

# Converting 3D Spatial Data 3D-BIT00 from Lands Department to Esri Multipatch Feature Class in Geodatabase

July 2021

## Introduction

The Lands Department (LandsD) announced that the 3D Spatial Data product was released for free browsing and downloading. These 3D data featured geometry model, texture map and textual attribute to represent the geometrical shape, appearance and position of three types of ground objects i.e. Building, Infrastructure and Terrain in Max, 3ds, FBX and VRML formats. GIS users in HK can download the dataset from the Hong Kong Map Service 2.0 website.

This guideline shows you how to convert the 3ds format of 3D-BIT00 dataset to Esri Multipatch Feature Class in Geodatabase. To carry out the data conversion properly, it is highly recommended to use ArcGIS Data Interoperability Extension.

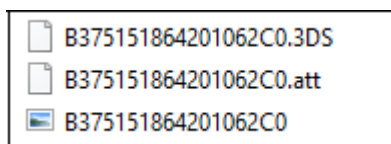
**\*\*Note:** ArcGIS Data Interoperability Extension is licensed separately. **\*\***

Esri China (Hong Kong)

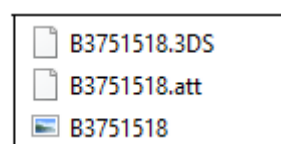
## Converting LandsD 3D-BIT00 models into Multipatch Feature Class by ArcGIS Data Interoperability Extension

1. Processing of 3ds file with filename longer than 8 characters is not supported, it is necessary to shorten the filenames of all 3DS, ATT and JPG files into 8 characters or less. (See example below). The filenames for the same group of 3DS, ATT and JPG files shall be the same:

Before

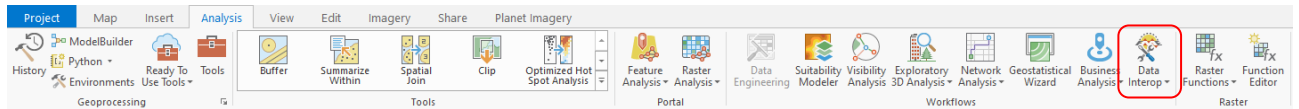


After

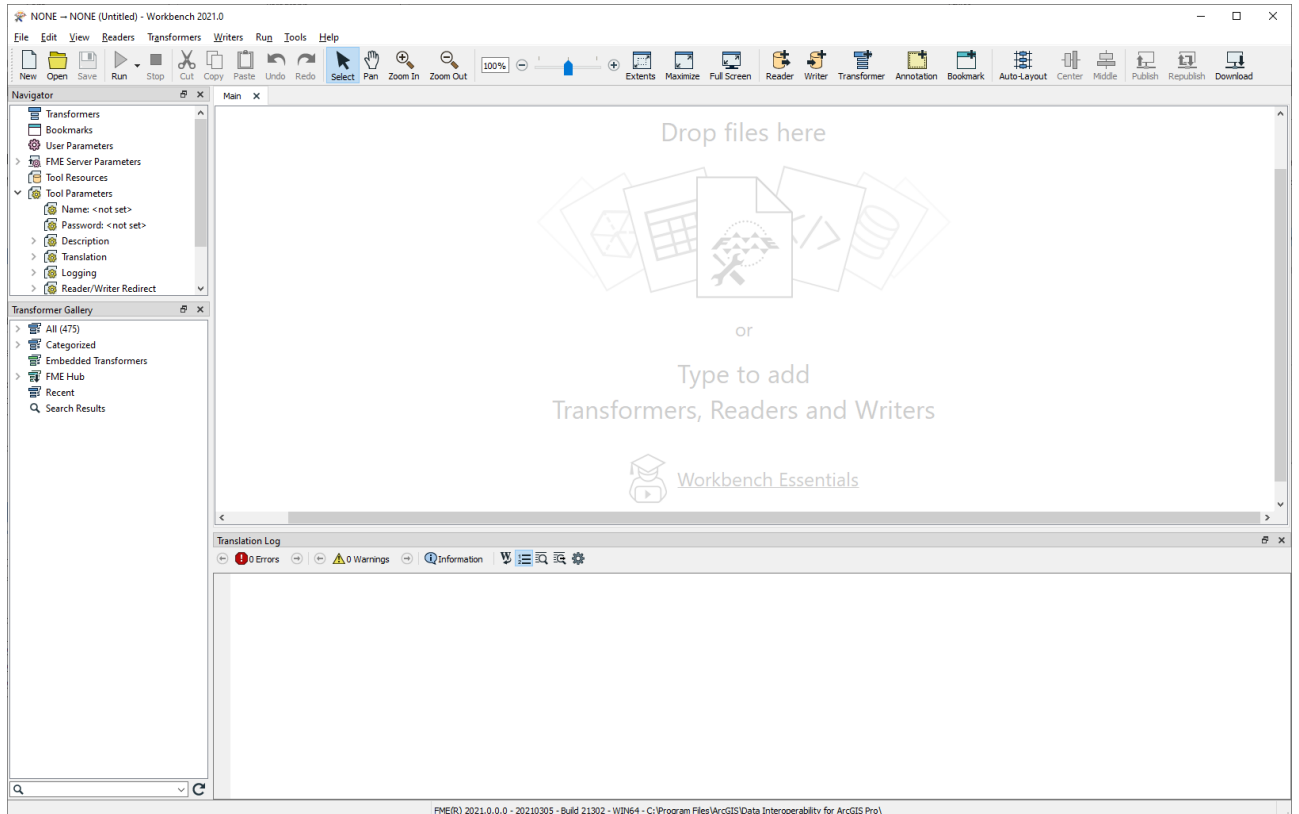


2. Open ArcGIS Pro.

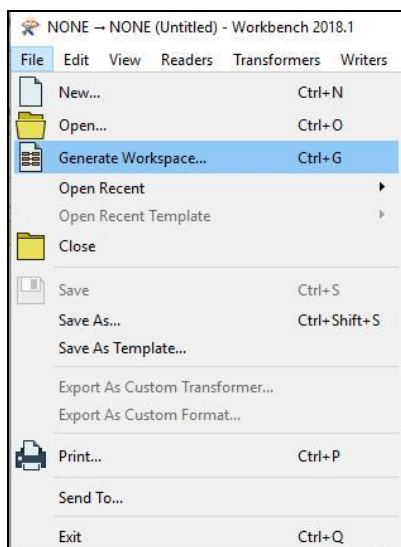
3. In ArcGIS Pro, click the **Analysis** tab and open **Data Interop** in the **Workflows** group.



4. A workbench window will open:



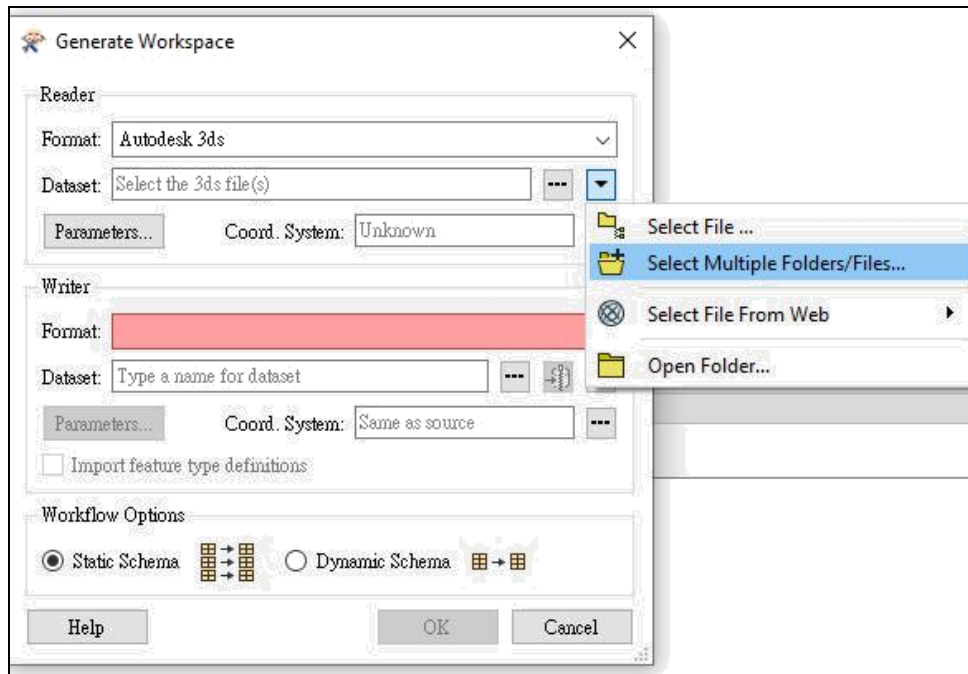
5. In the File menu of Workbench window, choose **Generate workspace**.



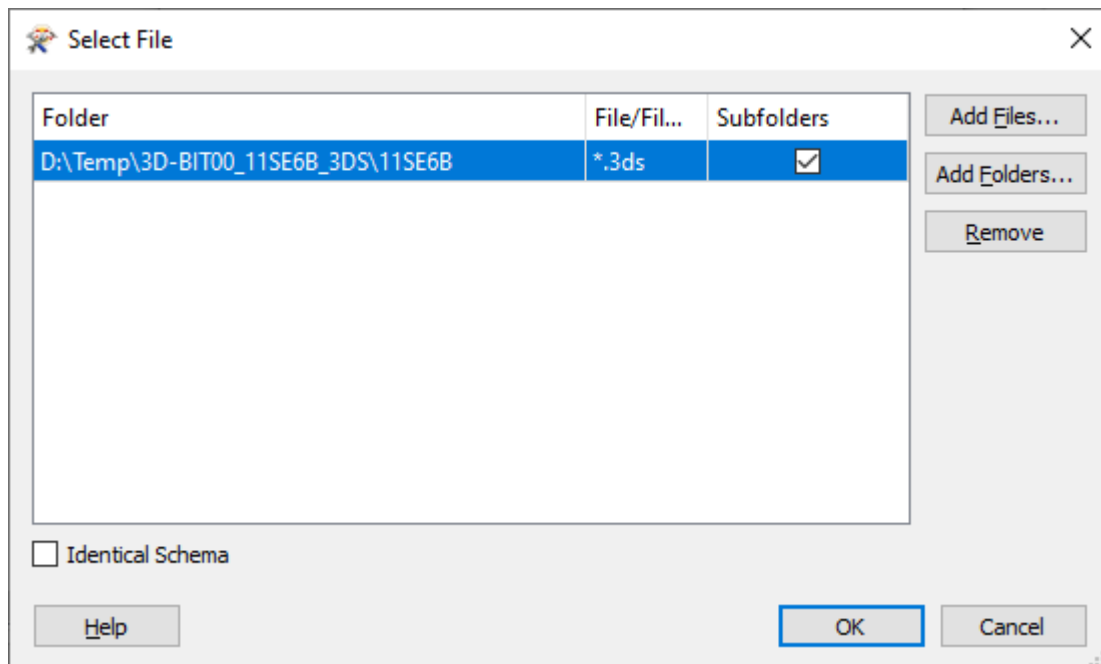
6. In the Generate Workspace dialogue box, set the following values:

For the Format under the Reader section, select “**Autodesk 3ds**”.

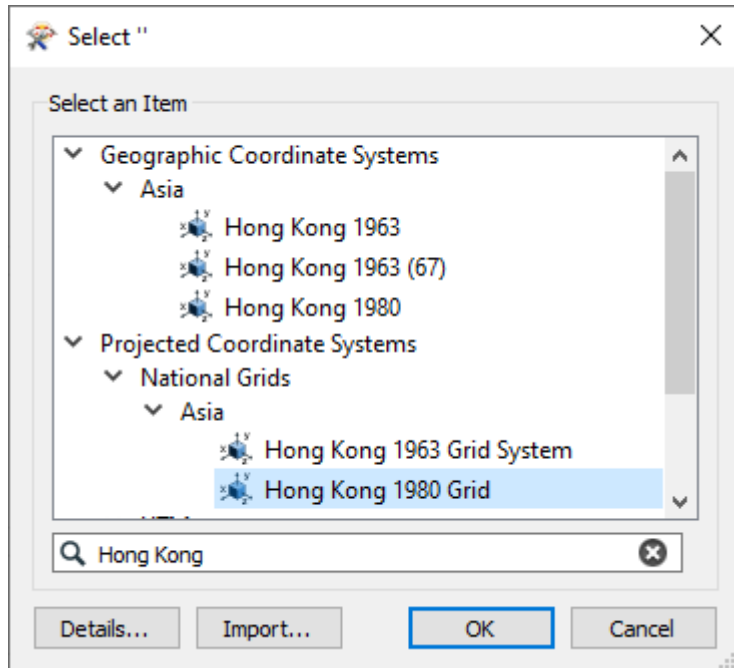
Click the  button and select “**Select Multiple Folders/Files...**” in the drop-down menu.



Click “**Add Folders...**” in the Select File dialogue box to browse to the folder that contains all the 3ds files and then click “Select Folder”. Check the **Subfolders** checkbox




Click “...” next to Coord. System to choose coordinate systems for the data.

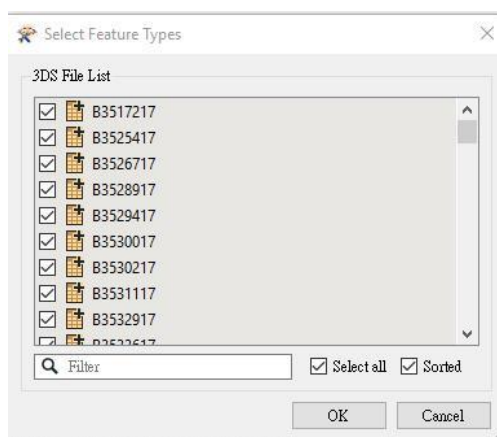


Type **Hong Kong** in filter textbox

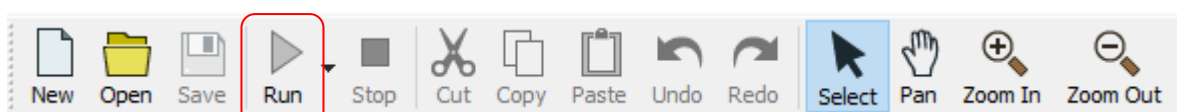
For the Format in the Writer section, select “**Esri Geodatabase (File Geodb)**”.

Click the  button and browse to your destination File Geodatabase. Accept all other default and click OK.

- Wait for the reader to run and click OK if the “Select Feature Types” dialogue box appears.

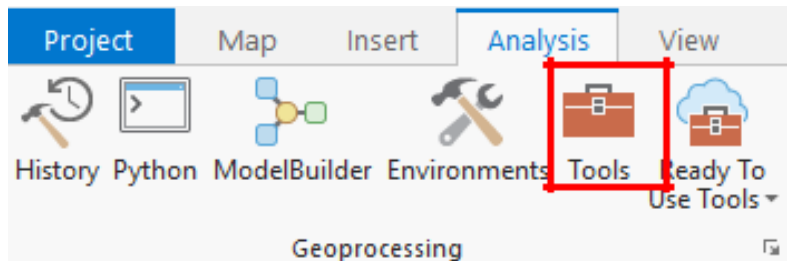


- After the workspace is generated, click the **Run** button to run translation.

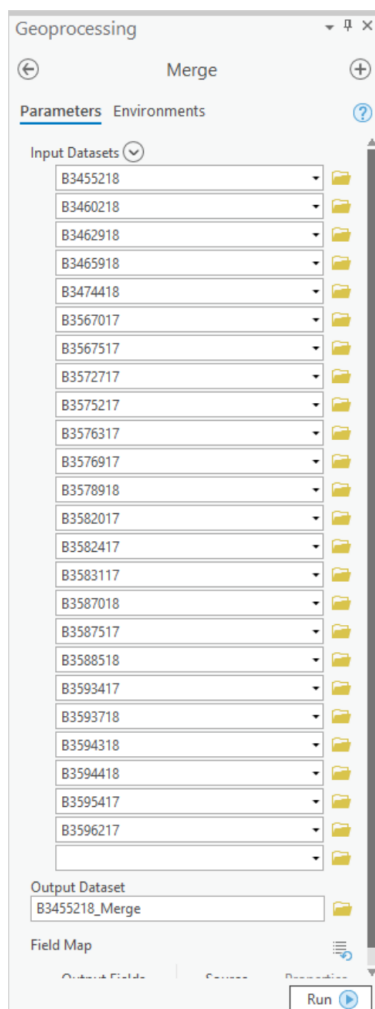


## Merging Converted 3DS Data

1. Go back to ArcGIS Pro. On the Analysis tab, click the Tools button in the Geoprocessing group to open the Geoprocessing pane.




2. The 3DS files are converted to GeoDB Feature Classes and now Merge the converted File Geodatabase Feature Classes into one Feature Class or several feature classes according to different levels. Search for “Merge” and open **Merge (Data Management Tools) Tool**.
3. Browse for all converted multipatch in the Input Datasets.
4. Define the name for Output Dataset.



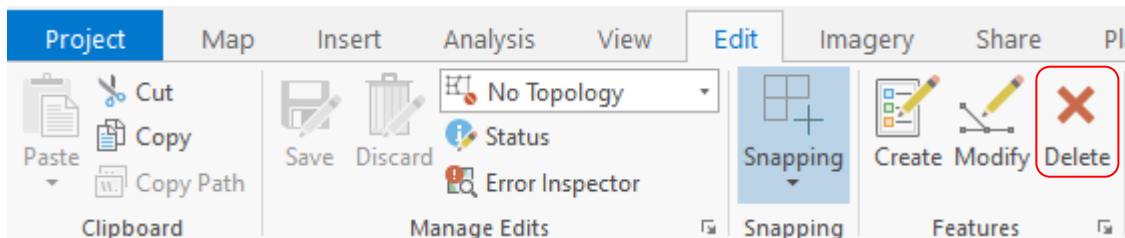
5. Click Run to run the merge tool.

## Removing overlapping models

1. Since 3DBIT dataset contains 3 levels of 3D data models, they will all be converted to feature classes during the conversion process. For 3D models that contain 2 or more levels of 3D data models, you will see that the building façade is overlapping with the other level of 3D data model. In this case, you may want to remove the lower level. Please refer to below steps.

2. On the Map tab, click the  button to open the **Select By Location** tool. Input Features should be layers with a lower level of details than the Selecting Features. Use **Intersect 3D** to select the features.

3. On the **Edit** tab, click the **Delete** in Features group to delete all selected overlapping features.



4. Alternately, you can manually scan through the models to look for overlapping features and delete features from layers with a lower level of details.

Example:

Before



After



## CONTACT US

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except Hong Kong public holidays

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