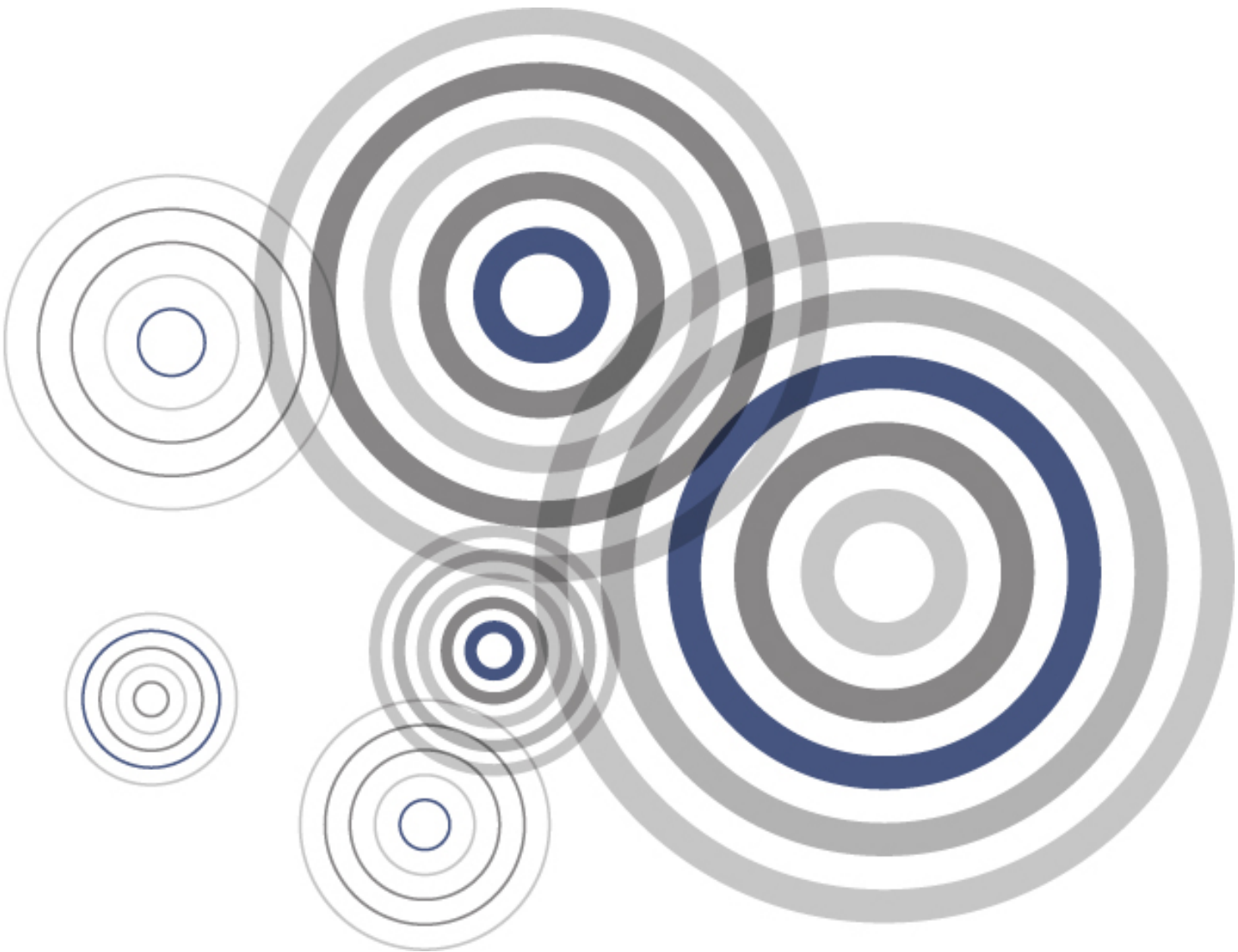


**Mapping Partners' Service Level Agreement (SLA) Appendix,
Version 1.0 of April 13, 2018**



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1. Service Level Agreement Glossary

Note: All definitions of terms in the Cooperation Agreement also apply to this Service Level agreement and prevail in case of inconsistency.

Term	Meaning
Access Groups	Allowed customers of the respective service.
Availability	Ability of a service to perform its agreed function when required.
Business Day	Business Day in Germany (Monday – Friday)
Description	Detailed description that also identifies the service interface and its outcomes.
Duplicate	The same mapping record is included more than once.
Essential Tasks	Essential Tasks that are required to be performed by the service provider to deliver the agreed service.
Mapping	Mapping of one record to another record to indicate a relationship.
Mapping algorithm	A process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer, to match one record to another record.
Name	Name of the service.
Processing Time	Time of all involved parties (if not stated otherwise) to fulfill a service request.
Service Level	A measured and reported achievement against one or more Service Level Targets.
Service Level Target (SLT, also Service Target)	The objective of a Service, that is measured to identify non-conformity of a service delivery (service breach).
Service Transfer Point	The definition of the system where the service is delivered to measure the accordant Service Level Target.
Tag Line	A short description that summarizes the service.
Technical Note	A note, describing GLEIF processes already identified in this Agreement which have an impact on <Partner>.
Update Frequency	How often a request for service will occur in a given period of time.

2. GLEIF Services - Service Descriptions

The following services are performed by GLEIF. For all of them, the attended service operating time will be during GLEIF's Business Days between 09.00 – 17.00.

2.1. Certification of Mapping <> to LEI

Name	Certification of Mapping <> to LEI
Tag Line	Accuracy and confirmation of mapping <> to LEI algorithm.
Description	<p><Partner> documents the nature and extent of the mapping algorithm(s). Supporting documentation must be provided as additional information regarding the algorithm(s).</p> <p>GLEIF checks the relevant sample data from <Partner> with its mapping algorithms for accuracy, and checks whether the relevant sample data meets the accuracy criteria.</p> <p>GLEIF ensures the mismatches in the following areas have been checked (to be described in a Technical Note):</p> <ol style="list-style-type: none"> Issuer name Issuer short name Issuer legal form Status (issuer is active/inactive) Address Country Branch entities (branch or headquarters?) Duplicates Missing data. <p>If the matching meets the accuracy criteria, <Partner> receives a certificate.</p>
Essential Tasks	<ul style="list-style-type: none"> Define and maintain accuracy checks Check accuracy of mapping between <Partner's> data and GLEIF's LEI records Record and deliver result Re-validate (if applicable) with <Partner> Issue mapping certificate
Access Group(s)	<ul style="list-style-type: none"> <Partner>
Thomson Reuters Tasks	<ul style="list-style-type: none"> Provide relevant sample data for mapping algorithm(s) Provide supporting documentation for data mapping algorithm(s) Re-validate data if applicable
Processing Time	30 Business Days

2.2. Re-certification of Mapping <> to LEI

Name	Re-certification of Mapping <> to LEI
Tag Line	Re-certification of the accuracy and confirmation of relevant data sample matching algorithm.
Description	<p>Annually <Partner> updates GLEIF's understanding of the current status of the mapping algorithms that were verified as part of the initial Certification.</p> <p>For areas where significant changes have occurred, <Partner> documents the nature and extent of the changes and how they affected the mapping processing. Supporting documentation must be provided as additional information regarding the change(s).</p> <p>GLEIF and <Partner> review the information and assess the overall impact of any changes noted in the mapping algorithm. GLEIF and <Partner> determine if the changed mapping algorithm still meet the required standard and decide as to whether any remediation action is required.</p>
Essential Tasks	<ul style="list-style-type: none"> ▪ Check accuracy of mapping between <Partner> data and GLEIF's LEI records ▪ Record and deliver result of re-validation ▪ Re-validate (if applicable) with <Partner> ▪ Confirm re-certification
Access Group(s)	<ul style="list-style-type: none"> ▪ <Partner>
Thomson Reuters Tasks	<ul style="list-style-type: none"> ▪ Provide updated relevant sample data for its mapping algorithm noting any changes ▪ Provide supporting documentation for any algorithm changes noted
Attended Service Operating Time	Monday – Friday 09:00 – 17:00 CET
Processing Time	30 Business Days
Update Frequency	Annual at the anniversary of certification

2.3. Publication of the <> to LEI Relationship Links

Name	Publication of the <> to LEI Relationship Links
Tag Line	GLEIF publishes the relationship links between the <> and the LEI.
Description	<p>Publication of the relationship links between the <> and LEI on gleif.org.</p> <p>Via an interface the upload of the master relationship link file to GLEIF takes place. Data is represented in a specific format (e.g. codes, timestamps). Details will be clarified in a Technical Note.</p> <p>The interface provides quality gates for testing of the data received. Files or records not passing the quality tests will be rejected.</p> <p>The uploaded file received from <Partner> will not be modified by GLEIF.</p>
Essential Tasks	<ul style="list-style-type: none"> ▪ Publish timely accurate file of LEI to <> relationship links ▪ Provide upload interface ▪ Contact <Partner> in case of rejections ▪ Provide and process quality checks
Access Group(s)	<ul style="list-style-type: none"> ▪ <Partner> ▪ Public
<Partner> Tasks	<ul style="list-style-type: none"> ▪ Deliver the mapping daily in the agreed format
Availability	99,9 % (Monday – Sunday 00:00 – 24:00)
Update Frequency	Daily

3. <Partner> Services – Service Descriptions

The services of <Partner> set out in this Service Level Agreement are all related to mapping of LEIs and <XXX> and transmission of this data to GLEIF.

In order to facilitate the certification performed by GLEIF, the relationship data produced by <Partner> should be uploaded to GLEIF in line with the services set out in this chapter.

3.1. Deliver <> to LEI Relationship Links

Name	Deliver <> to LEI Relationship Links
Tag Line	A cross reference of LEIs to <> which could be a one to one relationship or a one to many relationships.
Description	<p><Partner> provides a daily master file with relationships links of <> to LEIs with the attributes</p> <ul style="list-style-type: none"> ▪ LEI code ▪ <> code ▪ Timestamp ▪ inactive status tbd <p><Partner> does not provide any <> related reference data.</p>
Essential Tasks	<ul style="list-style-type: none"> ▪ Apply mapping algorithms to provide <> to LEI relationships ▪ Check for mismatches before delivering the file to GLEIF ▪ Deliver relationship links in the agreed format
Access Group(s)	<ul style="list-style-type: none"> ▪ GLEIF
Update Frequency	Daily
Successful upload rate	>= 95%

3.2. Manage Challenges Provided Through gleif.org

Name	Manage Challenges provided through gleif.org
Tag Line	<Partner> responds to <> challenges received from GLEIF.
Description	<p><Partner> will review and respond to <> challenges transmitted to them by GLEIF.</p> <p>These challenges may be transmitted to <Partner> by GLEIF on behalf of a third party or on behalf of GLEIF. <Partner> investigates the content of the challenge and verifies if justified.</p> <p><Partner> ensures the pertaining data is adjusted given the challenge is justified and uploads the adjusted record to GLEIF by using service 2.3.</p>
Essential Tasks	<ul style="list-style-type: none">▪ Review and respond to all challenges transmitted by GLEIF▪ Research the content of the challenge and verify the challenge is valid and justified.▪ Upload to GLEIF the updated data collected
Access Group(s)	<ul style="list-style-type: none">▪ Public
Processing Time	5 business days

4. Monitoring and Service Level Breaches

The Service Levels ensure the required high quality of the mapping relationships. It is therefore essential to closely monitor the achievement of the agreed Service Levels. Dependent on the service, <Partner> and GLEIF have to monitor and report the Service Level metrics.

4.1. Service Level calculation

The following table shows, how each Service Level is calculated.

Service Level	Formula	Service Transfer Point
Availability	$\left(\frac{(T_{month}) - T_{nonavailability}}{(T_{month})} \right) \times 100^*$	GLEIF webserver
Processing Time for "Manage Challenges"	$\left(\frac{\sum (E_{businessdays} - S_{businessdays}^{**})}{\sum Closed\ requests} \right)$	GLEIF system
Processing Time for "Certification of Mapping <> to LEI"	$\left(\frac{\sum (E_{businessdays} - S_{businessdays}^{**})}{\sum Closed\ requests} \right)$	GLEIF system
Processing Time for "Re-certification of Mapping <> to LEI"	$\left(\frac{\sum (E_{businessdays} - S_{businessdays}^{**})}{\sum Closed\ requests} \right)$	GLEIF system
Successful Upload Rate	$\left(\frac{\sum Days\ with\ complete\ set\ of\ files\ successfully\ received\ by\ GLEIF}{\sum Days\ in\ the\ month} \right)$	GLEIF system
Update Frequency for "Re-certification of Mapping <> to LEI"	$\begin{aligned} starttime &\geq LastValidationYearMonth01 + 1\ year \\ &AND \\ endtime &\leq LastValidationYearMonth01 + 1\ year \\ &+ 30\ Business\ Days \end{aligned}$	GLEIF system

*Tmonth = Availability of a month in minutes

Tnonavailability = Time frame, in which the service was unplanned not available. Sum equals sum of each single outage

**E = End time stamp when request has been completed (formal notification)

**S = Start time stamp when request has been received (formal notification)

4.2. Monitoring of Service Levels by GLEIF

GLEIF monitors and reports the following Service Levels on a monthly basis.

Service Level	Services
Availability	<ul style="list-style-type: none">▪ Publication of the <> to LEI Relationship Links
Processing Time	<ul style="list-style-type: none">▪ Certification of Mapping <> to LEI▪ Re-certification of Mapping <> to LEI▪ Manage Challenges Provided Through gleif.org
Update Frequency	<ul style="list-style-type: none">▪ Re-certification of Mapping <> to LEI▪ Publication of the <> to LEI Relationship Links
Successful Upload Rate	<ul style="list-style-type: none">▪ Deliver <> to LEI Relationship Links

4.2.1. Maintenance windows at GLEIF

GLEIF's website operates 24/7/365 without regular maintenance windows. In case of exceptional maintenance windows whenever possible and on a best effort basis GLEIF will announce them, two weeks before scheduled via email and on GLEIF's website.

4.3. Service Level Breaches

In case of Service Level breaches, finding a solution on time and remedying the breach is of predominant importance for GLEIF and <Partner>.

Based on the results of the monthly SLA Reports, which are created and distributed by GLEIF, the following steps in “4.3.1 Escalation Management” can be initiated, when Service Level breaches occur.

4.3.1. Escalation Management

Escalation Level 1:

The GLEIF Business Relationship Manager will contact the responsible counterparty to discuss the Service Level Breach.

The counterparty analyzes the Service Level Breach(es) and within three (3) Business Days provides a proposed solution and how long the remediation of the Service Level Breach(es) will take.

The counterparty implements the proposed solution. The Escalation Level 1 is closed when the following Service Report shows that the solution was successful, otherwise the Escalation Level 1 remains open and the Escalation Level 2 is raised.

Escalation Level 2:

If the Escalation Level 1 contact person (or in the case of absence, the delegated party) cannot be reached within five (5) Business Days, or the counterparty did not respond within three (3) Business Days to provide a proposed solution, the Escalation Level 2 contact person is being notified by the respective Escalation Level 1 contact person.

GLEIF Escalation Level 2 contacts the <Partner> counterparty who should respond within three (3) Business Days to the Escalation Level 2 contact with a proposed solution.

The counterparty implements the proposed solution. The Escalation Level 2 is closed when the following Service Report shows that the solution was successful, otherwise 4.3.2 may be initiated.

Escalation Contacts

Please refer to **Appendix 3** “Contact details of the Parties – “SLA Escalation Level Responsibilities”.

4.3.2. Internal Controls Verification

If both Escalation Levels are exhausted, GLEIF & <Partner> may initiate the Re-certification of Mapping within a current year.

4.3.3. Termination

If neither GLEIF nor <Partner> can reach the defined Service Levels according to chapter 4, within an adequate period of time to implement recommendations the counterparty may terminate the Agreement according to section 9 Term and Termination of the Cooperation Agreement.

5. SLA Reports

GLEIF collects the data to create a monthly SLA Report and provides these monthly to <Partner> by the 15th Business Day of the following month.

In case of Service Level breaches GLEIF initiates escalation management.

Service Reports Definition

Type	Performance
Contents	Report parameters according to SLA
Reporting period	Monthly
Reporting	TBD
Obligation	According to SLA
Language	English
Filing	Minimum 10 years

The first report will be generated x months after the Effective Date of the Agreement. Up to this point, section 4.3 of this SLA does not apply.

6. Change of Service Levels

Service levels can be changed after agreement of changes between GLEIF and <Partner>.