

# Cyclone Scan Registration

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## Register Scan Worlds using scanner coordinate system

**The Cyclone Registration Tool will register two or more scan worlds, and all individual scans within each scan world, by using one of two methods.**

### 1.) Create Registration using Targets

#### a.) Initialize the Registration Tool

- Open Cyclone Navigator and browse to the project directory of the scan worlds you would like to register.
- Right-click on the Project folder and select "Create < Registration". Rename the new registration.
- Double-click the newly created registration to open the Registration window.

#### b.) Add ScanWorlds to registration

- Under the "ScanWorld" menu bar at the top of the window, select "Add ScanWorld"
- Browse to the Project folder with the scan data you want to register and highlight the ScanWorlds you want to register together.
- Move the selected ScanWorlds to the selection box on the right by using the chevron keys. Select "OK".

#### c.) Add constraints

If targets were fine scanned during field data collection, Cyclone will automatically add the target scans as constraints for registration.

- Under the "Constraint" menu select "Auto-Add Constraints"
- Select the "Constraint List" tab and view the list of targets added by cyclone. Each constraint has current information displayed that can be sorted by column.
- Edit each constraint as desired by selecting the constraint then right-click to view the editable options. The constraint can be Enabled/Disabled, and the height, label and weight can be changed.

#### d.) Register ScanWorlds

- Select Register under the "Registration" menu.
- The "Error" values will populate to show the results of the registration. Evaluate each constraint. Are there errors in the label, height? Disable constraints or decrease the weight if a target is

showing large errors.

- Iteratively refine the registration to produce an acceptable error in the registered ScanWorlds. After each change to the constraint list remember to re-register.
- Evaluate the overall fit of the registration under the registration menu > "Show Diagnostics".
- View all the registered scans in a Model Space to see the results.
  1. Under the "Model Spaces" tab in the Registration Tool, Select (highlight) all the ScanWorlds to view in a single Model Space.
  2. Right-click and select "View Interim Results" to see the new Model Space and view the registered ScanWorlds.
  3. Close the interim Model Space and do not save the model view
- If the registration is successful, Finalize the registration by selecting "Create ScanWorld/Freeze Registration" found under the Registration tab in the Registration tool.
- Create a new Model Space by selecting "Create ModelSpace" under the Registration tab.
- Close the Registration Tool.

## 2.) Create Registration using Cloud-to-Cloud Wizard

### a.) Initialize the Registration Tool

- Open Cyclone Navigator and browse to the project directory of the scan worlds you would like to register.
- Right-click on the Project folder and select "Create < Registration". Rename the new registration.
- Double-click the newly created registration to open the Registration window.

### b.) Add ScanWorlds to registration

- Under the "ScanWorld" menu bar at the top of the window, select "Add ScanWorld"
- Browse to the Project folder with the scan data you want to register and highlight the ScanWorlds you want to register together.
- Move the selected ScanWorlds to the selection box on the right by using the chevron keys. Select "OK".

### c.)

Online URL: <https://kb.unavco.org/article/cyclone-scan-registration-829.html>