

Smart Building Manager

Project Guide



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Chapter 1. Introduction

1.1. What is the goal of the document?

This document describes how to master an SBM project. It explains in detail the specific steps to setup an appropriate SBM infrastructure. It is intended for project coordinators and SBM operators on both the customer and manufacturer side.

1.2. Who should read this document?

All sales and building automation project leaders who wants to get familiar with the process of setting up a custom or project specific SBM instance.

1.3. What is the content of this document?

- Explain the different phases of the project.
- Explain the necessary steps.
- Explain the specific artifacts which are required.

1.4. Terms and Definitions

Term	Definition
AE	Architect/Engineer (AE) who facilitates the project's design/construction
GC	General Contractual
SVG	Scalable Vector Graphics SVG defines vector-based graphics where the information are stored in XML format.
XML	Extensible Markup Language. An XML file is a text-file which is both human and machine readable.

Chapter 2. The Basic Workflow

The following flowchart illustrates the basic workflow to setup an SBM project.

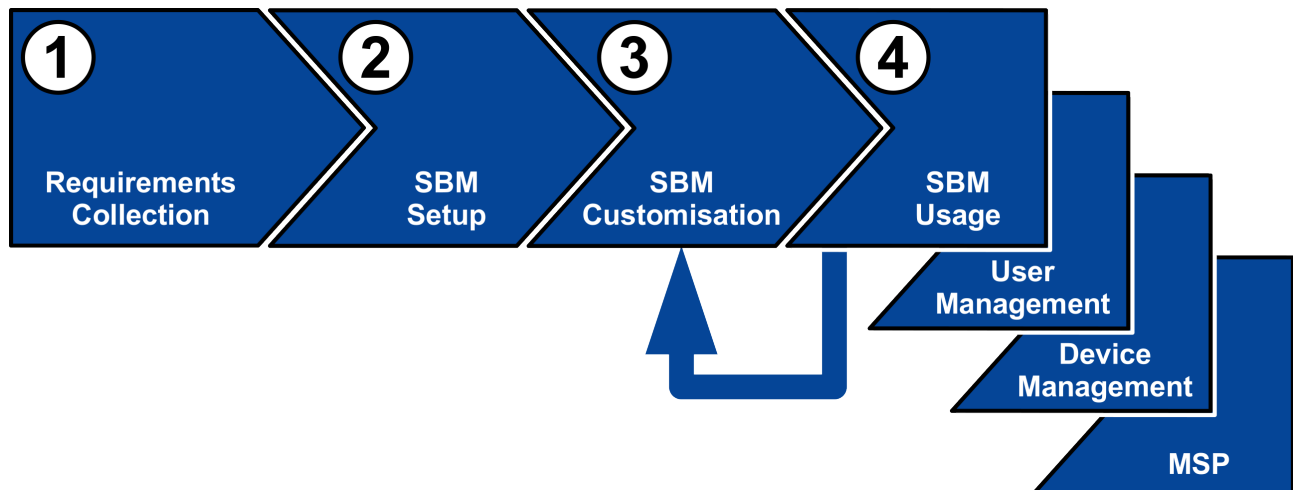


Figure 1. From Zero to Hero in 4 Steps (Basic Workflow)

IMPORTANT

It is strongly recommended to verify changes in configuration or infrastructure using an SBM demo installation before transferring them to the productive system!

NOTE

A more detailed workflow showing dependencies of requirements and elaborate details is available on the MICROSENS website under microsens.com/fileadmin/files/uploads/products/1_public/9_SBM/Elaboration-SBM-Customizing-Canvas-Workflow-Elaboration.pdf.

The major steps are as follows:

2.1. Step 1: Collect Project Requirements

Collect the requirements for the project. This could be, amongst others, the following information and data:

Datapoint sheets

Which building automation components (i.e. devices, sensors, actuators) should be used with their respective data points?

These data point sheets will become important when configuring the component dependencies and value thresholds.

SVGs

Use graphical representations of components and building elements.
This will keep the overview of components and infrastructure simple.

Users

Name all users and their specific roles and access rights for using this SBM instance.

Network Design

Get a list of the necessary network infrastructure.

Make sure, that WLAN is available when needed.

Edge Devices

Procure and name all necessary edge devices.

Make sure these devices are capable of running the Smart Director app.

Building Topology

Get a topology overview of the building complex you want to automate with SBM.

This includes all buildings, floors and rooms. Assume e.g. foyers, entrance halls and corridors as rooms, if building automation components have to be used there.

Technic Topology

Define a logical structure of the technical services used to monitor and control central building services (e.g. HVAC).

2.2. Step 2: Setup SBM

Install the SBM application, assign a valid license and configure the SBM server instance.

NOTE

For more information on how to install and configure the SBM application please refer to the "SBM installation guide" and the "SBM configuration guide".

IMPORTANT

It is strongly recommended to use an SBM instance for testing purposes.

2.3. Step 3: Customise SBM

Customise the SBM instance to fit the project's needs, especially based on the information collected in step 1.

- Import datasheets
- Verify data point assignments
- Import **svg** files for building and room layouts
- Define room and floor types and assign the types to templates
- Define visualisations (chart scales and views) for room types, rooms and floors
- Configure the dashboard layout
- Define alarm rules
- Set the scheduler
- Define authentication for registered users (including the authorisation levels)

NOTE | For more information on how to customise the SBM instance please refer to "SBM customising guide".

IMPORTANT | Check these customisations extensively in the SBM demo system. Only after approval of flawless operation can the demo configuration be transferred to the productive system!

2.4. Step 4: Manage and Use SBM

Manage and use the SBM instance.

Using SBM can make it necessary to adjust the SBM customisation from step 3.

NOTE | For more information on how to manage and use the SBM instance please refer to "SBM operational manual".

The daily use of SBM covers the following ongoing responsibilities:

User Management

- User credentials
- UI permissions
- Building permissions

Device Management

- Device management
- Device monitoring
- Network monitoring
- Application management

Management Service Provider (MSP)

- System management
- Application management
- Monitoring

Chapter 3. Using Design Sheets

NOTE

Details about generally creating and handling of data point design sheets can be found in the SBM Customisation Guide.

3.1. Scope

The following explanation provides some basic, step-by-step instructions for quickly customizing an "SBM Server instance" for a specific building.

You will learn how to use a "data point design sheet" for MQTT usage, which contains the majority of the customization data, and upload it to the "SBM Server instance".

NOTE

The same approach can be followed when using a MODBUS "data point design sheet".

3.2. Requirements Collection Templates

The following **XLS** template sheets are available to speed up the project and make the collection of requested input easy.

- **MQTT-Datapoints-template.xlsx** ([Download](#))
- **MODBUS-Datapoints-template.xlsx** ([Download](#))
- **User-Definitions.xlsx** ([Download](#))
- **Datapoint-visualisation.xlsx** ([Download](#))

NOTE

For SBM server configuration settings please refer to the "user manual" provided with the application. Alternatively, it can be downloaded from the MICROSENS website:

www.microsens.com/products/category/management-software

3.3. First Steps

The first steps are:

1. Create a "data point design sheet".
2. Upload the "data point design sheet" to the "SBM Server instance".
3. Review the imported information.

3.3.1. Create Data Point Design Sheet

1. Open your preferred spreadsheet editor.

NOTE

The spreadsheet editor shall be able to export sheet data in **.csv** format. The "data point design sheet templates" provided by MICROSENS are available as **.xlsx** files (Microsoft Excel®).

2. Fill out the columns and rows as requested.
3. Export the sheet as **.csv** file.

TIP

It is recommended to save the file in the editor's native format for convenient editing.

3.3.2. Upload to SBM Server instance

1. Launch the SBM Server Manager and start the server instance.
2. Open the SBM Portal in your browser.
3. Login as a valid user who has the permission to import the "data point design sheets".
4. Go to BuildingCustomisation > Data point configuration.
5. Click on **Import datapoints from file**.
6. Select the **.csv** file from your local disk.
7. Upload the selected file.

3.3.3. Review Imported Information

To make sure the "data point design sheet" works as expected, review the following data:

- Building topology
- Technic tree
- Data point configuration list
- Data point assignment

NOTE

In the event of a failure, it is advised to modify the "data point design sheet" and import the data again. This way, the valid "data point design sheet" can be reused.

3.4. Advanced Customizing Steps

The following actions must be taken after MQTT Data point configuration is complete:

3.4.1. Customize Building Status (Room Cards and Panels)

1. Go to BuildingCustomisation > Room Card Templates.
2. Add building specific "room types".
3. Copy predefined room templates.
4. Adjust the "room types" to your rooms.
5. Assign "Room Card Templates" to "room types".
6. Assign "room types" to rooms.

3.4.2. Customize Room Visualization

1. Go to BuildingCustomisation > Visualizations.
2. Create a "visualization template" for either a "room type" (room template) or for an individual room.
3. Assign the "visualization" of the room to an individual room or a room type.
4. Create a "visualization" for an individual floor.
5. Assign the "visualization" of the floor to an individual floor.

Chapter 4. Advanced Activities Using COBie

If you are looking for a sheet that can be used to manage the whole project or if you want to work more closely with the BIM model, please visit blog.areo.io/what-is-cobie.

Following the steps outlined below can be a good place to start:

1. Read the introduction at blog.areo.io/what-is-cobie to understand the idea, scope and purpose of COBie.
2. Download a COBie spreadsheet (e.g. [COBie-US-2_4-template.xlsx](https://github.com/xBimTeam/XbimExchange/tree/master/Xbim.COBie.Client/Templates) from github.com/xBimTeam/XbimExchange/tree/master/Xbim.COBie.Client/Templates).
3. Fill out the parts of the sheet which are relevant for the project.
4. Use this sheet to document and track the project requirements.
5. Extract the appropriate data from the COBie sheet so that they can be inserted into the MICROSENS sheets as described above.
6. Complete the MICROSENS sheets and follow the process as described above

4.1. COBie References

- Introduction to CoBie:
<https://www.wbdg.org/bim/cobie>
- COBie Template Documents:
<https://www.gsa.gov/real-estate/design-construction/3d4d-building-information-modeling/guidelines-for-bim-software/downloads/bim-downloadable-document:show-link-uri>:
- COBie downloads:
<https://www.wbdg.org/bim/cobie/common-bim-files>

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Document ID: PRJG-EN-220001_Smart-Building-Manager_v0.3