

A large, semi-transparent white circle is centered in the image. Inside this circle, the words "VISUAL INSPECT" are written in a blue, sans-serif font. Below the text, there is a circular icon with a blue and white design. The background of the entire page is a complex, low-poly geometric pattern in various shades of blue and grey, with some dashed lines and a grid of dots in the upper center.

VISUAL INSPECT™

# VISUAL INSPECT™

## CAD Translator

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User Guide

# Content

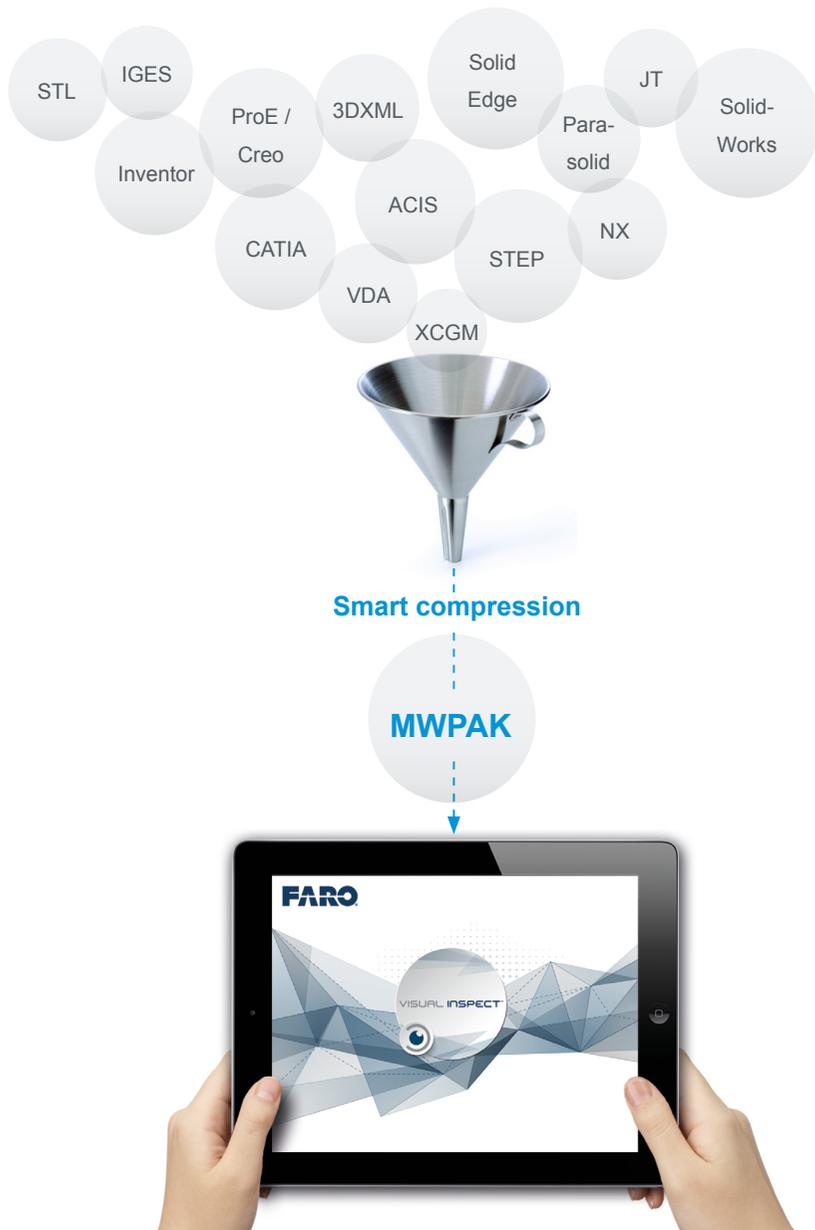
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<b>1. Supported File Formats</b>	<b>3</b>
<b>2. Preparation</b>	<b>4</b>
2.1. Main window	4
2.2. Settings	6
<b>3. Conversion</b>	<b>7</b>
<b>4. Batch Mode</b>	<b>10</b>

*FARO Technologies, Inc. Internal Control File Locations:*

*[https://knowledge.faro.com/Software/Factory\\_Metrology/Visual\\_Inspect/User\\_Manual\\_for\\_Visual\\_Inspect\\_CAD\\_Translator](https://knowledge.faro.com/Software/Factory_Metrology/Visual_Inspect/User_Manual_for_Visual_Inspect_CAD_Translator)*

*Product number: Prdpub95\_FARO\_Visual\_Inspect*



→ **Please note:**  
Supported file versions are increased each year due to new releases of corresponding CAD Software.

## 1. Supported File Formats

The **VISUAL INSPECT CAD TRANSLATOR** is an innovative and simple compression tool. It generates **MMPAK** data for the use in **VISUAL INSPECT** including geometry information, product structure and attributes (meta data) if they are available.

The following table shows the file formats supported by **VISUAL INSPECT CAD TRANSLATOR**.

File format	File extension	File version
3DXML	*.3dxml	4.0 - 4.3
3MF	*.3mf	1.1
ACIS	*.sat, *.sab, *.asat, *.asab	R1 - 2018 1.0
CATIA V4	*.model, *.exp, *.session	4.1.9 - 4.2.4
CATIA V5	*.CATPart, *.CATProduct, *.CGR	V5R8 - V5-6R2018
3DEXperience (CATIA V6)	*.CATPart, *.CATProduct, *.CGR, *.3DXML	Up to V6 R2018x
IGES	*.igs, *.iges	Up to 5.3
Inventor	*.ipt (V6-V2019) *.iam (V11-V2019)	V6-V2019
JT	*.jt	JT 8.x, 9.x and 10.x
NX	*.prt	11-NX 12.0.0
Parasolid	*.x_t, *.xmt_txt, *.x_b, *.xmt_bin, *.p_b, *.xmp_bin, *.p_t, *.xmp_txt	9.0 – 30.0.198
ProE / Creo	*.prt, *.prt.*, *.asm, *.asm.*	16 - Creo 4.0
Solid Edge	*.par, *.asm, *.psm	V18 - ST10
SolidWorks	*.sldprt, *.sldasm	98 - 2018
STEP	*.stp, *.step	AR203, AP214, AR242
STL	*.stl	All versions
VDA-FS	*.vda	1.0-2.0
XCGM	*.xcgm	R2012 - 2018 1.1

## 2. Preparation

### 2.1. Main Window

After starting the **VISUAL INSPECT CAD TRANSLATOR**, the main software window displays.

The upper toolbar contains the following commands:



**The SETTINGS command:**

Click to open a dialog with different conversion options.

→ [See page 6](#)



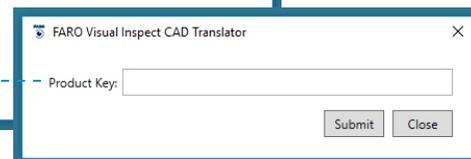
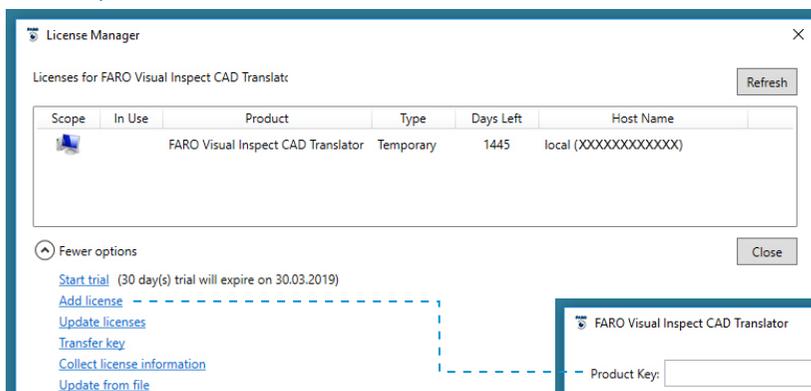
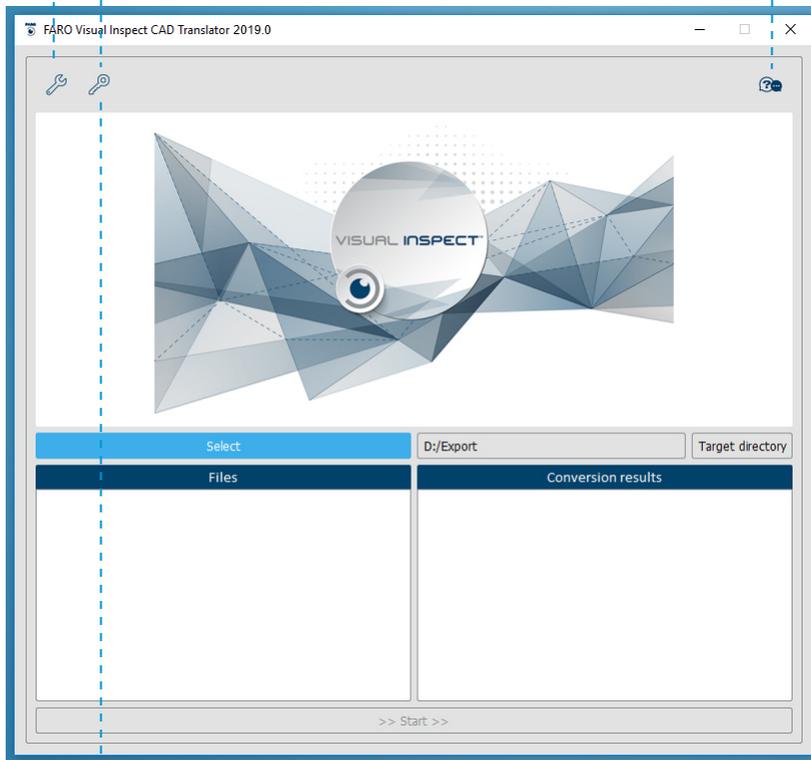
**The LICENSE MANAGER command:**

Click to start the **LICENSE MANAGER** dialog. It displays an overview of all licenses available for the running **VISUAL INSPECT CAD TRANSLATOR** version and helps manage them. For example, select **ADD LICENSE** and enter a product key to activate the software.



**The KNOWLEDGE BASE command:**

This command will take you directly to the **FARO KNOWLEDGE BASE** page for **VISUAL INSPECT**. Here you can find helpful information about the products.



The lower part of the main window of the software includes the following options:

**The SELECT command:**

Click this command to select files to convert.

→ [See page 7](#)

**The FILES section:**

The left section shows the source files you want to convert.

**The CONVERSION RESULTS section:**

The right section shows target files converted by **VISUAL INSPECT CAD TRANSLATOR**.

**The TARGET DIRECTORY command:**

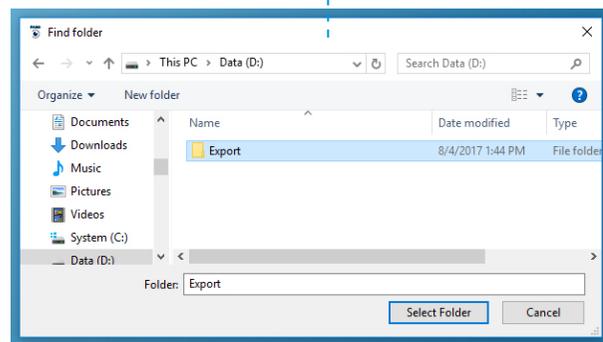
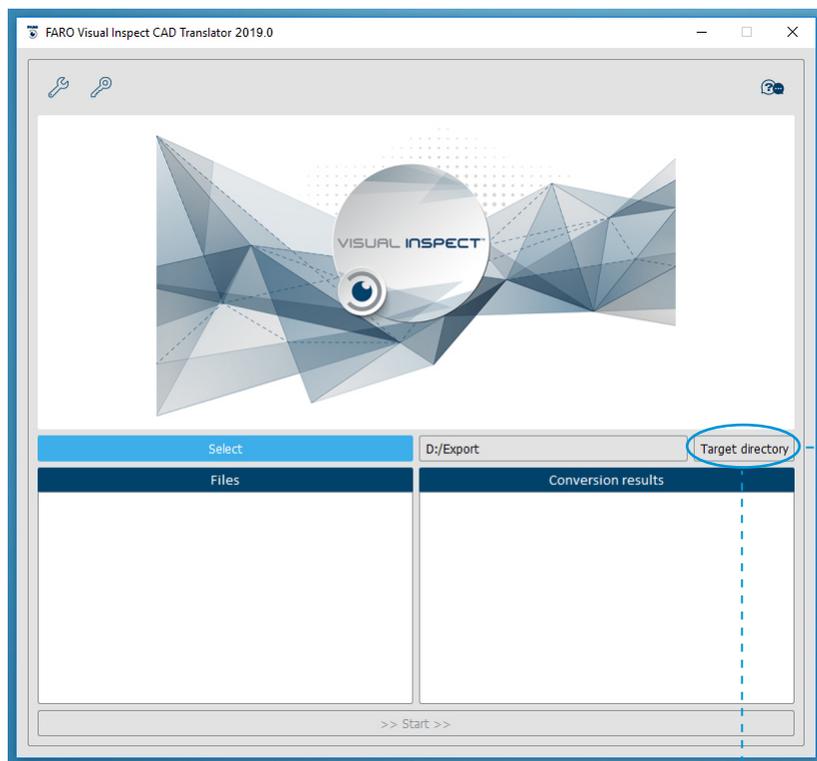
To change the default **TARGET DIRECTORY**, the directory where the converted files will be saved:

Click the **TARGET DIRECTORY** command to open a file browser. Browse to the desired folder and click **SELECT FOLDER** to define the target directory. To the left of the **TARGET DIRECTORY** command the selected path displays.

**The START command:**

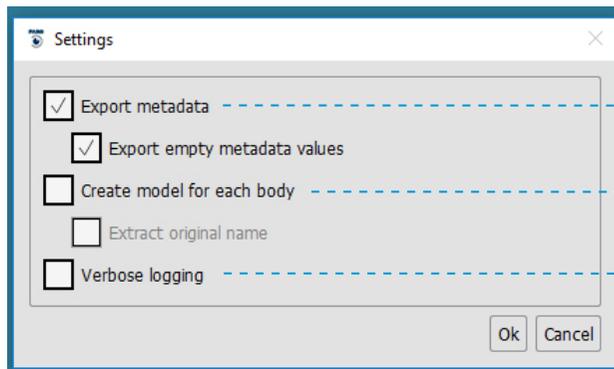
Click this command to start the conversion of all files in the **FILES** section.

→ [See page 7](#)



## 2.2. Settings

In the **SETTINGS** dialog, define the following conversion settings:



### EXPORT METADATA:

In some native CAD formats (e.g. Catia and NX) it is possible to add properties to single structure elements. If such properties are available, export them by activating this option. Use this option to include the information available in the **VISUAL INSPECT** model. By activating/deactivating the **EXPORT EMPTY METADATA VALUES** sub-option determine whether to export properties with empty values or not.

### CREATE MODEL FOR EACH BODY:

Depending on their structure, CAD models contain several types of substructures. With this option, influence how these substructures are handled during the conversion.

When inactive, all component bodies/meshes are merged and result in one element in the **VISUAL INSPECT** tree structure.

When active, each body/mesh in a component results in a separate element in the **VISUAL INSPECT** tree structure.

By activating/deactivating the sub option **EXTRACT ORIGINAL NAME** determine if an extended name analysis is done for all meshes inside a component or not.

**NOTE:** Activating this option may result in longer conversion times.

### VERBOSE LOGGING:

When activate, a more detailed description in the \*.log file is generated during the conversion of each file.

### 3. Conversion

To start the conversion, add desired files into the **FILES** section.

Click the **SELECT** command to open a file browser. Navigate to the files to convert and click **OPEN** to add them into the **FILES** section. To convert a complete assembly structure, select the desired assembly node (root or sub product).

In this **FIND FILES** window, filter the files by format type by selecting the desired format in the type drop-down menu on the bottom right.

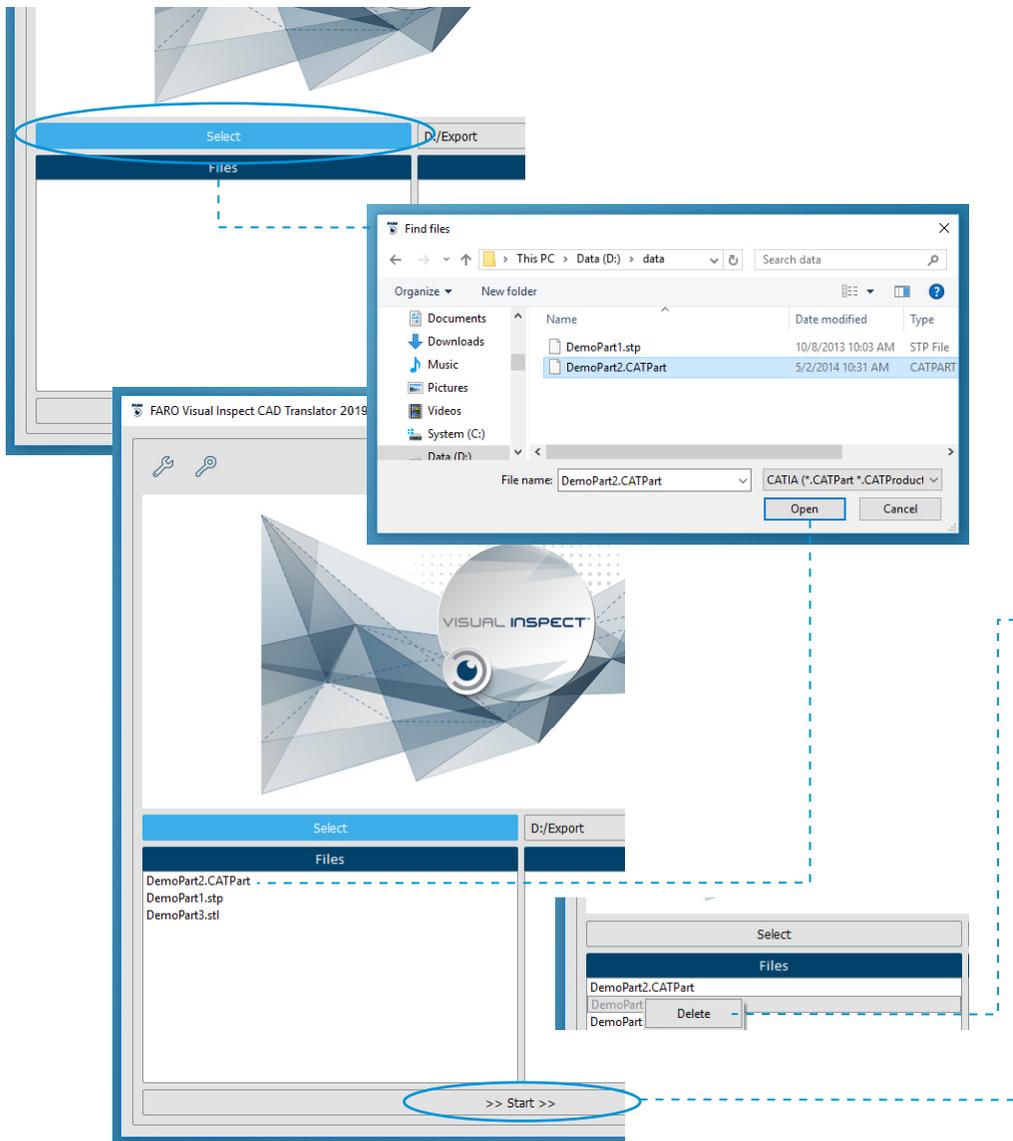
You can also add files of supported file formats into the **FILES** section by drag-and-drop.

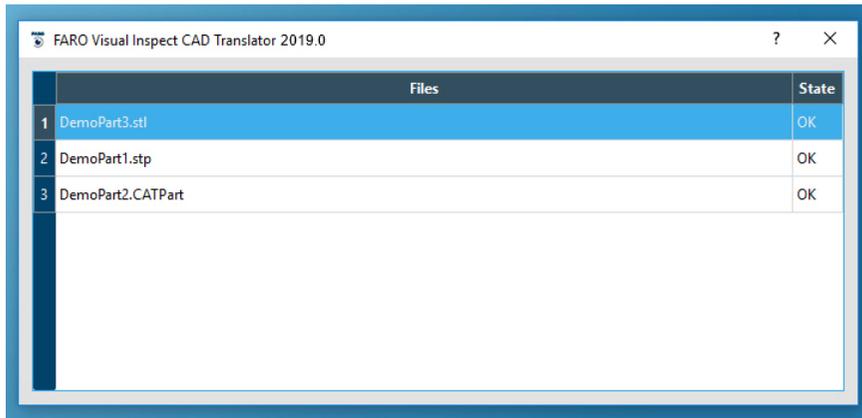
Several files can be added into the **FILES** section to convert all at once in a queue.

If a file is selected by mistake, right-click it to open a context menu. Select **DELETE** to remove the file. This only removes the file from the list, it will not delete the original file from the disk.

As soon as all files are selected, click the **START** command at the bottom of the window to initiate the conversion process. The window is blocked and a progress bar displays while the conversion runs.

After converting all files from **FILES** section to **MWPAK** format, they are saved to the selected **TARGET DIRECTORY** and a conversion report window displays.



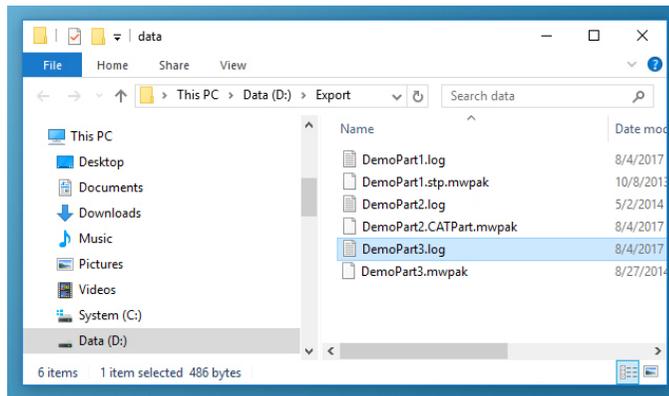


The **CONVERSION REPORT** window shows the state of each converted file.

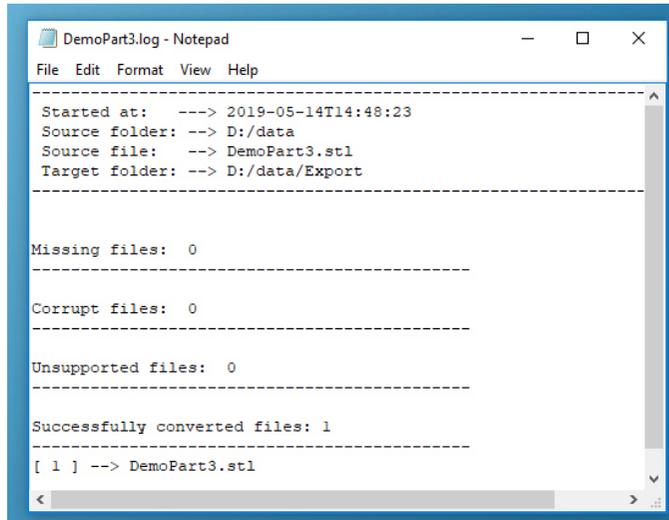
Successful conversions are indicated by **OK**.

Unsuccessful conversions are indicated by **INFO**, with no results.

Complete conversion failure has no result and is indicated by **FAILED**.

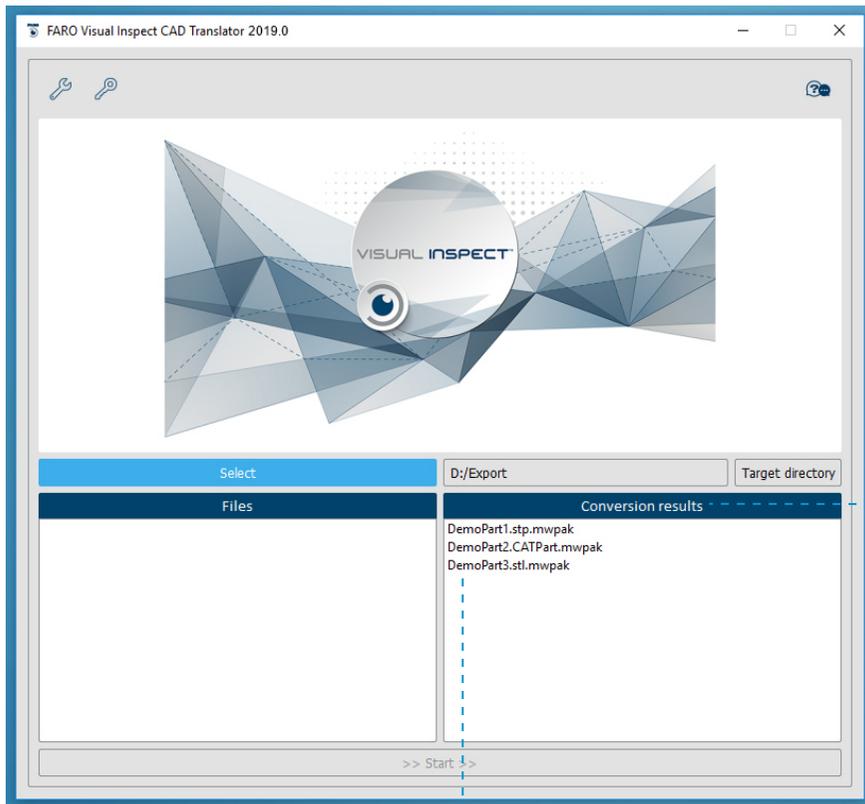


Double-click a line in this dialog to open a file browser showing the target directory. The resulting **\*.MWPak** file, as well as a **\*.LOG** file for each converted file is there.



If the state is **FAILED** or **INFO**, open the log file in any text editor to see the conversion log to see what went wrong. The log file contains the following information:

- Start date of the conversion
- Directory of the source file
- Name of the source file
- Target directory
- **Missing files:** A list of files in the product structure that could not be converted because they could not be found, and the total number of files.
- **Corrupt files:** A list of files in the product structure which could not be converted due to damage, and the total number of files.
- **Unsupported files:** A list of files in the product structure which could not be converted due to an unsupported format, and the total number of files.
- **Successfully converted files:** A list of files converted successfully and the total number of files.
- **Empty 3D geometry files:** A list of files in the product structure which contain no 3D geometry, and the total number of files.
- **Debug messages:** A list of problems that occurred during conversion (only visible if **VERBOSE LOGGING** in **SETTINGS** is activated ([See page 6](#))).
- The end date of the conversion.



All successfully converted files are in the **CONVERSION RESULTS** section.

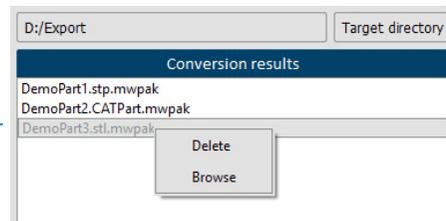
Right-click a converted file to open the context menu. The options are:

**The DELETE command:**

Deletes the selected file in the target directory and removes it from the list.

**The BROWSE command:**

Opens a file browser showing the target directory to easily find converted files.



## 4. Batch mode

Instead of starting the file conversion with the **VISUAL INSPECT CAD TRANSLATOR** from the user interface, the conversion can be started as a batch process in the background.

Start the **VISUAL INSPECT CAD TRANSLATOR** with the parameter `--help` to display a dialog showing all input parameters.

Input a separate batch call for each file to convert. To convert a complete assembly structure, input a batch call for the desired assembly node (root or sub product).

```

Command prompt
H:\>"C:\Program Files\FARO\VisualInspect CAD Translator 2019.0\bin\win_b64\code\bin\VisualInspectCAD.exe" --batch --in D:\data\DemoPart1.stp --out D:\Export
  
```

<b>Mandatory parameters</b>	<i>These parameters are the minimum needed to start a batch run.</i>
<code>--batch</code>	Activate batch mode
<code>--in &lt;filepath&gt;</code>	Source file path
<code>--out &lt;path&gt;</code>	Target directory path
<b>Optional parameters</b>	<i>These parameters define conversion settings (as described under <b>SETTINGS</b>, see page 6). Default values are used if no parameters are set for the batch run.</i>
<code>--exportmd &lt;[0 1]&gt;</code>	Export additional properties of CAD model (material, color, description, revision number etc.), (1) enables and (0) disables this option, default is 1. Corresponds to checkbox <b>EXPORT METADATA</b> .
<code>--exportemd &lt;[0 1]&gt;</code>	Export properties without values, (1) enables and (0) disables this option, default is 1. Corresponds to checkbox <b>EXPORT EMPTY METADATA VALUES</b> .
<code>--bodymodel &lt;[0 1]&gt;</code>	Each CAD model component, like solid body, will be created as separate model, (1) enables and (0) disables this option, default is 0. Corresponds to checkbox <b>CREATE MODEL FOR EACH BODY</b> .
<code>--advnr &lt;[0 1]&gt;</code>	Extract original body name for B-REP instance. Conversion time and processed data volume will significantly increase, (1) enables and (0) disables this option, default is 0. Corresponds to checkbox <b>EXTRACT ORIGINAL NAME</b> .
<code>--verbose</code>	Extend conversion log file with additional information, verbose logging is deactivated by default. Corresponds to checkbox <b>VERBOSE LOGGING</b> .