
O5		KPI.9.NA2.Comm	Number of scientific publications supported by EGI	cum	Up	NA	NA	NA
O2	**Better optimisation of the use of IT equipment for research**	KPI.10.NA2.Comm	Number of relevant authorities informed of the policy paper on procurement	cum	Up	5	20	25
O5		KPI.11.SA1.Users	User satisfaction	avg	Up	4	5	5
O2	**More innovation transferred to the business sector**	KPI.12.NA2.Industry	Number of services, demonstrators and project ideas running on EGI for SMEs and industry	cum	Up	2	7	10
O5	**Increased accessibility to compute/data intensive services, software and expertise**	KPI.13.SA2.Support	Number of delivered knowledge transfer events	cum	Up	15	30	45
O3, O5		KPI.14.SA1.Size	Number of compute available to international research communities and long tail of science	pp	Up	TBD	TBD	TBD
O3, O5		KPI.15.SA1.Size	Number of storage available to international research communities and long tail of science	pp	Up	TBD	TBD	TBD
O2, O5		KPI.16.SA2.Support	Number of international support cases (for/with RIs, projects, industry)	cum	Up	30	60	90
O3, O5		KPI.17.SA1.Size	Number of compute resources available to the long tail of science	cum	Up	300	500	500

4.2 Activity Metrics

This section lists the activity metrics for each of EGI-Engage activity.

4.2.1 NA1 – Project Management

Metric ID	Metric	Task	Type	Polarity
M.NA1.Quality.1	Percentage of deliverables and milestones delivered on time	1.3	Per period	Up

4.2.2 NA2 – Strategy, Policy and Communication

Metric ID	Metric	Task	Type	Polarity
M.NA2.Communication.1	Percentage of articles, news, blog posts about or contributed by user communities and NGIs/EIROs with respect to the total of items published in EGI's channels	2.1	Per period	Up
M.NA2.Communication.2	Number of unique visitors to the website	2.1	Per period	Up
M.NA2.Communication.3	Number of pageviews on the website	2.1	Per period	Up
M.NA2.Communication.4	Number of news items published	2.1	Per period	Up
M.NA2.Communication.5	Number of events with participation of EGI Champions	2.1	Per period	Up

M.NA2.Communication.6	Number of case studies published	2.1	Per period	Up
M.NA2.Communication.7	Attendee-days per event	2.1	Per period	Up
M.NA2.Strategy.1	Number of EGI impact assessment reports circulated to the stakeholders	2.2	Per period	Up
M.NA2.Strategy.2	Number of MoUs involving EGI.eu or EGI-Engage as a project	2.2	Cumulative	Up
M.NA2.Strategy.3	Number of SLAs established paying customers	2.2	Cumulative	Up
M.NA2.Industry.1	Number of engaged SMEs/Industry contacts	2.3	Cumulative	Up
M.NA2.Industry.2	Number of establish collaborations with SMEs/Industry (with MoU)	2.3	Per period	Up
M.NA2.Industry.3	Number of requirements gathered from market analysis activities	2.3	Per period	Up

4.2.3 JRA1 – E-Infrastructure Commons

Metric ID	Metric	Task	Type	Polarity
M.JRA1.AAI.1	Number of communities whose Identity Provider framework integrates with EGI AAI	3.1	Cumulative	Up
M.JRA1.Marketplace.1	Number of entries in the EGI Marketplace (i.e. services, applications etc.)	3.2	Cumulative	Up
M.JRA1.Accounting.1	Number of kinds of data repository systems integrated with the EGI accounting software	3.3	Cumulative	Up
M.JRA1.Accounting.2	Number of kinds of storage systems integrated with the EGI accounting software	3.3	Cumulative	Up
M.JRA1.OpsTools.1	Number of new requirements introduced in the roadmap	3.4	Cumulative	Up
M.JRA1.OpsTools.2	Number of probes developed to monitor cloud resources	3.4	Per period	Up

M.JRA1.eGrant.1	Number of user requests handled in e-GRANT	3.5	Per period	Up

4.2.4 JRA2 – Platforms for the Data Commons

Metric ID	Metric	Task	Type	Polarity
M.JRA2.Cloud.1	Number of VM instances managed through AppDB GUI	4.2	Average	Up
M.JRA2.Cloud.2	Percentage of cloud providers providing snapshot support	4.2	Per period	Up
M.JRA2.Cloud.3	Percentage of cloud providers providing VM resizing support	4.2	Per period	Up
M.JRA2.Cloud.4	Number of OCCI implementation supporting OCCI 1.2	4.2	Per period	Up
M.JRA2.Cloud.5	Number of new OCCI implementations for existing or new CMFs.	4.2	Per period	Up
M.JRA2.Integration.1	Number of European cloud providers in the federated Astronomy community cloud	4.3	Cumulative	Up
M.JRA2.Integration.2	Number of virtual appliances shared	4.3	Cumulative	Up
M.JRA2.Integration.3	Number of different datasets replicated across CADC and EGI	4.3	Cumulative	Up
M.JRA2.Integration.4	Number of EUDAT services integrated with the HTC and Cloud platforms of EGI	4.3	Cumulative	Up
M.JRA2.Integration.5	Number of open research datasets replicated in the federated cloud for scalable access by iMARINE VREs	4.3	Cumulative	Up
M.JRA2.Integration.6	Number of research clouds that interoperate with EGI federated cloud: community clouds, integrated, peer	4.3	Cumulative	Up
M.JRA2.AcceleratedComputing.1	Number of batch systems for which GPGPU integration is possible to be supported through CREAM	4.4	Cumulative	Up

M.JRA2.AcceleratedComputing.2	Number of Cloud Middleware Frameworks for which GPGPU integration is supported and implemented	4.4	Cumulative	Up
M.JRA2.AcceleratedComputing.3	Number of level 3 disciplines with user applications that can use federated accelerated computing	4.4	Cumulative	Up

4.2.5 SA1 – Operations

Metric ID	Metric	Task	Type	Polarity
M.SA1.Operations.1	Amount of federated HTC compute capacity (EGI participants and integrated)	5.1	Cumulative	Up
M.SA1.Operations.2	Amount of federated HTC storage capacity (EGI participants and integrated): (Disk, Tape)	5.1	Cumulative	Up
M.SA1.Operations.3	Amount of allocated resources (storage) allocated through a EGI centrally managed pool of resources	5.1	Cumulative	Up
M.SA1.Operations.4	Amount of allocated resources (logical cores) allocated through a EGI centrally managed pool of resources	5.1	Cumulative	Up
M.SA1.Operations.5	Number of new products distributed with UMD	5.1	Per period	Up
M.SA1.SecurityOperations.1	Number of security policies and procedures updated, reviewed and adapted to support new services	5.2	Per period	Up
M.SA1.Platforms.1	Number of gCUBE VREs instantiated on the Federated Cloud for the iMARINE community	5.3	Cumulative	Up
M.SA1.Platforms.2	Number of CPU time consumed by e-CEO challenges (hours * cores)	5.3	Per period	Up

4.2.6 SA2 – Knowledge Commons

Metric ID	Metric	Task	Type	Polarity
M.SA2.UserSupport.1	Number of training modules produced and kept up-to-date	6.2	Cumulative	Up
M.SA2.UserSupport.2	HTC Absolute normalized time to a reference value of HEPSPEC06 (excluding OPS and dteam) per 1 level disciplines	6.2	Cumulative	Up
M.SA2.UserSupport.3	HTC Relative increase normalized time to a reference value of HEPSPEC06 (excluding OPS and dteam) per 1 level disciplines	6.2	Per period	Up
M.SA2.UserSupport.4	Relative increase of users per 1 level disciplines	6.2	Per period	Up
M.SA2.UserSupport.5	HTC Number of Low/Medium/High Activity VOs and total	6.2	Per period	Up
M.SA2.UserSupport.6	Number of VM instantiated in Federated Cloud per 1 level discipline	6.2	Per period	Up

5 Gender plan

Mainstreaming genders in a project is a task that falls under the responsibility of the project's coordinator. However, the actual gender mainstreaming within activities allows for considering that all project's partners are to consider how they will mainstream gender issues within and outside their projects' activities. Most of the partners in EGI-Engage are organisations with an established policy of equal gender opportunities. The EGI-Engage management is committed to ensure equal opportunity, according to EU rules and guidelines, when hiring new project staffs. In parallel, the project coordinator will strive to keep the institutions that are part of the consortium positively motivated towards gender issues by raising awareness at management level.

6 Conclusions

The quality plan within EGI-Engage project identifies the quality requirement of the project and documentation steps required to demonstrate project compliance. It provides guidance and directions on how quality will be managed and validated. It also describes Quality Assurance and Quality Control processes within the project.

The Quality Assurance process will be responsible for assessing if quality guidelines (section 2), defined in Quality Plan, are being followed and weather are still appropriate for the project.

A phased review mechanism will be put in place to ensure that the formal output of the project is of a high quality. This takes place through technical review within the activity responsible for the initial work, review external to the producing activity to groups within the project that are consumers of the work, review across all activities of the project through the Activity Management Board, and then finally alignment with the managerial aspects of the project through the Project Management Board. While specifically focused on the project's milestones and deliverables, this process of open review is used across all aspects of the project.

Quality Control process will collect and monitor the Key Performance Indicators (KPIs) and activity metrics, these will provide a continuous approach to monitoring the performance of an activities or tasks. Online access to these will be provided for easy control.

This document defined a set of metrics that will be used to monitor the performance of each activity and its tasks within the EGI-Engage project. The overall progress towards these metrics will be summarised and analysed periodically and recommendations will be made for the future of the infrastructure.