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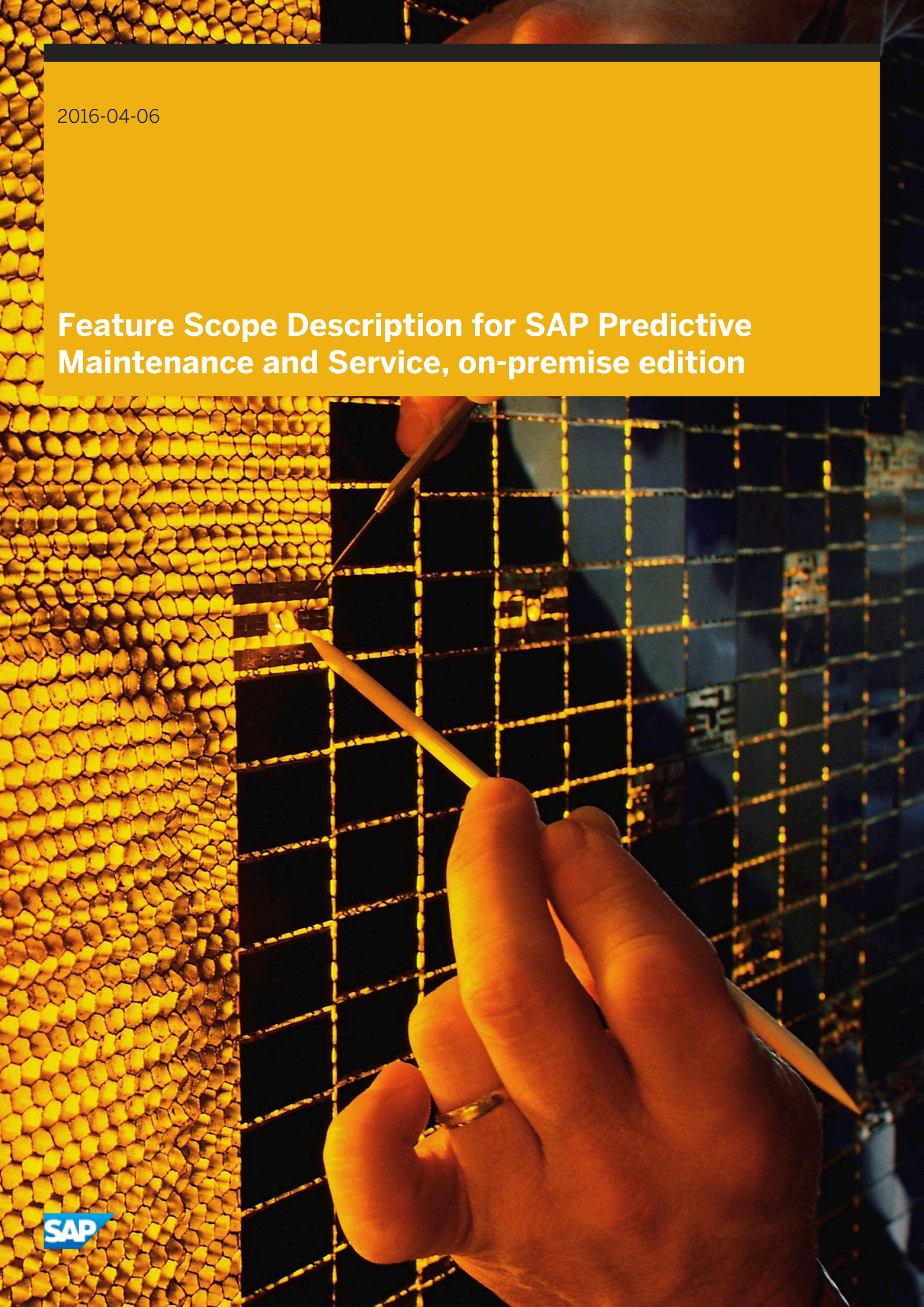
Feature Scope Description for SAP Predictive Maintenance and Service, on-premise edition



Content

1 Document History

Document History

> **Caution**
>
> Before you start the implementation, make sure you have the latest version of this document. You can find the latest version at the following location: https://uacp.hana.ondemand.com/http.svc/rc/PRODUCTION/be1cf22d987d46bb8d5f45125b07ce62/1.0/en-US/FSD_SAP_PredictiveMaintenance_and_Service_onpremise_edition.pdf

The following table provides an overview of the most important document changes:

Table 1:

Version	Date	Description
1.0	2016-03-15	Initial Version
1.01	2016-03-30	Deleted the following features: • Users can download the list of metrics into a `.csv` file.

2 SAP Predictive Maintenance and Service, on-premise edition - Feature Scope Description

SAP Predictive Maintenance and Service, on-premise edition is an IoT product that brings together OT data (operational asset sensor data) and IT data (business data) and applies analysis methods like analytics and data mining to create insights that can be used to optimize business in areas such as maintenance, production, after sales service, procurement, etc.

Therefore, SAP Predictive Maintenance and Service, on-premise edition is designed to create an environment for systematic learning and business optimization consisting of the following key areas:

- Collecting, storing, and managing large volumes of data from disparate sources, and providing means for cleansing and fusing these data sources together.
- Extracting insights from fused data sets by using analytics and data mining techniques.
- Using insights to optimize business.

About This Document

This feature scope description shows you which features are provided with SAP Predictive Maintenance and Service, on-premise edition. In addition, this feature scope description also defines the product documentation for SAP Predictive Maintenance and Service, on-premise edition.

Product Documentation

The following product documentation is available for SAP Predictive Maintenance and Service, on-premise edition:

- This feature scope description
- Information on installation, implementation, and administration (English)
- Information on security (English)
- Application information (English)
- Application information (German)

Supported Languages

SAP Predictive Maintenance and Service, on-premise edition supports the following languages:

- English (locale: en)

    - Valid for UI of asset health control center
    - Valid for UIs of insight providers
    - Valid for UI of metrics metadata repository
- German (locale: de)
    - Valid for UI of asset health control center
    - Valid for UIs of insight providers
    - Valid for UI of metrics metadata repository

The language in which the UIs mentioned above are displayed depends on your browser language settings.

3 Asset Health Control Center

The asset health control center supports you with monitoring the health status of assets while they are in operation.

Business Background

The asset health control center is part of the SAP Predictive Maintenance and Service, on-premise edition. It's used for the holistic management of asset health and provides decision support for maintenance schedules and the optimization of resources based on health scores, anomaly detection, and machine learning.

To analyze the health status of assets, you use insight providers that help you gain more knowledge about your assets.

Key Features

Table 2:

Key Feature	Use
Use insight providers to analyze the health status of assets	Users can select insight providers from the insight provider catalog and add them to the asset health control center and to the asset health fact sheet.
Edit layout	Users can edit the position of insight providers in the asset health control center and the asset health fact sheet. In edit mode, they can also remove insight providers from the asset health control center and the asset health fact sheet.
Select assets, and filter and search for assets	User can search for assets in the Asset Explorer. They can also filter assets in the Asset Explorer by attributes or functional location. They can select assets and apply their selection to all insight providers. They can furthermore reset an asset selection.
Display an overview of asset components	Users can see an overview of components of an asset on the asset health fact sheet as well as in the Asset Explorer. In the Asset Explorer, they can navigate from an asset to an overview of components that are part of that asset.
Display key figures and key figure sets	Users can see key figures and key figure sets for assets if configured accordingly by the administrator in the backend.

Key Feature	Use
Analyze derived signals	Users can get an overview of derived signals of assets. They can further display a derived signals in a 2D diagram, and analyze the last 28 days, 7 days, 24 hours, 12 hours, or 1 hour.
Display and create work activities	Users can view work activities that were created for assets, and browse through the details of different work activities. On the asset health fact sheet, they can create work activities for an asset under consideration.
Schedule maintenance	Users can schedule maintenance for assets starting from the asset health control center as well as from the asset health fact sheet. They are led to SAP Multiresource Scheduling (SAP MRS). **Note** This feature is available only if SAP MRS is configured accordingly.
Visualize sensor data in a 3D diagram	Users can select sensor data they want to see visualized in a 3D data diagram. From that diagram, they can select assets by selecting asset lines, assets beyond the threshold, or the diagram surface. They can move to a next, more detailed 3D digram based on their asset selection. They can navigate back to a previous 3D diagram. They can change the display settings of the diagram as well as threshold values. They can set a start date from which and until now they want to display sensor data in the 3D diagram. They can rotate the 3D diagram, and zoom in to and out of the 3D diagram.
Display a geospatial visualization of assets	Users can display assets on maps. They can select different display modes of a map and different asset layers if configured accordingly. They can zoom in and out of the map. They can select assets by spatial selection. They can clear this selection.
Sort and download tables	Users can sort tables by columns in some insight providers, choose columns they want to display, and download lists as `.csv` file from some insight providers.
Navigation	Users can navigate to the asset health fact sheet from an insight provider used in the asset health control center.

4 Metrics Metadata Repository

The metrics metadata repository supports you with creating metadata for metrics.

What's New

This section gives you an overview of the new features delivered with SAP Predictive Maintenance and Service, on-premise edition 1.0. The following table describes what is new, enhanced, changed or deleted:

Table 3:

Status	Features
Deleted	Users can download the list of metrics into a `.csv` file.

Business Background

The metrics metadata repository is part of SAP Predictive Maintenance and Service, on-premise edition. It's used to define metadata that give information about how metrics are interpreted. They define, for example, whether a metric is interpreted as a measurement, text, or count.

Key Features

Table 4:

Key Feature	Use
Upload or import metrics IDs and metrics metadata	Users can either upload metrics IDs and metrics metadata in a `.csv` file, or import them from the metrics storage service. To upload metrics IDs and their metadata in a `.csv` file, they can use a blank `.csv` file template that they download from the metrics metadata repository.
Create and delete metrics IDs and metadata	Users can create metrics IDs, and select whether a metric is interpreted as measurement, count, or text. They can create units of measurement. They can also delete metrics from the metrics and units of measurement from the metrics metadata repository.

Key Feature	Use
Edit metrics metadata	Users can edit metrics metadata and units of measurement.

5 Administration, Implementation, Configuration

SAP Predictive Maintenance and Service, on-premise edition supports you with administration, implementation, and administration tasks.

Business Background

Users need to be authorized to use the services and applications provided with SAP Predictive Maintenance and Service, on-premise edition. An administrator creates these users and grants them required permissions. An administrator also takes care of configuring the insight providers.

Key Features

Table 5:

Key Feature	Use
Role Templates	SAP Predictive Maintenance and Service, on-premise edition is delivered with a set of role templates that contain the permissions that users need to work with the product services and applications. For more information, see the *Security Information* chapter in the Administration and Implementation Guide.
REST APIs	SAP Predictive Maintenance and Service, on-premise edition is delivered with a set of REST APIs that administrators can use to complete the following actions: • Configure the backend and frontend of insight providers • Create key figures and key figure sets • Display data • Upload data • Delete data • Subscribe insight providers to the metrics storage service • Register insight providers to the insight provider catalog For more information, see the *REST APIs* chapter in the Administration and Implementation Guide.

Key Feature	Use
SDI adapter for the metrics storage service	SAP Predictive Maintenance and Service, on-premise edition is delivered with an SDI adapter that enables data flow from SAP IQ to the metrics storage service to SAP HANA and vice versa.

6 Data Science Services

SAP Predictive Maintenance and Service, on-premise edition supports you with data science tasks.

Business Background

Data scientists need to work with certain algorithms in order to analyze sensor data and develop scores, for example, that give information about an asset health status. They also need to configure, train, and score models.

Key Features

Table 6:

Key Feature	Use
R packages	SAP Predictive Maintenance and Service, on-premise edition is delivered with a set of R packages that contain data science functions, algorithms, and abstraction layers. SAP Predictive Maintenance and Service, on-premise edition is delivered with a set of algorithms that can be used for training and scoring models: • Anomaly detection using principal component analysis (PCA) • Distance-based failure analysis using earth mover's distance (EMD) • Remaining useful life prediction using Weibull distribution For more information, see the *Data Science Services* chapter in the Administration and Implementation Guide.

Key Feature	Use
REST APIs	SAP Predictive Maintenance and Service, on-premise edition is delivered with a set of REST APIs that data scientists can use to complete the following actions: • Configure models • Train models • Score models • Monitor training jobs • Monitor scoring jobs For more information, see the *REST APIs* chapter in the Administration and Implementation Guide.

7 Business Network Integration

SAP Predictive Maintenance and Service, on-premise edition currently supports integration scenarios with the following business networks:

- SAP Multiresource Scheduling (SAP MRS)
  Schedule maintenance for assets.

For more information, see the Administration and Implementation Guide of SAP Predictive Maintenance and Service, on-premise edition.

Important Disclaimers and Legal Information

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Any software coding and/or code lines / strings ("Code") included in this documentation are only examples and are not intended to be used in a productive system environment. The Code is only intended to better explain and visualize the syntax and phrasing rules of certain coding. SAP does not warrant the correctness and completeness of the Code given herein, and SAP shall not be liable for errors or damages caused by the usage of the Code, unless damages were caused by SAP intentionally or by SAP's gross negligence.

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Internet Hyperlinks

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