



## EGI VO

# SERVICE LEVEL AGREEMENT

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<b>Customer</b>	Terradue – NextGEOSS Pilots / vo.nextgeoss.eu
<b>Service Provider</b>	EGI Foundation
<b>First day of service delivery</b>	28 August 2017
<b>Last day of service delivery</b>	30 November 2020
<b>Status</b>	Final
<b>Agreement finalization date</b>	27 August 2020
<b>SLA link</b>	<a href="https://documents.egi.eu/document/3426">https://documents.egi.eu/document/3426</a>
<b>OLA Link</b>	<a href="https://documents.egi.eu/document/3426">https://documents.egi.eu/document/3426</a>

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## DOCUMENT LOG

<b>Issue</b>	<b>Date</b>	<b>Comment</b>	<b>Author</b>
<b>FINAL</b>	28/11/2017	Final version of the SLA	Giuseppe La Rocca Małgorzata Krakowian
<b>V1</b>	3 Dec 2018	First revised draft	Björn Backeberg, EGI.eu
<b>V2</b>	13 Feb 2019	Reviewed by client	Hervé Caumont, Terradue
<b>V3</b>	26 Feb 2019	SLA agreed with customer	Björn Backeberg, EGI.eu Małgorzata Krakowian, EGI.eu
<b>V4</b>	22 Jul 2019	Revised to include all 10 pilots	Björn Backeberg, EGI.eu
<b>V5</b>	30 Aug 2019	SLA agreed with customer, following customer input	Hervé Caumont, Terradue Björn Backeberg, EGI.eu
<b>V6</b>	17 Feb 2020	Update of SLA with new pilot	Hervé Caumont, Terradue Enol Fernández, EGI.eu
<b>V7</b>	27 Aug 2020	Extension of pilots	Hervé Caumont, Terradue Enol Fernández, EGI.eu

## TERMINOLOGY

The EGI glossary of terms is available at: <https://wiki.egi.eu/wiki/Glossary>

For the purpose of this Agreement, the following terms and definitions apply. The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119.

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The present Service Level Agreement (“the Agreement”) is made between **EGI Foundation (the Service Provider)** and **Terradue – NextGEOSS Pilots (the Customer)** to define the provision and support of the provided services as described hereafter. Representatives and contact information are defined in Section 6.

**GEOSS (Global Earth Observation System of Systems) is a coordinated effort of GEO’s mission to improve EO data management and exploitation systems’ interoperability (at technical, semantic, organisational levels). The NextGEOSS project, a European contribution to GEOSS, proposes to develop the next generation data hub and platform for Earth Observations, where the users can connect to access data and to deploy EO-based applications. The concept revolves around providing the data and resources to the user communities, including Cloud Computing resources, connected to provide an integrated work environment for application builders. An essential asset of NextGEOSS is the strong emphasis put on engaging the communities of providers and users and bridging the space in between.**

The Customer is a NextGEOSS consortium partner: **Terradue**.

This Agreement is valid from **28 August 2017** to **30 November 2020** and defines the agreed upon resources provided for 10 NextGEOSS Pilots, namely:

1. VITO “Sentinel-2 Biopar Crop Monitoring” application
2. ARMINES “Gridded data” and “Urban Solar Radiation Mapping” applications
3. WNER (previously WUR ALTERRA) “Maxent Habitat Monitoring” application
4. SATCEN “Change Detection” application
5. NERSC “Cold Regions products” application
6. DLR “Megacities Air Pollution and Health” application
7. CLS “Ocean Drift Modelling” application
8. NOAA “Multi-hazard Enhanced Risk Assessment” application
9. DEIMOS “Territorial Planning” application
10. ITC “Essential Biodiversity Variables” application

The Agreement was discussed and approved by the Customer and the Provider on **August 27<sup>th</sup> 2020**

## 1 The Services

Possible allocation types:

- Pledged - Resources are exclusively reserved to the Community and the job will be executed immediately after submission.
- Opportunistic - Resources are not exclusively allocated, but subject to local availability.
- Time allocation - Resources are available in fair share-like mode for a fixed time period.

Possible payment mode offer:

- Sponsored Model where the customer uses services that are funded, or co-funded by the European Commission or government grants.
- Pay-for-use – Model where a customer directly pays for the service used.

The Services are defined by the properties summarised in the following table described in the below links:

- **Cloud Compute:** <https://www.egi.eu/services/cloud-compute/>
- **Cloud Container Compute:** <https://www.egi.eu/services/cloud-container/>
- **High-Throughput Compute:** <https://www.egi.eu/services/high-throughput-compute/>
- **Online Storage:** <https://www.egi.eu/services/online-storage/>
- **Archive storage:** <https://www.egi.eu/services/archive-storage/>

Compute											
Pilot	1. VITO Food Security Pilot	2. ARMINES Solar Energy Pilot	3. WENR (WUR ALTEERRA) Maxtent Habitat Monitoring Pilot	4. SATCEN Change Detection Pilot	5. NERSC Cold Regions products Pilot	6. DLR Megacities Air Pollution and Health Pilot	7. CLS Ocean Drift Modelling Pilot	8. NOAA Risk Assessment Pilot	9. DEIMOS Territorial Planning Pilot	10. ITC Biodiversity Pilot T6.2.1	11. FSU GEO Wetlands Pilot
Resource Centre	RECAS-BARI	IISAS-FedCloud	RECAS-BARI	100%IT	CESNET-MCC	CESGA	IFCA-LCG2	100%IT	CESGA	CESGA	100%IT
Category	<a href="#">Cloud Compute</a>	<a href="#">Cloud Compute</a>	<a href="#">Cloud Compute</a>	<a href="#">Cloud Compute</a>	<a href="#">Cloud Compute</a>	<a href="#">Cloud Compute</a>	<a href="#">Cloud Compute &amp; Cloud Container Compute</a>	<a href="#">Cloud Compute</a>	<a href="#">Cloud Compute</a>	<a href="#">Cloud Compute</a>	<a href="#">Cloud Compute</a>
Number of virtual CPU cores	10	20	10	3	18	10	18	3	12	6	18
Total amount of	80	40	80	6	272	19	36	12	148	24	136



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Memory (GB)											
Local disk (GB)	900	1000	900	500	1700	260	50	600	1000	500	950
Public IP addresses	5	5	5	3	9	2	2	1	6	3	2
Allocation type	Pledged <sup>1</sup>	Pledged	Pledged	Pledged	Pledged	Pledged	Pledged	Pledged	Pledged	Pledged	Pledged
Payment mode offer	Per-for-use <sup>2</sup>	Per-for-use	Pay-for-use	Per-for-use	Per-for-use	Per-for-use	Per-for-use	Pay-for-use	Pay-for-use	Pay-for-use	Pay-for-use
Duration	01 Aug 2018 – 30 Nov 2020	01 Jan 2018 – 30 Nov 2020	01 Apr 2018 – 31 May 2020	16 Apr 2018 – 30 Nov 2020	01 Oct 2018 – 30 Nov 2020	08 Apr 2019 – 30 Nov 2020	01 Jun 2019 – 30 Nov 2020	19 Jun 2019 – 30 Nov 2020	26 Jun 2019 – 30 Nov 2020	26 Jun 2019 – 30 Nov 2020	17 Feb 2020 – 30 Nov 2020
<b>Storage</b>											
Category		<a href="#">Online Storage</a>	<a href="#">Online Storage</a>	<a href="#">Online Storage</a>	<a href="#">Online Storage</a>		<a href="#">Online Storage</a>				<a href="#">Online Storage</a>
Guaranteed storage		1	0.5	0.5	0.5		0.02				0.5

<sup>1</sup> Resources are exclusively reserved to the Customer

<sup>2</sup> See service offer for specifications (e.g. pricing, administration)

capacity [TB]:											
Standard interfaces supported		E.g. CDMI, POSIX, SWIFT, etc.	E.g. CDMI, POSIX, SWIFT, etc.	E.g. CDMI, POSIX, SWIFT, etc.	E.g. CDMI, POSIX, SWIFT, etc.		E.g. CDMI, POSIX, SWIFT, etc.				Standard OpenStack interface, including GUI, CLI and API
Storage technology		E.g. DPM, dCache, STORM, etc.	E.g. DPM, dCache, STORM, etc.	E.g. DPM, dCache, STORM, etc.	E.g. DPM, dCache, STORM, etc.		E.g. DPM, dCache, STORM, etc.				Ceph disk storage, spinning disk with SSD journal disks
Duration		01 Jan 2018 – 30 Nov 2020	01 Apr 2018 – 31 May 2020	16 Apr 2018 – 30 Nov 2020	01 Oct 2018 – 30 Nov 2020		01 Jun 2019 – 30 Nov 2020				17 Feb 2020 – 30 May 2020
Payment mode offer		Pay-for-use	Pay-for-use	Pay-for-use	Pay-for-use		Pay-for-use				Pay-for-use
Allocation type		Pledged	Pledged	Pledged	Pledged		Pledged				Pledged
<b>Virtual Organisation</b>											
Supported VOs:	vo.nextgeoss.eu										



VO ID card:	<a href="https://operations-portal.egi.eu/vo/view/voname/vo.nextgeoss.eu">https://operations-portal.egi.eu/vo/view/voname/vo.nextgeoss.eu</a>
VO-wide list:	<a href="https://appdb.egi.eu/store/vo/vo.nextgeoss.eu">https://appdb.egi.eu/store/vo/vo.nextgeoss.eu</a>

The Services are supported by additional services:

- Accounting<sup>3</sup>
- Service Monitoring<sup>4</sup> (by EGI Operations team)

Note: Please note that following services are not provided by EGI Foundation:

- Monitoring of vo.nextgeoss.eu
- Monitoring of services provided by the Customer on agreed resources

## 2 Service hours and exceptions

The Services operate during the following hours: twenty-four (24) hours a day, seven (7) days a week, three hundred sixty-five (365) days a year.

The following exceptions apply:

- Planned maintenance windows or service interruptions (“scheduled downtimes”<sup>5</sup>) will be notified via e-mail in a timely manner i.e. 24 hours before the start of the outage<sup>6</sup>.
- Downtime periods exceeding 24 hours need justification.

## 3 Support

Support is provided via EGI Service Desk<sup>7</sup>. Access requires a valid X.509 or the login via an EGI SSO account<sup>8</sup>. Support is available between:

- Monday to Friday.
- From 9:00 to 17:00 in the time zone of the relevant Resource Centres.

Service times always apply with the exception of public holidays in the country of the supporting Resource Centres.

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<sup>3</sup> <http://accounting.egi.eu/>

<sup>4</sup> <http://argo.egi.eu/>

<sup>5</sup> [https://goc.egi.eu/portal/index.php?Page\\_Type=Downtimes\\_Calendar&view=basicWeek](https://goc.egi.eu/portal/index.php?Page_Type=Downtimes_Calendar&view=basicWeek)

<sup>6</sup> <http://goc.egi.eu/>

<sup>7</sup> <http://helpdesk.egi.eu/>

<sup>8</sup> <https://www.egi.eu/sso/>



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### 3.1 Incident handling

Incidents will be handled according to the Quality of Support level that is estimated according to the impact of the outage or service quality degradation.

The Quality of Support in this Agreement has level: **Medium**<sup>9</sup>

Incident priority	Response time
Less urgent	5 working days
Urgent	5 working days
Very Urgent,	1 working day
Top Priority	1 working day

so the incidents, based on their priority will be responded to with the following response times:

Incident priority <sup>10</sup>	Response time	Comment
Less urgent	5 working days	wishes and enhancements that are "nice to have"
Urgent	5 working days	service degraded; work-around available
Very Urgent	1 working day	service degraded; no work-around available
Top Priority	1 working day	service interrupted; needs to be addressed as soon as possible

Table 1. Response times to incidents according to the incident priority of “Medium” services

### 3.2 Service requests

In addition to resolving incidents, standard service requests ([https://wiki.egi.eu/wiki/EGI\\_Service\\_requests](https://wiki.egi.eu/wiki/EGI_Service_requests)) will be fulfilled through the defined support channels in the same way as incidents. Service requests are classified as “Less urgent”.

## 4 Service level targets

#### Monthly Availability

- Defined as the ability of a service to fulfil its intended function at a specific time or over a calendar month.
- Minimum (as an average percentage per month):

<sup>9</sup> [https://wiki.egi.eu/wiki/FAQ\\_GGUS-QoS-Levels](https://wiki.egi.eu/wiki/FAQ_GGUS-QoS-Levels)

<sup>10</sup> [https://wiki.egi.eu/wiki/FAQ\\_GGUS-Ticket-Priority](https://wiki.egi.eu/wiki/FAQ_GGUS-Ticket-Priority)

- Cloud Compute: 90%
  - 100%IT: 90%
  - CESGA: 90%
  - CESNET-MCC: 90%
  - IFCA-LCG2: 90%
  - IISAS-FedCloud: 90%
  - RECAS-BARI: 90%
- Online Storage: 90%
  - 100%IT: 90%
  - CESNETT-MCC: 90%
  - IISAS-FedCloud: 90%
  - RECAS-BARI: 90%

### Monthly Reliability

- Defined as the ability of a service to fulfil its intended function at a specific time or over a calendar month, excluding scheduled maintenance periods.
- Minimum (as an average percentage per month):
  - Cloud Compute: 95%
    - 100%IT: 95%
    - CESGA: 95%
    - CESNET: 95%
    - IFCA-LCG2: 95%
    - IISAS-FedCloud: 95%
    - RECAS-BARI: 95%
  - Online Storage: 95%
    - 100%IT: 95%
    - CESNETT-MCC: 95%
    - IISAS-FedCloud: 95%
    - RECAS-BARI: 95%

### Quality of Support level

- Medium (Section 3)

## 5 Limitations and constraints

The Services provisioning is subject to the following limitations and constraints.

- Support is provided in English.
- Availability and Reliability calculations are based on the Service Monitoring operational results.
- Failures in VO monitoring are not considered as SLA violations.

- Downtimes needed to ensure the security of the Service issues are not considered Agreement violations.
- Failures of resource provider not being part of EGI production infrastructure are not considered as Agreement violations.
- Force Majeure. A party shall not be liable for any failure of or delay in the performance of this Agreement for the period that such failure or delay is due to causes beyond its reasonable control. Means any
  - fire, flood, earthquake or natural phenomena,
  - war, embargo, riot, civil disorder, rebellion, revolution
 which is beyond the Provider's control, or any other causes beyond the Provider's control

## 6 Communication, reporting and escalation

### 6.1 General communication

The following contacts will be generally used for communications related to the service in the scope of this Agreement.

<b>Customer contact</b>	Hervé Caumont <a href="mailto:herve.caumont@terradue.com">herve.caumont@terradue.com</a> Platform Operations, Manager
<b>EGI Foundation contact</b>	Małgorzata Krakowian <a href="mailto:sla@mailman.egi.eu">sla@mailman.egi.eu</a> SLA Coordinator at EGI Foundation
<b>Service Support contact</b>	See Section 3

### 6.2 Regular reporting

As part of the fulfilment of this Agreement and provisioning of the service, the following reports will be provided:

Report title	Contents	Frequency	Produced by	Delivery
Services Performance Report	The document provides the overall assessment of service performance (per month) and SLA target performance	Every six months	EGI Foundation	Email to the Customer

	achieved during last 6 months			
Scientific Publications report	The document provides list of scientific publications benefiting from the Service.	Yearly and with the Agreement ending.	Customer	During satisfaction review

All reports shall follow predefined templates<sup>11</sup>.

## 6.3 Violations

The EGI Foundation commits to inform the Customer, if this Agreement is violated or violation is anticipated. The following rules are agreed for communication in the event of violation:

- In case of violations of the Services targets for three consecutive months, EGI Foundation will provide justifications to the Customer.
  - In case of unavailability of the Component Provider to provide the service, the EGI Foundation will search for a new Component Provider and support migration.
- The Customer will notify the supporting Component Provider in case of suspected violation via the EGI Service Desk (Section 3). The case will be analysed to identify the cause and verify the violation.

## 6.4 Escalation and complaints

For escalation and complaints (a customer complaint is a customer's expression of dissatisfaction with an EGI service, either orally or in writing), EGI Foundation contact (section 6.1) point shall be used, and the following rules apply.

- In case of repeated violation of the Services targets for four consecutive months, a review of the Agreement will take place involving the parties of the Agreement.
- Complaints or concerns about the Services provided should be directed to the EGI Foundation contact who will promptly address these concerns. Should the Customer still feel dissatisfied, about either the result of the response or the behaviour of the supporting Component Provider, [complaints@egi.eu](mailto:complaints@egi.eu) should be informed.

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<sup>11</sup> <https://documents.egi.eu/document/2748>

## 7 Information security and data protection

The following rules for information security and data protection related to the Service apply.

- Assertion of absolute security in IT systems is impossible. The Component Provider is making every effort to maximize security level of users' data and minimize possible harm in the event of an incident.
- The Component Provider will define and abide by an information security and data protection policy related to the service being provided.
- The parties of the Agreement will meet all requirements of any relevant policy or procedure of the Provider<sup>12</sup> and will comply with the applicable national legislations.

## 8 Responsibilities

### 8.1 Of EGI Foundation

Additional responsibilities of EGI Foundation are as follows.

- EGI Foundation adheres to all applicable operational and security policies and procedures<sup>13</sup> and to other policy documents referenced therein.
- EGI Foundation monitors of the Service in order to measure the fulfilment of the agreed service level targets.
- EGI Foundation retains the right to introduce changes in how the Service is provided, in which case the Provider will promptly inform the Customer and update the Agreement accordingly.

### 8.2 Of the Customer

The responsibilities of the Customer are:

- **The customer facilitates the use of EGI acknowledgement by communicating to users the need of adding the following sentence in acknowledgement: "This work used the EGI infrastructure with the dedicated support of RECAS-BARI, IISAS-FedCloud, 100%IT, CESNET-MCC, CESGA and IFCA-LCG2"**
- The Customer will provide during Agreement review (yearly) list of scientific publications benefiting from the Service.
- The Customer must not share access credentials with anyone else.

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<sup>12</sup> [https://www.egi.eu/about/policy/policies\\_procedures.html](https://www.egi.eu/about/policy/policies_procedures.html)

<sup>13</sup> [https://www.egi.eu/about/policy/policies\\_procedures.html](https://www.egi.eu/about/policy/policies_procedures.html)

- The data stored in the system by the Customer must not cause any legal violation due to the content type (such as copyright infringement, dual use, illegal material).
- The use must be consistent with the Acceptable Use Policy<sup>14</sup> of the Service.
- The Customer will notify the Provider in case the actual amount of the Service used results in being under- or over-estimated. The Customer will request an update of the Agreement to ensure optimal usage of the Service.
- The Customer will create one or more Virtual Organizations (VOs) to define the group of users entitled to access the Service. Information about the VO will be regularly updated in EGI Operations Portal<sup>15</sup>.
- The Customer must request EGI Service Desk support<sup>16</sup> to enable assigning tickets with appropriate VO name.
- When applicable, the Customer is responsible of ensuring that the Virtual Machine images endorsed and listed in the AppDB<sup>17</sup> VO image list are properly maintained and updated.

## 9 Review, extensions and termination

The Services performance will be reviewed against the defined Service level targets according to Section 4. The Agreement will be annually reviewed until expiration.

If the Customer wishes to extend the duration after the Agreement termination date, an extension will be negotiated with EGI Foundation.

EGI Foundation retains the right to introduce changes in the Service, in which case the Customer retains the right of terminating the Agreement.

The Agreement can be terminated at any time upon agreement of the parties. Amendments, comments and suggestions must be addressed to EGI Foundation and the Customer according to Section 6.

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<sup>14</sup> <https://documents.egi.eu/document/74>

<sup>15</sup> <http://operations-portal.egi.eu/>

<sup>16</sup> [https://wiki.egi.eu/wiki/FAQ\\_GGUS-New-Support-Unit](https://wiki.egi.eu/wiki/FAQ_GGUS-New-Support-Unit)

<sup>17</sup> <https://appdb.egi.eu/>