Electrode Wizard - Inspection for PowerINSPECT CNC

PowerINSPECT

Acknowledgements

Important Notices

PowerINSPECT

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Electrode Wizard - Inspection for PowerINSPECT CNC

Introduction

Electrode Wizard - Inspection is part of the Delcam software integrated electrode solution. It automates PowerINSPECT CNC - creates a PI document, loads a CAD model from a selected .trode file; builds probe paths for inspection groups from points created in PowerSHAPE Electrode.

Please use EXTREME CARE when running the ppaths on the machine - make sure you have set the correct alignment matching the datum you have exported the .trode file relative to (the CAD datum in PI).
As a precaution reduce the speed override to the minimum and drive the machine slowly until you are sure the probe goes to the right position. Be ready to press the emergency stop while running the machine until the alignment is proven correct. The ppath

verification is against the CAD and not the machine - the probe may collide with other parts, if any, currently available on the machine table.

The user is prompted to create a best fit, if needed, using the PI GUI that can adjust the electrode datum to compensate for eventual machining or positioning inaccuracy.

The last couple of steps help creating PI report and export the BestFit item, if it exists, to an xml file.

Step 1 - Configuring the Electrode Wizard - Inspection

It is essential the user to run PI CNC and create an alignment on the electrode fixture on the machine table. This alignment should be exported to an external file and set as one of the settings in the Configuration dialog.

A click on the wizard bitmap on the Wizard first page raises the Configuration dialog:
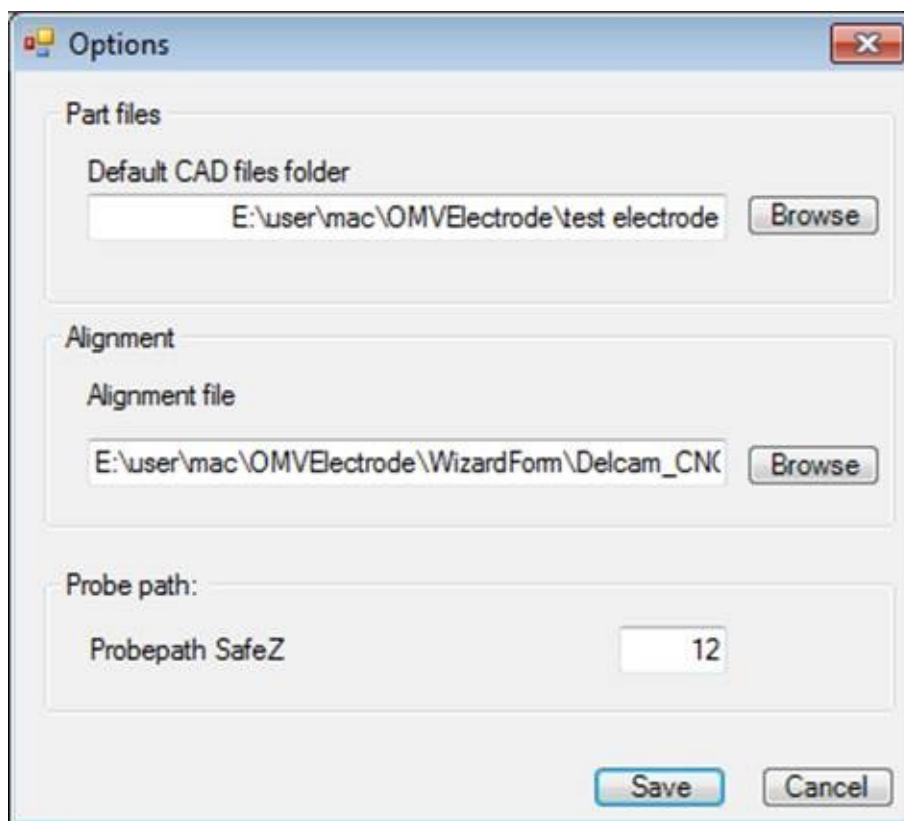
The settings are:

 - Part files - Default CAD Files folder - location of the .trode files

-Alignment file - prior to running the Electrode Inspection Wizard an alignment should be calculated and exported to an external file set on the Erowa (or similar electrode fixture).

-Probepath SafeZ - the height of the safe Z links for the probepaths

Once finished all the settings press Save button to save the configuration to a config file.

Step 2 - Loading the CAD file

Press the Browse button to raise a file selector and select the .trode file you are going to work with.
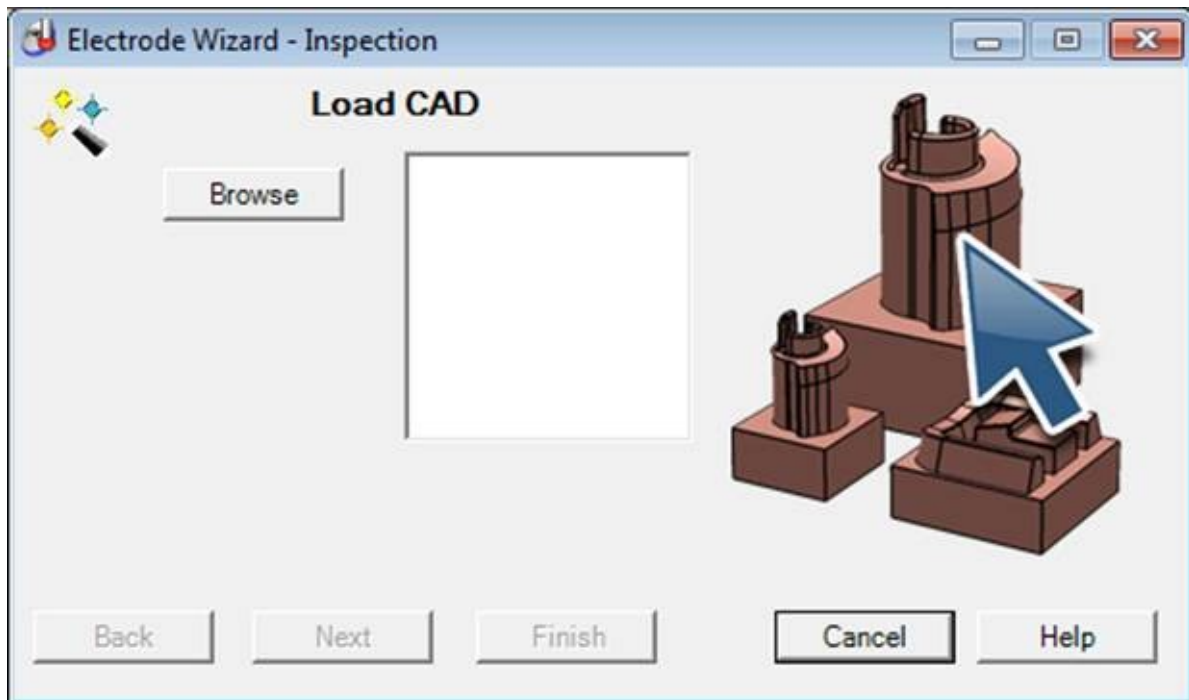
Trode files can contain more than one electrode - as a result all electrodes will be extracted from the .trode file and listed in the Listbox:
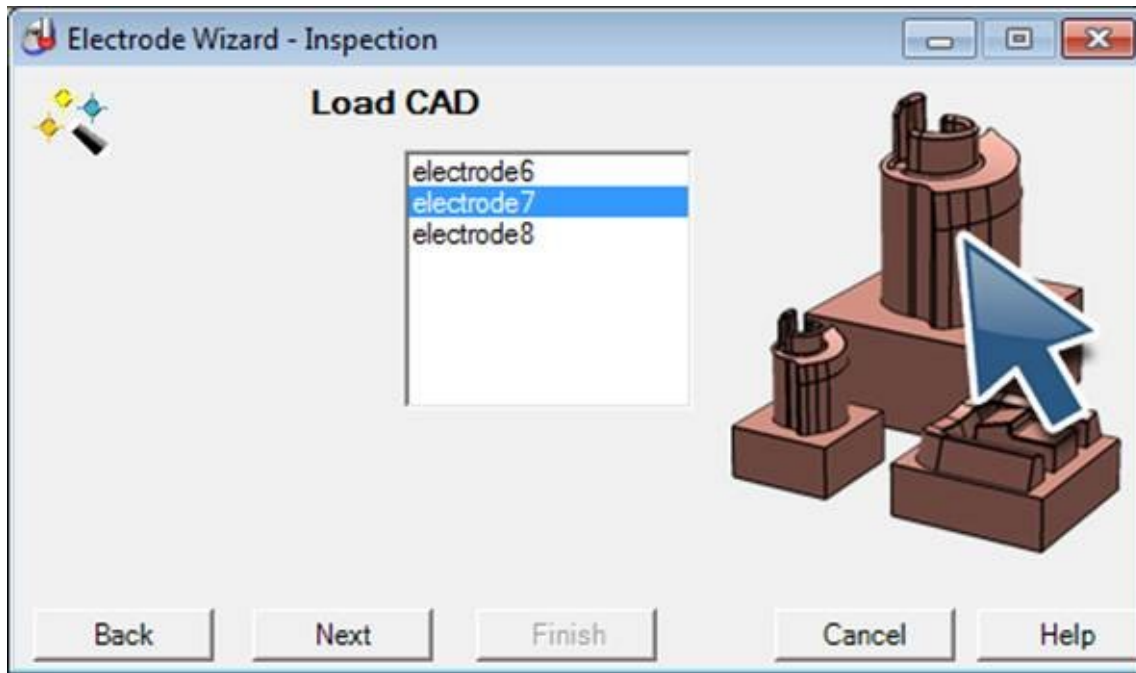
Select the one you are going to inspect and press the Next button to proceed.

If you realise that you have selected the wrong .trode file you can press the Back button to take you back to the step where you can select another .trode file.

Step 3 - Creating PPaths

On pressing Next the Wizard will proceed to the next step where a list of rougher, semi-finisher and finisher would be added to the list box ready for selecting the electrode that has been set up for inspection on the CMM.

Select the one you are inspecting; eventually change the SafeZ value for the probepath(s) that are going to be created from points positioned during the modelling stage (in Pshape).

Press Next to create the probepaths.
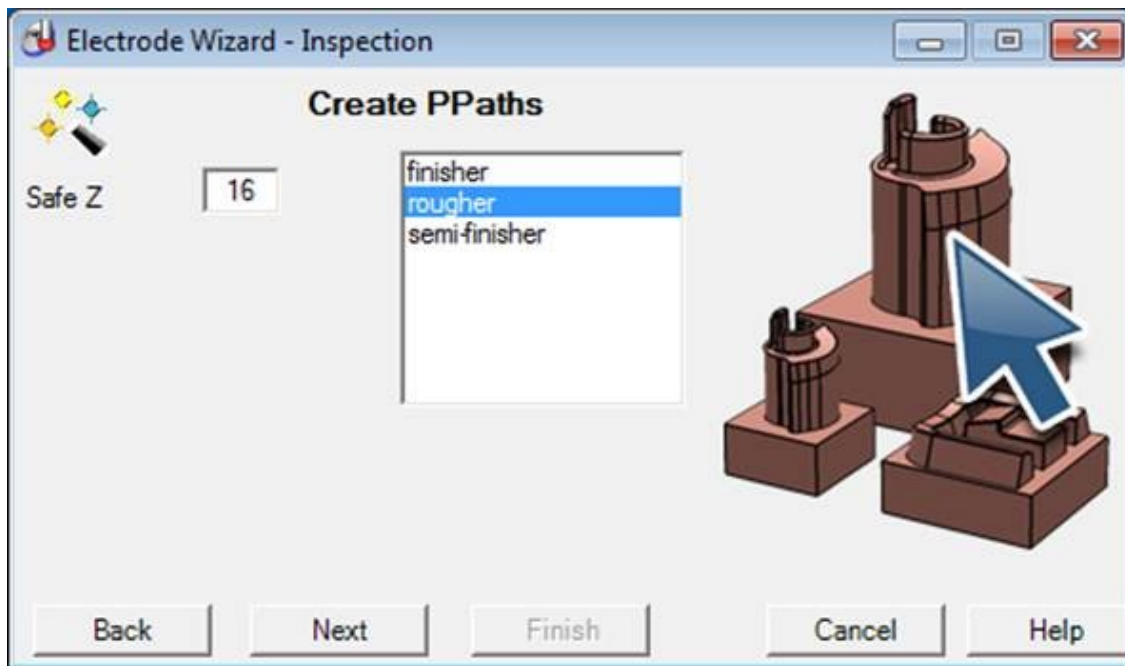
Step 4 - Selecting a region to inspect
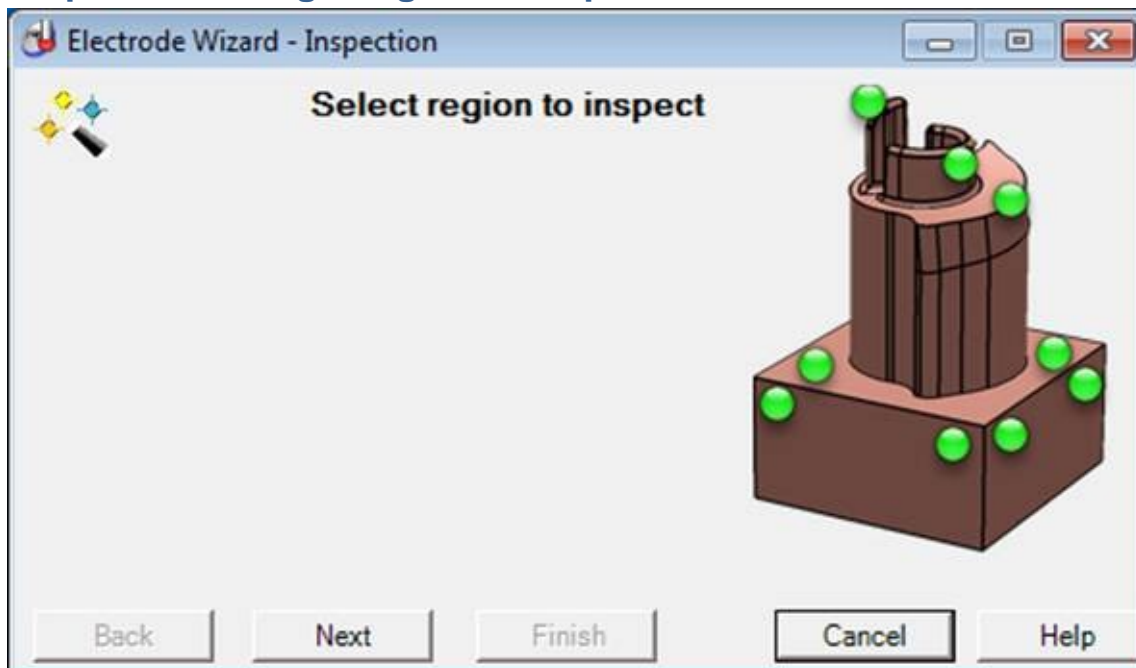
At this step a region can be set in the sequence tree and the ppaths can be run using the PI GUI.

Before running any ppaths, please verify once more the correct alignment has been set.

As a precaution reduce the speed override to the minimum and drive the machine slowly until you are sure the probe goes to the right position.

Be ready to press the emergency stop while running the machine until the alignment is proven correct.

The ppath verification is against the CAD and not the machine - the probe may collide with other parts, if any, currently available on the machine table

Step 5 - A prompt for running the ppaths
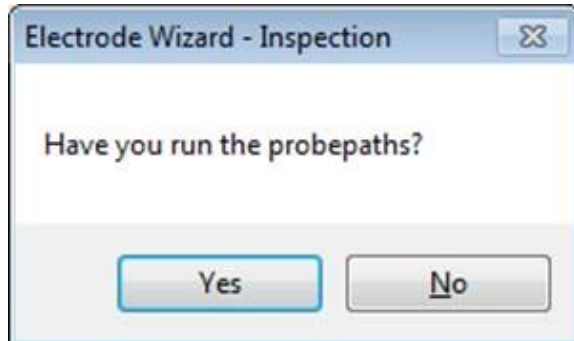
Before proceeding further a prompt is output to remind the user to get PI connected to the machine and run the ppaths.

Press Yes, if you have done so already.

Step 6 - A prompt for additional inspection

The user may decide to create new inspection groups and measure them using the PI GUI.

You can add or alter the inspection at this point.

Step 7 - A prompt to create a Best Fit

The user is prompted by a message box to create a best fit item from PI GUI.

This is just a prompt so pressing OK will not cause any changes to the document.

If the user decides so they may create a best fit of their preferred type to alter the setting datum for the electrode.

This compensation should be done carefully and responsibly as it will affect the initially created datum for the electrode.
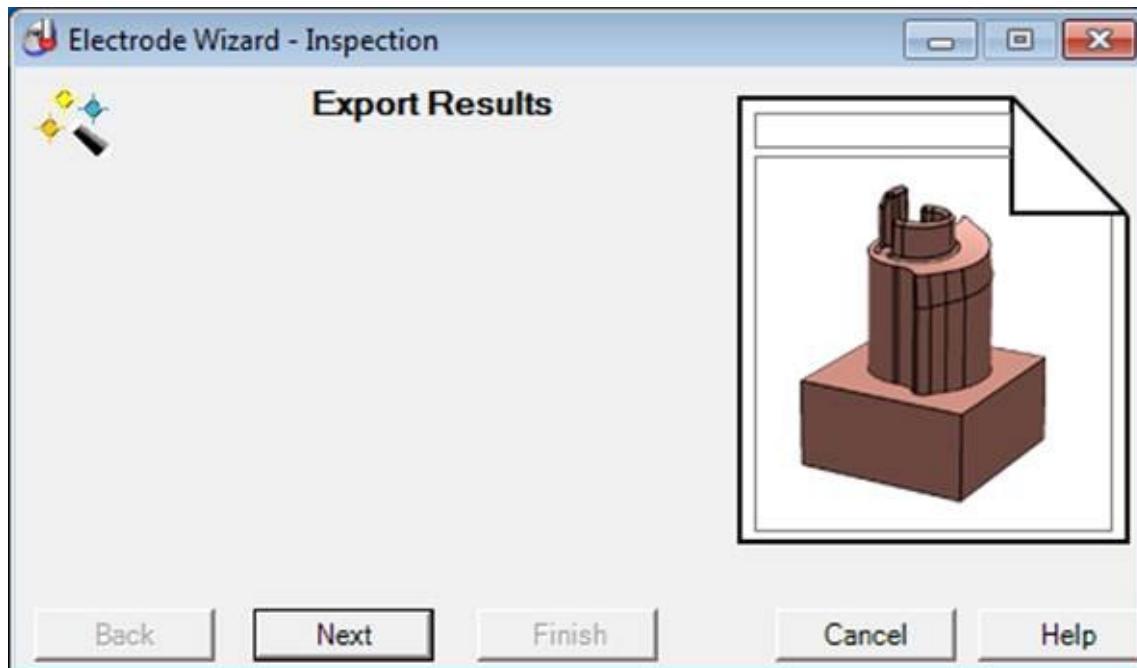
Step 8 - Tolerance check

Pressing Next will run a check whether the inspection groups are within the specified tolerance limits. This will result in a red cross or green tick image displayed on the Wizard form.
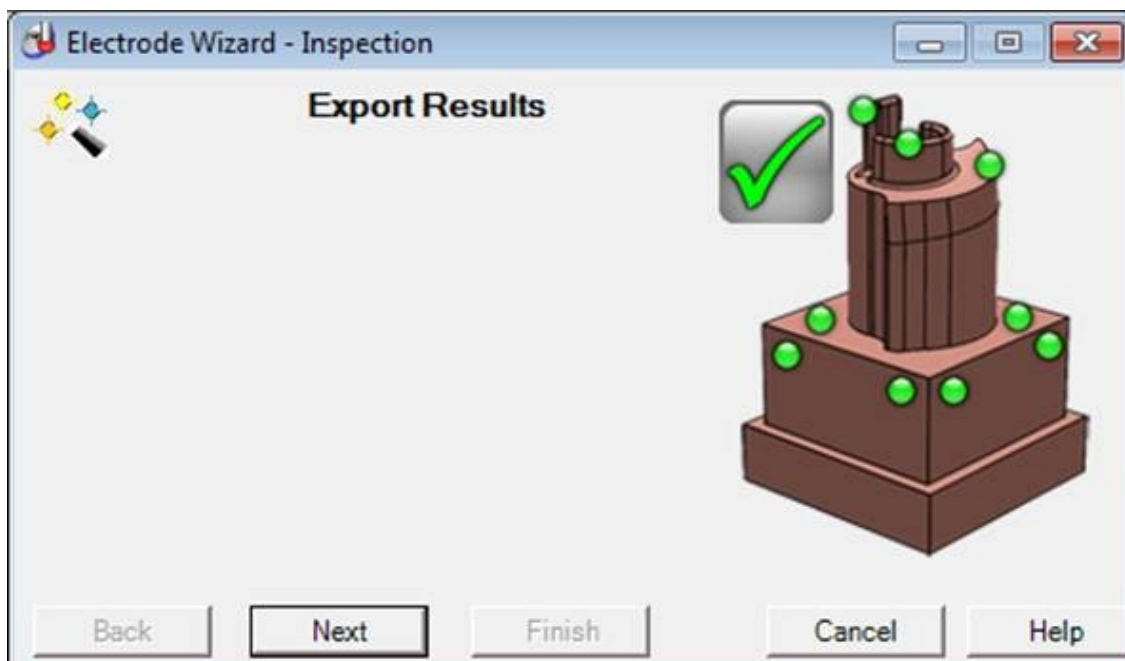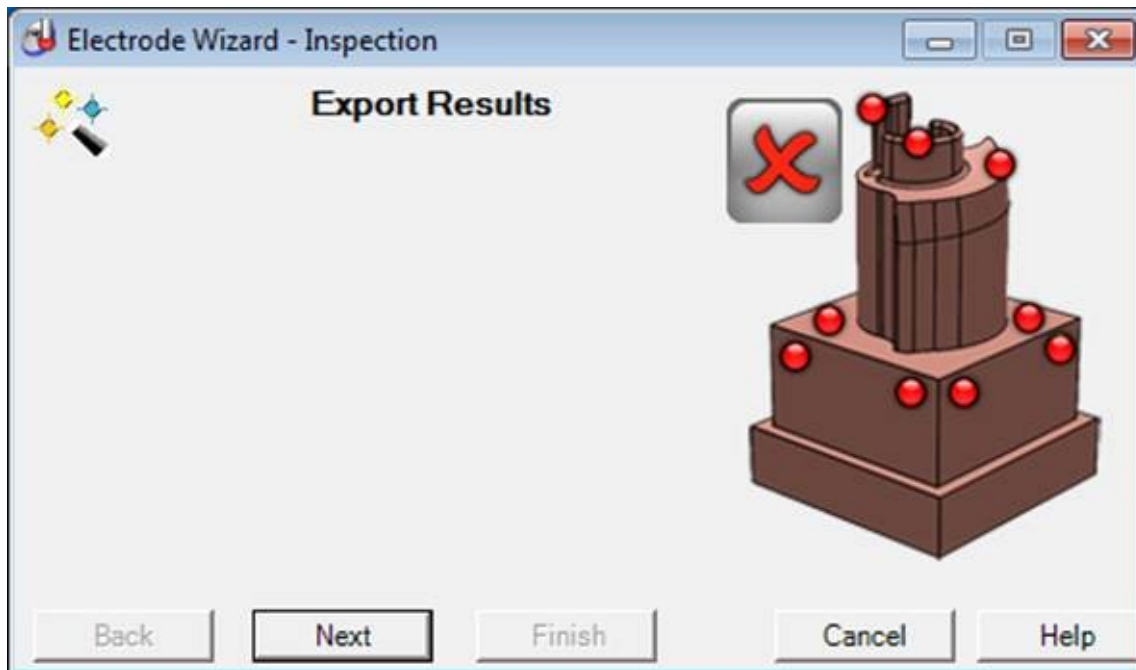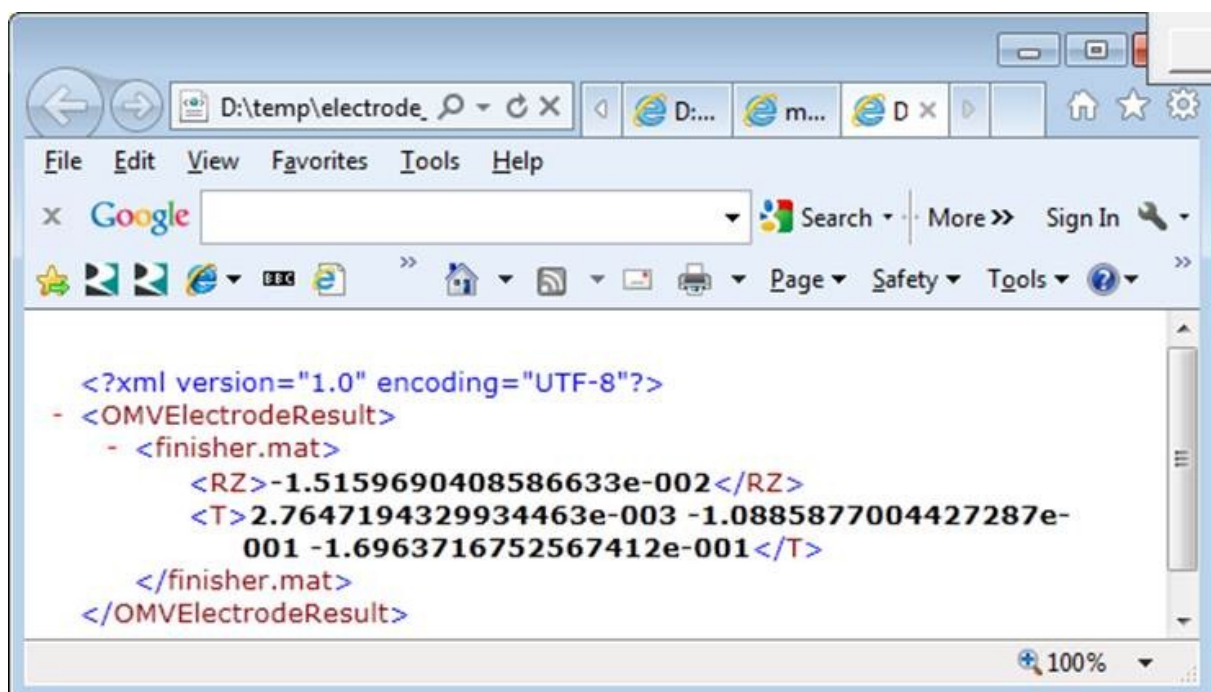
Step 9 - Export results

Pressing Next will create automatically the PI built-in html report.

Pressing for a second time the Next button will search for a calculated Best Fit item in the sequence tree and will export it to an xml file.

Step 10 - Last page

The Finish button is activated for the first time; on pressing it, all files created for the inspection of this particular electrode will be saved to the .trode file selected in the beginning of the session before the end of the Wizard.