

SWARCO

# Cloud Solutions

SLA SWARCO Cloud Services V2.1



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# 1 Introduction

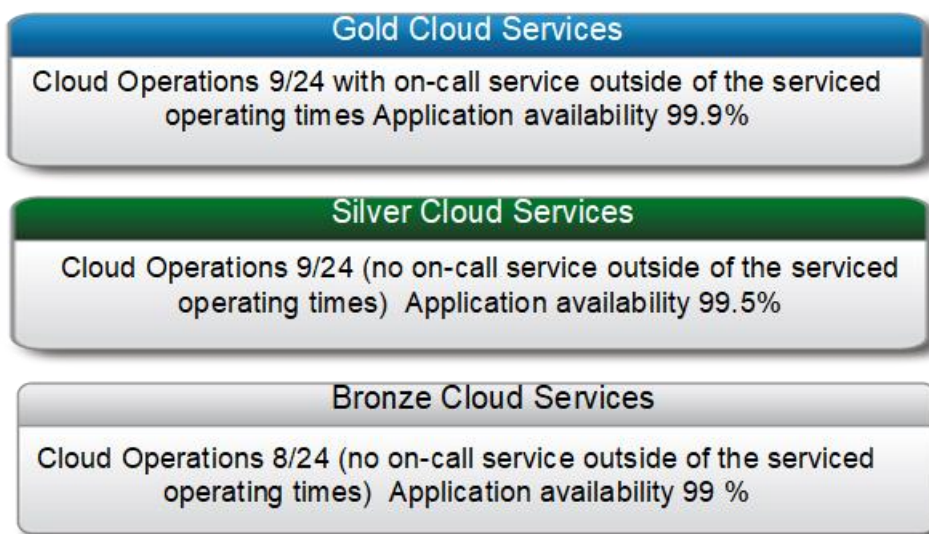
## 1.1 Purpose of this document

This Service Level Agreement (“SLA”) describes in detail the Cloud Services which are provided by SWARCO for its customers. This SLA also describes the service level provided by SWARCO for any kind of service.

This document is part of the contract between SWARCO and its customers.

## 1.2 Service Level Agreement for SWARCO Cloud Services

The diagram below summarizes the existing SLAs and their positioning.



## 1.3 SWARCO Cloud Services models of provision

The SWARCO Cloud Services offers follow two different models of provision:

### 1.3.1 Private Cloud

Licenses and technical infrastructure are not property of the customer. The customer has the right to use the solution implemented and operated by SWARCO by performing the duties related thereto. The technical environment is available to the customer in a dedicated manner even if several technical elements are subject to joint use (network access, firewall, virtualization, ...). SWARCO is responsible for the technical architecture and its components. In this regard, the customer has the option to adjust the software solution and may also determine the speed of the further development, e. g. related to the use of releases, provided that by doing so neither security nor the actual operation are endangered.

### 1.3.2 Public Cloud

SWARCO Public Cloud Services are provided to the customers by way of lease. For this, the available multi-tenant platforms are used by multiple customers. The configuration and composition of the software technologies are the responsibility of SWARCO. Adjustments of the solutions are limited to the available configuration settings. SWARCO carries out updates of these platforms at regular intervals so that the SWARCO customers can profit from all innovations and extensions.

## 2 SWARCO CLOUD SERVICES service specification

### 2.1 SWARCO operating services

The functions supported by SWARCO are set out in this chapter. Several standard services may vary depending on the SLA chosen or, respectively, the additional options chosen to the standard SLA.

In the following, several elements are further described.

#### 2.1.1 Technical infrastructure

SWARCO is directly and/or jointly responsible with the IaaS provider for all work on the components which are necessary for the proper functionality of the service platform.

- Hosting environments
- Servers
- Network and load balancer
- Security systems
- Storage capacity
- Middleware
- Databases
- Software license and maintenance

Pursuant to the requirements of the SLA, SWARCO defines the architecture for the Private Cloud or, respectively, the Public Cloud model and ensures the service provision also at temporary peak times.

#### 2.1.2 Initial project

The initial project includes the costs for building the customer environment and for integrating it into the SWARCO Cloud Platform. The service package of the initial project complies with the chosen operational model and the complexity of the installation.

- Architecture
- Provision of the hardware for test and production environment
- Network configuration
- Initial configuration of the application
- CMDB configuration
- Creation of documentation
- Test environment

#### 2.1.3 SWARCO CLOUD SERVICES service platform

SWARCO provides to the customer a service platform developed by SWARCO. This platform includes all software and hardware components guaranteeing to the customer an environment which is secure and available at any time, such as:

- Monitoring systems and control environment
- Security solutions
- ITSM
- Backup and recovery software
- Network access
- Reporting

The costs thereof are included in the price for the service provision.



## **2.2 Services not included in Cloud Services**

### **2.2.1 Monitoring of business processes**

SWARCO shall not be liable for the data and/or the customer's use of the platform provided. Upon the customer's request, SWARCO may assume responsibility for monitoring the occurrence of certain events or, respectively, the non-occurrence of set events.

### **2.2.2 Incidents caused by the customer and/or his partner**

Significant efforts for recovering the platform which are due to the improper use by the customer or by one of the customer's partners may be invoiced. This applies, for example, to network problems on the side of the customer, to configurations performed by the customer or to undesired side effects which are caused by poor data quality.

### **2.2.3 Services from the service catalogue**

Services from the service catalogue are not included in the monthly basic costs. The customer designates the persons who are authorized to order a service from the catalogue. The service ordered is invoiced to the customer as fixed price or according to expenditure. The names of the customer's employees who are authorized to order are listed in the "communication plan".

## **2.3 Optional services**

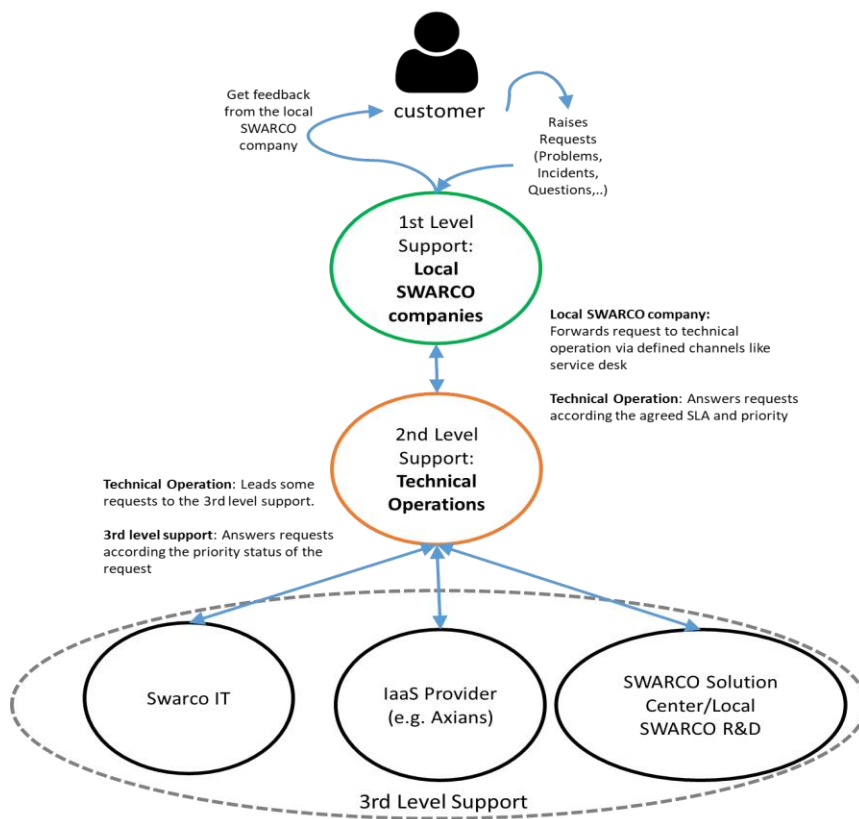
After delivery of the technical environment, the functional configuration project is carried out as a separate project and, generally, with a separate contract. This project may contain, for example, the following elements:

- LSA provision and configuration
- Setup of processing logic
- Administrator training
- User training
- ...

### 3 SWARCO CLOUD SERVICES organisation and functions

#### 3.1 Representation of the SWARCO Cloud Services support organisation

The following graphic provides an overview of the structure of the collaboration/interactions of the different support levels. A list with the responsible contact persons can be found in the communication plan which is a part of this contract.



In general, two kinds of requirements can be transferred to SWARCO:

- Requirements and/or further development of the solution, adjustment of the configuration, change requests or simple requests for information on the solution.
- Reports on incidents which are accepted by SWARCO and processed by performing the contractual duties.

#### 3.2 Support Level 1

SWARCO accepts the incoming requests and malfunctions. The Support Level 1 processes the incidents within the contractually guaranteed times as well as according to their priority. This team determines the exact source of the error and takes the measures necessary for the quickest possible recovery of the service. It ensures the solution of incidents or, respectively, problems if incidents are identified as problems and if they are classified accordingly.

#### 3.3 Support Level 2

Problems which cannot be solved by the support level 1, are passed on to the SWARCO level 2 support. These teams consisting of solution experts cover areas such as administration, tuning, design, architecture and hosting. The tasks of this support level are:

- Incidentmanagement
- Change management
- Technical service level management (availability, operational continuity management, ...) in connection with the IaaS provider
- Hardware and software administration.

### **3.4 Support Level 3**

Level 3 corresponds to the standard troubleshooting process and/or to consulting the development units or, respectively, external partners.



## 4 SLA specification

### 4.1 KPI definition

After the definition of the KPIs (performance indicators), a detailed description and calculation method for the KPIs which are contractually relevant and represented in the reporting will follow. These KPIs serve as a reference provided that they are included in a possible penalty calculation.

- a. **Availability:** Availability of a given system during a measurement period excluding scheduled maintenance times. The conditions and tools may vary depending on the system.
- b. **MTTRespond:** Average duration within the time measurement period between the recording of the incident and the start of its actual processing.
- c. **MTTNotify:** Average duration within the time measurement period between the recording of the incident and the first active communication with the customer relating to the ongoing work on the incident. In case of critical incidents, communication is preferably carried out via telephone.
- d. **MTTResolve:** Average duration within the time measurement period between the recording of the incident and its solution (status "solved").

The availability has contractual relevance for the Cloud Service. Should further indicators become necessary, there is the possibility to also include them.

Definition	<p>Availability is defined in such a way that the Cloud Service is ready for operation and available to the customer (excluding scheduled maintenance windows). It is measured as a percentage.</p> <p>The measurement period is defined as monthly. It starts with the 1<sup>st</sup> day of the month following the operational start. The availability report is made available subsequently on a monthly basis. The operational start is defined as the date on which SWARCO and the customer have jointly confirmed that the production environment is active and can be used.</p> <p>Scheduled maintenance windows are defined as maintenance which is announced and communicated to the customer at least one week in advance. As described in the SLA package, scheduled maintenance windows are clearly restricted and limited within each measurement period.</p> <p>Not considered in the SLA assessment are:</p> <ul style="list-style-type: none"> <li>- Network problems outside of SWARCO's infrastructure</li> <li>- Incidents occurring due to modifications by the customer or to improper use</li> <li>- Force majeure</li> </ul> <p><u>Obligation:</u> depending on the SLA (bronze, silver, gold)</p>
<b>METHODOLOGY</b>	
Necessary data source	<ul style="list-style-type: none"> <li>• Critical incidents and scheduled maintenance windows</li> <li>• Data of the IaaS provider</li> </ul>
Data recording method	manual
Calculation method	Calculation of the percentage of the operable Cloud Services compared to the monthly total time less scheduled maintenance times.

## 4.2 Overview services acc. to SLA level

Further explanations to the elements described in this part of the document can be found further down. The following table represents a summary of the services pursuant to SLA level.

CLOUD SERVICE SLA			
FEATURE	BRONZE	SILVER	GOLD
Access method	Phone/web/e-mail	Phone/web/e-mail	Phone/web/e-mail
Service availability	24/7 – 99%	24/7 – 99.5%	24/7 – 99.9 %
Serviced operating times	Mo-Fr 09:00-17:00 (CET) <i>Excluding national holidays.</i>	Mo-Fr 08:00-17:00 (CET) <i>Excluding national holidays.</i>	Mo-Fr 08:00-17:00 (CET) <i>Excluding national holidays.</i> <b>+ 24/7 On-call service for category 1 incidents</b>
MTT Respond	< 60 min. during business hours	< 60 min. during business hours	< 30 min. during business hours < 60 min. outside of business hours
MTT Notify Critical: categ. 1 High: categ. 2 Medium: categ. 3 Low: categ. 4	< 4 business h < 2 business days < 5 business days < 10 business days	< 2 business h < 1 business day < 2 business days < 4 business days	< 1 h On-Call service < 4 business h < 1 business day < 3 business days
MTT Resolve Critical: categ. 1 High: categ. 2 Medium: categ. 3 Low: categ. 4	< 2 business days < 5 business days < 10 business days < 15 business days	< 9 business h < 2 business days < 6 business days < 10 business days	< 6 h On-Call service < 1 business day < 3 business days < 10 business days

## 4.3 Bronze level

### 4.3.1 Service platform

The solution is available for 24 hours on 7 days a week. The level of availability of the solution is calculated on a monthly basis and amounts to at least 99 %.

The bronze SLA applies to all non-productive systems by default.

### 4.3.2 Support

SWARCO provides to the customer the support levels 1 and 2 during business hours (excluding nationwide/national holidays) throughout the year. This applies to reported incidents of all categories.

Outside of the business hours, customers may contact SWARCO, however, SWARCO has no contractual obligation to a reaction time or a service recovery time. There is no on-call service for this service level by default.

### 4.3.3 Summary SLA

Function	Obligation
Service times	24 / 7
Serviced operation	5*7 Mo-Fr 9 am – 5 pm excluding nationwide/national holidays no on-call service outside of business hours
Availability (*)	99%
MTTRespond	60 min. during business hours
MTTNotify Critical: categ. 1 High: categ. 2 Medium: categ. 3 Low: categ. 4	< 4 business h < 2 business days < 5 business days < 10 business days
MTTResolve Critical: categ. 1 High: categ. 2 Medium: categ. 3 Low: categ. 4	< 2 business days < 5 business days < 10 business days < 15 business days

## 4.4 Silver level

### 4.4.1 Service platform

The solution is available for 24 hours on 7 days a week. The level of availability of the solution is calculated on a monthly basis and amounts to at least 99.5%.

### 4.4.2 Support

SWARCO provides to the customer the support levels 1 and 2 during business hours (excluding nationwide/national holidays) throughout the year. This applies to reported incidents of all categories.

Outside of the business hours, customers may contact SWARCO, however, SWARCO has no contractual obligation to a reaction time or a service recovery time. By default, there is no on-call service for this service level by default.

### 4.4.3 Summary SLA

Function	Obligation
Service times	24 / 7
Serviced operation	5*7 Mo-Fr 8 am – 5 pm excluding nationwide/national holidays no on-call service outside of business hours
Availability (*)	99,5%
MTTRespond	60 min. during business hours
MTTNotify Critical: categ. 1 High: categ. 2 Medium: categ. 3 Low: categ. 4	< 2 business h < 1 business day < 2 business days < 4 business days
MTTResolve Critical: categ. 1 High: categ. 2 Medium: categ. 3 Low: categ. 4	< 9 business h < 2 business days < 6 business days < 10 business days

## 4.5 Gold level

### 4.5.1 Service platform

The solution is available for 24 hours on 7 days a week. The level of availability of the solution is calculated on a monthly basis and amounts to at least 99.9%.

### 4.5.2 Support

SWARCO provides to the customer the support levels 1 and 2 during business hours (excluding nationwide/national holidays) throughout the year. This applies to reported incidents of categories 2, 3, and 4. For incidents of category 1, MTTRespond, MTTNotify and MTTResolve apply 24 hours a day.

Outside of the business hours, customers may contact SWARCO, however, SWARCO has no contractual obligation to a reaction time or a service recovery time in case of incidents of the categories 2, 3 and 4. For this service level, an on-call service covering the incidents of category 1 is by default established outside of the business hours.

### 4.5.3 Summary SLA

Function	Obligation
Service times	24 / 7
Serviced operation	5*7 Mo-Fr 8 am – 5 pm excluding nationwide/national holidays on-call service for incidents of category 1 outside of business hours
Availability (*)	99,9%
MTTRespond	30 min. during business hours 60 min. during on-call service
MTTNotify Critical: categ. 1 High: categ. 2 Medium: categ. 3 Low: categ. 4	< 1 h < 4 business h < 1 business day < 3 business days
MTTResolve Critical: categ. 1 High: categ. 2 Medium: categ. 3 Low: categ. 4	< 6 h < 1 business day < 3 business days < 10 business days

## 4.6 Communication with support and SWARCO contact persons

The list of contact persons included in the “communication plan” is part of the contract. The communication plan has to be adjusted for every single contract and shall include the following information:

- SWARCO contact persons for processing for incidents
- Delivery Manager responsible for the customer
- SWARCO contact persons for the escalation process
- Contact persons of the customer for managing and operating the platform

## 5 SWARCO CLOUD SERVICES mode of operation

### 5.1 Delivery Manager

The Delivery Manager is responsible for the quality of the services provided as well as for the relationship to the customer. In detail, he assures:

- Adherence to ITIL processes
- Performance of SWARCO’s duties vis-à-vis the customer
- Management of the Cloud Services for the Cloud customer activities (incidents, requirements, monitoring of solutions)
- Provision of reporting
- Organisation of steering committees
- Consideration of new customer requirements

### 5.2 Monitoring of the service platform

#### 5.2.1 Automatic monitoring

Automatic monitoring is subject to continuous process optimization. Alert mechanisms ensure that occurring errors cannot be ignored. The Business Activity Monitoring of processes ensures that the SLAs are complied with as regards critical processes. Furthermore, bottlenecks can be identified early.

#### 5.2.2 Manual monitoring

The automatic monitoring is ensured by manual checks of the application and the solution on the basis of checklists. If necessary, the contents of these checklists are decided jointly by the customer and SWARCO during the steering committees.

Every event identified via proactive monitoring is immediately forwarded to the Incident Management.

### 5.3 Management of the technical infrastructure

The Infrastructure Management Contract is supported by SWARCO, however, the operational services may be provided by the IaaS provider.

SWARCO reserves its right to change the IaaS provider. This being the case, SWARCO undertakes to inform the customer on the change one month in advance.

### 5.4 Security Management

The SWARCO Security Policies are described in the “SWARCO Cloud Security Programme Overview”. This document is part of the contract.

### 5.5 Data backup and recovery

Backup Management is the responsibility of SWARCO. It can be carried out by the IaaS provider. The Backup Plan is part of the service and is established during the initial project.

By default, the backup is carried out as described in the following table:

Backup	Description
weekly full backup	Rotation weekly and archiving of every full backup for a duration of 2 weeks
Daily incremental backup	Daily (except for days of full backup)

## 5.6 Definition of incident/change classes

Every change and/or every incident is classified according to its effects on the service. The classification is carried out according to the following scheme:

Category	Incident	Change Request
Category 1 – critical	Operation of application is intermittent, users cannot work, errors cannot be circumvented by organisational measures (Example: full standstill of a system/platform)	(no typical level 1 change)
Category 2 – urgent	Application is highly disrupted; users are impeded in their work; errors can be temporarily circumvented by organisational measures	Legal necessity with short term or operational requirements which are prioritized vis-à-vis economic considerations (Example: implementation of safety regulations)
Category 3 – important	Application is only affected by errors in uncritical functions or only in exceptional cases, users can work (Example: missing authorization/approval)	The requirement is reasonable from an economic point of view (objective as well as cost/benefit ratio) and is to be implemented within a short realisation time (Example: new authorization profiles, changes which are necessary for new requirements)
Category 4 – uncritical	Application/business process is executable, however, there are deviations from the customer requirements (Example: missing entries in lists)	The requirement is reasonable from an economic point of view (objective as well as cost/benefit ratio) (Example: change without any time pressure, necessary change of lists)

## 5.7 Classification of incidents

When an incident is reported by the customer, it is classified in a category based on the impairment and the urgency of the case. The customer will communicate to SWARCO an initial assessment considering the category. This category will be finally confirmed or changed by the Technical Operations Service Desk.

The determination of the blocking effect refers mainly to the operation of the customer business.

Effect on the customer	Definition
High	all users are affected or
	business interruption or
	data loss
Medium	several users are affected or
	non-core areas of the business are affected
Low	some users are affected / restricted business interruption / information



## Degrees of urgency

Urgency	Definition
High	acute emergency
Medium	day-to-day business
Low	information needs

## Classification table

Urgency				
Effect		High	Medium	Low
	High	Class 1	Class 2	Class 3
	Medium	Class 2	Class 3	Class 4
	Low	Class 3	Class 4	Class 4

## 5.8 Demand for additional services/requirements

### 5.8.1 Services from the service catalogue

Services from the service catalogue are provided according to the terms and conditions set forth therein. SWARCO undertakes to give a first response within three working days after registration of the requirement and will present a delivery proposal thereby. Services ordered from the service catalogue are charged to the customer together with the monthly invoice for the use of the platform.

If the number of services ordered from the service catalogue exceeds 5 items per month, SWARCO, for reasons of quality assurance, reserves its right to present to the customer a delivery schedule for these services which takes into account the expected effort needed for the additional requirements.

### 5.8.2 Further additional services (outside of the service catalogue)

For requirements outside of the service catalogue, the customer shall receive a respective offer after a respective assessment by SWARCO.

The following table contains the obligations of SWARCO within the scope of additional services outside of the service catalogue. The delivery times stated herein are to be regarded as average values and strongly depend on the scope and complexity of the requirements.

Standard		Specific
Normal	Reaction time = 2 days Delivery time = admissible maximum duration (10 days or according to service catalogue)	Reaction time = 5 days Delivery time = according to offer
Urgent	Reaction time = 1 day Delivery time = admissible maximum duration (5 days or according to service catalogue)	Reaction time = 2 days Delivery time = according to offer

## 5.9 Maintenance intervals and scheduled downtimes

Maintenance intervals and scheduled downtimes depend on the SLA of the customer.

- Preventive maintenance organised by SWARCO is carried out outside of the business hours of the customer. The customer will be informed about such maintenance work and the scheduling relating thereto is coordinated with the customer.
- In exceptional cases (e.g. in order to maintain stability or in emergency cases such as security patches, unauthorized intrusion from outside, security alarm, and the like), maintenance work during the business hours of the customer may become necessary. In such a case, SWARCO informs the customer on the business interruption which is planned being in the interest of the customer.
- Requirements of the customer are processed during the normal support business hours which are specified in the SLA package applicable to the customer.

SWARCO may define so-called “Frozen Zones”, i.e. time windows in which no changes may be applied to the service platform.

Frozen Zone Designation	Period
Standard	immediately before weekends and nationwide/national holidays

Within the framework of a Private Cloud contract, the customer has the possibility to determine himself a “Frozen Zone” for the platform used and to communicate such to SWARCO. When maintenance work with a scheduled downtime is carried out, SWARCO informs the customer thereof at least 5 working days prior to starting any work.

## 5.10 Hierarchical escalation management

The following table displays the default escalation process for incidents of categories 1 and 2 which are processed in Support Level 2.

Term	Category 1 & 2 escalations hierarchy
SLA has reached 100%	Person in charge Head of Technical Operations
SLA has reached 200%	Person in charge Delivery Manager Head of Technical Operations