Troubleshooting

WorksOS

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Setup/Configuration Issues

Error converting project to 3D-Enabled

When converting a project from 'Non-3D Enabled' to '3D-Enabled', an error message is thrown indicating that the conversion was not successful or could not be completed. The issue may be caused by the coordinate system/calibration file you have used in the existing Non-3D-Enabled project in Trimble WorksManager.

Solution 1:

Ensure your project boundary does not overlap any existing project boundaries for other 3D-enabled projects in the WorksOS account, and that any coordinate system/calibration files in WorksOS are the exact same definition as what is on the devices (i.e., machines submitting TAG Files) added to the project.

Solution 2:

WorksOS does not support custom geo data, so if the calibration file in the WorksManager project references a geoid that is not in the Trimble Geodetic Library then the conversion will fail. The calibration file used for the 3D WorksOS project will have to reference a published geoid and not a custom one.

Export Issues

Grid Report not Generating or Missing Data

When generating a grid report, the downloaded report is missing data with a message that the report could not be generated. This can be caused by generating a report with a filter that covers a large enough area and/or has a dense enough grid interval to overwhelm WorksOS.

Solution 1:

Increase the grid interval size (ie., go from 0.5m to 1m or 2m, or whatever other size allows the report to generate for you properly.

Solution 2:

Set a custom area in the map view which is smaller than the project extents, for example a square of a few hundred meters in either direction over the area you need to generate a report for.

Generate the report again, making sure to use the filter which includes your new custom area.

If the custom area is small enough, the report should now generate properly.

If data from the entire project is required, you may have to create multiple smaller reports in this manner if solution 1 requires too coarse of an interval.

Veta Data not Exporting

When attempting to export Veta data from WorksOS, the export either does nothing for several minutes or fails after around 2 minutes.

Cause:

WorksOS has a timeout period of ~90-120 seconds, and exports nearing or crossing ~1GB will take longer than that period to process which causes it to time out.

Solution:

The current recommendation is to limit Veta exports to 1 day at a time when experiencing export issues. You may be able to use other filters to reduce the amount of data being processed, for example by limiting the export to individual machines or setting custom areas for sections of the project to chunk the data up into smaller areas. If such filters work to reduce the data by a significant amount, then you can try extending the date ranges.

Note: Veta 6.0 struggles to import files which are over ~500 MB, which is below where the exports from WorksOS typically start to timeout.

Elevation Differences Exporting a Surface for an Excavator with Filters

When I export a surface from WorksOS for a Trimble Earthworks Excavator system and apply Filters, I get noticeably different elevations.

Example:

Export #1. Date Range + Machine Design

Export #2. Date Range + Machine Design + Last Pass

Cause:

This can be caused when your reporting device is an excavator running Trimble Earthworks that is using a Minimum Elevation Mapping mode.

When activated on a machine, Minimum Elevation means the most recent Lowest Pass while Last Pass means Last Pass - which isn't necessarily always the lowest pass completed.

WorksOS records all data from the machine when either mapping mode is activated; however different rules are applied automatically when WorksOS recognizes what mode you are in. These rules are the same behavior as the screen on the Earthworks EC520 display, so the operator and the person in the office should see the same thing by default.

Following the example:

Export #1 follows the Minimum Elevation Mapping Rules and produces a surface of the most recent Lowest Pass, i.e., the most recent lowest bit of data in each of the cells.

Export #2 overrides the Minimum Elevation Mapping Rules and goes straight to the Last Pass, i.e., the last bit of data in each of the cells.

Solution:

If you want to only see the Lowest Pass data for an excavator do not apply the Last Pass Elevation as this is a 'hard coded' filter that will supersede all other logic. The exception here is if the excavator is a GCS Machine or not in Minimum Elevation mode, in that case applying the Last Pass Filter should not make a difference since the default is always Last Pass.

Machine Production Data Issues

Device not Uploading TAG Files

The machine control device is unable to synchronize .tag files to TCC/WorksOS

Cause:

Both GCS and Earthworks can time out when uploading .tag files if the network connection is poor. For Earthworks, .tag files will not sync to WorkOS if the device has not uploaded a status message to WorksManager. This requires the device to be able to report its position and be within the project boundary when syncing.

Solution 1:

Ensure the device has uploaded a status message to WorksManager and can sync designs and other data without issue. This only applies to Earthworks and does not apply to GCS900 machines as for GCS the status message is given using data directly from the .tag files.

Solution 2:

When required, tag files can be uploaded to a project manually. To do so, open WorksOS and go to the project map, select the three dots in the upper right corner, select "Imports", select "Import Files", and drag the .tag files into the file drop box or select "browse" to browse for them on your computer.

TAG Files Uploaded, but Production Data Missing From Map

The machine has uploaded production data (.tag files), however this data is not visible on the map or when running volume calculations.

Cause:

.tag files will not be processed by WorksOS if the blade on ground rule is not met, or if the device did not have a valid position when the .tag file was recorded.

Solution 1:

Ensure the device has a valid position - for example, if a machine is in autonomous mode then this is not a valid position, while being RTK fixed is a valid position. Make sure that this position is within

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the project boundary, as WorksOS will not process data from machines added to a project if the data they upload shows them as being outside of the boundary.

Note: Changing the project boundary to extend further than it did previously will not cause WorksOS to retroactively process production data recorded outside the old boundary; only new data uploaded after the change will be processed for newly covered areas.

Solution 2:

Check to see if the uploaded machine data was recorded with the machine indicating the blade was on ground by using the Machine Playback tool. This can be accessed from the map view by clicking the "Machine Playback Map" button in the right side toolbar:
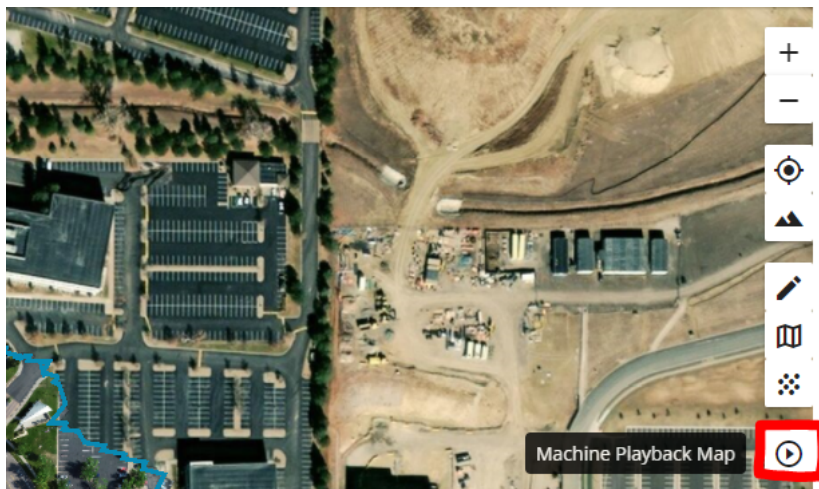

From within the tool, you can select a machine and a date/time range (currently limited to a 4 hour period). All production data from within the selected timeframe will be animated in the map view at a rate of roughly 1-2 seconds per minute of data, with the option to speed the animation up to 16x.

The left hand side of the playback tool will show the loaded design, blade tip elevations, gps mode, machine direction, data validity, and automatics engagement.

Machine data will be colored on the map green if valid, orange if the machine does not have a valid position. See below for an example of the displayed data:
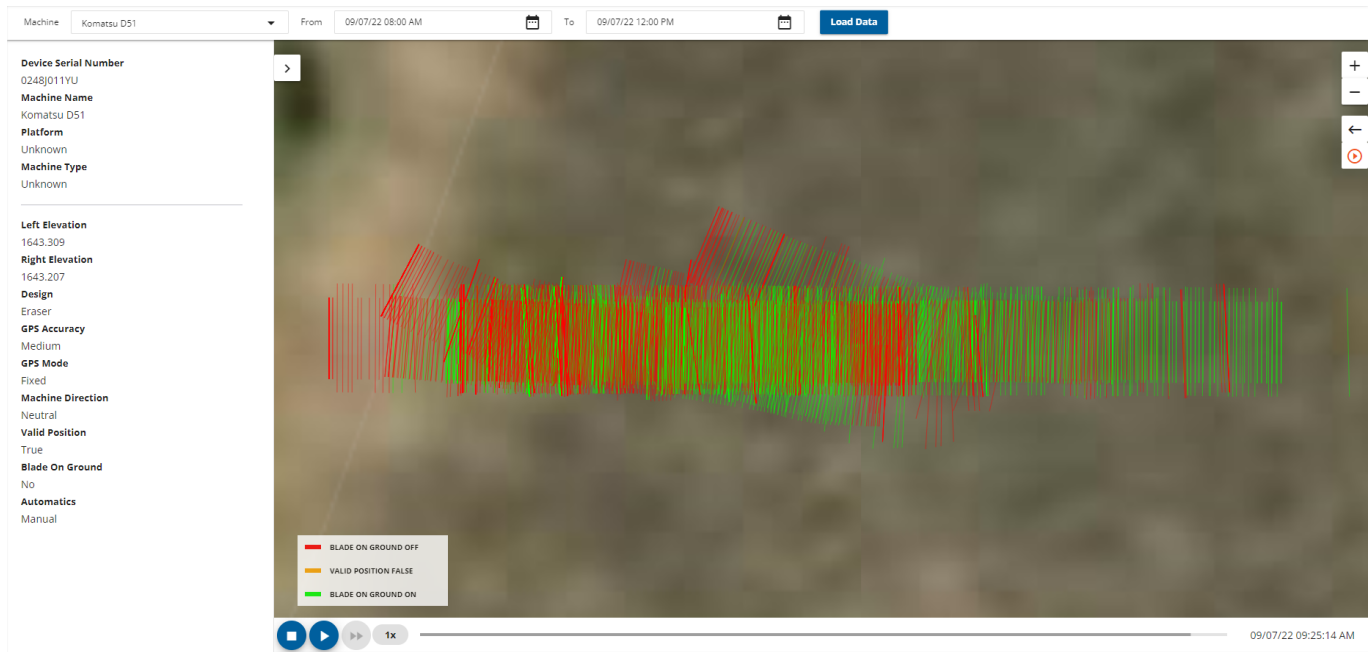
To ensure the blade on ground requirements are met, you may refer to the below rulesets:

GCS900 Dozer:

BOG gets set to yes if

- There is a BOG sensor installed on the machine telling GCS that the blade is on the ground.

  OR

- The machine has Autos engaged.

  AND/OR

- The machine is driving forward, Mapping is enabled, and there is a Cut/Fill or Terrain icon active in the Main Screen View.

  AND

- The tracks are within the set mapping tolerance from the surface if track mapping, or the blade is within the set mapping tolerance if blade mapping.

Earthworks Dozer:

BOG gets set to yes if

- The machine has Autos engaged.

AND/OR

- The machine is driving forward, Mapping is enabled, and there is a Cut/Fill or Terrain icon active in the Main Screen View.

AND

- The tracks are within the set mapping tolerance from the surface if track mapping, or the blade is within the set mapping tolerance if blade mapping.

Earthworks Excavator:

BOG gets set to yes if

- The machine has Autos engaged.

OR

- The bucket is moving towards the machine at >0.1 m/s while pointed towards the machine's COR (center of rotation) +/-30°.

OR

- The bucket is moving away from the machine at >0.1 m/s while pointed away from the machine's COR (center of rotation) +/-30°.

AND

- The bucket is within the set mapping tolerance from the surface.

Earthworks Grader:

BOG gets set to yes if

- The machine has Autos engaged on either side of the machine.

Solution 4:

In the Earthworks WebUI, go to Operation>Mapping>Mapping Tolerance and increase the value found there. This will increase the range of distance from the surface that Earthworks considers valid for recording mapping data.

Licensing Issues

"Cannot Log in to WorksOS because you do not have a paid Licence for your login (TID)"

When attempting to log into WorksOS, the following message is displayed: "Cannot Log in to WorksOS because you do not have a paid Licence for your login (TID)" and the user is unable to log in.

Cause:

This can be caused by the user not being assigned a WorksOS license; WorksOS is user license based, so every user must have an active license assigned to their Trimble Identity email.

Solution:

Assigning users to a license and switching a license between users is handled by the customer's license administrator, ie. the customer either assigned the WorksOS license(s) in the Virtual Warehouse subscription tab or set as the customer admin email for a TPaaS order.

The license(s) are provisioned to the customer's license manager account and assigned to users from there (https://license-manager.trimble.com).

TPaaS licenses: go to Platforms>WorksOS and click "Manage", then assign a user to each license.

Non-TPaaS licenses: go to Licenses>WorksOS, then activate the license(s) and assign users.

To switch an already assigned license to another user: click the "X" icon to the left of the currently assigned user to remove the license from their account, after which a different user can be selected from the assign user dropdown.

If unable to see a specific user when selecting the assign user dropdown for the license: the license administrator needs to add that user to their license manager. This can be done through the "Users" tab by clicking "Create User" in the top right and then adding their name and email address. Once the user has been added, they should be available in the assign user dropdown when managing the license.

Getting Help and Support

If issues are still present after following this guide, please gather and provide the following information (where applicable) before contacting support:

- A detailed description of the problem, with screenshots.
- The WorksManager Account/Organization Name.
- The names of the affected projects, designs, and other data.
- The serial number of any individually affected/problem devices.
- A zsnap from any affected machines.

Additional Resources

- [WorksOS Community Page](#)
- [WorksOS User Guide](#)