

Using the SmartPlant Instrumentation Connector

2022-03-21

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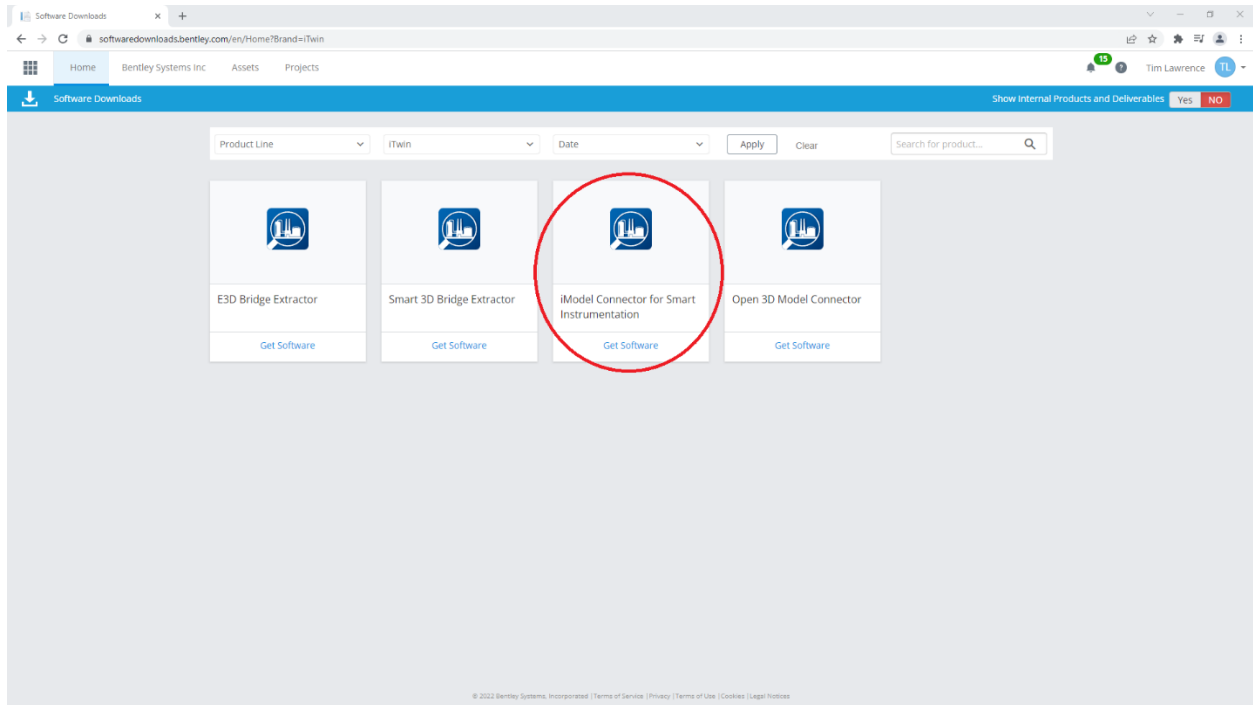
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Prerequisites

If you are going to use the PlantSight SmartPlant Instrumentation Connector, you need to have SmartPlant instrumentation installed on your machine with the project data that you want to convert to an iModel.

Download PlantSight SmartPlant Instrumentation Connector

Go to <https://softwaredownloads.bentley.com/en/>. Under Brand, select “iTwin” and then click apply.



Select the PlantSight Smart Instrumentation Connector.

Software Downloads

softwaredownloads.bentley.com/en/ProductDetails/3088

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Show Internal Products and Deliverables **Yes** **NO**

iModel Connector for Smart Instrumentation

The iModel Connector for Smart Instrumentation converts data from Smart Instrumentation for use on the iModelHub.

Generation: CONNECT Edition Version: 10.08.00.49 Language: English Architecture: x64 Deliverable Type: Installer Subscription Entitlement: Yes

Apply Clear

iModel Connector for Smart Instrumentation CONNECT Edition x64 (SES) Update 8 (English)

Version: 10.08.00.49 Date: 11/25/2021 Size: 560 MB System Requirements

Download

*Clear the Default Filters to view more Downloads

Related Software

Smart 3D Bridge Extractor

Get Software

PlantSight Connector Controller

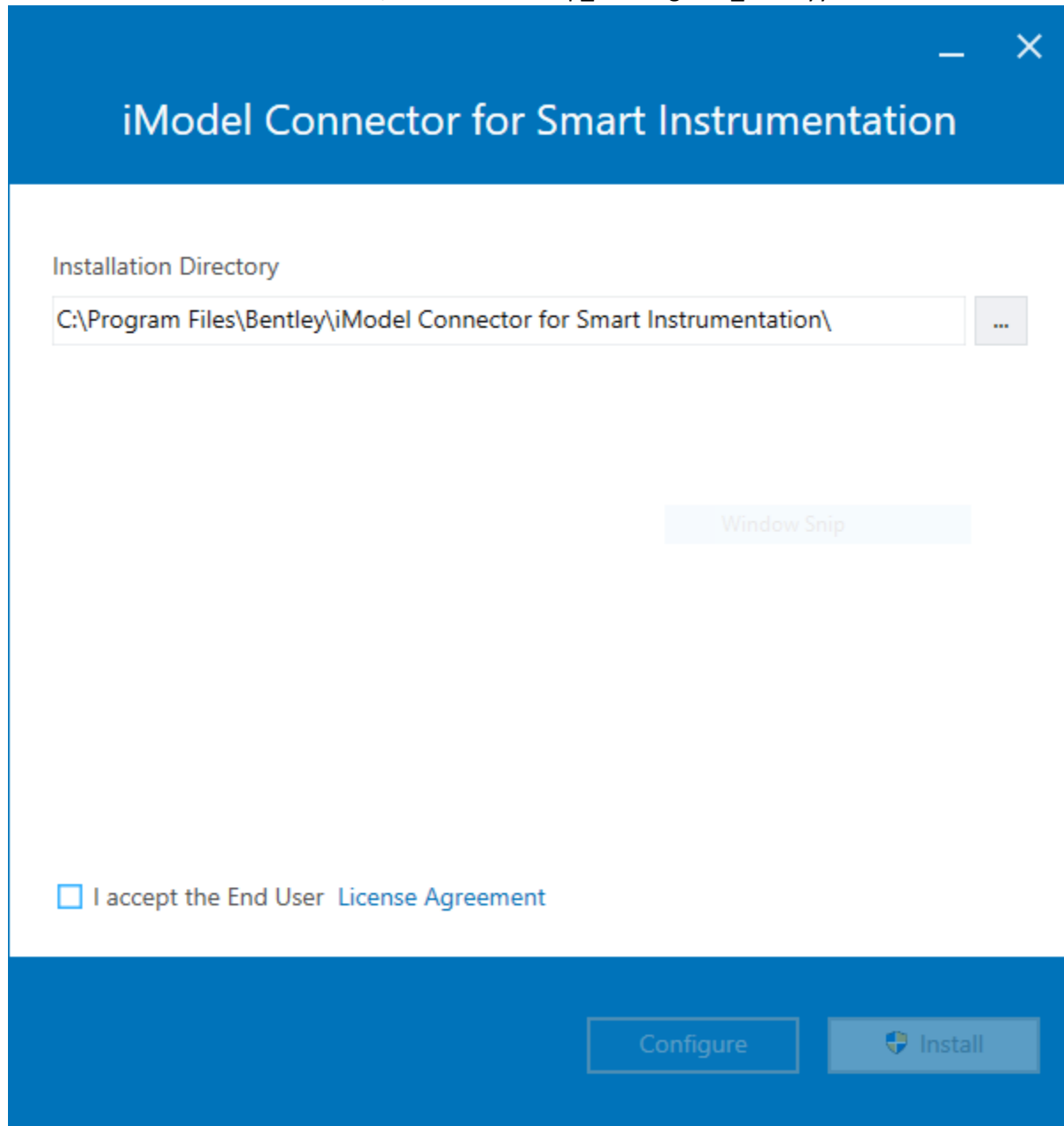
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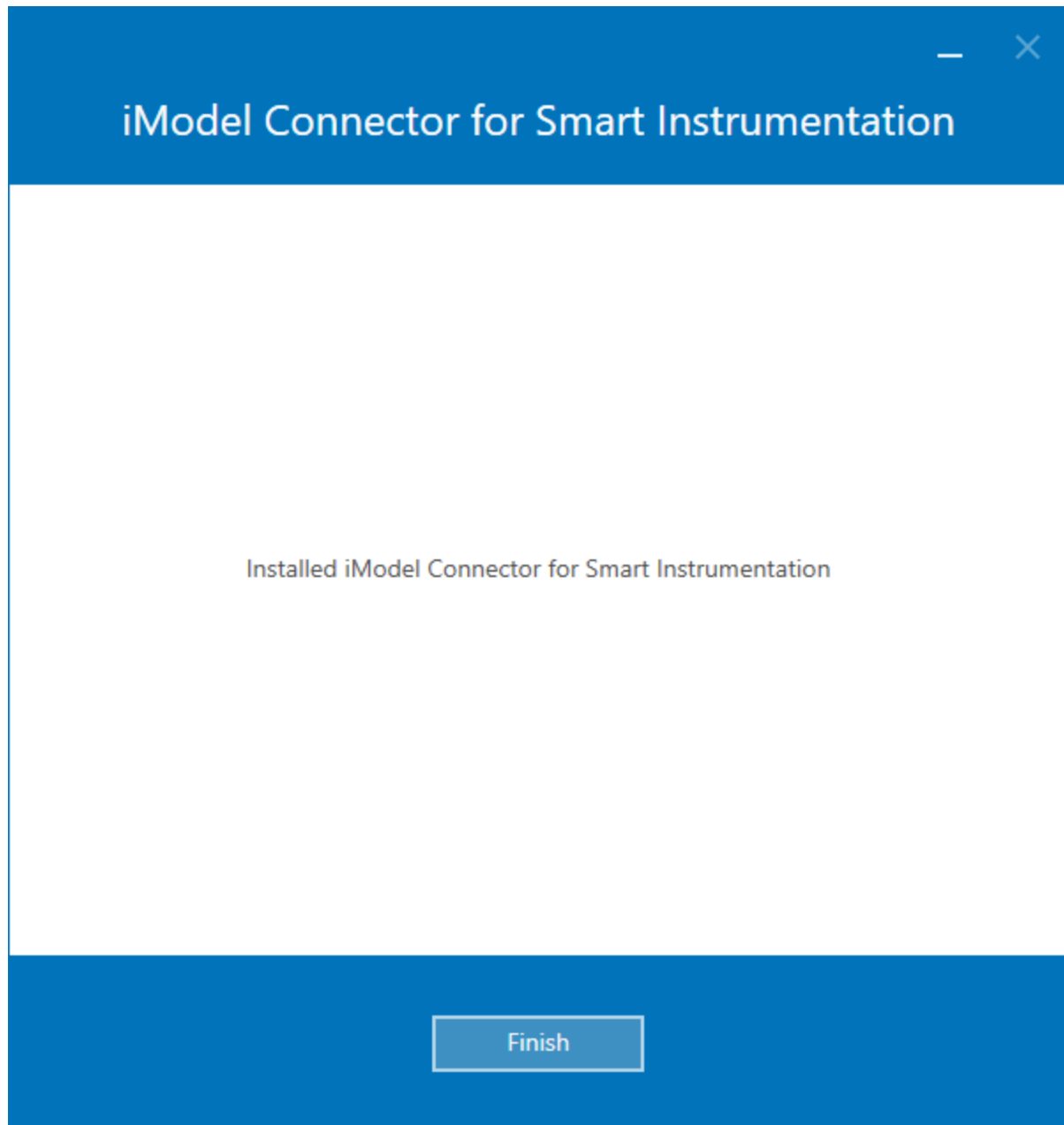
Then select Download.

Install PlantSight SmartPlant Instrumentation Connector

Once the file has been downloaded, run the exe Setup_SPIBridgex64_10.xx.yy.zzz.exe.



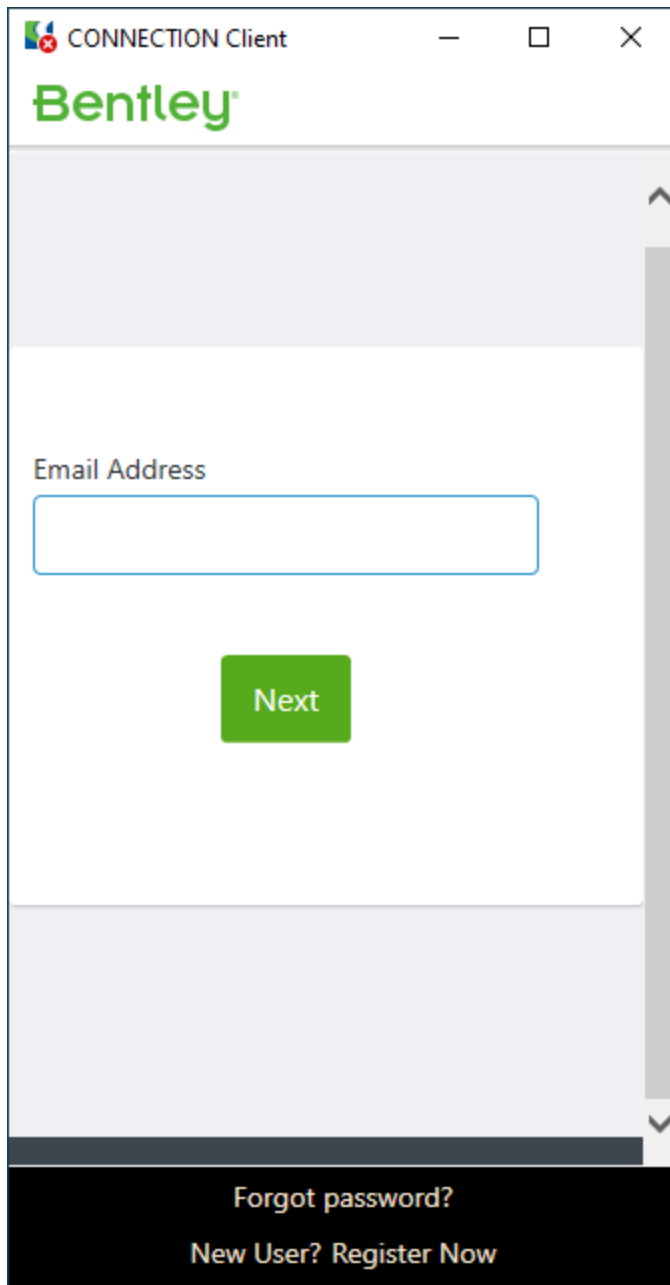
Check the license agreement and then click Install.



Click Finish.

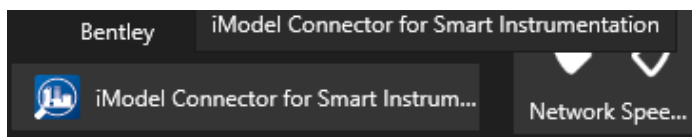
Running for the first time

If you are already not signed into the CONNECTION Client, do so now:





The screenshot shows the Bentley CONNECTION Client login window. At the top, the title bar reads "CONNECTION Client" with standard window controls. Below the title bar is the Bentley logo. The main content area has a light gray header and footer. The central white area contains the text "Email Address" above a text input field. Below the input field is a green "Next" button. At the bottom of the window, a dark gray bar contains the links "Forgot password?" and "New User? Register Now" in orange text.

Once you are signed in, go to the start menu and under Bentley select iModel Connector for Smart Instrumentation.



When you run the connector for the first time and if it was unable to refresh the authentication, you will need to first login and then allow permission to access the required services:

 PlantSight Smart Instrumentation Bridge



Email Address

Next

Don't have an account? [Register now](#)

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[Privacy](#) | [Terms of Use](#)

After you login, scroll down to approve the access:

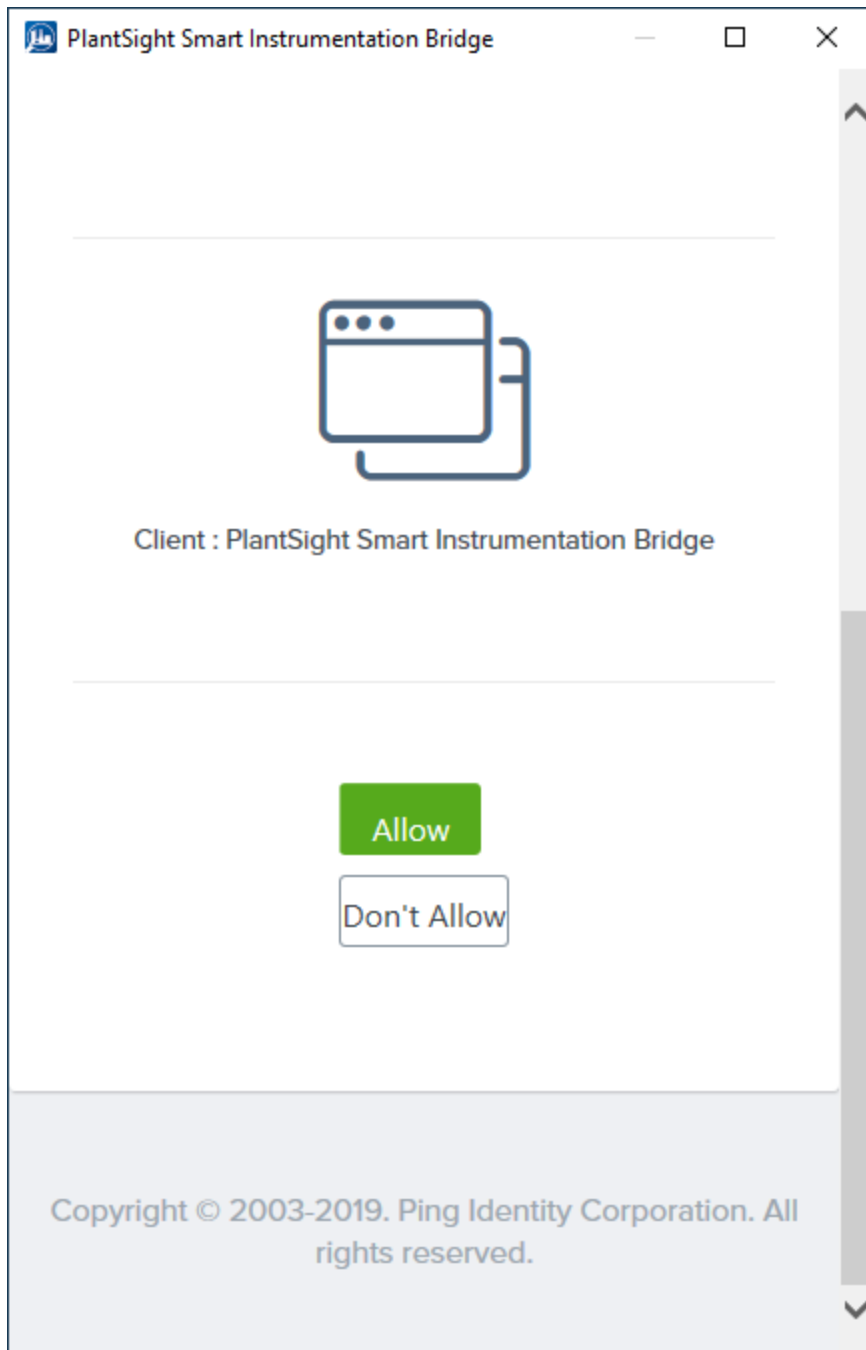


Request for Approval

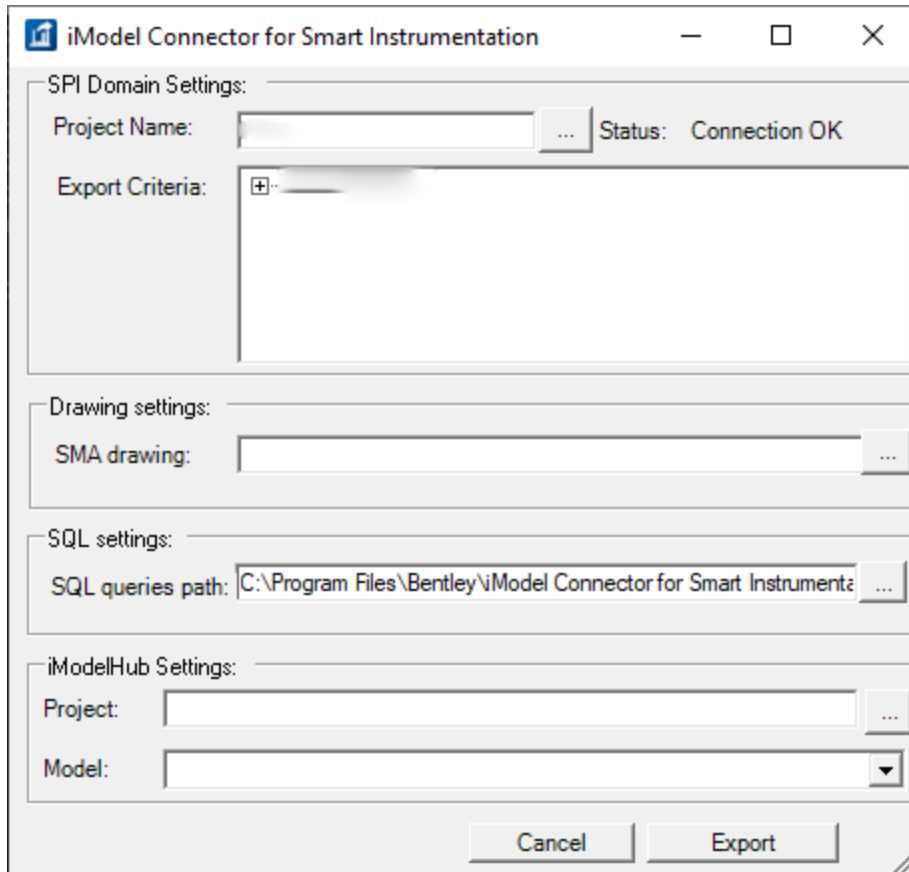
Logged In as Tim

PlantSight Smart Instrumentation Bridge is requesting permission for the following:

- ☐ ACCESS TO YOUR USERNAME
- ☐ YOUR USER IDENTIFIER
- ☐ YOUR EMAIL ADDRESS
- ☐ ACCESS YOUR IMODELS
- ☐ OFFLINE ACCESS
- ☐ FEATURE TRACKING INFORMATION



Once you have clicked allow, the Bridge Extractor interface should appear:



Using an iModel that has been provisioned with the OpenPlant schema

Note that the iModel used with this connector must be provisioned with the OpenPlant schema using OpenPlant Project Administrator.

Configuration for PlantSight

Close the application and then go to this location and edit the config.xml file:

C:\Users\<YourUserName>\AppData\Roaming\Bentley\SPIDBridge\

It will probably look like this:

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
  <configSections>
    <section name="exportOptions"
      type="Bentley.SPI.SPIIModelExporter.ConvertSettingsConfigurationSection,
      SPIBridge, Version=1.0.0.0, Culture=neutral, PublicKeyToken=null"
      allowExeDefinition="MachineToLocalUser" />
  </configSections>

```

```

    </configSections>

    <location allowOverride="true" inheritInChildApplications="true">
        <exportOptions p1:nil="true"
xmlns:p1="http://www.w3.org/2001/XMLSchema-instance" />
    </location>
</configuration>

```

We need to edit this to tell the bridge that we will be importing this data for PlantSight. We can either replace the whole file or swap out the highlighted lines:

```

<?xml version="1.0" encoding="utf-8"?>
<configuration>
    <configSections>

        <section name="exportOptions"
type="Bentley.SPI.SPIIModelExporter.ConvertSettingsConfigurationSection,
SPIBridge, Version=1.0.0.0, Culture=neutral, PublicKeyToken=null"
allowExeDefinition="MachineToLocalUser" />

    </configSections>

    <location allowOverride="true" inheritInChildApplications="true">
        <exportOptions>
            <IsPlantSight>true</IsPlantSight>
            <ModelOutputType>iModelHub</ModelOutputType>
        </exportOptions>
    </location>
</configuration>

```

Once you have made the changes, save the file and exit your text editor.

Run the Bridge again and it should appear again similar to the first time.

SMA files

When you run the connector, you can point to a folder that contains SMA files that have been exported from your project.

SMA files can be exported from SPI in the following manner:

Open up Smart Instrumentation to your project:

In Domain Explorer, select required entity (Loop, for example), right click: Reports->Generate Loop Drawings

Custom Mapping

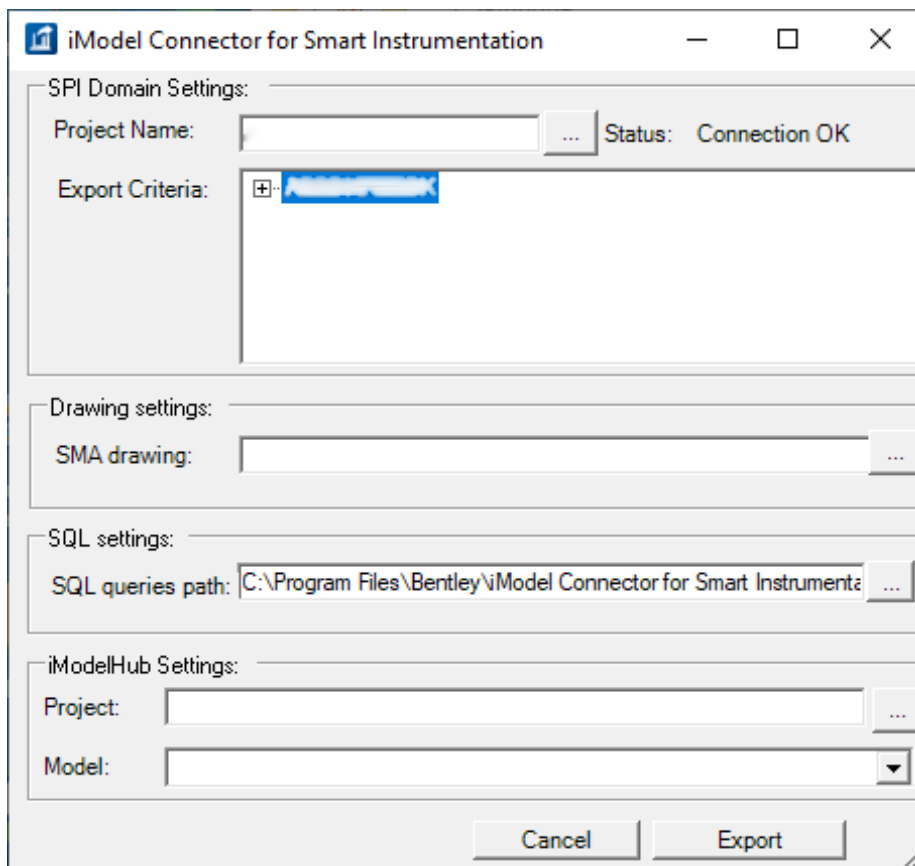
It is possible to modify how data gets into the iModel. There are 3 parts to this:

- 1) How the data is retrieved from the Smart Instrumentation database. This is covered in this document included in the installation of the connector: C:\Program Files\Bentley\iModel Connector for Smart Instrumentation\SPI_query_customization.docx
- 2) Once the data has been extracted, you may also need to map from the data extracted from Smart Instrumentation into the OpenPlant schema. This is handled by this Excel sheet C:\Program Files\Bentley\iModel Connector for Smart Instrumentation\SPI_mapping.xlsm
- 3) If classes and properties do not exist in the OpenPlant schema, the schemas can be modified using OpenPlant Project Administrator. See the documentation for this application for details.

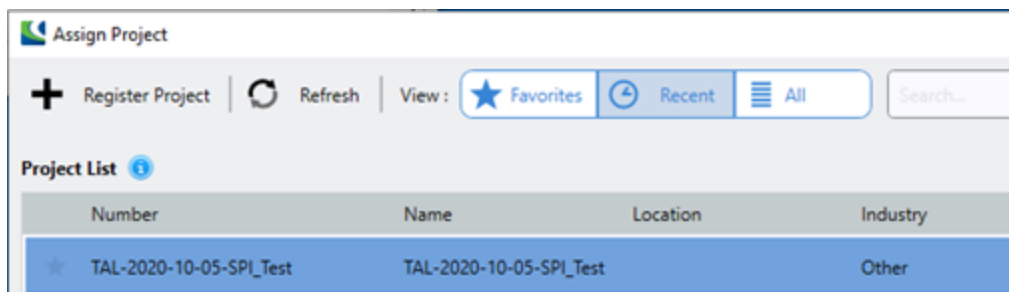
Running the Connector

When you run the bridge, it will automatically read the SmartPlant Instrumentation projects on your machine and populate that data to the interface.

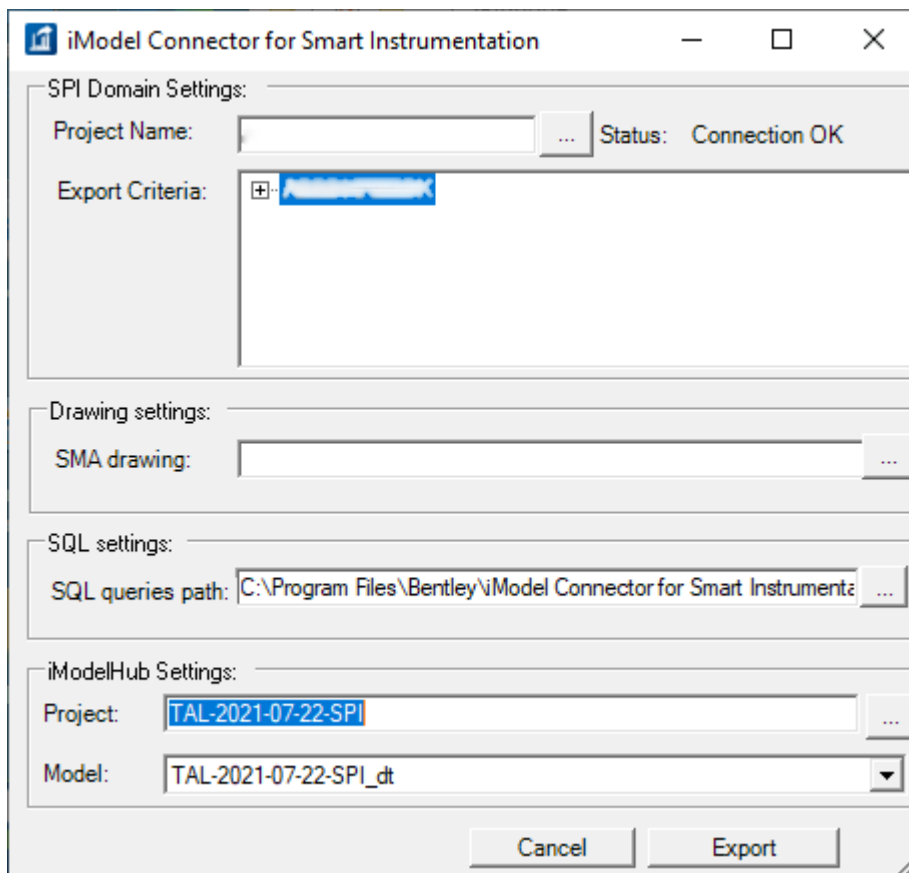
If you click on the top level project, you can see the project hierarchy and clicking on a node will export the data from that node.



Once you have selected which data you are going to export, you can optionally select a folder for the SMA drawings that have been exported. Finally, you need to pick a destination for that data. Click on the ... button to the right of Project and this will bring up the project selection dialogue:



Select your project and then select the iModel from that project. You should see this once you've made these selections.

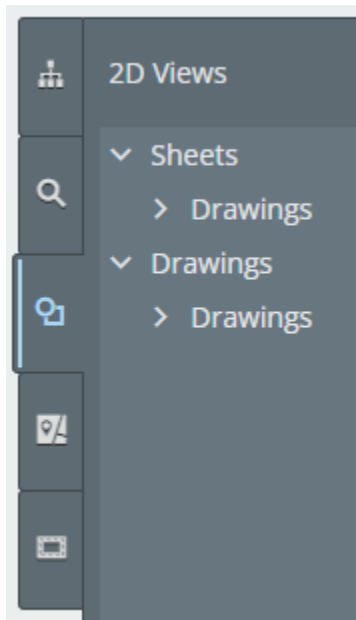


Click on Export and the conversion will run.

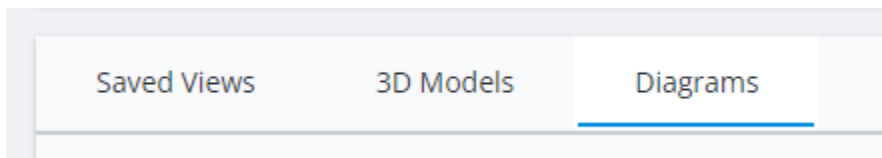
Viewing Results in an iModel

Viewing Smart Instrumentation Drawings in an iModel

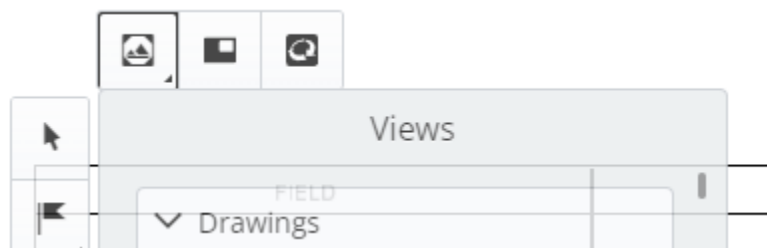
If you have imported SMA drawings, you can view these in the viewer after you open the iModel. Click on the 2D views icon and then expand drawings which gives you a list of the sheets imported.



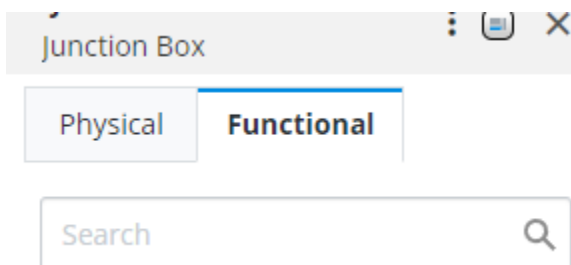
In PlantSight, you can view the drawings from first selecting a sheet from the Diagrams tab:



And once you are in the visualizer, you can select from all the sheets that have been imported. This may include PIDs if those have also been imported in the iModel.



Data associated with items selected will only be available from the Functional view on the right side:



While we can query based on things like the class, in a real project, we will have imports from different sources, so it is better to create the queries such that it will only query from the SmartPlant instrumentation imports.

Viewing data without importing SMA files

The easiest way to view data is using PlantSight queries. Select The process functional schema and then you can select the class:

▼ Query Builder (New Query)

Schema:

ProcessFunctional ▼

Search Class:

Analyzer ▼