

Photometric stereo 3D construction tool

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 The functionality described in the section below is available in the **DALS** application since version **1.3.2.21**

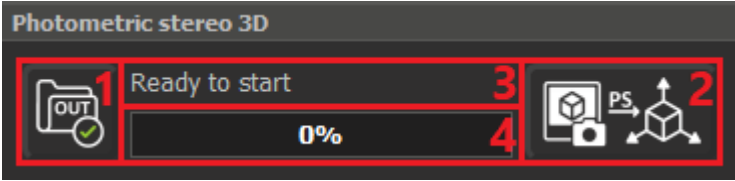
 This functionality is additional and for it to be available, you need to select the **Shape from focus (Python proxy)** component when installing the **DALS** application



Brief description of the tool

Photometric stereo (**PS**) is a technique in computer vision for estimating the surface normals of observed object under different lighting conditions (light sources from different angles). The resulting normal map can be used for 3D reconstruction of the object surface.

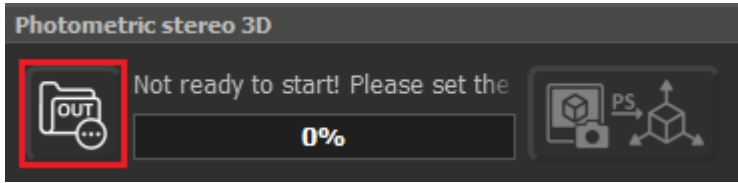
The **DALS** application, starting from version **1.3.2.21**, provides the ability to build surface of 3D models using the **PS** technique for observed objects. To do this, you can use the **Photometric stereo 3D** panel. This panel is located on the right in the **Hardware** section.



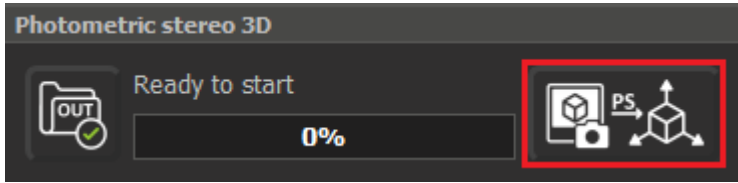
1. The button for selection output folder
2. The button to start the process of building surface of 3D model using the **PS** technique for the current visible area of the observed object
3. Process status message area
4. Progress bar area

Step-by-step guide

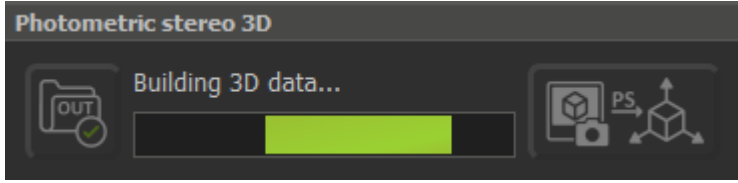
When you first start the program, you must select the output folder where all the 3D models results will be saved using the corresponding **button 1**. Your selection will be saved, but you will be able to change the output folder whenever necessary. If you have not selected an output folder, the start process **button 2** will be disabled.



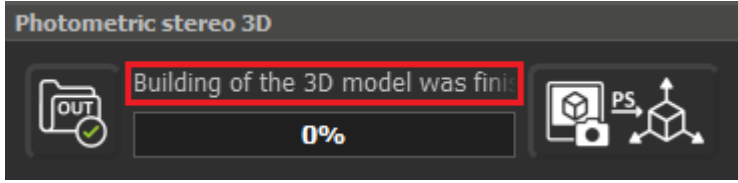
After you have selected the output folder, you can start the process of building 3D model for the current visible area. Just click the corresponding **button 2**.



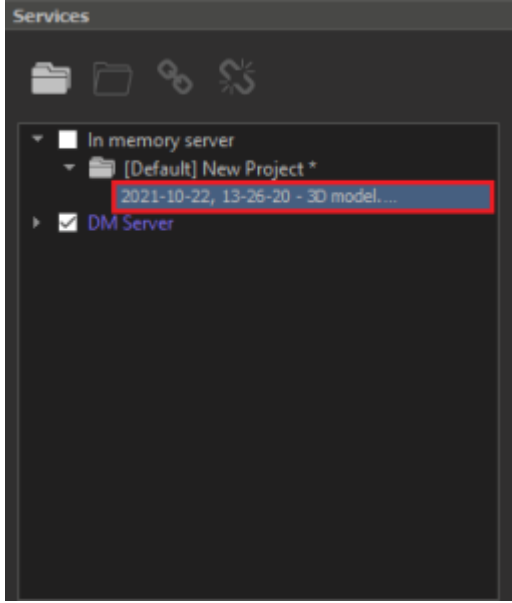
Wait for the end of the active process...



If the process of building a 3D model was completed successfully, you will see the corresponding message:



After that, you can open the just received 3D model by double-clicking on it in the **Services** list (on the left in the **Services** section) or by opening it through the **File Open...** menu item, by selecting the appropriate **.osgb** file from your output folder.



Demonstration of the work

Below is demo video of the **Photometric stereo 3D construction tool**:

Your browser does not support the HTML5 video element