

# MindSphere Supplemental Terms

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## A GENERAL

- 1. Scope.** These MindSphere Supplemental Terms (the “**Supplemental Terms**”) are an integral part of the MindSphere Agreement.
- 2. Definitions.** Capitalized terms used in these Supplemental Terms shall have the meaning ascribed to them in this document or elsewhere in the MindSphere Agreement.
- 3. New Services.** When we introduce new features, supplements, enhancements, capabilities or Services (e.g. that were not previously included with the subscription, but added for no additional fee or offered separately for an additional fee), we may make updates to these Supplemental Terms on [www.mindsphere.cn/terms](http://www.mindsphere.cn/terms) that apply to your use of those new features, supplements, enhancements, capabilities or Services. The then-current Supplemental Terms apply to you when you use these new features, supplements, enhancements, capabilities or Services.
- 4. Third Party Services.** The Services may contain Third Party services, including open source software, commercial software, or software-related managed services, which may be subject to additional or different terms, license rights, or require certain notices by their licensors, which we are obliged to pass on to you as your licensor and to which you agree to abide (“**Third Party Terms**”). With respect to your use of such Third Party Services, the Third Party Terms set out in a Transaction Document shall always prevail.
- 5. Changes imposed by Subcontractors.** We may update or modify these Supplemental Terms from time to time during a Subscription Term in order to reflect any changes in the Services agreed with or imposed by Alibaba Clouds’ and/or Siemens’ subcontractors (including changes in open source software license terms). Changes shall become binding upon release of a new version on [www.mindsphere.cn/terms](http://www.mindsphere.cn/terms).
- 6. Order of precedence.** In the event of a conflict or inconsistency of these Supplemental Terms with a Specific Terms document applicable to you (e.g. Specific Terms for MindAccess IoT Value Plan), these Supplemental Terms shall prevail.
- 7. Export Control Regulation.** The Services described in these Supplemental Terms are classified as AL =N, ECCN = N/EAR99, unless expressly set out otherwise herein.
- 8. Services coming soon.** Anomaly Detection as part of Analytics Services, Data Exploration built on Tableau®, MindConnect Edge Analytics.

## B FOR MINDACCESS IOT VALUE PLAN SUBSCRIBERS

For the access to and use of the Services described in this [Chapter B](#), a valid subscription to a MindAccess IoT Value Plan is required. The Services described herein may already be included in your subscription to the relevant MindAccess IoT Value Plan (subject to the applicable levels of authorized use as set out herein or in the relevant Transaction Document) or they can be added for an additional fee as an additional Service subscription in relation to your respective MindAccess IoT Value Plan. If an Order Form indicates that a Service relates to certain other Services (e.g. to MindAccess IoT Value Plan), then the Specific Terms that apply to such other Services shall also apply to the related Services.

### 1. Data Exploration built on Tableau®

Data Exploration built on Tableau® enables you to export data from assets and aspects under your Account to your on-premise Tableau Desktop® installation for further analysis. The data is exported from your Account via a web data connector provided by us.

Specific Terms. Data exported via Data Exploration built on Tableau® may only be stored and processed in connection with your on-premise Tableau Desktop® installation. Tableau Desktop® installations are not part of our Services. The procurement and maintenance of appropriate licenses for Tableau Desktop® installations are your responsibility. Tableau Desktop® installations are solely operated by you. You may permit Users of Third Parties to access and use this Service also for the purpose of receiving a service from you.

### 2. Fleet Manager and Fleet Manager Rules

Fleet Manager provides an overview of your assets configured in a respective Account, and allows you to search and filter for relevant assets based on various criteria. Fleet Manager allows you to display and monitor measured data and information from your assets. User settings enable you to configure Fleet Manager. Limitations such as e.g. the file upload size may apply according to the respective MindAccess Plan size ordered.

Fleet Manager Rules refer to the functionality within the Fleet Manager to graphically create and configure rules that monitor parameters of an asset. You can define rules in the Fleet Manager that monitor the data points of the respective assets and define

resulting actions such as sending notifications or setting a status indication after the occurrence of an event set by you, e.g. if the data relating to a certain asset exceeds a threshold defined by you in the Fleet Manager. The number of active concurrent rules is limited. This limit is defined by the respective Plan size ordered and can be upgraded at an additional fee.

**Specific Terms.** The Fleet Manager leverages our Notification Service for the sending of emails and other types of messages. The terms and conditions set out in these Supplemental Terms for Notification Service ([Section C 1.9](#)) also apply to your use of the Fleet Manager. You may permit Users of Third Parties to access and use this Service also for the purpose of receiving a service from you.

Email notifications included in Fleet Manager Rules are limited to one email notification per minute per rule. Number of concurrent rules per asset is limited to 200. Maximum number of active concurrent rules per asset is 100. Asset status will be calculated only once per minute. The Service assumes that the time series data is received in a chronological order. This means that if data with an older timestamp is received after the data with a more recent timestamp, it will not be processed. Default value for limit actions in time is one minute. Debouncing time allows only 10 minutes. After continuous data ingest breaks only time series data for the last week (7 days from the break) is considered.

**Third Party Terms.** Third Party Terms for Fleet Manager are available via the following web link: [http://sie.ag/MindSphere-ThirdParty\\_FM](http://sie.ag/MindSphere-ThirdParty_FM).

### 3. MindConnect API Services

MindConnect API Services are available via their respective MindSphere API and allow you to transfer data between your Account on the Platform and on-premise hardware devices or on-premise connectivity software from Siemens or from Third Parties, provided such hardware or connectivity software is compatible with the MindConnect API Services. Connectivity software and hardware for the connection of devices, systems or other equipment to the Platform are not part of our Services. It is your responsibility to procure and maintain appropriate licenses for such hardware and connectivity software. Such hardware and connectivity software are solely operated by you.

### 4. MindConnect Edge Analytics

MindConnect Edge Analytics allows you to collect high frequency data, pre-process raw data and use an analytic edge functionality to calculate your KPIs. These KPIs allow condition monitoring (e.g. vibration analysis) of your asset. MindConnect Edge Analytics requires a valid software license to the *MindConnect Edge Analytics Engine* software for use on your connectivity hardware in the field as well as a valid subscription to functionalities of the Application *MindConnect Edge Analytics* on the Platform.

**MindConnect Edge Analytics Engineer** is a set of functionalities of the Application MindConnect Edge Analytics that allows you to configure your data points and KPIs on your MindAccess Account. To use these functionalities a MindConnect Edge Analytics Engineer license is required.

**MindConnect Edge Analytics Engine** is software that allows you to collect data and perform edge analytics of the data to calculate KPIs. The MindConnect Edge Analytics Engine software installed on your connectivity hardware can send the calculated KPIs to the Platform. The software will be made available for download on the Platform and must only be used on supported connectivity hardware. As of the release date of these Supplemental Terms, the MindConnect Nano from Siemens is supported connectivity hardware. For further information as to which connectivity hardware is currently or will be supported, please verify with Alibaba Cloud Call Center (Hotline: 95187) or by the online tickets you submitted.

**Specific Terms for MindConnect Edge Analytics Engine.** Connectivity hardware for the connection of devices, systems or other equipment to the Platform is not part of our Services. It is your responsibility to procure such connectivity hardware. Connectivity hardware is solely operated by you. For each connectivity hardware device, a separate license to MindConnect Edge Analytics Engine software must be obtained. Each license grants you the permanent, non-transferable, non-sublicensable, and revocable right to use, and permit Third Parties to use, the MindConnect Edge Analytics Engine software on a single supported hardware device that interfaces with the software on a one-to-one basis. The license includes 5 external data points; additional data points can be upgraded for additional fees.

You are solely responsible for (i) properly installing, configuring and using the MindConnect Edge Analytics Engine software, (ii) properly connecting it to the Platform, and (iii) regularly monitoring the content, integrity, security, accuracy and timeliness of the data transmission (e.g. by monitoring such transmission over the Platform).

You always keep up to date the MindConnect Edge Analytics Engine software by installing updates and patches as they become available. Data collected during an update procedure may be lost. We disclaim all warranty and liability for such data loss. Outdated

MindConnect Edge Analytics Engine software may not be able to (i) be updated to the current version and (ii) transmit data to the Platform.

## 5. MindConnect Integration

MindConnect Integration allows you to connect Third Party on-premise systems and Third Party cloud-based services to your Account on the Platform, for which we make an adaptor on the Platform available via MindConnect Integration. An “Integration” is a link established by you between the Platform and an interface of (i) an “On-Premise System”, i.e. a software system running on-premise in your private data center, or (ii) a “Cloud-Based Service”, i.e. a service running on a public cloud infrastructure other than the Platform.

Installation assistance and consulting regarding MindConnect Integration are offered for an additional fee in the form of Professional Services.

**Specific Terms.** On-Premise Systems and Cloud-Based Services are not part of our Services. It is your responsibility to procure and maintain appropriate licenses for such On-Premise Systems and Cloud-Based Services and their integrations with the Platform. On-Premise Systems, Cloud-Based Services and their integrations are solely operated by you. On-Premise Systems and Cloud-Based Services supported as of the release date of these Supplemental Terms are listed below (subject to change and for informational purposes only; please verify with Alibaba Cloud Call Center (Hotline: 95187) or by the online tickets you submitted):

Supported On-Premise Systems	Ariba, OnRamp, LotusNotes, OFTP, Oracle, PeopleSoft, Remedy, SAP, SAP XI, Siebel, AS/400, JavaBeans, JDBC, Apache HIVE, MongoDB, Cassandra, HDFS, Apache Impala, Apache WebSphereMQ, Tuxedo, MSMQ, Apache Kafka
Supported Cloud-Based Services	FTP(S), SOAP, REST, OData 2.0, OData 4.0, Alfabet, Cumulocity, Apps, BigQuery, Calendar, Cloud Storage, Contacts, Drive, Cloud Pub/Sub, Sheets,S3, SNS, SQS, Apache Solr, AvaTax, Concur, Coupa, Magento, Marketo, Microsoft Dynamics, NetSuite, SAP Cloud, SAP Hana Marketing Cloud, Salesforce, Salesforce CRM, ServiceNow, Slack, Strikelron, SuccesFactors, SugarCRM, Zendesk

You may permit Users of Third Parties to access and use MindConnect Integration also for the purpose of receiving a service from you.

**Integration Software.** To connect an On-Premise System to the Platform, certain Third Party software must be installed on a server on-premise in your data center (“**Integration Software**”). You can only onboard your On-Premise System if the Integration Software has a connection to the internet.

Integration Software is not part of our Services and is solely operated by you. It is your responsibility to procure and maintain appropriate licenses for such Integration Software. We will direct you to the website of a Third Party vendor, where Integration Software is available for your download via the internet. Separate terms and conditions apply to the download and installation of Integration Software. We will provide you with Third Party license keys for such Integration Software to enable your use of the Integration Software in connection with the Services, limited to bi-directional communication of data between Integration Software and your Account. Integration Software may contain a mechanism to disable its use after the end of the Subscription Term to MindConnect Integration and you will not interfere with the date and time of such disabling mechanism. We may, at our sole discretion, make available software updates or security patches for Integration Software and will provide reasonable notice when such updates or security patches are available. You shall update the Integration Software without undue delay after the publication of any updates and patches. Please note that data collected during an update procedure may be lost. Separate terms and conditions may apply to the download or installation of such updates or security patches. Integration Software with older firmware may not be able to be updated to the current version. An outdated version of Integration Software may not be able to transmit data to the Platform.

**Third Party Terms.** Third Party Terms for MindConnect Integration are available via the following web link: [http://sie.ag/MindSphere-ThirdParty\\_MindConnectIntegration\\_MindConnectIoTExtension](http://sie.ag/MindSphere-ThirdParty_MindConnectIntegration_MindConnectIoTExtension).

## 6. MindConnect IoT Extension

MindConnect IoT Extension allows you to connect to your Account on the Platform (i) supported Third Party IoT hardware devices, (ii) supported Third Party IoT connectivity software or (iii) other Third Party IoT hardware devices or connectivity software using supported field protocols. IoT hardware devices (with sensors or actors attached) can be connected to the Platform either directly or via a fieldbus device. IoT connectivity software is software which is able to connect to the Platform to protocol and mediate data.

**Specific Terms.** Third Party IoT hardware devices and connectivity software are not part of our Services. It is your responsibility to procure and maintain appropriate licenses for Third Party IoT hardware devices and connectivity software. You are solely responsible for the operation of Third Party IoT hardware devices and connectivity software. Third Party IoT hardware devices, connectivity

software and field protocols supported as of the release date of these Supplemental Terms are listed below (subject to change and for informational purposes only; please verify with Alibaba Cloud Call Center (Hotline: 95187) or by the online tickets you submitted):

Supported IoT hardware devices	Adeunis LoRAWAN, BeagleBone Black, Cinterion Java Modules, CloudGate, Dell Edge Gateway, INSYS Smart Devices – INSYS OS, INSYS Smart Devices – icom OS, Janz Tec emPC A/RPI, Libelium-Mesehlum, Mbed u-blox C027, Meitrack, Netcomm, PCUA Java Gateway, OWA3x, QuecLink, RaspberryPi, Red Lion RAM, SMARTBox, Robustel, SIGFOX, SMARTBox IO, SMARTBox Mini, TC3G, Telic, TinkerForge, Tixi
Supported IoT connectivity software	MQTT Agent, Java Agent, C++ Agent
Supported field protocols	HTTP/HTTPS, TCP, VNC, MQTT/MQTT+TLS, REST, SmartRest 1.0/2.0, OPC-UA, Modbus/RTU, Modbus/TCP, CAN bus, MMC, SPI, I2C, McASP, device specific protocols

Onboarding, Configuration and User Assignment. You may onboard and manage Third Party IoT hardware devices and connectivity software via management and configuration tools accessible from your MindSphere Launchpad. Such configuration tools may be used to determine which data is ingested and stored for further use on the Platform. You may also assign Users to Third Party IoT hardware devices and connectivity software.

Third Party Terms. Third Party Terms for MindConnect IoT Extension are available via the following web link: [http://sie.ag/MindSphere-ThirdParty\\_MindConnectIntegration\\_MindConnectIoTExtension](http://sie.ag/MindSphere-ThirdParty_MindConnectIntegration_MindConnectIoTExtension).

## 7. Visual Analyzer

Visual Analyzer is an extension for the Fleet Manager. It is a basic analytics Application of times series data. Drill down, search or filter your data to get more insight into your production system and how machines are performing. Customized views of your online data can be created and shared with colleagues or customers via virtual aspects. Second y-axis is utilized to display data with different value ranges. You may permit Users of Third Parties to access and use this Service also for the purpose of receiving a service from you.

## 8. Visual Explorer

Visual Explorer enables you to visualize certain parts of Your Content. Such visualizations can be combined into dashboards, which may be used to analyze the performance of connected assets. Depending on the package ordered, you will receive storage volume to save your data sources and visualizations.

Specific Terms. Visual Explorer can be subscribed to in certain package types, containing different types of authorized user-based licenses.

A *Creator* license allows you to access the Visual Explorer main Application, which is built on Tableau®, and the supplemental tool *Visual Explorer – Connector* from the MindSphere Launchpad. Visual Explorer – Connector can be used to select *Assets* and *Aspects* and transform those into data sources, which can later be used to create visualizations with the Visual Explorer main Application. The Visual Explorer main Application further enables you to create or publish a workbook (i.e. a combination of visualizations and dashboards), modify an existing workbook or create subscriptions, alerts or comments on a published workbook.

A *Viewer* license provides each User with access to a subset of features and functionalities via the Visual Explorer main Application. A Viewer may interact with or export an existing visualization, but may not use *Visual Explorer – Connector*.

The number of User licenses depends on the package that has been ordered; the ordered package can be upgraded for additional fees.

Under the Account of your MindAccess IoT Value Plan, you may permit Users of Third Parties to access and use Visual Explorer for the purpose of receiving a service from you solely to query and analyze Your Content for your OEM Customer’s internal purposes as end-users.

Third Party Terms. Third Party Terms for the Visual Explorer main Application are available via the following web link: [http://sie.ag/MindSphere-ThirdParty\\_VisualExplorerApp](http://sie.ag/MindSphere-ThirdParty_VisualExplorerApp). Third Party Terms for Visual Explorer – Connector are available via the following web link: [http://sie.ag/MindSphere-ThirdParty\\_VisualExplorerConnector](http://sie.ag/MindSphere-ThirdParty_VisualExplorerConnector).

## 9. Visual Flow Creator

Visual Flow Creator enables you to design your own workflows via a drag and drop functionality to develop graphic depiction of workflows. Create the workflows with the web-based editor to analyze and generate new virtual data points or deliver the formatted

data for reporting tools. The workflows can be triggered manually, time-based or via RESTful call. You can calculate KPIs or trigger actions.

Specific Terms. The number of worksheets is limited to 10 per User. The number of nodes for one sheet is limited to 100. The amount of data stored in the context of function node is limited to 128 KB and only one context variable is allowed. The file size is limited to 1 MB for read and write and 100 file transfers per day. Only 2000 values can be processed per time series request. The calculation duration of a flow must be less than 30 seconds. The number of node context variables in a function node is limited to 5 per node per User. The number of flow context variables in a function node is limited to 20 per node per User. The number of global context variables in a function node is limited to 100 per node per User.

You will be charged based on the execution time by the respective size of Visual Flow Creator ordered. Please consider that the available workflow execution is based upon a 30% asset coverage which can be increased by ordering additional workflow execution time quota. The execution time of all nodes for one Account could be limited depending on the Application and Platform load. All created workflows are visible for all Users of your Account.

Third Party Terms. Third Party Terms for Visual Flow Creator are available via the following web link: [http://sie.ag/MindSphere-ThirdParty\\_VisualFlowCreator](http://sie.ag/MindSphere-ThirdParty_VisualFlowCreator).

## **C FOR MINDACCESS DEVELOPER PLAN AND MINDACCESS OPERATOR PLAN SUBSCRIBERS**

For the access to and use of the Services described in this [Chapter C](#), a valid subscription to a MindAccess Developer Plan or a MindAccess Operator Plan, respectively, is required. The Services described herein may already be included in your subscription to the relevant MindAccess Plan (subject to the applicable levels of authorized use as set out herein or in the relevant Transaction Document) or they can be added for an additional fee as additional Service subscription to your respective MindAccess Plan. If an Order Form indicates that a Service relates to certain other Services (e.g. to MindAccess Developer Plan), then the Specific Terms that apply to such other Services shall also apply to the related Services.

## 1. Services via MindSphere APIs

Overview of Services and authorization levels included in the MindAccess Developer Plan sizes listed below:

Service Name	Metric	Included in MindAccess Developer Plan			Section in Chapter C
		Small	Medium	Large	
Agent Management	Connected agents <sup>1</sup>	1	5	10	<a href="#">1.1</a>
Analytics Services Anomaly Detection Event Analytics KPI Calculation Signal Calculation Signal Validation Trend Prediction	Interactive mode: Number of API calls per month of this service group	500	1 000	1 500	<a href="#">1.2</a>
	Batch mode: Number of data points <sup>2</sup> processed per month of this service group	10 000 000	20 000 000	30 000 000	
Asset Management	Asset instances	20	100	200	<a href="#">1.3</a>
	Asset types	5	25	50	
Backing Services	Included concurrent instances of Backing Services XS	2	4	6	<a href="#">1.4</a>
	Included concurrent instances of Backing Services M	-	-	-	
Event Management	Event instances	250 000	1 250 000	2 500 000	<a href="#">1.5</a>
	Event types	10	50	100	
Identity and Access Management	Subtenants	1	5	10	<a href="#">1.6</a>
	Users <sup>3</sup>	10	50	100	
IoT and Storage Services Aggregate Service File Service Time Series Service	Data ingest rate <sup>4</sup> (time series)	3 kB/s	13 kB/s	25 kB/s	<a href="#">1.7</a>
	File storage	10 GB	50 GB	100 GB	
	Times series data storage in developer tenant	20 GB	100 GB	200 GB	
Notification Service	Notifications per month	1 000	5 000	10 000	<a href="#">1.9</a>
Token Manager Service	Number of API calls per month <sup>5</sup>	150 000	750 000	1 500 000	<a href="#">1.10</a>
Usage Transparency Service	Calls per tenant and month	1 000	1 000	1 000	<a href="#">1.11</a>

<sup>1</sup> Assets connected via MindConnect IoT Extension are not counted as agents. Each connected agent leads to one used asset instance; <sup>2</sup>20 000 data points are equal to 1 API call; <sup>3</sup> User can have different roles e.g. Admin, Developer etc.; <sup>4</sup> Based on number of assets, number of variables per asset, size per variable, read cycle interval, sending frequency and overhead; <sup>5</sup> An API call is defined as a token refresh to enable backend processing without user interaction.



Overview of Services and authorization levels included in the MindAccess Operator Plan sizes listed below:

Service Name	Metric	Included in MindAccess Operator Plan			Section in Chapter C	
		Small	Medium	Large		
Agent Management	Connected agents <sup>1</sup>	1	5	10	<a href="#">1.1</a>	
Analytics Services	Interactive Mode: Number of API calls per month of this service group	500	1000	1500	<a href="#">1.2</a>	
Anomaly Detection Event Analytics KPI Calculation Signal Calculation Signal Validation Trend Prediction						
	Batch mode: Number of data points <sup>2</sup> processed per month of this service group	10 000 000	20 000 000	30 000 000		
Asset Management	Asset instances	20	100	200	<a href="#">1.3</a>	
	Asset types	5	25	50		
Backing Services	Included concurrent instances of Backing Services XS	-	-	-	<a href="#">1.4</a>	
	Included concurrent instances of Backing Services M	-	-	-		
Event Management	Event instances	250 000	1 250 000	2 500 000	<a href="#">1.5</a>	
	Event types	10	50	100		
Identity and Access Management	Subtenants	2	2	2	<a href="#">1.6</a>	
	Users <sup>3</sup>	5	10	25		
IoT and Storage Services	Aggregate Service	Data ingest rate <sup>4</sup> (time series)	3 kB/s	13 kB/s	25 kB/s	<a href="#">1.7</a>
	File Service	File Storage	10 GB	50 GB	100 GB	
	Time Series Service	Times series data storage in developer tenant	20 GB	100 GB	200 GB	
Notification Service	Notifications per month	1 000	5 000	10 000	<a href="#">1.9</a>	
Token Manager Service	Number of API calls per month <sup>5</sup>	150 000	750 000	1 500 000	<a href="#">1.10</a>	
Usage Transparency Service	Calls per tenant and month	1 000	1 000	1 000	<a href="#">1.11</a>	

<sup>1</sup> Each connected agent leads to one used asset instance; <sup>2</sup>20 000 data points are equal to 1 API call; <sup>3</sup> User can have different roles e.g. Admin, Developer etc.; <sup>4</sup> Based on number of assets, number of variables per asset, size per variable, read cycle interval, sending frequency and overhead; <sup>5</sup> An API call is defined as a token refresh to enable backend processing without user interaction.

The authorization levels shown in the tables above, set out the overall limits of authorizations for the respective metrics of the relevant MindAccess Plan size. For clarity, if your subscription to MindAccess Developer Plan includes 5 connected agents, such 5 agents may for instance be 3 agents connected via the Asset Manager tool in your Account and 2 assets connected via the respective API of Agent Management in your Account.

Should the actual usage of your Plan size repeatedly exceed one or more of the applicable limits above (e.g. the number of Users for your Plan size), and should you not order the appropriate increase of usage capacities for an additional fee, we reserve the right to suspend the Service. Other contractual rights and remedies remain unaffected.

### 1.1 Agent Management

Agent Management is a Service made available via its respective MindSphere APIs. This Service can be used e.g. to create, update, request status or delete an agent, and allows you to onboard or offboard an agent.

An agent is a field device or software Application which you connect to your Account (e.g. MindConnect Nano or a Third Party agent). Each agent can ingest data into your Account and send data from one or more asset instances. The number of agents equals the number of parallel data ingest channels. The data points that are ingested into the Account are assigned to asset instances.



## 1.2 Analytics Services

Analytics Services are available via their respective MindSphere APIs and provide basic and advanced analytical functions for time series data such as Anomaly Detection, Event Analytics, KPI Calculation, Signal Calculation, Signal Validation and Trend Prediction.

- **Anomaly Detection** aims to support the detection of unexpected behavior of processes and assets. For the training of anomaly detection, normal data is sufficient. Normal data represents the standard conditions of assets. Furthermore, clustering based on anomaly detection techniques allow human interaction and integration of domain knowledge (e.g. by labeling of new clusters and/or anomalies). A developer can build Applications for process and condition monitoring, early warning functionality and detection of fault conditions without explicit definitions.
- **Event Analytics** provides a statistical analysis for visualizing the most frequent events over a period of time.
- **KPI Calculation** offers an easy way to provide various calculations for Key Performance Indicators based on sensor data as well as sequence of events (i.e. from control/automation systems). The characteristic of these KPI calculations is related to an ISO 3977-9:1999 standard which is in fact dedicated to gas turbines. The characteristic is also applicable to other industrial applications. It is possible to provide automated annotation for time series data for many common characteristics. Additionally, the function can combine two information sources, numerical sensor data as well as events. The Service can be applied for historical data as well as the automated processing of incoming new data.
- **Signal Calculation** offers commonly used missing value handling strategies, for instance, removal and interpolation. It calculates a descriptive summary of a sequence of signal values and if required, it derives new signal values by shifting, smoothing and transforming the original ones.
- **Signal Validation** provides functions that help to detect common issues in time series data. Signal Validation can be used for optimizing the data quality.
- **Trend Prediction** is a forecasting framework that may be useful in the area of process and condition monitoring. Also, seasonality and trend removal is an essential task of data analytics pre-processing.

Analytics Services can be utilized in either an interactive mode or batch mode, e.g. via the Visual Flow Creator (workflow tool for calling APIs) or from your Applications:

- **Batch mode:** Allows processing of up to 1 000 000 data points with one single API call including all dimensions with a response time between 40 seconds and several hours (depending on algorithm complexity).
- **Interactive mode:** Allows processing of up to 20 000 data points with one single API call with a response time below 10 seconds.

As of the date of release of the Supplemental Terms only Anomaly Detection is also available in batch mode.

## 1.3 Asset Management

Asset Management is a Service available via its respective MindSphere APIs. An asset is the logical representation of a thing which can be a machine or an automation system with a single or multiple automation unit(s) e.g. PLC or even a factory site. This logical representation incorporates a data model describing properties and abilities of the respective thing. Assets can be set into relation with other assets to create structures such as hierarchies. Asset Management allows you to create, read, update and delete assets through an appropriate user interface developed by you.

You shall not use Asset Management Services in connection with things manufactured by a Third Party without procuring and maintaining appropriate consent and licenses from such Third Party (as may be required) in your own responsibility. You shall not create representations of assets which inaccurately represent the properties and abilities of a physical object.

## 1.4 Backing Services

Backing Services include any service which an Application utilizes over the network as part of its normal operation. You can utilize Backing Services e.g. for storage, caching, messaging etc. Available service types are: ElasticSearch, LogMe, MongoDB, PostgreSQL, RabbitMQ, Redis (more Services may be available in the future).

Backing Services are available in different sizes, e.g. XS or M. This relates to available memory, storage space and additional properties such as high availability.

Third Party Terms. Third Party Terms and links to the corresponding open source software source code for MongoDB Backing Services are available via the following web link:

[https://sie.ag/MindSphere-ThirdPartyTerms\\_BackingServices-MDB](https://sie.ag/MindSphere-ThirdPartyTerms_BackingServices-MDB).

## 1.5 Event Management

### Managing events, creating and publishing event types

Event Management is a Service available via its respective MindSphere APIs. This Service is used to manage standardized and customized events. Events, alarms, warnings can be received from the field or other Applications and be used to inform a User.

An event documents the occurrence of a defined situation (e.g. exceed temperature threshold or starting a motor). The order and the content of an event instance are specified in the corresponding event type (e.g. timestamp, priority and description). Event instance represents the occurrence and includes the information defined in the event type (e.g. 2018-07-10 15:45:23 | HIGH | Temperature high).

When creating an event type, the respective creator (“**Event Owner**”) can designate it as *local* or *global*:

- **Local event type:** Local event types are private and can only be used by Users that have access to the Account of the relevant Event Owner.
- **Global event type:** Global event types are listed and accessible to all MindSphere users for their use.

By default, a newly created event type is designated as *local*. By designating an event type as *global*, the relevant Event Owner grants the non-transferable, irrevocable and royalty-free right to use and permit Third Parties to use the respective event type (i) to Alibaba Cloud and/or Siemens and (ii) to all current and future MindSphere customers for their use on the Platform.

### Using global event types

By using a global event type you acknowledge and agree that: (i) any relationship regarding the use of a global event type is solely between you and the relevant Event Owner; (ii) neither Alibaba Cloud nor Siemens is under the obligation to test, validate or otherwise review a global event type; (iii) neither Alibaba Cloud nor Siemens assumes any obligation or responsibility with regard to the use or support of a global event type; and (iv) (only) the relevant Event Owner may modify from time to time and cease to maintain an existing global event type.

## 1.6 Identity and Access Management

Identity and Access Management are Services available via their respective MindSphere APIs. These Services are used to manage users, customers/subtenants, roles and scopes.

A tenant is a representation of a real-world organization. It covers properties such as users, data, assets, entities and others. A subtenant is a certain limited resource of a tenant representing a subpart of your own real-world organization. In a MindAccess Developer Plan, a subtenant can also represent the real-world organization of a third party that you permit to test Applications for such third parties’ end use. A subtenant is also used to assign Applications and provide access to Applications.

Third Party Terms. Third Party Terms for Identity and Access Management are available via the following web link: [http://sie.ag/MindSphere-ThirdParty\\_IdentityAccessManagement](http://sie.ag/MindSphere-ThirdParty_IdentityAccessManagement).

## 1.7 IoT and Storage Services

IoT & Storage Services are Services available via their respective MindSphere APIs. It covers Aggregate Service, File Service and Time Series Service:

- **Aggregate Service** is used to read aggregated time series values. Retrieve the following aggregated values per interval: Count, Sum, Average, Minimum, Maximum, First Value, Last Value.

Aggregate Services use pre-calculated intervals to enhance performance upon retrieval. Performing queries that require on-the-fly calculations might perform slower than queries that make use of pre-calculated aggregates. Aggregates are pre-calculated based on incoming raw data with a slight delay. Therefore, it might be possible that the latest time series values are not available when reading aggregates.

- **File Service** is used to read, write, delete, upload and update files associated to assets, store metadata information, and search for files by metadata. Since files are always related to an asset, the instance of an asset must have been created by you beforehand.
- **Time Series Service** can be used to create, read, update and delete dynamic data. Since time series data are always related to an asset, the instance of an asset must have been created by you beforehand.

## 1.8 MindConnect API Services

Please refer to [Section B 3](#).

## 1.9 Notification Service

Notification Service is available via its respective MindSphere APIs. This Service enables you to (i) send email, mobile push notifications and SMS in relation to certain events defined by you, or (ii) send email notifications to (a group of) individual recipients. We may use a Third Party service provider to provide you with Notification Service.

Use Restrictions. You may only use Notification Service to send notifications or messages to recipients who have agreed to receive such notice and you shall disclose to recipients the name of the Application through which the notifications or messages were sent. Through your use of Notification Service you will not: (i) transmit any material that contains viruses, Trojan horses, worms or any other malicious, harmful, or deleterious programs, (ii) offer or purport to offer any services that allow the connection with emergency services personnel or public safety answering points (such as 911, 112 etc.), (iii) materially violate or facilitate the violation of any local or foreign law, rule, regulation or order, including laws regarding the transmission of data or software, (iv) transmit material that is sexually explicit, relates to *adult services*, or contains sensitive financial or identifying information (such as social security numbers), (v) use Notification Service on behalf of anonymous or other Third Parties, (vi) use Notification Service in hazardous environments (such as operation of nuclear facilities, aircraft navigation, or any other use that may result in foreseeable risk of injury, death, or destruction of property), (vii) allow recipient of an email or mobile push notification to respond to the Notification Service or otherwise communicate back to the Notification Service.

Temporary Suspension. We may immediately and without notice suspend the provision of Notification Service at any time, in whole or in part, if and for as long as in our reasonable opinion: (i) your use of Notification Service may be in violation of the Acceptable Use Policy or the MindSphere Agreement, (ii) your notifications or messages include abusive or low quality content (such as *spam*), (iii) emails sent by you through Notification Service bounce back to us, (iv) we receive abuse complaints (including complaints from Third Parties) in connection with your notifications or messages, (v) the email address you have provided to us for *address bounces* or complaints is not successfully receiving emails or (vi) your notifications or messages include an attachment in a format that we do not support.

Reliability. Notifications or messages sent through Notification Service may be blocked, delayed or prevented from being delivered by destination servers and other reasons outside of our control and there is no warranty that Notification Service will be uninterrupted, secure or error free or that notifications or messages will reach their intended destination during any stated time-frame.

Email Scanning. We take steps to increase the security and reliability of emails you send or attempt to send using Notification Service. Like many email service providers, when you send or attempt to send an email through Notification Service, we (or our subcontractors) may store, scan and analyze your email and the content included in your email. We (or our subcontractors) may conduct such email scanning and analysis to prevent and block *spam* emails, viruses, spyware, and other harmful or unwanted items from being sent through Notification Service and we (or our subcontractors) may use the results of such analysis for our own purposes.

## 1.10 Token Manager Service

Token Manager Service is available via its respective MindSphere APIs. This Service is necessary if your Applications shall access data without user interaction from MindAccess IoT Value Plan Accounts by issuing access tokens. Before an Application can issue access tokens for a MindAccess IoT Value Plan Account, the Application must be provisioned to the MindAccess IoT Value Plan Account and explicit approval for the data access must be obtained by you from the Application customer. We will provide technical means for you to obtain such approval via a standard process and template as currently described in more detail in the user documentation for the “Operator Cockpit” available via the following web link: [www.mindsphere.io/docs](http://www.mindsphere.io/docs).

## 1.11 Usage Transparency Service

Usage Transparency Service is a Service available via its respective MindSphere APIs. This Service offers insight on your service consumption such as API calls, number of Users, inbound and outbound traffic. Moreover, developers can define metrics within this Service so that consumption can be tracked.

## 2. Other Services

Some Services that are described in [Chapter B](#) above are also offered to MindAccess Developer Plan or MindAccess Operator Plan subscribers. Permissions regarding access and use of such Services by Users of Third Parties for the purpose of receiving a service from you do not apply to the use of such Services in a MindAccess Developer Account or MindAccess Operator Account.

### 2.1. Data Exploration built on Tableau®

Please refer to [Section B 1](#).

### 2.2. Fleet Manager and Fleet Manager Rules

Please refer to [Section B 2](#).

### 2.3. MindConnect Edge Analytics

Please refer to [Section B 4](#).

### 2.4. MindConnect Integration

Please refer to [Section B 5](#).

### 2.5. MindConnect IoT Extension

Please refer to [Section B 6](#).

### 2.6. Outbound Traffic Upgrade

In addition to the increase of the permitted total network traffic volume, Outbound Traffic Upgrade allows you to use Services that are made available to you in the Account relating to your MindAccess Developer Plan and/or MindAccess Operator Plan via respective MindSphere APIs from an Application that is hosted by you (or a Third Party authorized by you) in your own responsibility outside the wide area network of the Platform ("**Self-hosted Application**"). You are solely responsible to procure and maintain appropriate licenses for all Third Party software or services that you use in relation to your Self-hosted Application (including for the hosting and operation).

For the avoidance of doubt, the term *Your Application* in the *Specific Terms for MindAccess Developer Plan* and the term *Operated Application* in the *Specific Terms for MindAccess Operator Plan* include Self-hosted Applications.

Specific Terms. Outbound Traffic Upgrade entitles you to deploy, operate and provide an Application to you and Third Parties outside the Platform. For the development and testing of the interoperation of your Self-hosted Application with the Services, the Developer Services of your MindAccess Developer Plan must be used. For production or other commercial use of your Self-hosted Application with the Services, you must use the Operator Services under your MindAccess Operator Plan. The MindSphere DevOps Guide may set out terms that apply specifically with regard to Self-hosted Applications.

Use Restrictions. Third Parties may access and use your Self-hosted Application via a non-MindSphere URL only through your own user login services. In this case, the Application cannot be published on the Store or otherwise be marketed in relation to MindSphere (unless otherwise agreed). The MindSphere Marketing Guide does not apply. In any event, when you make available your Self-hosted Application via a non-MindSphere URL through your own user login services, you shall not (i) follow the design requirements set out by the MindSphere DevOps Guide or the MindSphere Marketing Guide with respect to Application icons and Application user interface or (ii) use a substantially similar design; and (iii) the OS Bar shall not be integrated with the Self-hosted Application.

Access and use of your Self-hosted Application via a URL that refers to MindSphere is only permitted when you provide (a version of) your Self-hosted Application to MindAccess IoT Value Plan subscribers. In this case, the Application can be placed on the Store or otherwise be marketed in relation to MindSphere in accordance with the *Specific Terms for MindAccess Operator Plan*.

## 2.7. Visual Analyzer

Please refer to [Section B 7](#).

## 2.8. Visual Explorer

Please refer to [Section B 8](#).

## 2.9. Visual Flow Creator

Please refer to [Section B 9](#).

## D DATA CENTER LOCATIONS

Per default, on your tenant of your MindAccess Plan, Your Content at rest will be stored within certain major geographic areas (each, an “Area”) as follows. If you select to provision your tenant in a different Area, Alibaba Cloud will store on such tenant Your Content at rest within the selected Area.

List of data center locations:

Your country of residence as our customer	Area	MindSphere infrastructure provider
People’s Republic of China	cn 1: People’s Republic of China	Alibaba Cloud

Alibaba Cloud does not control or limit the regions from which you or the Users may access or move Your Content.

## E SERVICE LEVEL AGREEMENT

### 1. Service Commitment

We will use commercially reasonable efforts to make the Services listed in [Section E 2](#) below (the “Included Services”) each available as described below with a Monthly Uptime Percentage of at least 99,5%, unless deviating availability goals for certain Services are listed below.

### 2. Included Services

With respect to MindAccess IoT Value Plan: (i) MindSphere Launchpad, OS Bar, and MindConnect API Services.

With respect to MindAccess Developer Plan and MindAccess Operator Plan: (i) MindSphere Launchpad, OS Bar; (ii) Developer Services in Cloud Foundry with a Monthly Uptime Percentage of 95% (for MindAccess Developer); (iii) Operator Services in Cloud Foundry (for MindAccess Operator); (iv) the following Services made available via their MindSphere APIs: Asset Management, Event Management, Identity and Access Management, and MindConnect API Services.

With respect to Applications from Siemens the Monthly Uptime Percentage is set out in the applicable Transaction Documents.

### 3. Definitions

“Monthly Uptime Percentage” means the percentage of a Service being Available in average during a Month, based on our Availability measurements. Monthly Uptime Percentage excludes downtime resulting directly or indirectly from any SLA Exclusions.

“Month” means a calendar month.

“Available” and “Availability” mean:

- For Launchpad, OS Bar, Operator Services in Cloud Foundry and Applications from Siemens: The respective Service is Available if its user interface is accessible by login at the exit of the wide area network of the data center used by us to provide the Service. Availability shall be measured by dividing the number of successful logins by the number of all logins within a 5 minute interval, during which logins are performed every 5 seconds. Such Availability measurements shall be performed in evenly distributed intervals 5 times a day.
- For Developer Services in Cloud Foundry: The respective Service is Available if an Application (developed according to the MindSphere DevOps Guide) is deployed and accessible at the exit of the wide area network of the data center used by us to provide the Service. Availability shall be measured by dividing the number of successful Application deployments by the number

of all Application deployments within a 5 minutes interval, during which Applications are pushed every 20 seconds into the runtime environment. Such Availability measurements shall be performed in evenly distributed intervals 3 times a day.

- For Services made available via their APIs: The respective Service is Available unless service invocation responses based on requests (according to the specification and in compliance with the MindSphere DevOps Guide) do report internal errors at the exit of the wide area network of the data center used by us to provide the Service. Availability shall be measured by dividing the number of requests without reported internal errors by the number of all requests within a 5 minutes interval, during which requests via the MindSphere API are sent every 5 seconds. Such Availability measurements shall be performed in evenly distributed intervals 5 times a day.

“**SLA Exclusions**” mean unavailability, suspension or termination of the Included Services, or any other performance issues affecting the Included Services: (i) caused by factors outside of our reasonable control, including any force majeure event; (ii) that result from any actions or inactions of you or any Third Party; (iii) that result from your equipment, software or other technology and/or Third Party equipment, software or other technology (other than Third Party equipment within our direct control); (iv) that result from any planned maintenance, for which we will use commercially reasonable efforts to notify you at least one day in advance by posting a notice on your Account or sending a message to the email address associated with your Account or (v) arising from our suspension or termination of the Included Services in accordance with the MindSphere Agreement.

## F SUPPORT

**1. Contacting MindSphere Support.** Beginning on the date of the agreement of an Order Form between you and us for a Service, you may contact the MindSphere Support organization as primary point of contact for support in relation to such Service.

- An incident request ID is required to process your request. To receive such ID, an initial incident request has to be created by using the link to a support form or tool provided on your Launchpad. The incident request ID will then be sent via email or chat-software.
- After receipt of the incident request ID, you will be contacted via email, phone or chat-software by MindSphere Support.

**2. Scope of MindSphere Support.** MindSphere Support is available for Service-related support cases concerning MindSphere. MindSphere Support is not responsible, and is not provided for any Third Party Software, Third Party Services or Applications purchased through or provided by us, unless expressly set out otherwise in a Transaction Document.

MindSphere Support hours of operation are Monday through Friday, 9:00 am to 6:00 pm CST (People’s Republic of China, Chengdu)-excluding national and local holidays.

MindSphere Support is available in Chinese and on request in English.

MindSphere Support is available to you remotely for up to one hour per support case. You have to ensure remote access to your local networks for e.g. remote-diagnoses.

The following types of technical issues or incidents are excluded from the scope of MindSphere Support: (i) incidents regarding a functionality of a Service developed or configured specifically for you; (ii) the root cause behind the incident is not a malfunction, but rather a missing functionality (e.g. development request) or the incident is ascribed to a consulting request (e.g. how-to).

To receive support services hereunder, you shall reasonably cooperate with MindSphere Support to resolve support incidents, and shall have adequate technical expertise and knowledge of their configuration of the Services to provide relevant information to enable MindSphere Support to reproduce, troubleshoot and resolve the experienced error such as, by way of an example, instance name, username, form name and screenshot.