ProVAL 4.0 Release Notes

Installation

- Windows 10 21H2 is the minimum supported operating system.
- Microsoft .NET Framework 4.8 is required (included with Windows 10 v1903 and later).
- ProVAL 4.0 can be installed on the same machine as 3.x or earlier. Previous versions of 4.0 will be replaced.
- ProVAL 4.0 is only available in a 64-bit version and can only be installed on 64-bit Windows.

4.0.75

Editor

- Fix: Routes did not always correctly account for the lead-in.
- Fix: The route created using only existing logged GPS data in a file was not always correct.

Analysis: Curling and Warping

- Fix: Multiple issues caused the analysis to be unusable, produce incorrect results, or crash. Existing projects should be re-analyzed.

Analysis: Profiler Certification

- Fix: Regression caused the slope chart to be missing the profile names.

Analysis: Rolling Straightedge

- Fix: Excel Detailed Report could not be created if some of the profiles could not be analyzed.
- Fix: Excel Detailed Report layout for Defective Segments was incorrect.

Analysis: Smoothness Assurance

- Fix: The Summary PDF report for Long Continuous showed the inputs and defect units for Short Continuous. The Long Continuous section was also incomplete if Short Continuous did not have a Ride Quality Index selected.

Miscellaneous

- Change: Removed the Save Logs button because logs are no longer saved locally.
- Change: Minimum supported operating system changed to Windows 10 21H2.
- Fix: Corrected Windows file associations.
- Fix: Corrected behavior when opening files (such as double-clicking a file in Windows Explorer).
- Fix: Regression caused the file open dialog to not default to "All Files" when selected in Options.
- Fix: Regression caused ProVAL 2 projects to not be openable.
- Stability improvements.

4.0.71

Miscellaneous

- Diagnostic data has been re-enabled. As before, this feature can be toggled in the Options. This data is no longer stored on the computer, only online.
- Access to *.azure.com is required for both the diagnostic data and map features.

- The Open toolbar button can now be used to select a file, not just projects.
- Stability improvements.

4.0.69

File Import
- Fix: The start and stop coordinates were not stored correctly, which could cause route finding to be disabled.

Editor
- Change: The start and stop coordinates are now shown again but cannot be changed.

Miscellaneous
- Fix: Keyboard shortcuts for projects did not always act as expected.
- New: Added Ctrl+W as a keyboard shortcut for closing a project.

4.0.68

Analysis: Profiler Certification
- Fix: Fixed regression that caused a validation warning when separate basis files were selected for the left and right channels.

Analysis: Smoothness Assurance
- Fix: The fixed-interval chart sometimes displayed the wrong y-axis values when the chart height was small.

Miscellaneous
- Performance improvements.
- The web service where telemetry and errors are sent to is being retired. Sending of this information has been disabled until a replacement is implemented. In the meantime, contact us if you encounter an error.

4.0.66

File Import
- Change: Import of ERD files using formatted floating-point (text) has changed. When the FORMAT keyword is empty and data is not available for all channels for each record, the import will fail. Previously, the import would succeed but stop reading the file when missing data was encountered.

Analysis: Ride Quality
- Fix: The KML/KMZ export for the Fixed-interval analysis only had the correct coordinates for the first selection.

Analysis: Rolling Straightedge
- Change: Leave-outs are now removed from the analysis.

Miscellaneous
- Performance improvements.

- Security updates for third-party components.
- Stability improvements.

4.0.64

Reports
- Fix: Regression in previous version caused some reports to not be generated.

Miscellaneous
- Stability improvements.

4.0.63

Analysis: Curling and Warping
- Fix: PSG results were incorrect when the option for "Use SI Units" was changed from checked to unchecked.

Analysis: Ride Quality
- Change: The Fixed-interval analysis was changed to better match the results of ProVAL 3.6. Differences may still occur due to ProVAL 4's improved accuracy with regards to distance.
- Fix: When using SI units, non-RN overall ride quality values were displayed in m/m instead of m/km.

Reports
- Change: Reports sometimes cannot be created because the profile or section names contain text that is not allowed by Windows. ProVAL will now attempt to remove problem text. When this happens, a timecode will be appended to the file name to ensure the file name is unique.
- Improved feedback of problems that prevent saving a report file.

Miscellaneous
- Fix: Project files were sometimes saved with the wrong permissions, causing the files to not be openable on other computers.
- Fix: Adding files to a project would take progressively longer each time during a session.
- Stability improvements.

4.0.62

File Import
- Change: Improved importing of GPS coordinates from RSP files.

Editor
- Change: Improved routing.
- Change: Improved section colors on map.
- Fix: Joint locations and charts did not always update when necessary.
- Fix: Changes to routes were not listed in the file history.

Analysis: Curling and Warping
- Fix: Copying the results table caused a crash.

Analysis: Profilograph

- Fix: The basis column was not always visible.

Analysis: Ride Quality

- Fix: HRI and MRI results were listed twice in tables.

Analysis: Smoothness Assurance

- Fix: HRI and MRI results were listed twice in tables.

Miscellaneous

- Fix: The start and stop coordinate values were sometimes missing in KML/KMZ exports.
- Stability improvements.

4.0.60

Editor

- Fix: Custom properties could not be added.
- Fix: Changes to joints did not mark the project file as unsaved.

Analysis: Profile Screener

- Fix: The extreme and low roughness analyses were incorrect.
- Fix: False positives were sometimes reported for the low-pass filtering detection.

Analysis: Profilograph

- Fix: The blanking bands were not always drawn correctly (or crashed) when multiple files were analyzed.

Analysis: Ride Quality

- Fix: Fixed interval for HRI and IRI was showing HRI for the value of the right IRI.
- Fix: Fixed interval for MRI and IRI was showing MRI for the value of the right IRI.
- Fix: The fixed interval chart could not be copied, saved, or printed.

Analysis: Smoothness Assurance

- Fix: Rolling straightedge comparison did not work.

Miscellaneous

- Using the profile selection buttons in the toolbar (left, center, right, all) will no longer apply the analysis filter template if a profile was already selected.
- Stability improvements.

4.0.59

File Import

- Fix: When applicable, Sections were missing coordinates when imported from PPF files and previous ProVAL projects. For any projects saved with 4.0, the routes will need to be re-applied for coordinates to be assigned to Sections.
- Fix: The File Import Wizard did not work well for very short profiles.

Editor

- Fix: Exporting a section that could not be saved due to invalid text in the resulting file name caused a crash. A warning will now be shown.

Analysis: Ride Quality

- Change: Previously, the analysis would stop if any errors occurred. Now, the analysis will attempt to always analyze all profiles.
- Fix: Changing the input values might not clear the results and enable the Analyze button.

Miscellaneous

- Fix: Project file paths containing non-ANSI characters may not be able to be opened or saved.
- Fix: ProVAL did not always close after an error occurred.
- Performance improvements.
- Stability improvements.

4.0.57

ProVAL can now send anonymous device information, region, feature usage, and errors to a secure, online service. Previous versions of ProVAL only recorded this information locally. If you had this option turned off in a previous version of ProVAL, this information will not be sent. If the computer has never had ProVAL installed, you can select your preference at the Welcome screen when ProVAL is started for the first time. This can always be changed in the Options.

Editor

- Change: Moved joint identification from the Automated Faulting analysis to the Editor.
- Change: Changes to files in the Editor will no longer automatically save. Instead, changes will only be saved when the project is saved. This is now consistent with the rest of the software.
- Change: The start and stop coordinates for a file can no longer be manually set. Instead, the software will provide multiple routes based on the information in the file. A route cannot be created for files with no coordinate information.
- Fixed: Various issues with the right-click menu for the map.

File Import

- Removed support for Ames LDF files.
- Removed support for KJ Law files.
- Removed support for space-delimited Texas PRO files.
- Opening projects and most files is much faster and requires much less memory.

Analysis: Automated Faulting

- Change: Moved joint identification from the Automated Faulting analysis to the Editor.

Analysis: Curling and Warping

- New: Added curling and warping analysis.

Analysis: Profile Synchronization

- New: Added decimation option to improve performance with large profiles.
- New: Added option for sample interval adjustment to remove the influence of the distance measurement instrument (DMI).

- New: Added option for padding to accommodate profiles that do not have sufficient lead-in.
- New: Added option for upsampling to reduce the transient effect of reference profiles.
- Fixed: The Inputs item in Navigation was not being checked.
- Fixed: Results were inconsistent when the basis and comparison profiles were different lengths.

Analysis: Profiler Certification

- New: Added decimation option to improve performance with large profiles.
- New: Added option for sample interval adjustment to remove the influence of the distance measurement instrument (DMI).
- New: Added option for padding to accommodate profiles that do not have sufficient lead-in.
- New: Added option for upsampling to reduce the transient effect of reference profiles.
- Change: The limit of automatically assigned run numbers has been increased from 10 to 12.

Analysis: Profiler Screener

- New: Added profile screener analysis.

Analysis: Ride Quality

- New: Start and stop coordinates are now provided for each fixed interval.

Analysis: Rolling Straightedge

- New: The percentage of defective length is now shown.

Analysis: Smoothness Assurance

- New: A Ride Quality Index can now be selected or disabled for each analysis type: short continuous, long continuous, fixed interval.
- New: Added setting to control the creation of recommended grinding locations.
- Change: All Strategies can now be modified. The One Grind and Default Strategy have been replaced with buttons to create these locations.
- Change: The analysis will not automatically recommend grinding locations. A button was added to the toolbar to recommend locations.
- Change: A grinding Strategy now includes the grinder settings.
- Change: A file containing both left and right profiles must be selected. Single-channel files are no longer supported.

Miscellaneous

- New: Right-clicking a recent project will show an "Open file location" menu. Selecting this will open Explorer to the location of the file.
- New: Grinders for OWL and SAM can be managed in the Options. A default grinder can be selected, which will be applied to new projects.
- New: Charts can now be printed over multiple pages.
- New: Added an aerial map option with labels.
- Change: Options will only be imported from ProVAL 3.x.
- Change: Spreadsheet Program was removed from the Options. ProVAL uses the file associations specified by Windows.
- Change: Charts will now display only the first 500 event markers. This limit is to prevent the software from freezing when a profile with a large number of event markers is selected. The list of events should be checked in the Editor.

- Change: Improved support for Windows scaling, which is often used with high DPI (dots per inch) screens. The software will be using the scaling settings of the primary monitor. Moving the software to a monitor with different scaling will not cause the software to rescale. Changing the scaling may not have an effect until signing out/in.
- PPF files exported by ProVAL 4 use version 1.06 of the Pavement Profile Format defined in ASTM E2560. These files are not usable by previous versions of ProVAL and may not be usable in other software.

Known Issues or Limitations

- Files containing values of NaN (Not a Number) are not supported. When possible, these values will be ignored, but in most cases, NaN will cause a file to not be imported.