

OpenTect Release Notes v6.6



Revision History

Version	Date
OpendTect v6.6.10	February 22, 2023
OpendTect v6.6.9	November 10, 2022
OpendTect v6.6.8	July 13, 2022
OpendTect v6.6.7	April 14, 2022
OpendTect v6.6.6	February 9, 2022
OpendTect v6.6.5	October 26, 2021
OpendTect v6.6.4	July 20, 2021
OpendTect v6.6.3	April 30, 2021
OpendTect v6.6.2	January 07, 2021
OpendTect v6.6.1	November 09, 2020
OpendTect v6.6.0	September 03, 2020

Release Notes of V6.6.10

OpendTect

- Fix for severe slowness in displaying 2D lines in the 3D scene
- Fix several issues within the import of ZMap data
- Fix for restoring sessions that include 2D views
- Fix for extracting faults from very large faults sets
- Fix for the problem of hidden fault planes being reset upon selecting pick-mode
- Fix enabling the ability to run the data loading training exercise without a demo license
- The coordinate reference system is now retrieved from SEG-Y files produced by OpendTect 6.6 release during import
- The coordinate reference system is now retrieved from SEG-Y files produced by Petrel, providing that they are accompanied by their .crsmeta.xml file.
- It is now possible to skip the full scan of SEG-Y files when setting up a project (although performing the full scan remains highly recommended).
- It is now possible to set the coordinate reference system directly from the “Import SEG-Y Data” dialog when setting up a project from a SEG-Y file.
- While importing a SEG-Y file in a project which has not been setup with a CRS, one can specify the coordinate reference system and make it the project default.
- Fix for crash in 2D SEG-Y import in batch mode
- Fix for wrong order of units in the stratigraphy manager when not using the tree view
- Fix for project selection when the data root has not been tagged as a potential data root.
- Creating a constant Z horizon is now also available in 2D-only projects

OpendTect Pro

- Decreased the application start time when one or several license servers are not reachable
- The license information shown in the plugin selection window was not always accurate, especially when using the environment variable LM_LICENSE_FILE for multiple vendors, or in the presence of expired license files next to valid license files
- Support for STL files for the import of geobodies has been added
- Large performance improvements while adding shapefiles in the basemap
- Fix for synchronization issues in the basemap for 2D lines and wells
- Fix for shapefile label displays

dGB Plugins

Dip-Steering

- Fix for running the unconformity tracker on Linux when having a 1-user license
- Create horizon from Well markers is now also available in 2D-only projects

Faults & Fractures

- Fix for running the skeletonization on Linux when having a 1-user license

HorizonCube and SSIS

- Fix for running the HorizonCube processing on Linux when having a 1-user license

Documentation

- The OpendTect training manual has been updated, especially the data loading exercise

Security updates

- Updated the OpenSSL library to v1.1.1t
- Updated the freetype and fontconfig libraries on Linux to v2.10.4 and v2.13.1 respectively

Release Notes of V6.6.9

OpendTect

- Default Seismic Data import option reverted back from 'No (scan&link)' to 'Yes (Import)'
- Fix for saving 3D horizon (constant Z) after import or creation
- Fix for 2D Horizon export writing undef (1e30) for Z values
- Fix for the problem of hidden fault planes being reset upon selecting pick-mode
- Updated OpenSSL libraries to v1.1.1s

OpendTect Pro

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dGB Plugins

Machine Learning

- Fix for a crash on importing a Pre-Trained Machine Learning model from a json file
- Fix ensuring import of all pre-trained models now possible
- For users with (legacy) NN but no ML license: ML plugin can now be loaded without ML license and NN is then accessible via ML Control Centre
- Fix for a corrupted window in NN selection
- Added new scaling options while importing pre-trained models

HorizonCube and SSIS

- Display of HC and SSIS in 2D and 3D viewers enabled (and their export to a 3D PDF) without valid HC/SSIS license (NB: does require a valid OpendTect Pro license)

PetrelDirect

- Fix for the incorrect error message when exporting Faults and FaultSets to Petrel via PetrelDirect

Documentation

- The Developer's Documentation is now included in OpendTect

Release Notes of V6.6.8

OpendTect

- Fix for a random crash when loading 2D survey
- Fix for an occasional layout crash
- Support flattening and unflattening seismic
- Seismic processing can now flatten/unflatten datasets in batch
- Fix for MGS-DeStriping icon disappearing from main scene after launching it
- Fix for a random OpendTect crash loading second SGY as attribute to Z-slice
- Fix for the OpendTect disappearing on adding second attribute via Scan SEG-Y option
- Exporting to SEG-Y, does now write properly the (inl, crl, X, Y) to byte locations (9, 21, 73, 77) respectively
- SEG-Y inserter does not use anymore the old style import
- The time zone display has been added to host information dialog
- Fix for a random crash when trying to save an old session to the same name after a change
- Merge seismic warn now when disk space is low
- Fix for showing an empty plugin selection window when no commercial plugins are installed

OpendTect Pro

- Fix for an issue of all logs being displayed in Log Tool Window if one well/row is selected in Well Table Manager
- Fix for a random issue of Basemap (re-)opening behind 3D scene when restoring session via Basemap
- The NMO correction defaults are now set while creating synthetic PreStack gathers in the Volume mode
- Added a new shortcut for opening Horizon Tracking Settings window
- The license checkout for permanent licences has been revised

dGB Plugins

Machine Learning

- Four new pre-trained models from Lundin GeoLab have been added to the existing ones from dGB Earth Sciences:
 - Lundin GeoLab AJAX: Enhance S/N and bandwidth for better interpretability
 - Lundin GeoLab DeSmile: Attenuate migration artifacts and dip noise
 - Lundin GeoLab SimpleDenoise: Remove noise/jitter
 - Lundin GeoLab SimpleHmult: Attenuate flat/horizon parallel multiples

- Fix for a crash when using preloaded seismic volume during data extraction
- A View Example Sets(viewer) icon has been added to ML Example Manager

HorizonCube

- Fix for the issue of equally spaced lines created on the events in the stratal slicing scene when extracting similarity attribute along HC

SynthRock

- Fix for a crash when closing SynthRock during async zooms between viewers

PetrelDirect

- Fix for a crash while using Petrel seismic link as input to build volume
- Fix for an issue of ML- Log-Log prediction failing to extract some of the data when using Well linked to Petrel as input
- Fix for an issue of ML- Data extraction hanging when using seismic linked to Petrel as input

Well Correlation Panel

- Fix for a crash when trying to uncheck displaying stratigraphy in the WCP.

Dip Steering

- Fix for the PCA Dip-Steering Algo returning erroneous values on depth data

Release Notes of V6.6.7

OpendTect

- A fix for seeing a question mark (?) instead of volume name in the 2D viewer/ Z slice display property
- Fix for a crash when resizing a volume
- Fix for volume builder not recognizing well logs if they do not have well markers loaded.
- Fix for a font dialogue not showing the correct font style
- Fix for allowing users to limit digits displayed in colorbar
- Fix for reset of colorbar when moving seismic section to position outside of attribute range
- Fix for crossplot color bar not flipping
- Fix for not allowing to delete point sets using a polygon
- Added one of the spectral decomp attribute in WMPlugins that was missing in windows environment
- Fix for issue occurring when drawing a polygon around points; it takes a long time to select and it does change the color of selection to black when selection is made.
- Fix for the bulk well import treating inline / crossline numbers as X,Y coordinates
- Fix for importing CBVS files from other survey
- Fix for a low resolution image captured from 2D viewer
- Added an option in "Look and Feel" to Allow Display Property "Diffuse Reflectivity" default to be set by the user
- Customized the 'Third Party Plugins' in the toolbar view/hide menu that applies only to Estimages

OpendTect Pro

- Added functionality to launch Machine Learning Control Center from Petrel
- Fix for a crash while using Petrel link to build volume
- Fix for a crash while pre-loading the volume from Petrel link
- Fix an incorrect default port number in Petrel settings GUI

- Fix for 3D bodies made out of Thalweg tracker picks are not matching the original tracked point sets
- Fix for PetrelDirect: a message pops-up for each duplicated data name when transferring full survey from Petrel to OpendTect
- Fix for PetrelDirect-Import Wells: create link to Petrel does not work
- Fix for the Distributed Computing failing on Linux Red Hat Enterprise Linux Workstation release 7.9 (Maipo)
- Fix for CEEMD attribute not processing and consuming all RAM when applied on the fly on 2D line

dGB Plugins

Machine Learning

- Added functionality to launch Machine Learning Control Center from Petrel
- Fix in training model for rock property prediction
- Support the import of ONNX and XGBoost json model files
- Fix for a crash when selecting a random h5 file after OpendTect failed to read the h5 to be imported.
- Fix for models becoming unusable when switching from one survey to another in the Apply Tab
- Fix for not detecting system python installation in OpendTect python settings window
- Fix for a crash occurs when closing examples window after switching from survey to another
- Fix for error message appears when launching cross plot for selected logs (Bokeh)
- Fix for a failure to launch terminal from Python settings window on MAC platform
- Fix for incorrect writing of example files in image to image workflow
- Fix for the transfer training failing to read the input model when the training starts
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SynthRock

- Fix for a crash while loading saved pseudo-well files

Well Correlation

- Fix for a depth unit conversion issue - miscorrelation of well log depth between 3D scene and WCP

HorizonCube

- Added functionality in the 2D viewer allowing users to see the list of HorizonCubes

Installation

- Fix for the system python installation on a macbook not detected in OpenTect python settings window

Release Notes of V6.6.6

OpendTect

- Fix for occasional crash on loading SEG-Y file.
- Fix for occasional crashes while picking FaultStickSets.
- Customized the default color bar clipping range and made it to follow the user default set values.
- Horizon shift tool is implemented for 2D Horizons.
- Fix for crash on attempting to contour a new, unsaved horizon - Error message added.
- Fix for crash while loading multiple 2D SEG-Y files.
- Fix for crash when saving a new session.
- Fix for occasional crash when working with density crossplot.
- Fix in Well Manager for FFT filter issue working only on the first log of each well.
- Fix for missing information in the crossplot Histogram.
- Fix for 2D exported lines not honoring the geometry set (SP and Trace number relation) in the 2D Geometry Manager.
- Improved handling of inconsistency in the trace length information between the binary and trace headers while importing a SEG-Y file.
- Improved the performance when reading a saved selection with a large number of wells in crossplot.
- Fix for an incorrect trace number range generation in SEG-Y 2D Import.
- Manual edit of the color bar markers and colors in the table now made savable.
- Fix for the firewall rules issue related to the wrong path error message.
- Fix for not listing GR logs as input in the Rock physics 'Shale calculation from GR' formula.
- Fix for showing a message each time a well fails the log creation process in rock physics. Message now shown if required after all wells are handled.
- Fix for occasional crash when loading 2D seismic data imported as SEG-Y Direct.
- Fix for Create Log window not being opened when there are no common logs in the selected wells

OpendTect Pro

- Fix for incorrect (reverse) orientation of Colorbar in Crossplot and Basemap.
- Fix for crash in Basemap title (on right-clicking).
- Added an option to simultaneously extract several 2D horizons from 3D.
- Added the ability to contour attributes in Basemap.

dGB Plugins

Petrel Direct

- Well import: several improvements have been implemented:
 - Selection of logs and markers made more user-friendly, with two separate trees.
 - Added the option to filter the common logs and markers between two or more wells.
 - Wells with similar names will be stored separately. Renaming will be done automatically, by adding a suffix (#number) at the end of the name.
- Horizon import supports now 'Structured surface' import from Petrel
- Polygon import supports now 'Generic boundary polygon' import from Petrel
- Fault and FaultSticks import: Polyline will be imported to OpendTect as Fault/FaultSticks, if they are stored in Petrel with line type set to faultstick.
- PetrelDirect supports all the data types currently supported by OpendTect. Import is possible in both on-the-fly and batch mode.
- Fix for the Polygon import from Petrel not picking the separator between the different polygons in a set. These polygons are no longer linked by a line.

HorizonCube

- Events information has been included in exporting HorizonCube Packages.
- Fix for the crash when an invalid HorizonCube is selected for preloading.

Machine Learning

- Now showing the number of nodes per layer in Neural Network Info.
- Some seismic pre-trained models are made optionally available to download at user-specified locations.
- Lithology Prediction (Wells) workflow renamed as Lithology Classification.
- Fix for Machine Learning plugin recognizing Intel-Tensorflow package as a genuine Tensorflow package.
- Python-pip list command now lists all existing Python packages.
- Added a safety check in the Python Settings dialog.
- Fix for Custom Module Paths in Python Settings UI not being added to PYTHONPATH.
- Fix for crash on changing Survey after opening/closing ML Control Center.
- Simplified the error message when scanning joblib files during SKlearn model import.
- Fix for error while applying a trained model if the Bokeh server is active.
- Fix for error in training Log-Log prediction workflow for SVM model.
- Fix for the read time-out error while applying the trained RandomForest model for Seismic to Log prediction.

- Fix for the issue of ML model-predicted log not appearing in the well spreadsheet table if the table is already open.
- Added icons/links of Machine Learning Knowledge Base, Managers of Examples & Models, Python Settings and Python IDE etc. to Machine Learning Control Center.
- Fix for a ML error message related to not receiving response from Service od_DeepLearning.
- Fix for the crash during ML Seismic Image Regression.
- Fix for incorrect range in Volume Sub-selection (Set Area to Work Area) of ML Extracting Data selection window.
- Added pre-trained well models to Machine Learning Control Center: to predict Density (RHOB) and Neutron Porosity (NPHI) logs.
- Upgrade of the tensorflow Machine Learning framework to support the latest generation NVIDIA GPUs.
- Added the PyTorch Open Source Machine Learning framework to the Python environments provided with the OpendTect-Machine Learning plugin. The link between OpendTect-Machine Learning and PyTorch is for now exclusively working on machines equipped with CUDA 11.3 GPUs.

* *Additional note:* Pre 6.6.6 SKlearn and XGboost trained Machine Learning models may fail to be used for running a machine learning prediction. If possible, such models should be retrained in the current version.

SynthRock

- Fix for the issue of the Stratigraphic Level not correctly retrieved in SynthRock, when the pseudo well does not contain exactly the unit attached to the level.
- Fix for an occasional crash when attempting to run SynthRock with the recommended Windows settings (3840*2160 (4K) and 250% scaling)

Release Notes of V6.6.5

OpendTect

- The current active object in the tree is now highlighted in bold font for ease of reference
- Implemented a facility for hiding and showing Treescenes in 3D Scene with a shortcut: F11
- The Attribute Evaluation slider has been improved
- Fixed unit handling in the Well Manager: while selecting data using depth ranges in the 'cross plot' and 'well tools' it displays [ft] for the start and stop values, but it reads the values in [m]
- Well Manager: Fixed the issue of logs displaying in meters even if the survey and imported wells are in feet
- Added a Filter field for selecting 2D Seismic/Steering Data while adding to the 3D scene
- Fix to prevent crashes while loading seismic with abnormal incremental trace numbering in the header.
- Fixed an issue related to the new way of reading/writing auxiliary data (horizon data such as amplitude, seed index, tracking order etc.) when they are empty during save/copy operations generating an empty error message.
- Fixed a crash while creating full Gaussian PDFs with more than 2 dimensions
- Several user interface windows which were too small are now made expandable
- Fix for an issue in setting 3D Horizon's contour elevation
- Fixed an issue in the 'Calculate New Logs' menu which locks the display preventing use of the mouse hover to read off the log values (eg: cut off values, depth ranges).
- When copying the TD model across wells in the Well Manager, the new suggested replacement velocity is converted now to meters in ft surveys
- Fixed an issue of Batch Processing failure when computing simple time-depth model conversion.
- Implemented an option to import Petrel ascii colormaps (alut format)
- Improved the SEG-Y import wizard. It is now clearer which byte locations are being used at import.
- Added an option to view created PDF after generation via the cross-plot window
- Saving requirement made consistent for running Horizon tools and workflows while tracking 3D Horizons
- Improved the Listboxes size according to the contents
- Fixed a mismatch in the displayed number of contours with the number of contours shown in the options window
- Fix for not reflecting survey units in the Crossplot well extraction window
- Fix for an empty error box while creating and saving an Horizon in 2D viewer

- Fix for Attributes (Multi Attribute Volume) not being added properly to the Selected Attributes when the definition is edited
- Added an option to choose Synthetic Seismics wave polarity conventions in Tie Well to Seismics
- Fixed a crash of 3D attribute with a multi-component cube (like TFL) as input and selecting 'Compute' next to the Input data range field.
- Fix for OpendTect overwriting the incoming value of PYTHONPATH

OpendTect Pro

- Well Data Table: The edit logs and marker buttons have been placed in their respective toolbars.
- Basemap: fixed the issue of basemap background color setting not preserved in the snapshot image.
- Improved the log merging tool: ease of use, etc.
- Moved the 'Create Body' workflow (creating bodies from polygons and horizons) from SSIS to Pro.
- Well Data Manager - Added new functionalities: Create a new well, Delete a Well / Log, Rename Logs / Markers, Create Logs (by Math), Bulk change Markers' colors/ names, Bulk change Logs' mnemonics/unit/names, Edit Marker depth, Export well table, Implemented drag/drop of columns
- Well Data Manager: Logs and markers can now be edited individually, on the selected cells only, with no error message.
- Several improvements implemented in Thalweg Tracker window:
 - Incorporated 'Display Settings' in the main window, instead of pop-up.
 - Output options are better organized, with three options: PointSet, Cube, Horizon (Top, Base, and Best amplitude (the old default)).
 - Added a 'Show Statistical info' button to the top toolbar, quite handy for Volumetrics.
 - Considerably enhanced performance while tracking a large number of points.
- Implemented Horizon Mathematics for 2D horizons
- Added a Show Cross-plot button in the Crossplot window to make it clearly visible

dGB Plugins

Petrel Direct

- Fixed the issue of output horizon to PetrelDirect format creating a duplicate item in .omf file when using HorizonCube Trim against Faults tool.

SteeringCube

- Fixed the issue of Steering Cube import that worked only once in an OpendTect session.
- Fix for Recursive Gaussian Filter corrupting Crossline Dip and Planarity in a SteeringCube

HorizonCube

- Added a quick access icon to Create New HorizonCube to the HC Control Center
- Added an horizon selection filter in the Horizon Cube creation
- Improved the HorizonCube Control Center with more sub-menus: Create New 2D/3D, Control Center 2D/3D, Section Slider, Preload, 3D Slider

Machine Learning

- Fixed the crash on extracting huge amount of samples per dataset e.g. cube size of 128*128*128.
- Improved the error messages when training using very large training sets
- Fix for volume sub-selection restoring issue while selecting Target in the Seismic Image Transformation workflows
- Implemented Smoothing options in Image to Image workflows (Regression, Pre-Trained models)
- Fix for corrupted predicted logs, trained with a machine learning trained model that uses a stepout
- Fix for ML prediction in batch mode not using the python activator app
- Fix for Max depth slider issues in Log to Log prediction workflow
- Fix for learntype showing New instead of Transfer

SynthRock

- Fix for not being able to change angle range in SynthRock synthetic generation dialog
- Fix for not all well data being loaded when opening a saved SynthRock profile model

SSIS

- Fix for Wheeler Cube creation issue with input decimated seismic volumes

Faults & Fractures

- Fixed the issue of 2D Fault Likelihood not working properly and generating an empty file under 3D seismic.

Release Notes of V6.6.4

OpendTect

- Added filter field for selection of Attributes whilst adding to a 3D scene
- Fixed crash while calculating AVO intercept from pre-stack volume
- Fixed -1's in seismic data selection fields
- Fix for squeezed display of angle gathers in 3D scene
- Fix for saving/retrieving 'Preprocess' option in Prestack attribute GUI
- Fixed curves missing from well tie checkshot editor
- Added an export option for: well track, d2tmodel, checkshot data, markers and logs
- No meter to feet conversion of offset values of Prestack gathers during import/export
- Pseudo 3D cubes are now renamed when the source Prestack cubes are renamed
- Fix for multiple entries of PresentationMaker in the menu when survey is changed
- Fix for updating the 3D log display properties window when logs are changed in the Well manager and Well table
- Fixed meter-to-feet conversion issues while importing deviated well tracks
- Implemented log export to LAS
- Fixed error message 'Undefined variable:nvglxlibdir' while launching OpendTect on Linux (CentOS 7) platform without X11R6 in users' machine
- Fixed disappearance of Log curves on displaying logs created via 'Create Attribute Log'
- Fix for crash on importing logs from LAS file containing a log with all undefined values
- Provision of an interface for showing the local hostname/IP address
- Fixed depth error in well log sampling
- Added a TerraNubis menu with links to free and commercial projects
- The dialog that shows the IP address of the local machine now correctly displays its IPv4 address, and not (occasionally) the loopback address
- Fixed failure to submit jobs for distributed processing on Debian-based Operating System (Ubuntu)
- Increased max number of dimensions from 3 to 6 for creating Probability Density Function(PDF) from Crossplot
- Fix for crash while normalizing a wavelet if all the values are zero
- Added a scanner for 2D bulk horizon Import
- Support of float Short Point number in 2D Horizon Import
- Added an option for setting the console command to be used when launching a command prompt in the Python settings window.
- Added an option to launch License Settings window in the Plugin Selection (startup) window
- Removed the option to hide the Plugin Selection (startup) window which appears on launching OpendTect

- Setup Distributed Computing dialog can now be configured using either static IP addresses or host names
- Seed Painter is enabled for 2D lines
- Prevent input of invalid IP address in “Setup Distributed Computing” window
- Fixed crash while exporting a 2D line
- Added the startup splash screen when the plugins are loaded and during the 3D scene initialization
- Fixed failure to save a trained model in dgbpy
- Fixed implementation of well displays
- Fixed Presentation Maker plugin issues with custom file template
- Fixed new windows sometimes falling behind at startup
- 2D Grid creation will always overwrite line geometries
- Settings should look in given python path for IDE commands
- Fixed handling of different line endings during ASCII import
- The user commands toolbar lets users to access Python settings window, Python IDE and Python console even when the user settings are empty
- A couple of UI fixes in Attribute selection
- Fixed Multi Machine processing for static IP hosts
- Added TWT column to Edit Well Markers and export Markers

OpendTect Installer

- Updated the path in the json file with the installer after installation/Update of the Python packages
- Showing ‘OpendTect Pro’ instead ‘OpendTect’ in OpendTect Installation Manager window

OpendTect Pro

This release provides updated license management executables (Imgrd, lmutil, dgblid) in v11.18.1. While OpendTect v6.6 will continue to be fully compatible with all Imgrd versions down to v11.15.1, it is strongly recommended to replace on your license server the executables listed above by the new versions provided in this release. Latest versions can always be found at <https://www.dgbes.com/index.php/download/flexnet-vendors-packages>

Also:

- Fixed increasing the well size in basemap and set default size to 10
- Update Well Table when logs changed in Well Manager
- Fixed updating Well database spreadsheet if log/marker are changed or created
- Fixed well table export
- Added Correlation Coefficient to Bokeh crossplot regression
- Fix for importing Shapefiles: they now appear in Shapefiles Manager after import
- Major update of the dialog that sets licenses. For each vendor, it retrieves and shows the current license information, supports server-based licenses, and can clear the

license information. As a result the (Windows specific) menu item to clear license information became obsolete and was removed.

- Greatly improved the error messaging related to the checkout of commercial licenses. It will now:
 - Show more adequate information after switching to or from a free project.
 - Startup errors are now logged in the global OpendTect log file, whilst product-specific information is still to be found in the plugin management dialog. There the error messages will show the list of users that have checked out a license if the number of users for a given feature has reached his maximum.
- MGS-Destripping now refreshes horizon list when re-opening
- Added start menu link to launch this on windows platform
- Disabled Shapefile option as an output while merging PointSets
- Fixed Incorrect message text on Restart after installing node-locked license
- Added Delft_ML to the list of free surveys
- Fix extract range (depth and markers) not working in Bokeh log crossplot
- TWT domain is supported in Well Data Manager

dGB Plugins

Petrel Direct

- Remembering last selection
 - The selection between creating link and creating copy is now being remembered
 - These selections can be stored only for runtime
- Fixed the error message pop-up if no Petrel found at startup
- Fixed crash while Importing from Well inserters
- Fixed crash while import and export of wavelet and writing wavelet in correct format
- Fix to filter tree missing the parent tree item name

Dip-Steering

- Improvements in Inversion+ UI
 - Made the row selection in table more visible
 - Loading of a new PointSet asks the user whether to snap to event
 - Snapping-to-Event now shows a progress bar for large PointSets

HorizonCube

- Several improvements and fixes in HorizonCube 3D slider
 - Fixed memory leak while moving the sliders

- Resolution is now set before any computation is performed. Initial spike in memory usage and the slow increase in memory usage while moving the sliders are gone
- Range sliders in the histogram are working now
- Fix for crash in HorizonCube Log Interpolator when a well is outside the HorizonCube range
- Fix for crash while restoring session with deleted HorizonCube
- Fix for freezing issue in attribute extraction along HorizonCube events
- Fix for 'Start at Min/Max' option in HorizonCube DataDriven Tracking

PDF3D

- Successfully launched glb file after creation

Machine Learning

- Fixed failure to save a trained model MachineLearning Property Prediction from Seismic module
- Fixed crash in ML data extraction for 2D data

SynthRock

- Fixed weird characters in synthetic data generation window
- UI changes in the "Add/Edit Synthetic DataSet" settings window
 - Made the Synthetic Data Parameters window a lot smaller
 - Made Markerline visible again in wavelet scaling window

Release notes of V6.6.3

OpendTect

- Added a new “Paint” mode in pointsets to facilitate bulk picking of points
- Added support for coordinate reference system GSK-2011
- Fixed precision issues when sample rate is less than 1 in survey information
- Fixed scaling problem of shotpoint number at SEG-Y import
- Added a Simple T/D Model and implemented D2T transformation to the horizon import
- Fixed range calculation when creating depth scene
- Added warning on Windows if the display scale is set too high for OpendTect to display correctly
- Improved displays of Z stretch factor
- Fixed Z stretch in depth surveys
- Fix display of saved Python IDE in Python Settings dialog
- Standardizing ASCII file import/export
 - Remember last chosen folder
 - Added functionalities for standard file filters
- Fixed imported 3D horizon in Depth domain with incorrect Z values
- Bulk export and import of bodies now displays a correct message after successful export/import
- Fixed crash while opening Grid 2D-3D Horizon window during the creation of horizon
- Fixed HorizonData batch processing with multi-component volumes:
 - Added support for 'All' components as well as a single component
 - When 'All' is selected, the suggested output name should not contain the word 'ALL'
- Fixed connecting points issue in Pointsets
- Fixed copying horizons inside a polygon
- Users can now change size and color of markers on picked Polygon Body
- Fix for cluster processing execution on Linux platform
- Fixed displaying inappropriate error message if output wavelet name is empty
- Fix for opening file dialog on GNOME (Linux platform)
- Fixed capture scene using Presentation Maker
- Wells loading/displaying made faster on Windows platform
- Fixed unit labels in Manage Well Markers window
- Added replacement velocity options when copying TD values across wells in the Well Manager
- Log display now expands vertically over window extent in the log viewers
- Fixed updating log after changing log properties in Well properties window
- Fixed log width using slider in well display properties window
- Fixed extrapolation of track display in time surveys
- Implemented resolution setting for 3D well log displays

- Fixed high CPU and GPU usage when wells are displayed in 3D scene if OpendTect main window is minimized
- Added new option 'Copy Well' to well manager
- Fixed change in well marker name size on display properties dialog open
- Added an 'Auto' resolution level for Well log displays
- Fixed component selection when exporting 2D data to SEG-Y
- Fixed loading of Stratigraphy model from horizon and well data managers
- Add log upscaling and resampling to well log tools
- Marker selection information is no longer saved to user's well display property defaults
- Fixed displaying Wells properly in 3D scene after opening Well Table
- Improvements in Well display property window:
 - Added a new Center Log Well display setting, where logs can be displayed centred on the well track in the 3D scene
 - Center Log has been made the default tab and the default style changes have been applied
 - Added a well display Settings file to the data folder to define default display setting
 - Added Reset button that reads the display settings for the current well from disk and overwrites any unsaved changes in the dialog box
 - Added "Apply Current to all wells" button that applies the contents of the visible tab to all loaded wells. In the case of logs the change is only applied if the log exists in the well
 - Added a "Reset All" button that overwrites any changes to well display settings with the settings stored on disk for all wells
 - The "Dynamic" option for marker and well track text labels is now stored in the parameters. Because it was never saved before, text labels in existing databases may appear with an inappropriate size. Adjusting the size and saving it once may thus be required
- Added an 'Auto' resolution level for Well log displays

OpendTect Installer

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OpendTect Pro

- External applications can now safely be started on Windows, even if security solutions like AppLocker or Windows Defender prevent the execution of scripts in special locations. This component is especially used by the link to Python. As a result Python terminal prompts are now hidden while they are running, instead of cluttering the taskbar.

PetrelDirect

- Added a new multi-well export option from OpendTect to Petrel
- Improved creating survey from Petrel process
- Added multiple selection options by shift key stroke or check box in the import menu, and a filter field to select objects based on name.
- No need to separately initialise the Petrel plugin anymore. When selecting import/export options, it will try to make the connection with stored settings. In case it does not get the connection it would pop up the setting box.
- Added inserters in 3D scene polygon and pointset menus. In manager it gives an option to select whether to import pointset or polygon

Basemap

- Fixed min/max texts display in color table

PDF3D

- Add new item 'glTF' in PDF3D and reorganised the PDF3D menu.
- Support of FaultSet export to PDF3D and also pickset at section display

Well Data Manager

- Logs info and Marker name/color can now be changed
- New Wells can now be added
- New logs can now be calculated (by Math) and added to the database
- Well name column is now frozen
- Removed unnecessary error message when starting a Bokeh plot of full column when a well(s) does not have log

dGB Plugins

Machine Learning

- Added support of external Python virtual environments, available using the 'Custom' option
- If the Python link is not setup correctly, Ctrl-T should open a standard prompt, with no extra environment
- Add toolbar buttons to the stand-a-lone Machine Learning control center to start the various data managers
- Fixed 'Seismic Bodies 3D' data extraction
- Better application names for Machine Learning executables
- Fixed machine learning prediction error
- Fixed failure to restore Z Range in Machine Learning extraction

- Data extraction in the Machine Learning plugin can now be done with multiple sub-selections from the same survey
- Fixed Machine learning training not starting if no data has been extracted from the first well
- Fixed showing correct output format field in ML plugin
- Fixed failure to train a tensorflow model using transfer training in some cases

Dip-Steering

- Added warning message to Steering Cube creation window if there are no valid input traces in the sub-selected range

HorizonCube

- Fixed output is incorrectly set to file instead of folder while exporting HorizonCube to ASCII on Windows platform

SSIS

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Faults and Fractures

- Fixed gaps in TFL from Fault Skins
- FaultSets can now be used in Fault Painter
- Fixed a crash while extracting Fault plane with empty input
- Added 'Apply along' option for Skeletonization

SynthRock

- Fixed crash in SynthRock when displaying multi-input histogram
- Fixed HitCube output with multiple synthetic datasets
- Fixed overlapping fields in layer generation window

Well Correlation Panel

- Fixed crash when selecting RandomLine which was not saved after adding to the tree

Release notes of V6.6.2

OpendTect

- Improved error messages in the volume builder
- Fixed crash in "Add column" tool for crossplots
- Fix for Math attribute in surveys without seismic data
- Fixed crash while importing LAS file which contains LOC as UNKNOWN
- Improved LAS file reading
 - When unit is not set for X/Y, read 1st value
 - Also check for LAT and LON keys
- Fixed Import and Export of horizons with option 'Skip undefs' option
- Few improvements to survey creation log
- Added option to use a polygon as work area
- Fixed polygon fill in 3D scene
- Improvements to cross-plot data import/export
 - Labels are more consistent
 - Export skips X/Y offset and selection status
- Fixed unusable root/base python internal environment for PresentationMaker
- Improved the resampling of logs with tiny gaps
- Enabled resize of user message window
- Improved SEG-Y examine window and made more useful
 - Stand-alone window did not launch. Fixed static variable inits.
 - Added fields for ntraces, first trace, scroll step.
 - Added buttons to scroll forward and back through SEG-Y file
- Increasing Distributed computing maximum inline chunk size to 1000
- Fixed several distributed computing errors from Linux to Linux
- Fix for displaying contour values over horizon in status bar
- Fix for Depth units in time surveys with XY in feet
- Fixed lateral shift applied to horizons when filtering. Only happens when the horizon is larger than the survey area.
- Fixed CTRL-Z usage in lists to uncheck all items
- Fixed displaying HostID information

OpendTect Installer

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OpendTect Pro

- Added scroll bar while displaying logs from LogTools button in Well table
- Drag and drop option implemented in well table
- Better message when wells can not be read

- Added an option to create sub-directory while exporting objects from Petrel
- Removed 'Export' option from PetrelDirect import windows
- Added an option saving as polygon from Import menu
- Few improvements to the well table export dialog
 - Fixed number of decimals in output file
 - Changed the dialog caption
- Integrated all the 3D scene viewing options for Horizon in PDF3D
- Showing progress bar while importing and exporting using PetrelDirect
- Enabled settings transparency for horizons in basemap
- Fixed crash while trying to launch OpendTect from Petrel
- Fixed horizon intersection line color

dGB Plugins

Machine Learning

- Solved issues in log-log prediction workflow
- Added UNet fault predictor
- Added XGBoost Decision Tree models to Machine Learning plugin
- Fixed silent writing of undefined log data during Machine Learning data extraction
- Improved interpolation of tiny holes during Machine Learning log extraction
- Avoid prediction of logs where one or more input logs does not have data
- Setting the machine learning seismic extraction rate from the chosen dataset
- Added writing of trained model class name to the header of the file
- Added periodic saving of keras model while training on epoch ended
- Select model when moving from train to apply tab

Dip-Steering

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HorizonCube

- Fixed a few HC export issues
 - Removed output type field. Always export X/Y and In/CrI
 - Survey Export directory should be default output location
 - Exporting Older 2D horizon cubes
 - Changed OK/Cancel button texts

SSIS

- Fixed crash when adding a Stratigraphy Unit
- Fixed crash when selecting 2D SSIS interpretation model

Faults and Fractures

- Fix for computing real strike in left-handed surveys
- Added option to save FaultSkins as TFL

SynthRock

- Improvements to window for opening a pseudo-well model file.
 - Show number of wells
 - Show properties
 - Added a 'Start at'
- Fixed the creation of synthetic fault cubes
- Fixed crash when closing HitCube output window
- Several HitCube related changes
 - Fixed search range change to enable Evaluate button
 - Fixed score axis label
 - Better UI of output window
 - More and cleaner info in report

Well Correlation Panel

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Release notes of V6.6.1

OpendTect

- Fixed crossplot data extraction inside 3D bodies with random subselection
- Support bulk import of directional wells
- Renamed "Open Cross-plot" menu option to "Open Saved Cross-plot"
- Fix for crash while picking seeds in Unc tracker
- Well log display window can be closed again with window closing button 'X'
- Fix for single wildcard case Multi 2D segy import
- Fixed crash in Manage Stratigraphy
- Remove redundant UI element from SEG import dialog
- Fixed error while merging 2D lines
- Fix for displaying empty Firewall rule window after updating the OpendTect from the installer on windows platform
- Added Sw, NetPay, Lithology and other mnemonics
- Fixed issues with services with survey change and application closing
- Adding the correct firewall exception for start_dtect executable
- Support UnitOfMeasure, CRS and area subselection when importing from zmap
- Show Operating System product name in host information dialog
- Added GUI for editing linenames during multi-line 2D SEG Y import
- Displaying logs in log tools window based on screen width.
- Better handling of Z sampling in multi-line 2D SEG Y import
- User can now choose which wildcard to use for linename at 2D segy import
- Fixed bug in Math and Reference attrib. Showed wrong X/Y values.
- Fixed multi-line SEG Y import with varying Z ranges
- Several improvements to statistics display
- Fixed lithology selections move up/down when editing the stratigraphy
- Improve handling of depth domain data in frequency filter attribute
- Record OpendTect version when creating objects
- Added Presentation Maker icon to toolbar
- Fixed issue in editing/running some Volume Processing steps like the Horizon-limited filler

OpendTect Installer

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OpendTect Pro

- Performance improvement in basemap while zooming and resizing items in the viewer
- Enabled shapefile labels for all types
- Some improvements in PetrelLink GUI

- Implemented exporting Seismics2D/3D, Surfaces3D/2D, Faultstickset and Faults in batch mode
- Added user message if no data available to display data statistics
- Fixed occasional crash in Basemap on exit
- Various shapefile related fixes
- Well Data Management Table cells for logs now show mnemonics
- Implemented 'Show statistics' for well logs in well table
- Fix issue with non-display of logs from Well Table
- Added option to export the whole well table
- Fixed naming of exported object based on user input
- Fixed Well markers depth in the well table match the ones shown in the log plot.

dGB Plugins

Machine Learning

- SEGY inserters now available in the ML Control Center
- Fixed various ML model import issues:
 - Add support for Keras models where the model architecture is in a json file and only the model weights are in the hdf5 file
 - Added prediction type field
 - Property Prediction from Seismic type should have attributes as output
 - Number of Inputs and Number of Outputs should have a minimum value of 1
 - Input and Output attribute/log should be auto filled in the imported file (eg Input_1, Input_2 ... and Output_1, Output_2 ...) if left blank in the UI
 - Import the dGB unet fault predictor model into the NLA folder of a survey. This should allow refinement of the model by transfer training
- Locking the Machine Learning CC button when clicked
- Improvements when when applying machine learning image to image predictions on irregular datasets
- Fixed unable to open sklearn model when stored on some network drives
- Sklearn model training shows more information

Dip-Steering

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HorizonCube

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SSIS

- Fixed crash while displaying SSIS interpretation window if selected HorizonCube is not valid

Faults and Fractures

- Reduced striping effect at chunk boundaries in Fault Likelihood output

SynthRock

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Well Correlation Panel

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Release notes of V6.6.0

OpendTect

- Improved 2D viewers, annotations and zoom
- Video links under help Menu
- New default color tables for seismic data (OD Seismic 1, 2, 3)
- Added two popular python color tables: viridis and plasma
- Added horizon import from ZMap format
- Improved well import
- Made more import/export windows non-modal
- Scene parent tree items now have checkboxes
- Option to copy survey information to clipboard
- Improved plugin information window
- Improved Position conversion window
- COLOP plugin for operator design for colored inversion, spectral blueing and spectral whitening
- Multi 2D Line Geometry editing made easier
- Exporting 2D Line Geometry from Geometry Manager
- Host ID window provides additional host information
- New window for Managing Firewall rules
- Added a direct link to Python Ecosystem
- Presentation maker is updated to use the Python link
- Added a Python toolbar to launch a chosen Python IDE (Spyder,..)

OpendTect Installer

- Installer shows download size and installation size
- Added icons in the installer to know what are to be installed and updated

OpendTect Pro

- New well data management table
- New well log plot using bokeh visualization library
- New well log crossplot using bokeh visualization library
- Horizon Mathematics
- Support for text in Shapefiles
- Added workflow for merging well logs
- Petrel Direct: Importing and Exporting multiples objects is supported in Petrel Direct
- Petrel Direct: Support of exporting Faultsets as faults to Petrel
- Petrel Direct: Horizons can be exported to Petrel either as Surface or Horizons
- Improved X,Y annotations in Basemap
- Color legend improvements in PDF 3D
- Pointsets and Polygons can be displayed in PDF 3D

dGB Plugins

Machine Learning

This is completely new commercial product being released in 6.6.0

The new plugin for both operational geo-scientists, experimental geo-scientists and research geo-scientists. The plugin is the successor of our popular Neural Networks plugin, which has been fully integrated into the new plugin.

- Machine Learning links the OpendTect Pro environment to the research world of Python, TensorFlow, Keras & Scikit Learn.
- Machine Learning offers workflows for: seismic, wells, and seismic-to-wells applications.
- Train on real data extracted from multiple surveys
- Includes trained models for off-the-shelf applications such as fault prediction by a U-Net
- Neural Network workflows are incorporated in the Machine Learning Plugin

Dip-Steering

- Phase consistent horizon tracker is improved and also renamed as “Inversion + tracker”
- Unconformity Tracker is renamed as “Inversion tracker”
- Dip Steered Median Filter attribute also computes residual now

HorizonCube

- Users can now display a 3D HorizonCube and a 2D HorizonCube at the same time

SSIS

- Added AIGR and BCFS models
- Full support for a second interpretation order

Faults and Fractures

- Trimming Horizons against Faults option is added to F & F Tools

SynthRock

- Various performance improvements

Well Correlation Panel

- Few display improvements