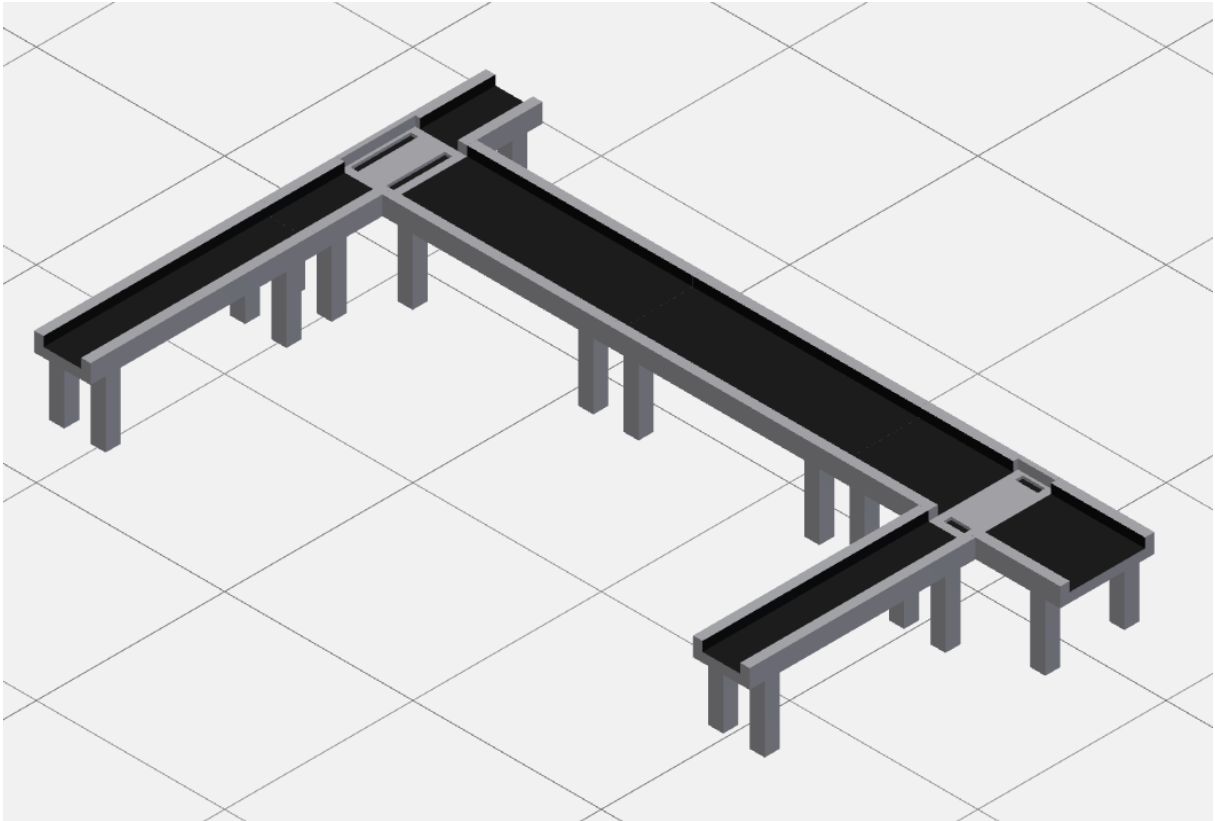
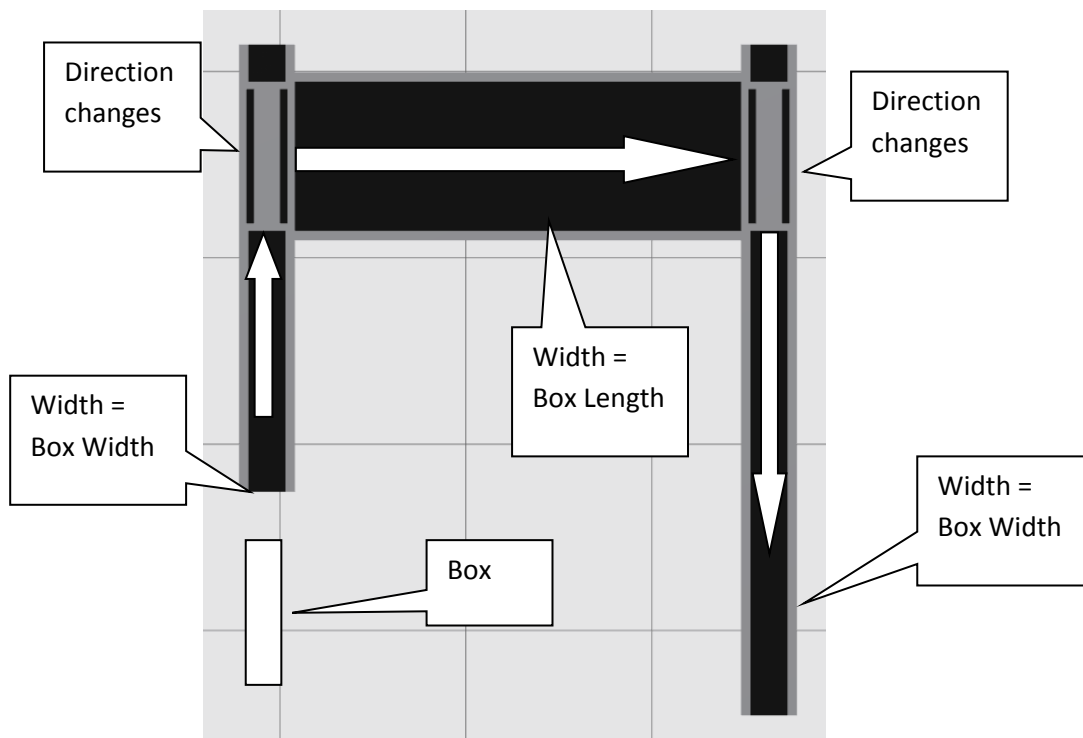


Connector Class Exercise

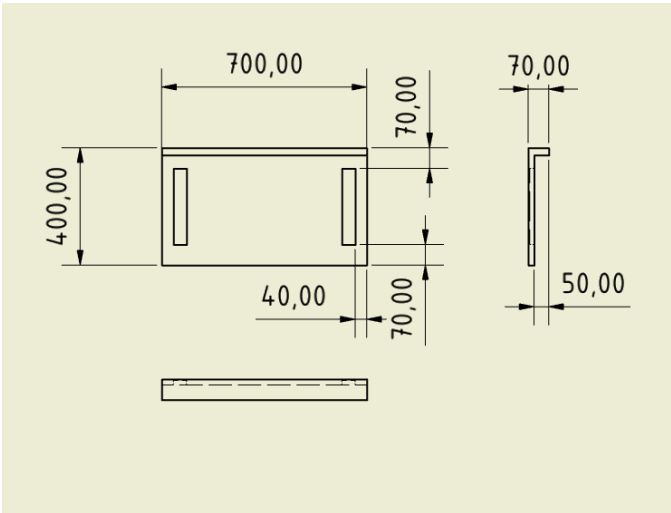
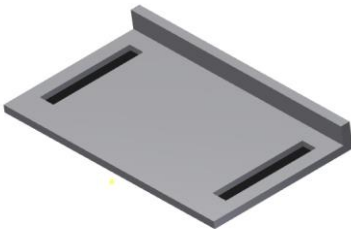
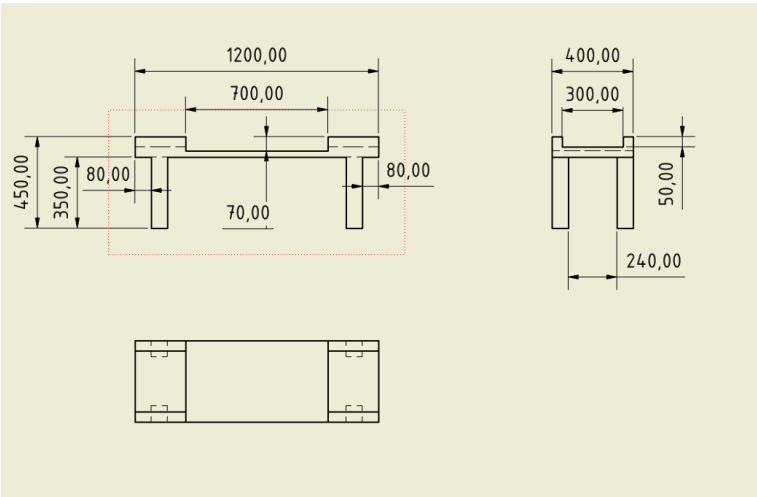
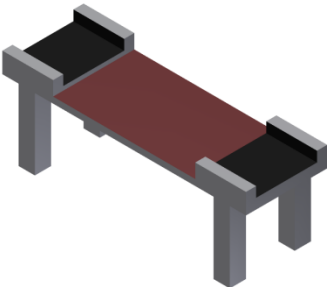
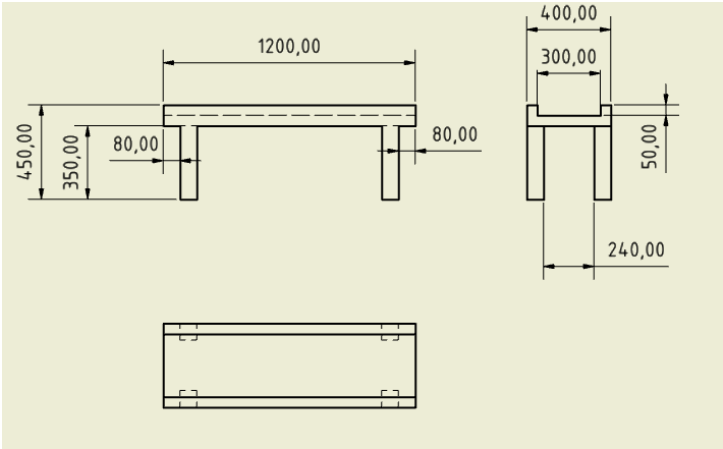
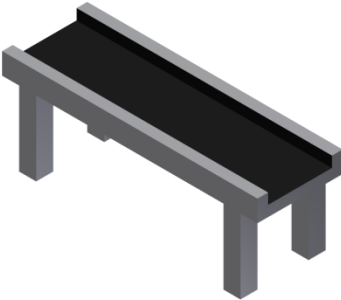


Following assumptions are done:

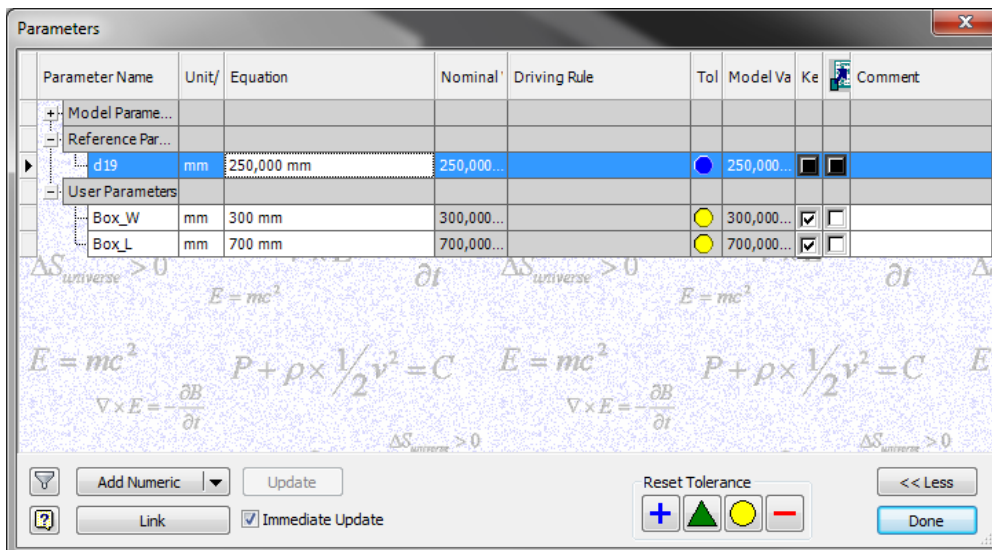
- The controlling element is the box which needs to be transported.
- Input parameters are:
 - BOX_L
 - BOX_W
- The conveyors should adjust their length and width according to the width and length of the box.
- The Transfer Unit will change the direction of the box and with that switch length and width
- Depending on the direction the box is moving, the conveyor has a different width



Design the following assets

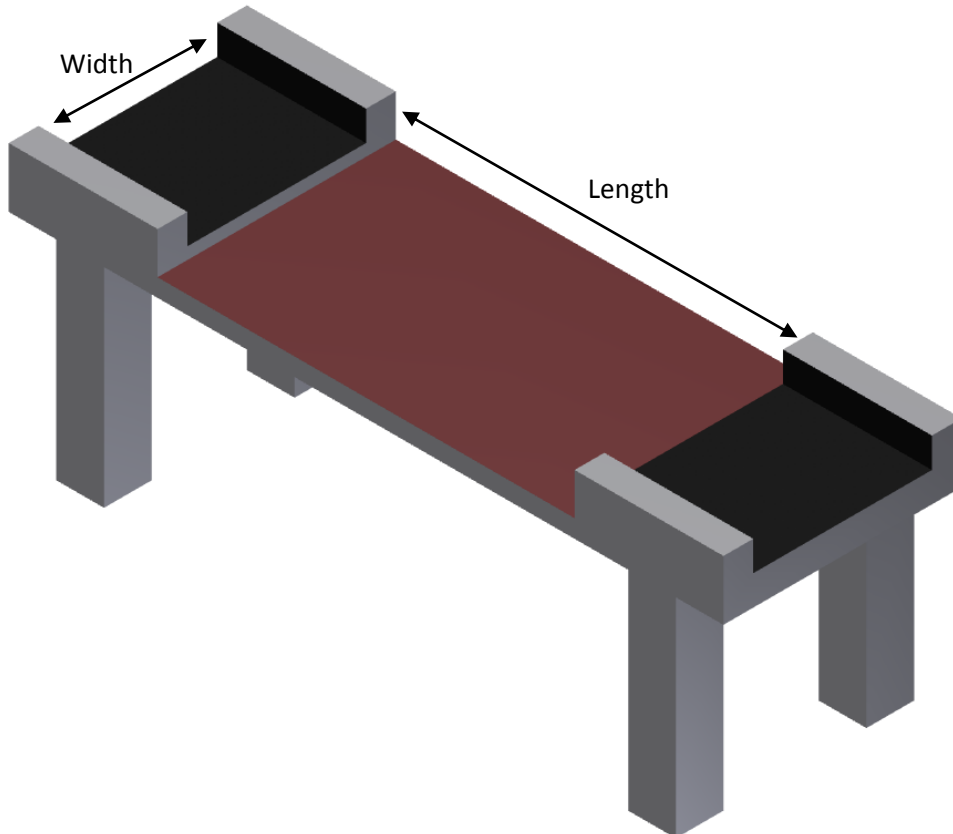


After generally designing the generate 2 user parameters to each asset

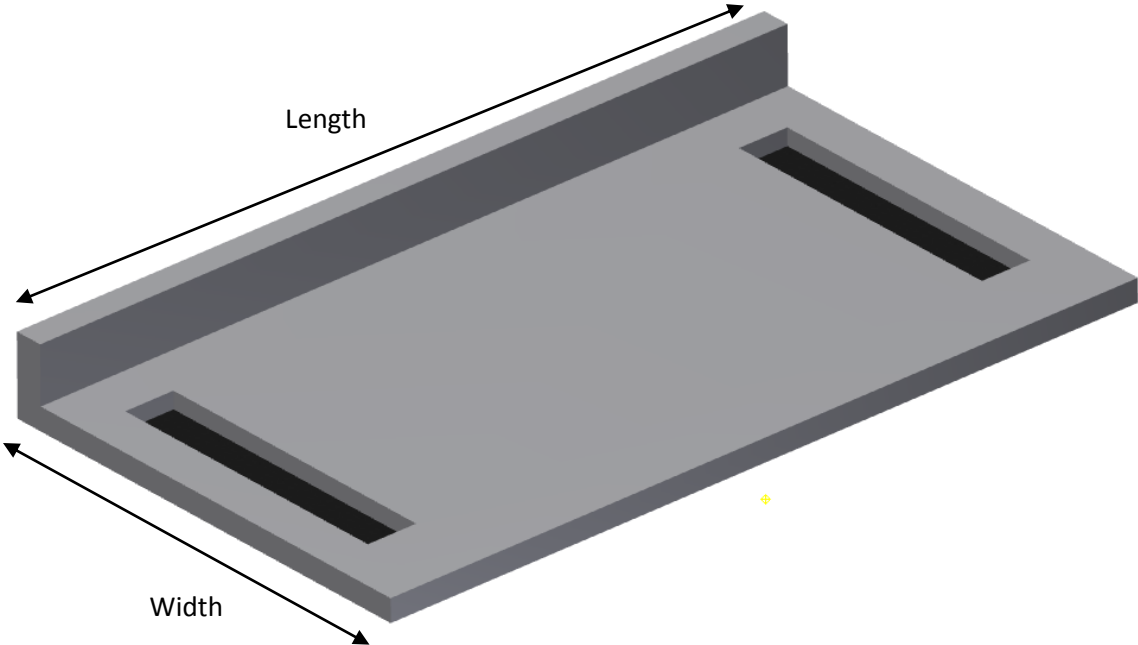


Box_W for the width of the box
 Box_L for the length of the box

Assign the user parameters in a way that they reflect the width and (length for the transfer assets) for the transportation area:



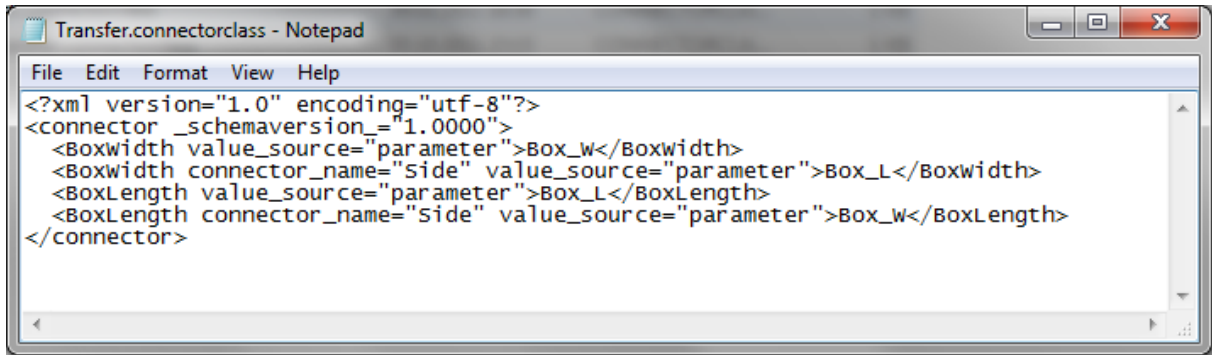
Do the same for the Transfer asset



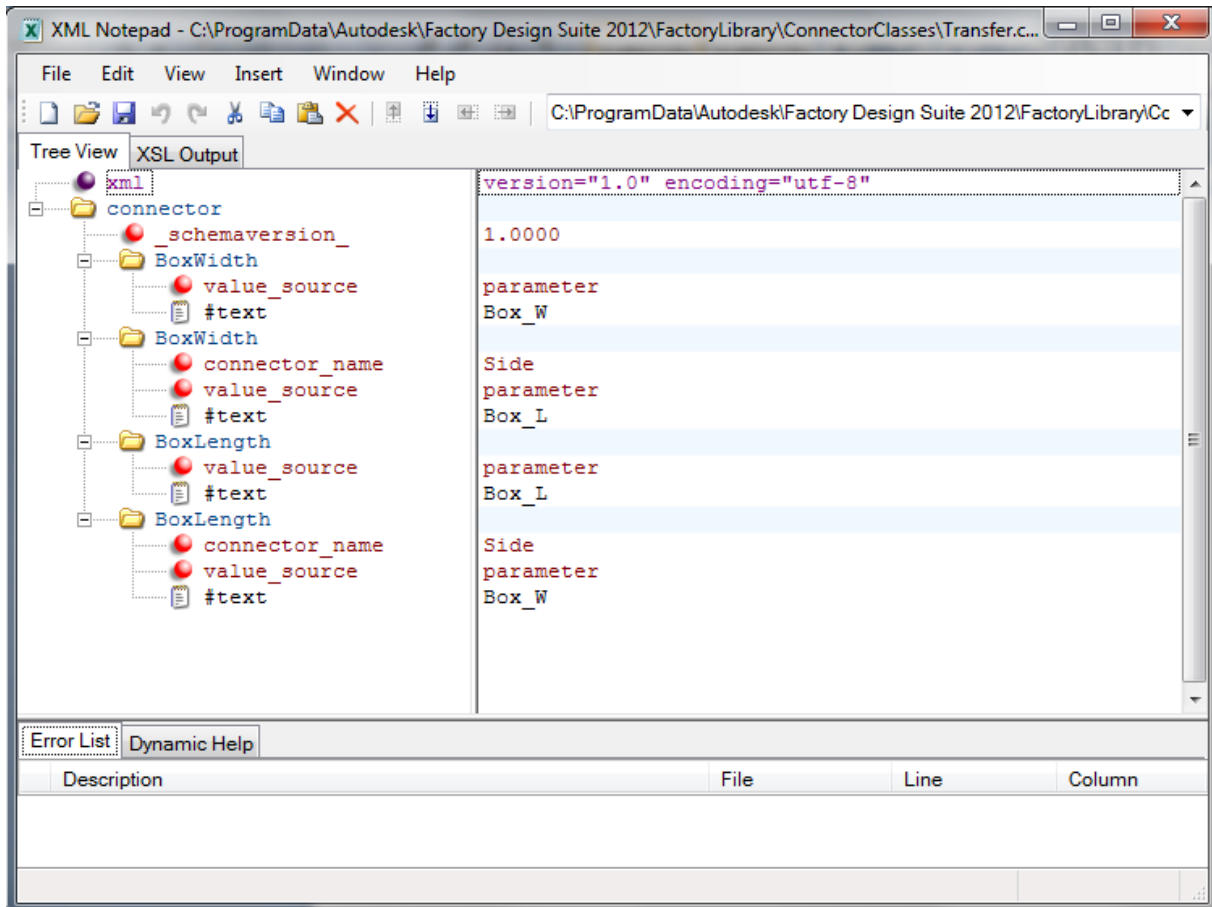
Create a connector Class xml file in the folder:

C:\ProgramData\Autodesk\Factory Design Suite 2013\FactoryLibrary\ConnectorClasses

Use either Notepad or the Microsoft XML Notepad Editor



```
Transfer.connectorclass - Notepad
File Edit Format View Help
<?xml version="1.0" encoding="utf-8"?>
<connector _schemaversion_="1.0000">
  <Boxwidth value_source="parameter">Box_W</Boxwidth>
  <Boxwidth connector_name="Side" value_source="parameter">Box_L</Boxwidth>
  <BoxLength value_source="parameter">Box_L</BoxLength>
  <BoxLength connector_name="Side" value_source="parameter">Box_W</BoxLength>
</connector>
```



XML Notepad - C:\ProgramData\Autodesk\Factory Design Suite 2012\FactoryLibrary\ConnectorClasses\Transfer.c...

File Edit View Insert Window Help

C:\ProgramData\Autodesk\Factory Design Suite 2012\FactoryLibrary\Cc

Tree View XSL Output

- xml
 - connector
 - _schemaversion_ 1.0000
 - BoxWidth
 - value_source parameter
 - #text Box_W
 - BoxWidth
 - connector_name Side
 - value_source parameter
 - #text Box_L
 - BoxLength
 - value_source parameter
 - #text Box_L
 - BoxLength
 - connector_name Side
 - value_source parameter
 - #text Box_W

version="1.0" encoding="utf-8"

1.0000

parameter

Box_W

Side

parameter

Box_L

parameter

Box_L

Side

parameter

Box_W

Error List Dynamic Help

Description	File	Line	Column
-------------	------	------	--------

Structure of the file:

Header & Footer in Bold and Red

```
<?xml version="1.0" encoding="utf-8"?>
<connector _schemaversion_="1.0000">
  <BoxWidth value_source="parameter">Box_W</BoxWidth>
  <BoxWidth connector_name="Side" value_source="parameter">Box_L</BoxWidth>
  <BoxLength value_source="parameter">Box_L</BoxLength>
  <BoxLength connector_name="Side" value_source="parameter">Box_W</BoxLength>
</connector>
```

First line (in green):

- transfer of the parameter **Box_W** under the “XML” parameter BoxWidth

Second line (in Blue):

- If the connector **Side** is connected, transfer of the parameter Box_W of the “already placed asset” into the parameter **Box_L** of the “connecting” asset

Third line (in Magenta):

- transfer of the parameter **Box_L** under the “XML” parameter BoxLength

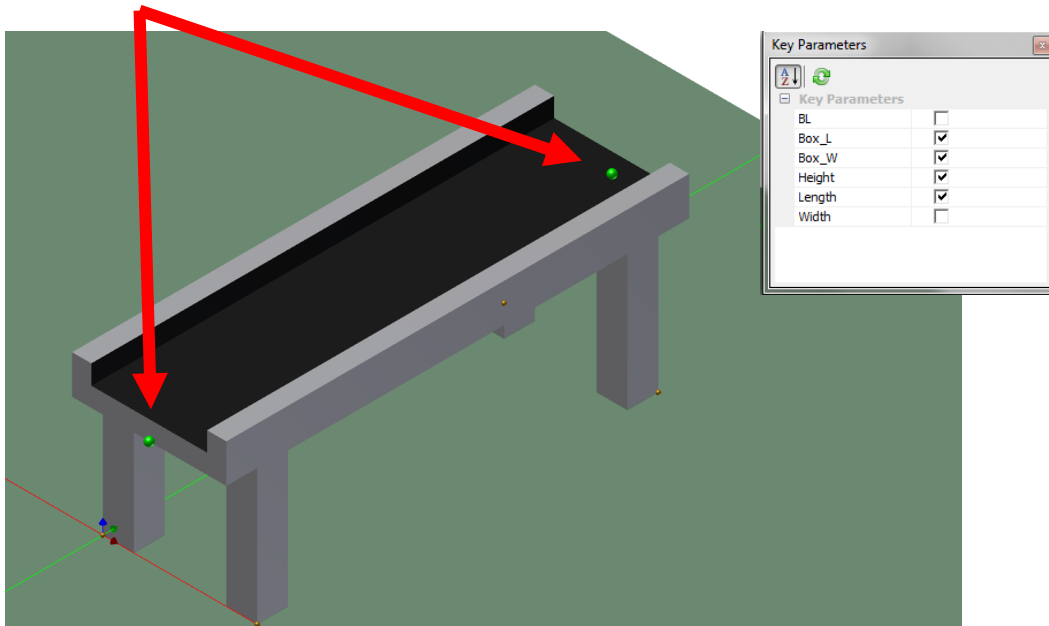
Forth line (in black):

- If the connector **Side** is connected, transfer of the parameter Box_L of the “already placed asset” into the parameter **Box_W** of the “connecting” asset

With the change of the Parameters **Box_L** and **Box_W** in case the connector **Side** is connected, the parameters reflect the changed direction of the box.

Start the asset builder and define landing surface, insert points as you want.

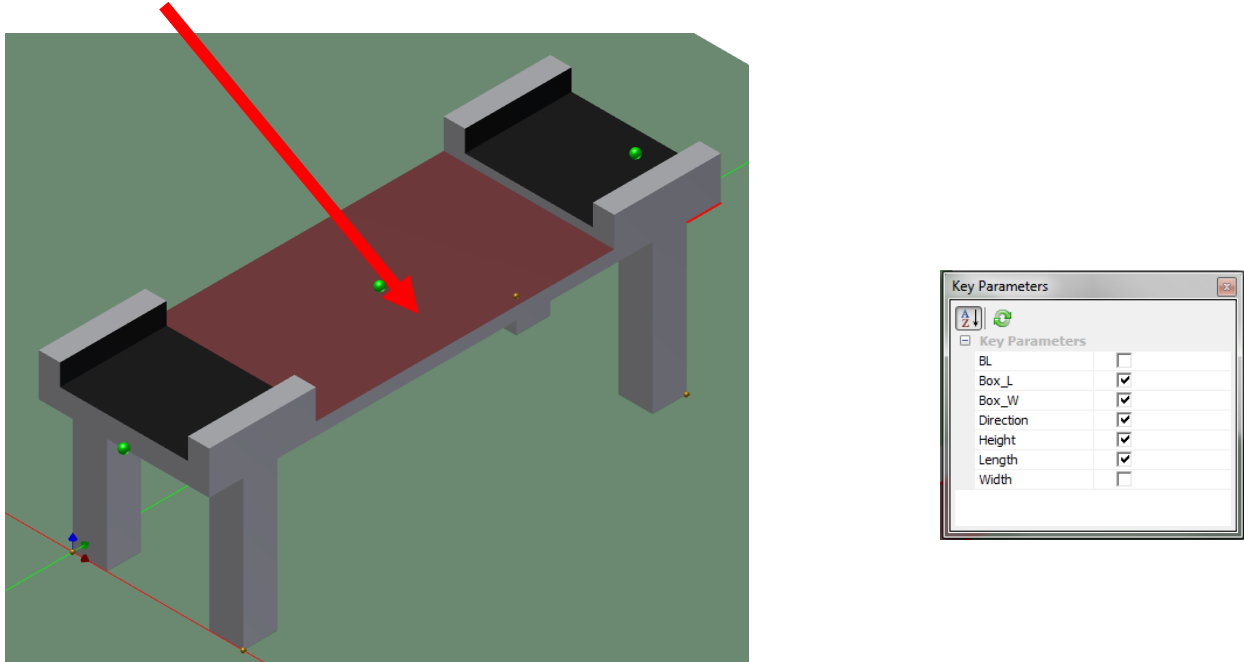
Define 2 connectors for the straight conveyor (in the middle of the lower edge of the front face).



Make sure the properties **Box_L**, **Box_W**, **Height**, **Length** are selected

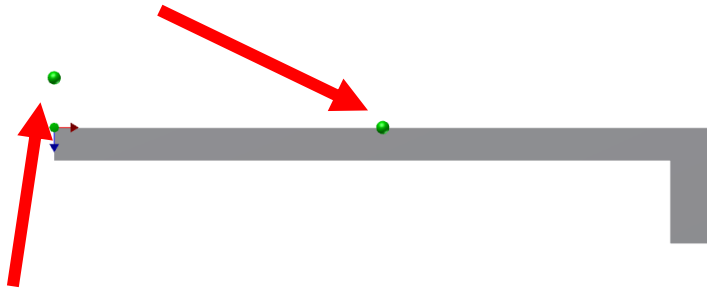
Define 2 connectors for the transfer conveyor (in the middle of the lower edge of the front face).

Define one connector on top of the transfer.

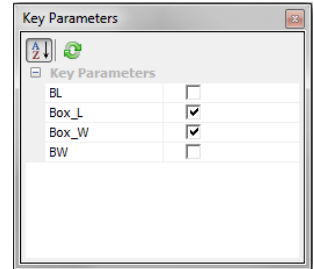
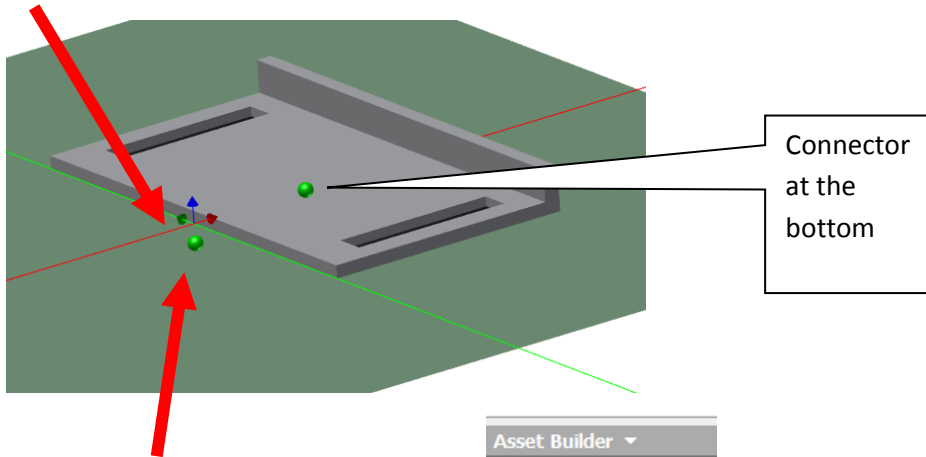


Make sure the properties **Box_L**, **Box_W**, **Height**, **Length** are selected (ignore Direction for the time being)

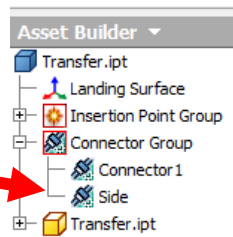
Define one connector on the bottom of the transfer.



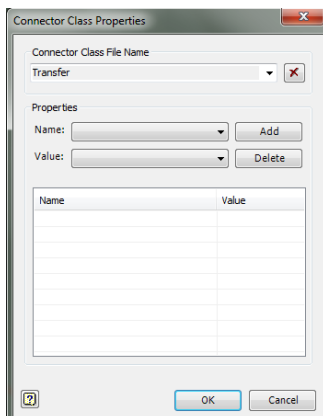
Define one to connect at the connection point to the next conveyor section.



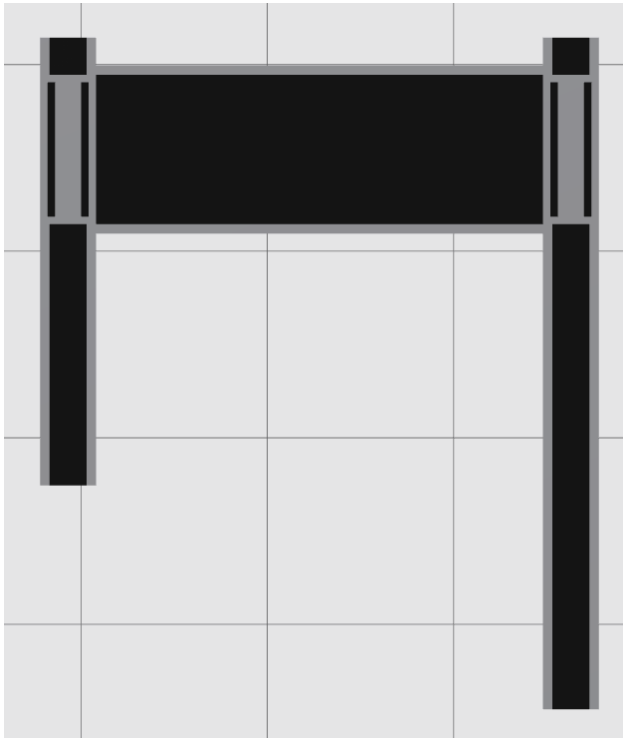
Rename the second connector to **Side**



Publish the assets and use the developed file **Transfer.connectorclass**



Build a transfer line and change the box sizes



1. Place first a straight conveyor
2. Place the transfer conveyor
3. Place the transfer unit on top of the transfer conveyor
4. Place a straight conveyor at the position of the "side connector" of the transfer unit
5. Place a transfer unit with the "side connector" at the end of the straight conveyor
6. Place a transfer conveyor underneath the transfer unit

Change box width and length