

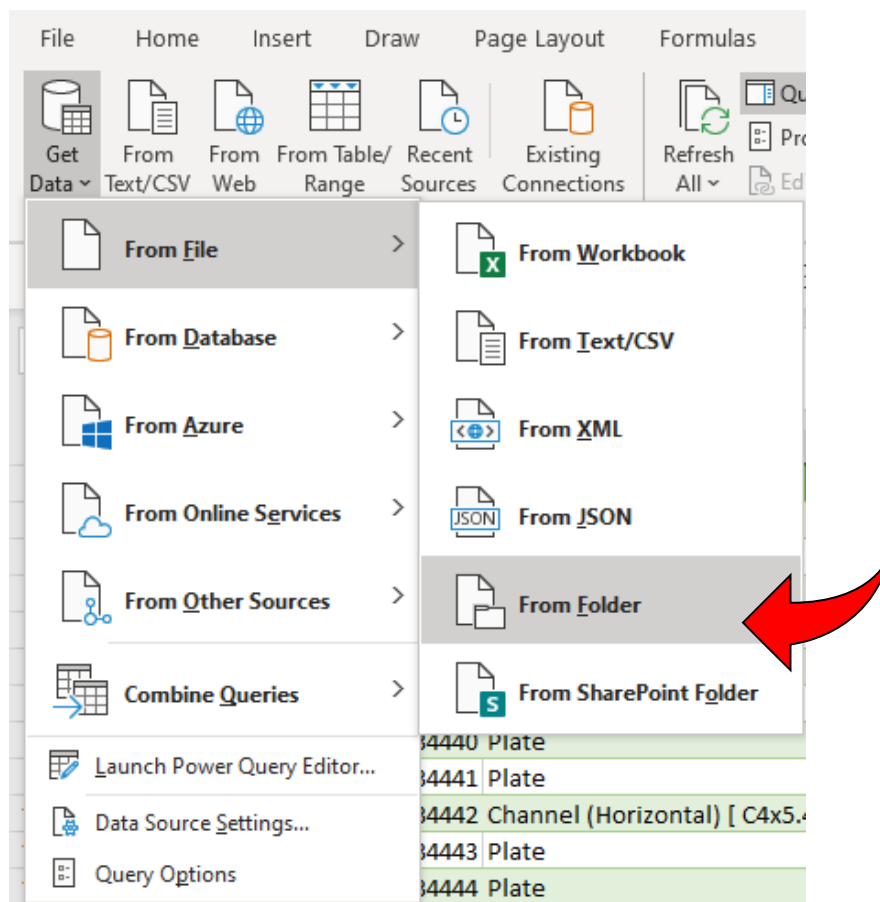
## Visual Data Model with Navisworks and iConstruct

One of the uses of the csv report data is to generate a link to a Navisworks model to show visual status. The report data needs to be generated from the NWD models used by ICT Tracker in the app.

**Important Note:** If iConstruct is running on a 64-bit operating system, the 64-bit Microsoft Excel needs to be loaded. If any Office 32-bit components are installed on the machine it will need to be completely uninstalled and upgraded to 64-bit Office.

### Setting up the data file for linking.

- ➔ In Excel, use the "Get Data>From file>From Folder" option to pull in the csv export reports.



- ➔ Rename the tab that all the reports are linked into "CSV Import".

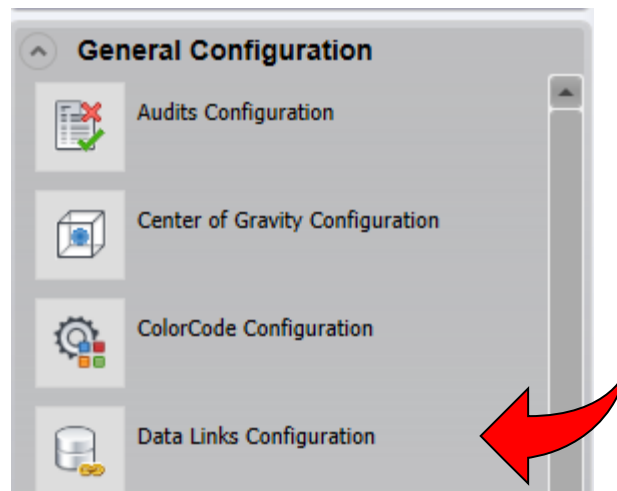
### Setting up the Navisworks file to be linked to

→ Open the same file in Navisworks that was used to generate the report.

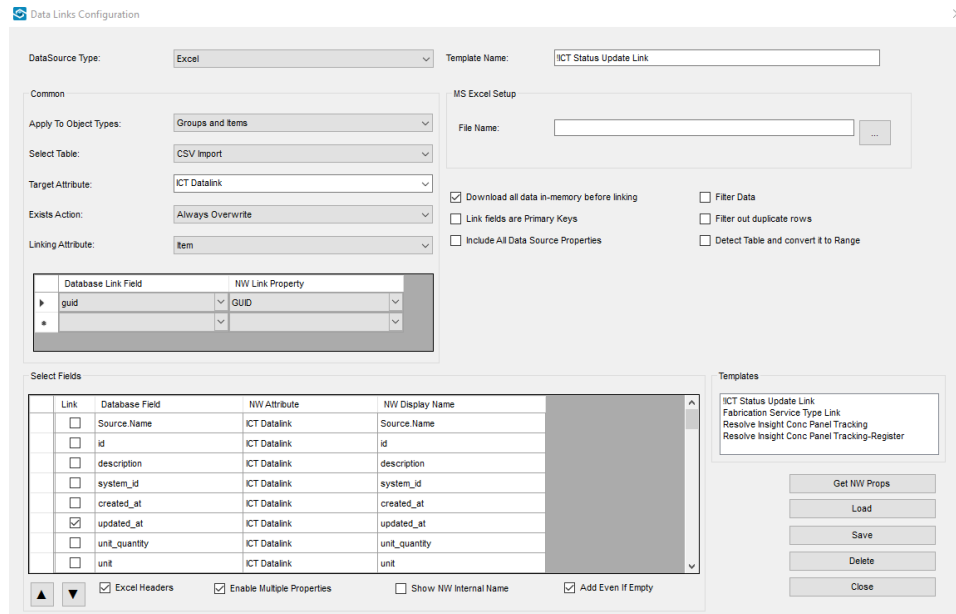
This can be an NWF composed of multiple NWD Files that correspond to files in the report.

### Setting up iConstruct for Data Linking

→ Within iConstruct open the "General Configuration" tab to open "Data Links Configuration"



## Loading the template



**Data Links Configuration**

DataSource Type:  Template Name:

**Common**

Apply To Object Types:

Select Table:

Target Attribute:

Exists Action:

Linking Attribute:

**MS Excel Setup**

File Name:  ...

Download all data in-memory before linking  Filter Data

Link fields are Primary Keys  Filter out duplicate rows

Include All Data Source Properties  Detect Table and convert it to Range

Database Link Field	NW Link Property
guid	GUD

**Select Fields**

Link	Database Field	NW Attribute	NW Display Name
<input type="checkbox"/>	Source.Name	ICT Datalink	Source Name
<input type="checkbox"/>	id	ICT Datalink	id
<input type="checkbox"/>	description	ICT Datalink	description
<input type="checkbox"/>	system_id	ICT Datalink	system_id
<input type="checkbox"/>	created_at	ICT Datalink	created_at
<input checked="" type="checkbox"/>	updated_at	ICT Datalink	updated_at
<input type="checkbox"/>	unit_quantity	ICT Datalink	unit_quantity
<input type="checkbox"/>	unit	ICT Datalink	unit

Enable Multiple Properties  Show NW Internal Name  Add Even If Empty

**Templates**

- ICT Status Update Link
- Fabrication Service Type Link
- Resolve Insight Conc Panel Tracking
- Resolve Insight Conc Panel Tracking-Register

Get NW Props  
Load  
Save  
Delete  
Close

➔ Select the template named “!ICT Status update Link” from "Templates" list at the lower right of the dialogue box.

➔ Select "Load" button to load the Template file configuration

This is a template that needs to be reconfigured for each different file

The template “DataSource Type” is defaulted to Excel

## Linking the data file

➔ Under the "MS Excel Set-up" section, select the ellipsis button(...) to the right of the "File Name" field

➔ Browse to and select an Excel file to import data from

## Link model data

➔ Select a single element in Model and use "Get NW Props" Button on the lower right of the dialogue box to pull in data

## Setting up the Data Links Configuration

Under the "Common" section at the top left of the dialogue box set the following

- Apply to Object Types: Defaulted to "Groups and Items"
- Select Table: set to "CSV Import" or the name that was used for the data tab in the Excel file
- Target Attribute: Default to ICT Datalink
- Exists Action: Default to Always Overwrite
- Linking Attribute: Set to the "Item" attribute

## Creating the link data

This is the common data from the Excel file and Navisworks file that links the element to the data

- Database Link field: In the dropdown list select "GUID" from the Excel data list
- NW Link Property: In the dropdown list select "GUID"

Other items can be used for data linking, but the goal is for it to typically be a unique ID of the element for linking back to our data reports

Items under the "Select Fields" section at the bottom left of the dialogue box. This is the list of data that will be "Linking" into Navisworks for reference

- **Link:** This is the checkbox used to select the data we will pull into Navisworks
- **Database Field:** The corresponding data being pulling in from the Excel file
- **NW Attribute:** The new attribute tab name that will be created for the data under properties. This is set under the "Target Attribute" option in the "Common"
- **NW Display Name:** A customizable field for the property name of the associated data that will display in the ICT Datalink attribute tab

- From the list select the checkbox for the following database field properties
- **Updated at:** Date the status was updated
  - **Guid:** GUID data used to link the Excel and Navisworks element
  - **Status:** Current status set by the report

**Note:** You have the option to change the "NW Display Name" field for any of these "Database Field" selections

- When finished, update the "Template Name" at the top right of the dialogue box by adding a unique job specific suffix to the "ICT Status update Link" template name to make the file set-up project specific
- Select the "Save" button at the bottom right of the dialogue box

### **Applying Data Linking data to Navisworks file elements**

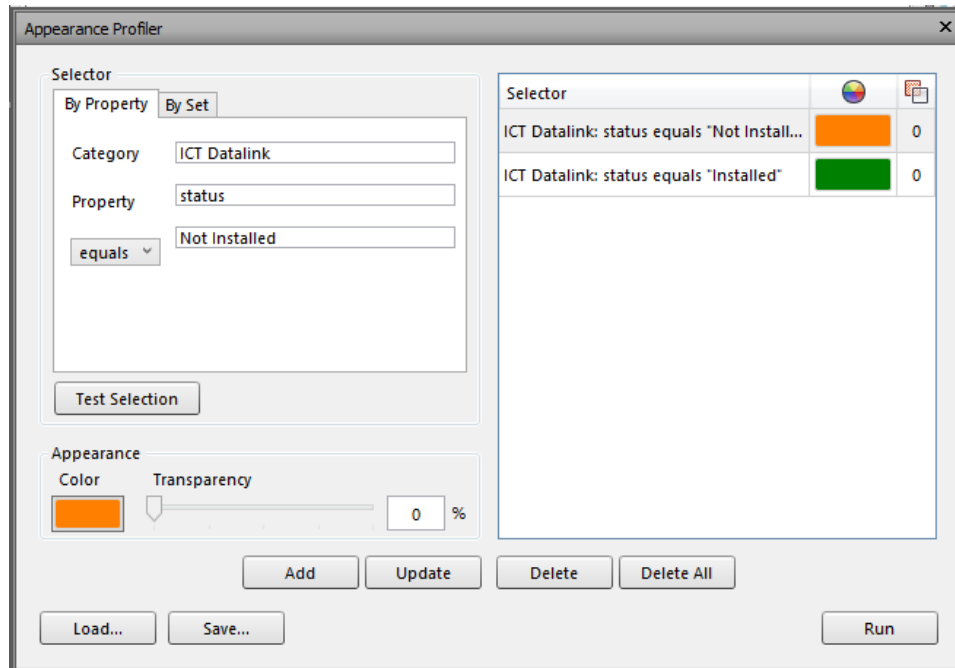
The new Data Links Configuration will show up under the Data Links tab in the iConstruct toolbar

- To use, select all the model elements to apply to and select the applicable data links configuration set-up form the list
- Spot check the data by selecting an element and looking for the "ICT Datalink" attribute tab and verify the data is populated

### **Applying visual installation status properties to model elements**

- Open the "Appearance Profiler" in Navisworks of other link properties under the "Home" tab on the ribbon.

The first time you will need to create a profile that can be saved and loaded into other models.



## Setting the datalink

- In the "Selector" section at the top left of the dialogue box
- Category: set to "ICT Datalink"
  - Property: set to "status"
  - Equals: This field will vary based on the status options

Default options are: Not Installed, Installed, Needs Rework **Note:** These fields are case sensitive.

- Hit test selection to verify the elements are highlighted as selected

## Setting the appearance

The color and transparency can be set by personal preference.

Each time a "Selector" property is set, use the "Appearance" section to apply visual properties to that "Selector" property

## Appearance options

- Choose the "Color" button to set the color from the "Color" dialogue box options

- Set the "Transparency" option by using the slider bar or typing in the percent to set the level of transparency.
- Use the "Add" button to add the setting to the ""Selector" list on the right of the dialogue box

The order of selection in the selector bar list matters, as they are applied top to bottom, so the last one on the list will be applied to the model element.

- To delete a Selector setting, select the item from the list and use the "Delete" button to delete
- To change an appearance setting, select the item in the "Selector" list and change the appearance setting. Use the "Update" button to update the setting
- To apply the properties, use the "Run" button at the lower right of the dialogue box
- Verify the filter colors are applied to all elements.

### **Saving the Set-up**

- Use the "Save" button to save the appearance settings as a template to .xml file.

These template settings can be applied to other models using the "Load" button