

Insights Hub Capability Packages Product Sheet



The Insights Hub Capability Packages provide you with a dedicated Insights Hub Account which is required to use different IIoT capabilities for end users, developers and operators depending on the Insights Hub Capability Package you choose.

Prerequisites

Web Browser	<p>An HTML5 capable Internet browser is required (e.g. Mozilla Firefox or Google Chrome). The recommended screen resolution is 1024x768 or higher.</p> <p>Mobile devices are supported through the use of HTML5 capable Internet browsers. Screen size of the mobile device should be minimum 10".</p>
Insights Hub Cloud Resources	<p>For productive use of an Insights Hub Capability Package, a subscription to an IIoT Data Package (available in sizes XS / S / M / L / XL) is required. Essentials, Standard and Advanced Capability Packages come with an IIoT Data Package S by default. Extra IIoT Data Packages can be added if more resources are needed.</p> <p>In addition, some specific capabilities require additional Cloud Resources, e.g., Integrated Data Lake (IDL). For more information, please refer to the Product Sheet for Insights Hub Cloud Resources available at https://plm.sw.siemens.com/en-US/insights-hub/resources/product-sheets/.</p>
Insights Hub Asset Attributes	<p>For productive use of an Insights Hub Capability Package, Asset Attributes are required. Essentials, Standard and Advanced Capability Packages include 500 Asset Attributes by default. Extra Asset Attributes can be added on demand. For available subscription options, please refer to the "Insights Hub Asset Attributes Description" section of this Product Sheet.</p>

Insights Hub Capability Packages

Access to your Account	The Insights Hub Capability Packages provide you with a dedicated Insights Hub Account. An Account can have up to 4 Environments depending on the Insights Hub Capability Package which serve a certain purpose. Per default, you will always receive one Productive Environment. Additional Environments can be requested in Support Center .
Description of Insights Hub Capability Packages	<p>Different Insights Hub Capability Packages are available (Essentials/Standard/Advanced). You are only authorized to utilize the Insights Hub Capability Package to which you hold a valid subscription. Essentials, Standard and Advanced differ in terms of capabilities and general functionalities included.</p> <ul style="list-style-type: none">• Essentials provides the fundamental tools needed to get started with basic use cases:<ul style="list-style-type: none">• Kick-start your IIoT journey, focusing on connecting assets to acquire IoT data, visualize and explore acquired data with simple & easy-to-use dashboard visualizations and third-party applications to start discovering insights.• Use it for a small-scale use case or project scenarios.• Develop, integrate and use applications productively within your own Account leveraging Industrial IoT APIs and prebuilt components.• Standard (additional to Essentials Capability Package) encompasses all necessary IIoT capabilities and tools, allowing you to construct use cases effortlessly using out-of-the-box features:<ul style="list-style-type: none">• Continue your journey by utilizing your semi-structured & unstructured data.• Realize smart manufacturing use cases globally to generate actionable insights.• Build intuitive and informative custom dashboards.• Leverage machine learning to perform near real-time forecasting and anomaly detection on industrial IoT data.• Manage and execute your AI models on predictive analytics to get more insights from your data.• Analyze high-frequency data at the edge for near real-time processing, reducing the amount of data sent.• Remotely maintain and service industrial assets.• Integrate your own identity provider, reducing IT administration burdens and unifying identity management across systems.• Develop, integrate, test and use applications productively within your own Account leveraging Industrial IoT APIs and prebuilt components.• Provision applications to other Insights Hub customers' Accounts and publish new applications via the Store for fast go-to-market.• Advanced (additional to Essentials and Standard Capability Packages) combines ready-to-use solutions with standard IIoT capabilities and tools, enabling you to launch your use cases at scale:<ul style="list-style-type: none">• Discover data semantics on a large scale with full capabilities.• Calculate, visualize and benchmark the overall equipment effectiveness of your production lines or machines to increase transparency and reduce productivity losses.• Monitor, analyze and remotely service industrial assets to enhance efficiency and reduce downtime through predictive maintenance.

	<ul style="list-style-type: none"> Aggregate and contextualize manufacturing data and combine it with asset data to provide near real-time, actionable insights for optimizing production efficiency and quality. Optimize your production life cycle and engineering with fast set up digital twins for connected shop floors. <p>Select the Insights Hub Capability Package that best suits your requirements and use cases.</p>
Upgrades for Insights Hub Capability Packages	<p>The following upgrades to your existing Insights Hub Capability Packages are available:</p> <ul style="list-style-type: none"> Essentials to Standard Upgrade Standard to Advanced Upgrade

Insights Hub Capability Packages – Overview			
Environments	Essentials	Standard	Advanced
Productive Environments	1	1	1
Developer Environments	1	1	1
Test Environments	-	2	2
Asset Attributes & Cloud Resource Packages	Essentials	Standard	Advanced
500 Asset Attributes	✓	✓	✓
IIoT Data Package Small	✓	✓	✓
Capabilities	Essentials	Standard	Advanced
Connect your Things			
Connect your Assets using a PC as a gateway	✓	✓	✓
Connect your own hardware	✓	✓	✓
Use MindConnect hardware	✓	✓	✓
Zero touch onboarding with OPC UA PubSub and MindConnect MQTT	✓	✓	✓
Maintain your connected devices	✓	✓	✓
Asset & Agent Management			
Onboard and manage Agents	✓	✓	✓
Onboard and manage Assets	✓	✓	✓
Manage asset-related files	✓	✓	✓
User Management			
Manage user profiles, roles and permissions	✓	✓	✓

Custom Identity Provider federation		✓	✓
Data Sharing			
Share Asset data across Accounts and Environments	✓	✓	✓
Notification Services			
Push, E-Mails and SMS	✓	✓	✓
Data Handling & Analytics Building Blocks			
Time Series Data	✓	✓	✓
Events Management	✓	✓	✓
Subscription-based Notifications	✓	✓	✓
Visual Flow Creator	✓	✓	✓
AI/ML Model Management		✓	✓
Integrated Data Lake		✓	✓
Data Contextualization			✓
Industry Solutions & Applications			
Monitor	✓	✓	✓
Predict		✓	✓
Dashboard Designer		✓	✓
Edge Analytics		✓	✓
Remote Services		✓	✓
Asset Health & Maintenance			✓
OEE			✓
Opcenter Intelligence			✓
Factory Twin			✓
DevOps Cockpit			
Integrate applications (w/o hosting)	✓	✓	✓
Test applications in Development Environment	✓	✓	✓
Provision applications to own Environments for own productive use	✓	✓	✓

Provision applications to dedicated Test Environments for testing		✓	✓
Provision applications to other Insights Hub customers' Accounts for usage within different Environments		✓	✓
Publish applications in Store		✓	✓

Description of Capabilities

Connect your Things

Description	<p>Connect your Things provides you with the following connectivity capabilities:</p> <ul style="list-style-type: none"> • Connect your assets using your PC as a gateway with MindConnect Software Agent. • Connect your individual hardware using MindConnect API Services, MindConnect MQTT Services, MindConnect OPC UA PubSub Services and MindConnect Library. • Use MindConnect Hardware (e.g. MindConnect Nano, MindConnect IoT2050) • Zero touch onboarding using MindConnect OPC UA PubSub Services and MindConnect MQTT Services. <p>Maintain connected devices by using MindConnect Device Management Services.</p>
Description of MindConnect Software Agent	<p>MindConnect Software Agent is a software that allows you to connect supported third party devices to your Insights Hub Account. It also allows you to collect data from industrial devices using supported field protocols such as S7, OPC-UA, Ethernet/IP and Modbus TCP and to transfer the collected data to your Account via an established connection.</p> <p>The software will be made available for download on Insights Hub and must only be used on supported third-party hardware devices. For further information as to which hardware devices are currently or will be supported, please verify with your sales representative.</p> <p>Hardware devices are not part of your subscription to an Insights Hub Capability Package and are solely operated by you. It is your responsibility to procure such hardware devices. We grant you a Perpetual license to use the MindConnect Software Agent.</p>
Description of MindConnect API Services and MindConnect Library	<p>MindConnect API Services are available via their respective Insights Hub API and allow you to transfer data between your Account on Insights Hub and on-premises hardware devices or on-premises connectivity software from Siemens or from third parties, provided such hardware or connectivity software is compatible with the MindConnect API Services. MindConnect Library provides a Software Development Kit (SDK) that enables programming of customer specific or use case specific agents. This SDK uses MindConnect API Services.</p>
Description of MindConnect MQTT Services	<p>MindConnect MQTT Services are available via their respective Insights Hub API and allow you to transfer data between your Account on Insights Hub and on-premises hardware devices or on-premises connectivity software from Siemens or from third parties, provided such hardware or connectivity software is compatible with the MindConnect MQTT Services.</p>

Description of MindConnect OPC UA PubSub Services	MindConnect OPC UA PubSub Services are available via their respective Insights Hub API and allows you to transfer data between your Account on Insights Hub and on-premises hardware devices or on-premises connectivity software from Siemens or from third parties, provided such hardware or connectivity software is compatible with the MindConnect OPC UA PubSub Services.
Description of MindConnect Hardware	<p>MindConnect Nano and MindConnect IoT2050 are pre-configured devices which allow connectivity to Insights Hub. The devices support the transmission of data encrypted through a secured internet connection to Platform.</p> <p>These hardware devices are not part of your subscription to an Insights Hub Capability Package and are solely operated by you. It is your responsibility to procure such hardware devices.</p> <p>For more information, please refer to the Product Sheets for MindConnect Nano and MindConnect IoT2050 available at https://plm.sw.siemens.com/en-US/insights-hub/resources/product-sheets/.</p>
Description of MindConnect Device Management Services	<p>MindConnect Device Management Services provide backend services to configure, maintain and update your connected devices. The services are available via their respective Insights Hub APIs. It covers the following services:</p> <ul style="list-style-type: none"> • Device Management allows to maintain an inventory of all connected devices as well as to manage the lifecycle of device types. The device type is used when determining which software (especially firmware) can be installed on which device instance. A device can only be onboarded to Insights Hub via an Agent. Credentials for accessing Insights Hub are tied to Agents created by using Agent Management Service. • Deployment Workflow allows to deploy software packages or configuration files to devices. You can model the deployment operations as a workflow state machine according to your needs, while deploying artifacts or configuration to your devices. • Device Configuration allows to (re-)configure devices. This service uses Deployment Workflow for controlling the update process and for tracking the result of the update with a predefined deployment model. It also allows to store, manage and version configuration files. • Device Status allows to monitor the health status (e.g., online/offline) of devices on Insights Hub. <p>Firmware Deployment allows to initiate jobs for deploying firmware releases on devices. This service initiates a job instance on Deployment Workflow to download firmware artifacts onto devices by using a predefined deployment model. It generates a URL for devices to download the artifacts files. Those generated pre-signed URLs may only be used to manage firmware releases to connected edge devices.</p>
Documentation	<p>For further details about connectivity capabilities please see the documentation available via the following links:</p> <p>https://documentation.mindsphere.io/MindSphere/apis/connectivity-mindconnect/api-mindconnect-overview.html</p> <p>https://developer.mindsphere.io/resources/mindconnect-lib-v4/resources-mclib-overview.html</p> <p>https://documentation.mindsphere.io/resources/html/getting-connected/en-US/index.html</p> <p>https://developer.mindsphere.io/apis/connectivity-opcuapubsub/api-opcuapubsub-overview.html</p>

	https://developer.mindsphere.io/apis/connectivity-mindconnect-async/api-mindconnect-async-overview.html .
Agent Management	
Description	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.
Documentation	For further details about Agent Management please see the documentation available via the following link: https://developer.mindsphere.io/apis/connectivity-agentmanagement/api-agentmanagement-overview.html .
Asset Manager	
Description	Asset Manager is available via user interface accessible from your Launchpad and can be used to: <ul style="list-style-type: none"> • Onboard & offboard Assets to your Account. • Configure Assets and Asset Attributes. • Manage the Sharing of Assets under a Collaboration between Environments using Data Sharing capabilities. Asset Management is available via its respective APIs and allows you to create, read, update and delete Assets through an appropriate user interface developed by you.
Third-Party Terms	Third-Party Terms for Asset Manager are available under “administration tools” via the following link: https://www.sw.siemens.com/en-US/sw-terms/mindsphere-third-party-terms/ .
Documentation	For further details about Asset Manager & Asset Management please see the documentation available via the following links: https://documentation.mindsphere.io/resources/html/asset-manager/en-US/index.html and https://developer.mindsphere.io/apis/advanced-assetmanagement/api-assetmanagement-overview.html .
Settings & Identity and Access Management	
Description	Settings allow managing Users, permissions, rights, roles, groups, access policies, Collaborations and Environment provider information. For every User, an individual login is required. Access policies are available only upon request. Please contact your sales representative or Support to enable use of access policies. Identity and Access Management are services available via their respective Industrial IoT APIs. These services are used to manage users, customers, roles and scopes.
Third-Party Terms	Third-Party Terms for Settings are available under “administration tools” via the following link: https://www.sw.siemens.com/en-US/sw-terms/mindsphere-third-party-terms/ .
Documentation	For further details about Identity and Access Management please see the documentation available via the following links: https://documentation.mindsphere.io/resources/html/settings/en-US/index.html and https://developer.mindsphere.io/apis/core-identitymanagement/api-identitymanagement-overview.html and https://developer.mindsphere.io/apis/core-resourceaccessmanagement/api-resourceaccessmanagement-overview.html .

Identity Provider Federation	
Description	<p>We offer you the possibility to bring your own Identity Provider and federate it with your Account using Security Assertion Markup Language (SAML) or Open ID Connect protocol. Once the federation is established, you can achieve a Single Sign-On (SSO) access to Insights Hub from your Identity Provider.</p> <p>Use Identity Provider Federation to:</p> <ul style="list-style-type: none"> • Configure & federate your Identity Provider with Insights Hub. • Manage all your Identity Providers from a single user interface. <p>Activate the Identity Provider of your choice.</p>
Third-Party Terms	<p>Third-Party Terms for Identity Provider Federation are available via the following link: https://www.sw.siemens.com/en-US/sw-terms/mindsphere-third-party-terms/.</p>
Documentation	<p>For further details about Identity Provider Federation please see the documentation available via the following link: https://documentation.mindsphere.io/resources/html/settings/en-US/index.html.</p>
Data Sharing	
Description	<p>Data Sharing enables you to share Asset data across Environments within the same Account or with Environments of other Accounts. It enables customers to grant other Environments access to certain Customer Content (read) under a collaboration ("Collaboration"). Once the Collaboration is established, the sharing Environment will be able to share selected Customer Content with the receiving Environment ("Sharing"). Collaboration and individual Sharing require prior approval of the involved Environment.</p>
Limitations	<p>Data Sharing allows 1 000 Collaborations per Environment and the Sharing of 250 Assets per Collaboration. One Asset can be shared with up to 10 different receiving Environments.</p>
Documentation	<p>For further details about Data Sharing please see the documentation available via the following link: https://developer.mindsphere.io/concepts/concept-cross-tenancy.html.</p>
Notification Service	
Description	<p>Notification Service is available via its respective Industrial IoT APIs. This service enables you to (i) send emails, mobile push notifications and if available in your region also 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.</p>
Available Resources	<p>The number of notifications you can use is limited. These limits for SMS, emails and mobile push notifications are defined by the respective IIoT Data Package size ordered. For more information, please refer to the Product Sheet for Insights Hub Cloud Resource available at https://plm.sw.siemens.com/en-US/insights-hub/resources/product-sheets/.</p>
Documentation	<p>For further details about Notification Service please see the documentation available via the following link: https://developer.mindsphere.io/apis/advanced-notification/api-notification-overview.html.</p>

IoT and Storage Services	
Description	<p>IoT & Storage Services are services available via their respective APIs. They cover Aggregate Service, File Service, Time Series Service and Time Series Bulk Service:</p> <ul style="list-style-type: none"> • 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 and Standard Deviation. • 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. • Time Series Bulk Service can be used to upload historic time series data using files.
Available Resources	<p>The time series data ingest volume and file storage you can use is limited. These limits are defined by the respective IIoT Data Package size ordered.</p> <p>For more information, please refer to the Product Sheet for Insights Hub Cloud Resources, available at https://plm.sw.siemens.com/en-US/insights-hub/resources/product-sheets/.</p>
Documentation	<p>For further details about IoT and Storage Services please see the documentation available via the following links:</p> <p>https://developer.mindsphere.io/apis/iot-iotfile/api-iotfile-overview.html https://developer.mindsphere.io/apis/iot-iottimeseries/api-iottimeseries-overview.html https://developer.mindsphere.io/apis/iot-iottsaggregates/api-iottsaggregates-overview.html.</p>
Event Management	
Description	<p>Event Management is a service available via its respective 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.</p>
Documentation	<p>For further details about Event Management please see the documentation available via the following link:</p> <p>https://developer.mindsphere.io/apis/advanced-eventmanagement/api-eventmanagement-overview.html.</p>
Subscription-based Notifications for Time Series Data, Events & Asset Model Change	
Description	<p>This feature enables Insights Hub to send notifications to the subscribing Environments when new Time Series data or Events arrive and when Asset Model is changed. Apps can be configured to listen to these notifications for polling the subscribed data more efficiently. Thus, eliminating the need for cyclic polling.</p>

Pre-requisites	For existing applications, this feature needs modifications in the app by the app developer. For new applications, the use of Subscription Based Notifications must be planned beforehand during design phase.
Limitations	The notifications work with a minimum window of 1 minute. Currently the apps outside the Insights Hub ecosystem are not supported. Works only with latest Message Broker Service Version.
Documentation	How to Receive Notifications (App Development/Publish): https://documentation.mindsphere.io/MindSphere/howto/howto-receive-notifications.html . Message Broker API: https://developer.mindsphere.io/apis/core-messagebroker/apimessagebroker-api.html .
Visual Flow Creator	
Description	Visual Flow Creator enables you to define data flows to analyze, orchestrate, interact and visualize data and design your own workflows via a drag and drop functionality to develop graphic depiction of workflows. You can choose from a variety of pre-configured nodes provided by Siemens, or you can deploy your own nodes to Visual Flow Creator for use in your 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. Flows organized using projects integrate business logic, data processing, event handling, user interaction and visualization. The workflows can be triggered manually, time-based or via RESTful call. You can calculate KPIs or trigger actions. Export and import of flows and projects is supported.
Limitations	The number of flow tabs is limited to 30 per User. The number of nodes for one sheet is limited to 200. 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 2 000 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. It is your responsibility to procure and maintain appropriate licenses for any nodes you deploy to Visual Flow Creator. Visual Flow Creator is a cloud-based system where the outcome of data processing is partly out of its control. Visual Flow Creator should therefore not be used for monitoring or operation of high-risk systems or mission critical assets. All created workflows are visible for all Users of your Environment.
Available Resources	Executing workflows requires compute hours which are based on execution time. The IIoT Data Packages include Visual Flow Creator compute hours which are limited depending on the size you subscribed to. 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 workflows for one Account could be limited depending on the application. For more information, please refer to the Product Sheet for Insights Hub Cloud Resources available at https://plm.sw.siemens.com/en-US/insights-hub/resources/product-sheets/ .

Third-Party Terms	Third-Party Terms for Visual Flow Creator are available via the following link: https://www.sw.siemens.com/en-US/sw-terms/mindsphere-third-party-terms/ .
Documentation	For further details about Visual Flow Creator please see the documentation available via the following link: https://documentation.mindsphere.io/MindSphere/apps/visual-flow-creator/introduction.html .
Predictive Learning Essentials	
Description	Predictive Learning Essentials allows users to manage the lifecycle of your data, models, and execution environment via a centralized UI in an interactive way. You can import data in various formats from Insights Hub Integrated Data Lake and Asset-related time series data for model executions either interactively through the integrated Jupyter Lab environment or by the assigned serving environment inside Insights Hub for the model artifacts in types of Docker Image and Jupyter Notebook imported from external repository.
Available Resources	Predictive Learning Essentials allows 1 000 compute hours per Productive/Developer/Test environment in your account. The amount of compute hours can be extended on demand for additional fees.
Third-Party Terms	Pre-installed open-source libraries are available via the following link: https://www.sw.siemens.com/en-US/sw-terms/mindsphere-third-party-terms/ . Further libraries can be procured by you under separate terms via download from external repositories, i.e. pip (https://pypi.org/project/pip/) for Python. Such libraries are not part of our Offering and solely operated by you.
Documentation	For further details about Predictive Learning Essentials please see the documentation available via the following link: https://documentation.mindsphere.io/MindSphere/apps/predictive-learning-essentials/welcome-predictive-learning-help.html .
Integrated Data Lake (IDL)	
Description	Integrated Data Lake allows you to store, organize, tag and search any kind of data (structured, semi structured and unstructured) as objects, bring together data from different sources and use it with applications and tools. You can organize data in different folders, associate it with metadata tags, search and delete objects. Seamlessly integrate with your existing subscribed Insights Hub Offerings and work with big data tools of your choice from various cloud service providers.
Available Resources	For productive use, additional Cloud Resources (Integrated Data Lake) are required. For more information, please refer to the Product Sheet for Insights Hub Cloud Resources available at https://plm.sw.siemens.com/en-US/insights-hub/resources/product-sheets/ .
Third-Party Terms	Third-Party Terms for Integrated Data Lake are available via the following link: https://siemens.mindsphere.io/en/docs/Product-Descriptions-Overview/Third-Party-Terms .
Documentation	For further details about Integrated Data Lake please see the documentation available via the following links: https://documentation.mindsphere.io/MindSphere/apps/integrated-data-lake/introduction.html and https://documentation.mindsphere.io/MindSphere/apis/iot-integrated-data-lake/api-integrated-data-lake-overview.html .

Monitor	
Description	<p>With Insights Hub Monitor it is possible to explore the performance and condition of assets, products, or lines in real time, get full and harmonized transparency and root causes from the data of your connected assets, calculate KPIs, assign cases within your team and automatically receive notifications when thresholds are exceeded. Insights Hub Monitor offers the following capabilities in the categories “explore”, “analyze” and “configure”:</p> <ul style="list-style-type: none"> • Explore Basic Dashboards can be used to visualize time series data and other information (e.g., text, images) on one page with few simple & easy-to-use dashboard visualizations. It includes basic Grafana visualization panels. • Explore Assets provides an overview of Assets configured in the respective Environment, allows to search and filter for relevant Assets based on various criteria, and displays measured data and information from Assets. • Explore Events shows time series events of different severities and allows you to acknowledge events, start work orders and explore Assets. • Explore Cases is used to investigate issues and ongoing maintenance activities within your own production and Assets, and it allows you to change status, priority, and assignee of a case (in which case a message will be sent to the assignee). • Analyze Time Series is a basic analytics application for time series data. • Generate Forecasts based on our Insights Hub Predict framework to enable predictions of KPIs based on time-series data. • Generate Anomaly Detections based on our Insights Hub Predict framework to find anomaly spots from existing time-series data. • Configure simple KPIs is used to define and calculate KPIs on time series data by visually selecting input and output variables and writing the calculation formula using JavaScript language. • Configure Rules is used to monitor one or more variables of the respective Assets and define resulting actions such as sending notifications or setting a status indication after the occurrence of an event set, e.g., if the data relating to a certain asset exceeds a threshold defined. • Configure advanced KPIs allows you to create KPIs with a graphical editor and analyze KPIs live, as well as start a root cause analysis.
Available Resources	<p>The number of (simple) KPIs and Rules you can (concurrently) use for Insights Hub Monitor as well as the number of Forecast Executions is limited. These limits are defined by the respective IIoT Data Package size ordered.</p> <p>For more information, please refer to the Product Sheet for Insights Hub Cloud Resources available at https://plm.sw.siemens.com/en-US/insights-hub/resources/product-sheets/.</p>
Limitations	<p>Please note that certain technical limitations may apply depending on your dashboard usage. For more information, please refer to the document “Technical Limitations for Usage of Insights Hub and Industrial IoT Resources” at this link: https://plm.sw.siemens.com/en-US/insights-hub/resources/product-sheets/. To clarify whether such technical limitations can be increased, please contact Insights Hub Support.</p>
Third-Party Terms	<p>Third-Party Terms for Insights Hub Monitor, Explore Dashboards, Explore Assets, Explore Events, Analyze Time Series, Configure Rules, Explore Cases, Configure simple KPIs and Generate Forecasts and Generate Anomaly Detections based on Insights Hub</p>

	<p>Predict framework are available under “Insights Hub Monitor” via the following link: https://www.sw.siemens.com/en-US/sw-terms/mindsphere-third-party-terms/.</p>
Documentation	<p>For further details about Insights Hub Monitor please see the documentation available via the following link: https://documentation.mindsphere.io/MindSphere/apps/insights-hub-monitor/introduction.html.</p>
Predict	
Description	<p>The Insights Hub Predict framework is accessible from the “Analyze” tab-category of Insights Hub Monitor. It offers end-to-end, out-of-the-box model building that identifies relevant features and generates a unique GAM (Generalized Additive Model) for each time series forecasting or anomaly detections use case, which allows you to</p> <ul style="list-style-type: none"> • forecast your future time series data values with assigned prediction horizon, validation dataset, confidence interval, etc. • detect anomaly spots from your existing time series data values based on different perspectives, normal behaviors configuration, etc. <p>With the user interface of Insights Hub Predict, you can start from “Use Case” and “Dataset” where your Forecast and Anomaly Detection models can be associated, built, and executed. You can make easy configuration of parameters for model building and leverage visualized execution results for further leveraging in your own use cases.</p>
Available Resources	<p>Insights Hub Predict by default provides 20 forecasts and 20 anomaly detections per month. Additional upgrade subscriptions to increase the number of forecasts and anomaly detections are available for additional fees.</p>
Third-Party Terms	<p>Third-Party Terms for Insights Hub Predict are available via the following link: https://www.sw.siemens.com/en-US/sw-terms/mindsphere-third-party-terms/.</p>
Documentation	<p>For further details about Insights Hub Predict framework please see the documentation available via the following link: https://documentation.mindsphere.io/MindSphere/apps/insights-hub-monitor/predict.html.</p>
Dashboard Designer	
Description	<p>Insights Hub Dashboard Designer enables you to create simple & advanced Grafana based dashboards from IoT time series, semi-structured and unstructured data like e.g. files. It is accessible directly from the Launchpad. The following Grafana visualization panels are available, e.g. Bar Gauge, Clock, Dashboard List, Gauge, Graph, Heatmap, Pie Chart, Separator, Singles Table, Text. Additionally, the following third-party visualization plugins are available, e.g. Breadcrumb, Imagelt, CalHeatmap, SVG, Traffic Lights. Those visualization panels can be combined into dashboards.</p> <p>Insights Hub Dashboard Designer has two different types (Creator/ Viewer) of Authorized Users. An Authorized Creator User can create view, modify and delete existing dashboards. An Authorized Viewer User can view existing dashboards.</p>
Available Resources	<p>Dashboard Designer includes 5 Authorized Creator Users. Additional upgrade subscriptions to increase the number of Creators or to subscribe as Viewer are available separately for additional fees.</p>
Limitations	<p>Please note that certain technical limitations may apply when creating dashboards by Authorized Creator Users. For more information, please refer to the document “Technical Limitations for Usage of Insights Hub and Industrial IoT Resources” at this</p>

	link: https://plm.sw.siemens.com/en-US/insights-hub/resources/product-sheets/ . To clarify whether such technical limitations can be increased, please contact Insights Hub Support.
Third-Party Terms	The Third-Party Terms for Insights Hub Asset Health & Service Maintenance are made available via the following link: https://www.sw.siemens.com/en-US/sw-terms/mindsphere-third-party-terms/
Documentation	For further details about Insights Hub Dashboard Designer please see the documentation via the following links: https://documentation.mindsphere.io/MindSphere/apps/dashboard-designer/introduction.html and https://documentation.mindsphere.io/MindSphere/apps/dashboard-designer-v10/introduction.html .
Edge Analytics	
Description	Insights Hub 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. Your subscription to Insights Hub Edge Analytics comprises (i) a subscription license to the Insights Hub Edge Analytics Engine software for use on your connectivity hardware in the field to collect data and perform edge analytics of the data to calculate KPIs and send the calculated KPIs to the Platform, and (ii) a subscription to the Insights Hub Edge Analytics that allows you to configure your data points and KPIs on your Account. The Insights Hub Edge Analytics Engine software will be made available for download and must only be used on supported connectivity hardware. The MindConnect Nano, MindConnect IoT2050 and MindConnect Software Agent from Siemens are currently supported connectivity hardware. For further information as to which connectivity hardware is currently or will be supported, please verify with your Insights Hub sales representative.
Available Resources	It includes 5 Data Points, which can be distributed among the devices e.g. MindConnect Nano or MindConnect Software Agent in the Environments of your Account. The number of Data Points can be increased for additional fees.
Third-Party Terms	Third-Party Terms for Edge Analytics are available within Industry Online Support via the following links: MindConnect IoT2050: https://support.industry.siemens.com/cs/ww/en/view/109813714 MindConnect Nano: https://support.industry.siemens.com/cs/us/en/view/109745561 MindConnect Software Agent: https://support.industry.siemens.com/cs/us/en/view/109809640 Third-Party Terms for Edge Analytics are integrated into MindConnect firmware; therefore, the above-mentioned links will depend on the MindConnect products you are using.
Documentation	For further details about Insights Hub Edge Analytics please see the documentation available via the following link: https://documentation.mindsphere.io/MindSphere/apps/insights-hub-edgeanalytics/introduction.html .

Remote Services

Description	<p>Remote Services provides customer-owned apps with tunnel-based encrypted network-to-network access for using IP-based protocols under fine-grained access control. Such networks may either be "Service Networks" or "Device Networks". Service Networks host apps and data on computers or servers, Device Networks host apps and data located on computers or embedded systems being part of machinery.</p> <p>Example use cases are: The Remote Services application helps you to perform remote maintenance and engineering of machine controllers in a Device Network or to access a camera video stream. Furthermore, apps on machinery in Device Networks may issue tickets or access data storage. Beyond that apps in Device Networks may integrate with apps or data on Insights Hub.</p> <p>The application provides the following capabilities:</p> <ul style="list-style-type: none">• Leverage preconfigured native or browser-based remote login protocols from within Service Networks to devices located in Device Networks. Fine-grained access control ensures that users have access only to those devices, which are assigned to them by an administrator.<ul style="list-style-type: none">• "Service Devices" are devices registered with the Remote Services application for the purpose of being accessed.• "Service Data" means all data transfer related to usage or administration of the application functionalities. "Service Tunnel" means hosting of one Service Asset-specific communication protocol in a tunnel.• Route custom IP-based protocols from Service Networks to Device Networks. Example use cases are remote engineering and commissioning of Service Devices by using customer-provided tools from within a Service Network instead of within a Device Network. Furthermore, IP-based streams may be accessed.• Route custom IP-based protocols from Service Devices in Device Networks to apps or data located in Service Networks. Example use cases are access to ticketing systems or data storage. Furthermore, apps on Service Devices may integrate with apps or data on Insights Hub.
Available Resources	Remote Services includes 1 "Service Device" and 0.01 GB of monthly "Service Data" transfer. Service Devices and Service Data volume can be upgraded for additional fees.
Limitations	<p>Endpoint (Client) Software. Remote Services requires installation of, and we grant you a Perpetual license to, (i) a Device Endpoint (technically a device client) for establishing Service Tunnels with Service Devices located in Device Networks and which may also be used as a gateway for accessing Service Devices in sub-networks, and (ii) a Service Endpoint (technically an operator client) for establishing Service Tunnels with computational devices (such as a technician's PC or a server) located in Service Networks. Both Endpoints (clients) will be made available for download from the Platform. For details regarding validated hardware and software configurations for Service and Device Endpoints, please see the Insights Hub Release Notes available via the following link:</p> <p>https://documentation.mindsphere.io/MindSphere/release-notes/overview.html</p>
Third-Party Terms	<p>Third-Party Terms for Remote Services, Service and Device Endpoints (clients) are available under "Remote Services" via the following link:</p> <p>https://www.sw.siemens.com/en-US/sw-terms/mindsphere-third-party-terms/.</p>
Documentation	<p>For further details about Remote Services please see the documentation available via the following link:</p> <p>https://documentation.mindsphere.io/MindSphere/apps/RemoteServices-(RS)/RS-Overview/RS-Overview.html</p>

Asset Health & Maintenance	
Description	<p>Insights Hub Asset Health & Maintenance enables your maintenance team to transform your maintenance processes by making them more efficient. Lower maintenance costs and quickly detect and respond to anomalies before they become problems or downtime. It allows your maintenance team to:</p> <ul style="list-style-type: none"> • Merge insights from different condition monitoring systems. • Raise maintenance/service requests in your maintenance management system. • Link your maintenance management system with actual data of Insights Hub. • Perform a quick 360°root cause analysis of issues.
Third-Party Terms	<p>The Third-Party Terms for Insights Hub Asset Health & Service Maintenance are made available via the following link: https://www.sw.siemens.com/en-US/sw-terms/mindsphere-third-party-terms/.</p>
Documentation	<p>For further details about Insights Hub Asset Health & Maintenance please see the documentation available via the following link: https://documentation.mindsphere.io/MindSphere/apps/distribution/Asset-Healthand-Maintenance.html.</p>
OEE	
Description	<p>Insights Hub OEE allows you to calculate Overall Equipment Effectiveness (OEE) and additional KPIs for lines and machines, in order to better understand the efficiency of underlying production processes and to be able to continuously improve. Additionally, it also helps the user to track the success of measures taken.</p> <p>Insights Hub OEE offers you the following core capabilities:</p> <ul style="list-style-type: none"> • Calculate OEE, Mean Time To Repair (MTTR), Mean Time Between Failure (MTBF) and further relevant KPIs for machines and lines. • Filter capabilities for timeframe, products, and orders. • Support of single- and/or multiproduct production systems. • Reason tree modeling and ability to change recorded downtime reasons afterwards. • Customization of OEE formulas for OEE calculation. • Set up production times, breaks, maintenances etc. in calendars.
Available Resources	<p>Insights Hub OEE includes an initial quota of 25 assets, for which the OEE calculation can be set up, and 50 named users. Additional OEE assets or named users can be upgraded for additional fees.</p>
Third-Party Terms	<p>The Third-Party Terms for Insights Hub OEE are made available via the following link: https://www.sw.siemens.com/en-US/sw-terms/mindsphere-third-party-terms/.</p>
Documentation	<p>For further details about Insights Hub OEE please see the documentation available via the following link: https://documentation.mindsphere.io/MindSphere/apps/insightshub-oe/introduction.html.</p>
Opcenter Intelligence	
Description	<p>Opcenter Intelligence is a solution for manufacturing data reporting and analysis to speed up decision making on a global scale. This application extends Siemens' Opcenter portfolio by providing the capability to apply analytics and reporting techniques to operations and business data at all levels.</p> <p>Opcenter Intelligence provides insights into your equipment efficiency, root cause analysis and full transparency into your manufacturing operations enabling proactive identification of performance issues to improve operational efficiency.</p>

	<p>It includes the following capabilities:</p> <ul style="list-style-type: none"> • Provides insights into your equipment efficiency, root cause analysis and near-real time transparency into your manufacturing data across multiple manufacturing lines and sites. • Connects, organizes, and aggregates manufacturing data from various company data sources into cohesive and contextualized information to gain immediate and actionable insights. • Integrates data across Siemens Opcenter and third-party sources. • Collects, visualizes and analyzes equipment utilization and efficiency data. • Delivers timely access to both historical and near real-time information using interactive tools that allow you to identify trends and data relationships. • Provides you with intuitive KPI dashboards and near real-time visibility into downtime causes and manufacturing data. • Provides configurable and schedulable email notification services (e.g. for KPI deviations). Notifications sent 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 this service will be uninterrupted, secure or error free or that notifications will reach their intended destination during any stated time frame.
Available Resources	<p>Opcenter Intelligence includes Insights Hub interfaces, manufacturing data model, 3rd party extension, contextualization, KPIs and oData plus 400 GB MDW, 15 users and 50 assets.</p> <p>Resources such as Equipment (Assets for MOM data ingestion) or MDW storage can be upgraded for additional fees. Additional features like Long Term Archive, Admin, Explorer and Viewer Named Users, or a dedicated environment for development and quality management purposes can also be made available for additional fees.</p>
Required Connectivity	<p>To connect the on-premises data of Siemens Opcenter and/or third-party applications to Opcenter Intelligence, you need to additionally purchase the Opcenter Connect Cloud Bundle (on-premises software) and install it on your system. The Opcenter Connect Bundle is subject to separate terms and conditions.</p>
Third-Party Terms	<p>The Third-Party Terms for Opcenter Intelligence are made available via the following link:</p> <p>https://www.sw.siemens.com/en-US/sw-terms/mindsphere-third-party-terms/.</p>
Documentation	<p>For further details about Opcenter Intelligence please see the documentation available via the following link:</p> <p>https://documentation.mindsphere.io/MindSphere/apps/distribution/Opcenter-Intelligence.html.</p>
Factory Twin	
Description	<p>Insights Hub Factory Twin application enable you to define and manage the connections between virtual models (i.e., the digital representation for a physical object) and onboarded Assets.</p> <p>Insights Hub Factory Twin application provides you with the following capabilities:</p> <ul style="list-style-type: none"> • Configure connection between enterprise applications and Insights Hub using Insights Hub Factory Twin. The application enable physical and virtual model mapping and connection to supported enterprise applications with the Insights Hub. It also allows to configure the model for simulation and run it using operational data of an Asset. • Optimize shopfloor operations using IoT data enabled simulations with Insights Hub Factory Twin which allows you to create, manage and run simulations

	<p>between physical Assets and their discrete event models. With this application, you can build a connection between Assets and their corresponding discrete event simulation models. This application leverages the connection to provide physical Asset IoT data as an input into the discrete events simulation model.</p>						
Limitations	<p>(1) Enterprise applications are not part of our Offering. It is your responsibility to procure and maintain appropriate licenses for such enterprise applications. Such enterprise applications are solely operated by you. Enterprise applications currently supported are listed below (subject to change and for informational purposes only; please verify with your sales representative):</p> <table border="1"> <thead> <tr> <th>Insights Hub Digital Twin application:</th> <th>Supported enterprise application:</th> <th>Supported connectors:</th> </tr> </thead> <tbody> <tr> <td>Insights Hub Factory Twin</td> <td>Tecnomatix Plant Simulation</td> <td>Connector for Plant Simulation</td> </tr> </tbody> </table> <p>(2) The connection of the supported enterprise application to Insights Hub Factory Twin requires the local installation of corresponding supported connector package listed above which contains connector software and associated Deployment and Development Guides. The connector package will be made available for download via the Siemens Support Center portal ("Support Center").</p> <p>(3) If you wish to develop and create your own custom connector (e.g. to connect further enterprise applications to a Digital Twin application), you are solely responsible for (i) developing such custom connector in accordance with the Connector Development Guide, (ii) properly installing, configuring and using it, (iii) properly connecting it to Insights Hub, (iv) deploying it in accordance with the relevant Deployment Guide (if applicable), and (iv) regularly monitoring the content, integrity, security, accuracy and timeliness of the data transmission (e.g. by monitoring such transmission over Insights Hub). Such custom connectors are not part of our Offering.</p>	Insights Hub Digital Twin application:	Supported enterprise application:	Supported connectors:	Insights Hub Factory Twin	Tecnomatix Plant Simulation	Connector for Plant Simulation
Insights Hub Digital Twin application:	Supported enterprise application:	Supported connectors:					
Insights Hub Factory Twin	Tecnomatix Plant Simulation	Connector for Plant Simulation					
Export Control Regulations	The connector software provided by us as part of the connector packages is classified as AL = 5D002C1A, ECCN = 5D002ENCB1.						
Third-Party Terms	Third-Party Terms for Insights Hub Factory Twin are available via the following link: https://www.sw.siemens.com/en-US/sw-terms/mindsphere-third-party-terms/ .						
Documentation	For further details about Insights Hub Factory Twin, please see the documentation available via the following links: https://documentation.mindsphere.io/resources/html/factory-twin/en-US/index.html .						
DevOps Cockpit							
Description	<p>DevOps Cockpit brings along collaborative low-code, no-code and codeful application integration and supports the application lifecycle. It combines functionality currently contained in Developer and Operator Cockpit. Further it lets you control which applications you want to productively use or enable OEM Services. Please note: This covers the integration of self-hosted applications. It does not include access to a hosting environment (e.g. Cloud Foundry), which may require additional subscription. The DevOps Cockpit provides:</p> <ul style="list-style-type: none"> • Integration of application. • Provision of applications to Test Environments during development phase (only for Standard and Advanced Capability Packages). • Make your application visible in the Development Environment e.g. for testing purposes. • Manage versions of your applications. 						

	<ul style="list-style-type: none"> • Assign applications to Productive Environments or provision applications to other customer Accounts (only for Standard and Advanced Capability Packages). • Receive system messages and application requests.
Third-Party Terms	Third-Party Terms for DevOps Cockpit are available via the following link: https://siemens.mindsphere.io/en/docs/Product-Descriptions-Overview/Third-Party-Terms .
Documentation	For further details about DevOps Cockpit please see the documentation available via the following link: https://documentation.mindsphere.io/MindSphere/apps/devops-cockpit/introduction.html .
Token Manager Services	
Description	Token Manager Service is available via its respective Industrial IoT APIs. This service is necessary if your applications shall access data without user interaction from other Accounts and/or Environments by issuing access tokens. Before an application can issue access tokens for an Account and/or Environment, the application must be provisioned to this Account and/or Environment 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 DevOps Cockpit available via the following link: https://documentation.mindsphere.io/resources/html/operator-cockpit/en-US/index.html .
Documentation	For further details about Token Manager Services please see the documentation available via the following link: https://developer.mindsphere.io/apis/exchange-tokenmanager/api-tokenmanager-overview.html .

Description of General Functionalities

Environment Management

Description	<p>The Insights Hub Capability Packages provide you with a dedicated Insights Hub Account. One Account can have up to 4 Environments depending on the Insights Hub Capability Package which serve a certain purpose:</p> <ul style="list-style-type: none"> • Productive Environment is intended to be used for production-like scenarios e.g., for global connection of Assets, application usage, etc. • Development Environment is intended to be used for application development/integration and its operation. • Test Environments are intended to be used for testing of developed applications. <p>The total number of Environments included in different Insights Hub Capability Packages:</p> <ul style="list-style-type: none"> • Insights Hub Capability Package: 2 • Insights Hub Capability Package Standard: 4 • Insights Hub Capability Package Advanced: 4 <p>Per default, you will always receive a Productive Environment.</p> <p>The creation of a Development Environment (for Essentials/Standard/Advanced) and 2 additional Test Environments (for Standard/Advanced) is optional. For creation of optional Environments, please contact Support.</p>
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Limitations	<p>Applications and industry solutions included in the Capability Packages (see table “Insights Hub Capability Packages – Overview” above) are available by default only in the Productive Environment. If you would like to have them in other Environments as well, please contact Support, and they will provision them to the other Environments.</p> <p>You must at least have one Development Environment created, if you would like to:</p> <ul style="list-style-type: none"> • Develop, test and use own applications productively in own Accounts. • Provision applications to other Insights Hub customers’ Accounts and publish your applications via the Store. <p>If you would like to test own applications in a separate Environment, you must create additional Test Environments (only for Standard/Advanced).</p>
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Upgrade Tool

Description	<p>Use Upgrade Tool to:</p> <ul style="list-style-type: none"> • Order available upgrades (incl. add-ons) to your subscribed Offerings. • Get an overview of your requested and completed upgrades. • Manage pending upgrade requests (authorized Users only).
Limitations	<p>The Upgrade Tool with full functionality is available only in the Productive Environment. In other Environments, you can use the Upgrade Tool to submit purchase requests to the Productive Environment.</p>
Third-Party Terms	<p>Third-Party Terms for Upgrade are available under “administration tools” via the following link:</p> <p>https://www.sw.siemens.com/en-US/sw-terms/mindsphere-third-party-terms/.</p>

Usage Transparency & Usage Transparency Services

Description	<p>Usage Transparency Service is a service available via its respective APIs and via user interface “Usage Transparency” accessible from your Launchpad.</p>
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	<p>Usage Transparency Service provides transparency for both application operators and application customers to verify daily and monthly aggregated usage for applications. It supports the application operators to monetize their application usage.</p> <p>This service offers insight on your consumption of certain resources and corresponding limits of your Insights Hub Cloud Resources and other subscribed offerings, e.g., API calls, time series data ingest rate. Moreover, you can define metrics within this service so that consumption can be tracked.</p>
Third-Party Terms	<p>Third-Party Terms for Usage Transparency are available under “administration tools” via the following link:</p> <p>https://www.sw.siemens.com/en-US/sw-terms/mindsphere-third-party-terms/.</p>
Documentation	<p>For further details about Usage Transparency Services please see the documentation available via the following links:</p> <p>https://documentation.mindsphere.io/resources/html/usage-transparency-service/en-US/index.html and https://developer.mindsphere.io/apis/core-usagetransparency/api-usagetransparency-overview.html.</p>

Insights Hub Asset Attributes Description

Description	<p>Asset Attributes are properties of Assets or simply the datapoints consumed during Asset Modelling in terms of Variables. An Asset Attribute represents individual data such as temperature, pressure or speed. They can be static, e.g., a serial number or dynamic like temperature where historical data is desired. An Asset comprises of at least one Asset Attribute but can contain more, if required.</p> <p>Asset Attributes created by you are counted independently of their purpose such as monitoring, alarming or structuring. Asset Attributes are always related to a defined Asset Type which can be a custom type or Out-of-the-Box type. Out-of-the-box Asset types are ready templates that have some pre-loaded Asset Attributes that do not count towards the consumed quota.</p>
Required Subscription	<p>For productive use of an Insights Hub Capability Package, Asset Attributes are required. Essentials, Standard and Advanced Capability Packages include 500 Asset Attributes by default. Extra Asset Attributes can be added on demand. Subscriptions to Asset Attributes are available in different sizes (500 / 1 000 / 2 500 / 5 000 / 10 000 / 25 000 / 50 000 / 500 000 Asset Attributes). You can purchase same size multiple times or a combination of these sizes. The Asset Attributes are provisioned for the subscription term and if the full quota of purchased Asset Attributes is consumed, subsequent usage is restricted. In order to continue usage, you would need further purchase of Asset Attributes from the available sizes.</p>

Export Control Regulations

The services described in this Product Sheet have the following export control classification, unless expressly set out otherwise herein:

AL	N
ECCN	N/EAR99

Security Information

General	In order to protect plants, systems, machines and networks against cyber threats, it is necessary that you implement and continuously maintain a holistic, state-of-the-art industrial security concept.
Secure communication	Data transmission will be done via HTTPS protocol from Asset to your Environment.

Definitions

General	Unless otherwise indicated, capitalized terms used in this document shall have the meaning given to them in this document or elsewhere in the Agreement. You may also want to check our Glossary .
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