# Agilis Software Solutions Inc. KellyDown

# **Software Release Notes**

Version 4.01.05.04 - April 2024

### A. Software Description

KellyDown is a well-planning and survey monitoring application designed specifically for use by well-planners and/or directional drilling coordinators at the rig-site or in the drilling office. It comprises an advanced multi-well relational database, sophisticated well-planning and survey data entry interfaces with smart data import and export modules, intuitive correction run and project-ahead modules, a comprehensive anti-collision module and full reporting capability. Its main advantage over similar products is its comprehensive list of features coupled with its user-friendly interface.

In the well-planning office, it is used to import or create multi-structure projects, configure multi-well slot templates, design simple and complex well plans, define casing programs, survey tool programs etc. and test for collision avoidance.

During the drilling stage, it is used by the directional drilling coordinator to achieve the optimum well path to one or more targets while also testing for proximity against adjacent wells in the drilling project and produce customised and professional looking reports right at the rig site.

KellyDown has been tested on Windows<sup>®</sup> XP (SP3), Windows<sup>®</sup> Vista, Windows<sup>®</sup> 7, Windows<sup>®</sup> 8, Windows<sup>®</sup> 10 and Windows<sup>®</sup> 11.

# B. System Requirements

To use KellyDown, you need:

- The Microsoft<sup>®</sup> Windows<sup>®</sup> XP (SP3) through Windows<sup>®</sup> 11 operating system.
- An Intel or Intel-compatible processor.
- At least 4 GBytes of installed memory (8+ GBytes recommended).
- At least 200 MBytes of free disk space.

# C. Installing KellyDown

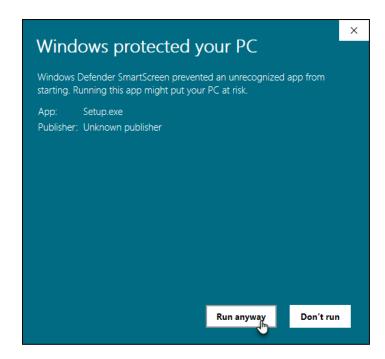
Click <u>here</u> to go to the KellyDown website.

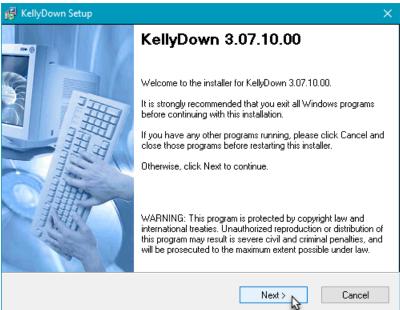
Download the KellyDown Setup file from the KellyDown website to your computer. To do this, simply click on the two red **Download Setup.zip** button. By default the files will be downloaded to your **Downloads** folder. After the download has completed, click on the **Open Folder** button to go to the **Downloads** folder.



Open the *KellyDown\_Setup\_3.07.10.00.zip* file (or whichever version was downloaded), right click on the *Setup.exe* file and select **Copy** from the popup menu. Return to the **Downloads** folder, right click anywhere in the folder and select **Paste** from the popup menu to copy *Setup.exe* to the **Downloads** folder.

Next double click on *Setup.exe* file to launch the KellyDown Setup routine. If Windows asks if you want to allow the program to continue and/or to make changes to your hard drive, click **Yes** or **Run this program anyway**. If Windows tells you that **Windows protected your PC**, click on the **More Info** link and then click on the **Run anyway** button.

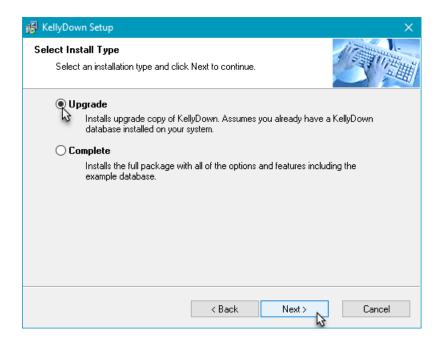




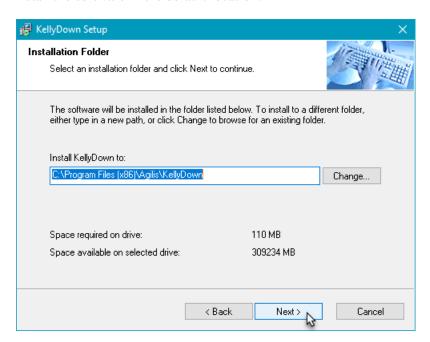
Follow the instructions shown in the KellyDown Setup. When asked to select an **Install Type**, decide whether you want to install the *Example Database* or not.

If this is the first time that KellyDown has been installed on your computer, you should select the **Complete** option, which will install KellyDown <u>and</u> the KellyDown **Example Database** onto your computer.

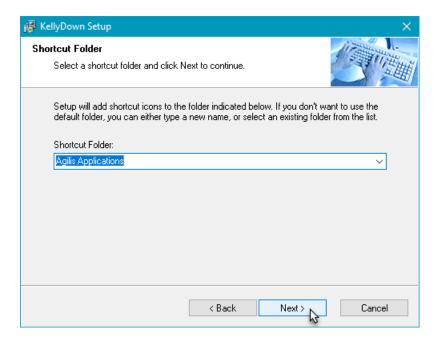
If KellyDown was already installed on your computer, select the default **Upgrade** option. This will install the new version of KellyDown without overwriting you existing KellyDown database.



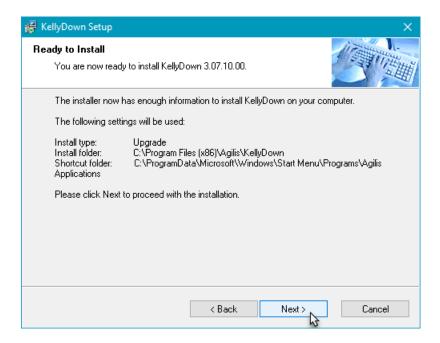
KellyDown Setup will ask where you want to install the software. It is <u>recommended</u> that you install the software in the default location.



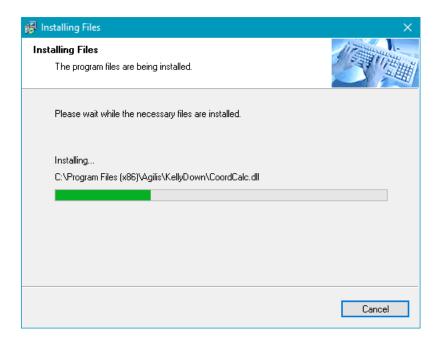
Next, KellyDown Setup will ask where the shortcut icons are to be installed. If you prefer to install the shortcut icons into a different location, select it from the drop-down list. KellyDown Setup will install icons for the software, the User Manual, the QuickStart Guide and for the Uninstall routine. A shortcut for the software will also be installed on your desktop. Delete it afterwards if you do not want it on your desktop.



When KellyDown Setup has enough information to install the software, you will be prompted for final confirmation before the software is installed. Click on the **Next** button to proceed with the installation.



Wait while KellyDown Setup installs the software onto your computer.



After the software has been installed, a message will tell you how to start the KellyDown application. Click on the **Finish** button to close KellyDown Setup.



**Tip**: if you already have KellyDown installed on your computer, you just need to open the **Help**, **Check for updates** menu in KellyDown and after confirming; KellyDown will download and install the latest version automatically.

If you have any problems installing KellyDown, please contact *KellyDown Support* at the following email address:

support@kellydown.ca

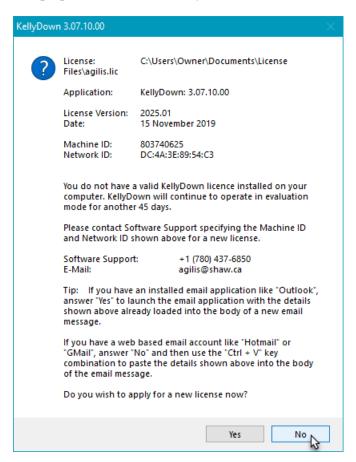
# D. Starting KellyDown

To start KellyDown, double click on the **KellyDown** shortcut icon on your desktop or select **All Programs, Agilis Applications, KellyDown** from the Windows<sup>®</sup> **Start** menu.

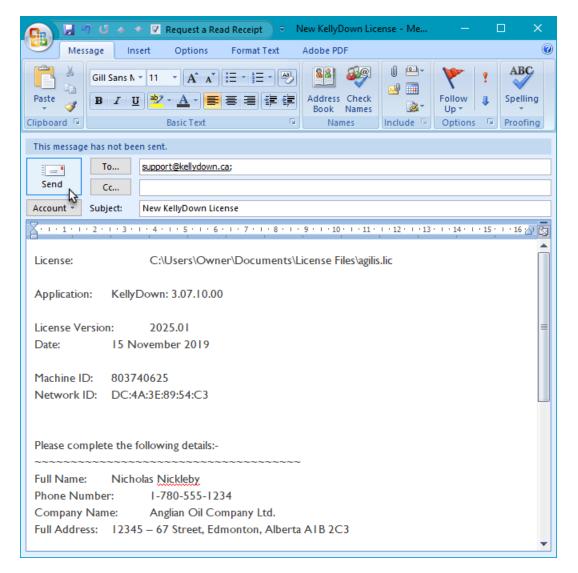


When KellyDown loads for the first time, a message will inform you that you do not have a valid KellyDown license installed on your computer. KellyDown will continue to operate in limited evaluation mode even though you do not have a valid license.

Limited evaluation mode allows you to perform all of the functions in the licensed version except save proposal data and/or survey data to the database.



To unlock the software or to apply for a Fully Functioning Evaluation License, send an email to **KellyDown Support** at <a href="mailto:support@kellydown.ca">support@kellydown.ca</a> (or to your local or company designated KellyDown support person), quoting the information displayed on the message. If an email application (like Microsoft Outlook) is <a href="mailto:installed">installed</a> on your computer, click on the **Yes** button to launch the email application with the **Agilis** email address and license information filled in for you. Complete the rest of the information shown in the email message...



If you have a <u>web-based</u> email account (like Hotmail or Gmail or a web-based company email account) answer **No** to the question and use the **Ctrl-V** key combination to paste the license information into the body of a new email message.

Send the email to <a href="mailto:support@kellydown.ca">support@kellydown.ca</a> or to your company's designated KellyDown support person and Agilis Software Solutions (or your company's KellyDown support person) will send you a license within two (2) business days. You may continue to use KellyDown in evaluation mode until you receive the KellyDown license. When you receive the license, copy it to the folder shown in the email message. If you need to be reminded of the folder location, simply run KellyDown again to display the message.

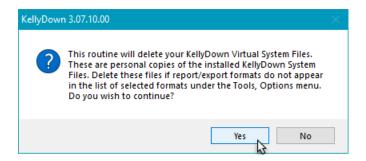
KellyDown will then prompt you for a password for the **Admin** account in the **Example Database**.



Enter a password of at least six characters. Try to use a password that contains upper and lower case characters, numbers and special characters, e.g. & or \$. An indicator next to the password shows you how strong your password is. Red indicates a weak password and green indicates a strong password.

Confirm the password and then enter a hint to remind you of the password in case you forget it at a later date. Use a password and hint combination that only you understand. Click on the **Continue** button to start using KellyDown.

**Important**: If you are installing KellyDown on a computer running Windows 7 or later on which a previous version of KellyDown was installed, you may need to **Reset the KellyDown Virtual System files**. Virtual System Files are part of the Windows security system and prevent older files from being overwritten. However, this may prevent some important KellyDown system files from being updated to the new version. To allow these to be updated, we have added a function to KellyDown that deletes the old versions of the files; simply open the **Administration**, **Utilities** menu and click on **Reset KellyDown Virtual System Files**.



Click on the **Yes** button to delete the files.

When you run KellyDown for the first time with a valid license, depending on your company and regional location, KellyDown will be configured with the appropriate company branding and preferred options. If however, you wish to change these options, simply open **Administration**, **System Settings** and adjust the options to suit your requirements. Please refer to the **User Manual** and **Getting Started Guide** for more detailed instructions.

If you have any comments about using KellyDown, if you discover any bugs, or if you would like to suggest improvements or enhancements, please contact *KellyDown Support* at the following email address:

#### support@kellydown.ca

# E. History

Version 1.00.00.00 - released on 1st March 2012

Version 2.00.00.00 - released on 24th May 2013

Version 3.00.00.00 - released on 19th June 2015

Version 3.01.00.00 - released on 25th March 2016

Version 3.02.00.00 - released on 8th July 2016

Version 3.03.00.00 - released on 14th October 2016

Version 3.04.00.00 - released on 2nd December 2016

Version 3.05.00.00 - released on 17th March 2017

Version 3.06.00.00 - released on 18th August 2017

Version 3.07.00.00 - released on 1st June 2018

Version 4.00.00.00 - released on 24th August 2020

Version 4.01.00.00 - released on 24th August 2021

- Fixed bug in Custom Report module where dogleg rates were not reported correctly in a custom report after switching from an interpolated survey report to a non-interpolated custom drilling report in Report Options.
- Modified Custom Export and Custom Report modules, whereby the export and/or report is formatted as a slidesheet
  if the list of columns to be exported/reported does not include the Activity column.
- Added KellyDown Dashboard that displays drilling parameters and proximity information on a collection of gauges and text boxes<sup>10</sup>
- Added option whereby holding the Ctrl key down whilst clicking on a Node in the Database Explorer will uncheck
  all the other nodes in the Database Explorer before checking the selected node. This is useful when exporting a
  single structure, well or profile to a .kdex file.
- Added Rotate Comments button to Visualiser module, which if clicked will repeatedly rotate the comments by 45° in a clockwise direction. Holding the Ctrl key down whilst clicking on the button will rotate the comments by 45° in an anticlockwise direction.
- Modified Visualiser whereby clicking on a profile or target in the list of elements will cause the profile or target to flash briefly in the Visualiser making it easy to locate.

#### Version 4.01.00.01 - released on 27th August 2021

- Fixed bug in Custom Export module where Object not Found error was thrown when the export format contain drilling columns.
- Added option to select Formation Tops and/or Dipping Planes in Visualiser. Previously, you could select only both
  or neither.

#### Version 4.01.00.02 - released on 10th September 2021

 Fixed bug in Compass Import routine where the Hemisphere wasn't set correctly when importing a project located south of the equator. Modified the Formation Tops Editor whereby the Formation Tops and Dipping Planes are now edited in their own
respective editors called from the main KellyDown menu, the proposal editor menu, the survey editor menu and the
slidesheet editor menu.

#### Version 4.01.00.03 - released on 24th September 2021

- Fixed bug in Visualiser when switching to an elliptical target in the Target Editor.
- Fixed bug in System Settings dialog when editing the name of a Magnetic Model.
- Updated Visualiser whereby you may now traverse down the current profile including its parents by centering the
  view over the Visualiser origin and holding down the Ctrl key whilst clicking on the Follow Last Survey button.
   Click on the Follow Last Survey button again to pause the animation and again to continue. Press the Esc key to
  terminate the animation.
- Added button in Target Editor which locates the centre of a circular target at the location of the target centre offset
  position if one has been entered.

#### Version 4.01.00.04 - released on 29th October 2021

- Added option under Administration, Utilities to copy current pump selection to all other profiles under the current
  well where no pump selection has already been defined. Hold the Ctrl key down to overwrite already defined pump
  selections under the current well.
- Modified Torque & Drag and Hydraulics modules whereby the user may now copy the drillstring from any that exist
  under the current well instead of only those that exist under the current profile.
- Added Magnetic Ranging Interface module, which is used for entering the locations of survey records in one well relative to the position of a magnetic coil in another well. The user either enters or imports the measured depth of a magnetic coil in the Coil Well and the relative position of a sensor in the Drill Well, from which KellyDown calculates the survey coordinates for the Drill Well. The relative offsets may be based on either of three different methods: coils axes, absolute offsets or gradient and azimuth. When used in conjunction with the KellyDown Visualiser, the coil and sensor are shown on the respective wells and dynamically updated as magnetic ranging data is entered or automatically updated via a MWD link file<sup>10</sup>.
- Changed the Rotate button in the KellyDown Visualiser to Animate and added three new animation modes. Centre the view by zooming to and clicking on the focal point where you want the animation to start and then click on the Animate button to rotate the Visualiser view. Hold down the Ctrl key and click on the Animate button to traverse down the current well with the camera at a constant distance and direction from the current profile. Hold down the Shift key and click on the Animate button to traverse down the current well with the camera in a static position and pointing at the current profile. Hold the Alt key and click on the Animate button to traverse down the current well with the camera following the profile at a constant distance behind but slightly and above each record. Hold the Ctrl and Shift keys and click on the Animate button to have the camera traverse down the current well while constantly pointing at the select focal point in the view<sup>10</sup>.

#### Version 4.01.00.05 - released on 5th November 2021

- Fixed bug in Magnetic Ranging module where Coil Depths weren't correctly imported from a magnetic ranging link
  files where the units in the file were in feet.
- Added Merge Jobs function to Job Properties whereby notes, job personnel and invoice items from several jobs
  under the current well that have the same job number may be merged into the current job, which is then assigned to
  the other profiles under the current well. Use this function after importing individual profiles from .kdex files where
  a new job having the same job number is created under the current well so that existing job information isn't
  overwritten by the imported job.
- Modified the routine that checks for a new version of KellyDown starts so that it now only alerts the user that there
  is a new version and directs them to use Help, Check for updates to download and install it.
- Added function whereby the current configuration is saved to a configuration file in the KellyDown backup folder
  whenever the user modifies the settings in Tools, Options or System Settings. A new configuration file is created for
  each new version of KellyDown allowing configurations that were saved prior to installing the current version to be
  restored.
- Added a new menu item under the Administration, Utilities menu named "Restore custom configuration file" that directs the user to restore a previously saved configuration file from the KellyDown backup folder.
- Modified the Visualiser's Animation function whereby it will use the last or next azimuth where the inclination is
  greater than six degrees if the inclination is less than six degrees, thereby preventing the survey plane and direction
  of view from jumping about at low inclinations<sup>10</sup>.

#### Version 4.01.01.00 - released on 15th November 2021

- Added additional columns to Proposal Editor that show the perpendicular distance and direction etc. to the selected
  offset well
- Added additional columns to Interpolation module that show the perpendicular distance and direction etc. to the selected offset well
- Added function to Interpolation module whereby the user may select two rows and click on the Edit, Consolidate
  menu to insert a range of depths at a specified course length between the two selected depths. When used with the
  previous enhancement, this is useful for checking the distance between a wellplan and an offset well over a specific
  range since the interpolations are updated as the wellplan is modified.
- Added option to show a derrick outline at the current well location in the KellyDown Visualiser.

#### Version 4.01.02.00 - released on 4th February 2022

- Fixed bug in database export and import modules where drillstring wasn't exported/imported correctly when the
  export database contained the same drillstring components as the import database.
- Fixed bug in HDGM2022 magnetic calculations module where magnetic parameters were not calculated if the longitude value was between  $180^\circ$  and  $360^\circ$ .
- Fixed bug in drilling reports where the names of the active directional drillers were not shown on the reports.
- Fixed bug in Torque & Drag module where casing sections were not computed correctly when the casing setting
  depth was defined by vertical depth.
- Fixed bug in well-planning module where you couldn't extrapolate to defined inclination, dogleg rate and toolface values
- Fixed bug in well-planning module where you couldn't extrapolate to defined vertical depth, dogleg rate and toolface azimuth.
- Fixed bug in well-planning module where the most logical solution wasn't always selected by default when more than one solution was possible.
- Modified Torque & Drag module whereby the Standpipe Pressure and applied tortuosity are now shown on Torque & Drag reports.
- Added ability to export any of the predefined custom export formats to a tab-delimited text (.txt) file, as well as to an Excel (.xls) spreadsheet or to a WITSML (.xml) file 10.
- Added function where holding down the Ctrl key whilst clicking on the Export button in the Proposal Editor, Survey
  Editor or Slidesheet editor will automatically export the current data to the previously defined export file using the
  previously defined export options and file name.
- Updated Visualiser by adding ability to slow down or speed up the animation speed by using the "[" and "]" keys respectively.
- Added option under Tools, Options, General Options whereby the user may enter a number of rows that are subsequently used by the forward projection modules when launched from the survey editor to calculate the current trend in dogleg rates and toolface values for the first line in the Bit Projection.
- Added ability to open the Pumps Editor from the main KellyDown menu.

#### Version 4.01.02.01 – released on 11th February 2022

 Fixed bug introduced in 4.001.02.00 in custom export module where extra header information prevented exported Excel file from being imported into OASIS database.

#### Version 4.01.02.02 - released on 25th February 2022

- Modified Plot module whereby the list of options is shown at the left edge of the plot window instead of in a separate floating window.
- Added ability to specify inclination and azimuth values as radians.
- Other minor bug fixes and modifications.

#### Version 4.01.02.03 - released on 6th April 2022

- Fixed bug in Compass import routine where interpolations failed when inclination values in Compass were very small but not zero.
- Fixed bug in Dipping Plane module where KellyDown incorrectly used the closure distance of the survey to
  determine whether the survey was under/above the dipping plane where it should have been using the azimuth of the
  dipping plane.

- Fixed bug in Structure Properties where user couldn't enter a negative Ground Level value for an onshore structure.
- Added option to show wellheads in Visualiser.
- Modified Visualizer and Plot module whereby the rig outline is rotated to the associated structure axis.

#### Version 4.01.02.04 – released on 22nd April 2022

- Improved Drillstring Editor and Drillstring Components Editor whereby adding, deleting, exporting and importing
  drillstring components is more intuitive.
- Added function to Visualiser where clicking on a profile or target in the Visualiser will cause the corresponding item in the list of profiles/targets to flash briefly, making it easier to locate in the list.
- Modified Drilling Records Editor whereby you may now record drilling parameters for reaming, back reaming, drill
  cement float equipment, circulating, gamma log, and well control.
- Added ability to enter and display the "Radius of Curvature" in the Proposal Editor, Survey Editor, Slidesheet Editor, Interpolations, custom exports and custom reports. The "Radius of Curvature" is the corresponding radius of curvature associated with a dogleg rate and is sometimes used in river crossing applications.
- Changed function whereby selecting a minimised form from the Window menu or using Ctrl + Tab to cycle through forms will automatically restore the form to its normal size.

#### Version 4.01.02.05 - released on 10th May 2022

 Fixed bug in Slidesheet Editor where changing a record from a Sliding activity to any other non-drilling activity did not reset the Slide to zero.

#### Version 4.01.02.06 - released on 27th May 2022

- Fixed bug in ROC database logic where loading another instance of KellyDown sometimes caused an error when the
  database initially displayed on the logon screen was that of the already opened database.
- Fixed bug in import/export routines where you couldn't import/export from one database, open another database and then import/export from that database.
- Fixed bug in import/export routines where personnel weren't imported/exported correctly under certain circumstances.
- Fixed bug in Visualiser where the measured depth of profiles and projections shown on the status bar was slightly in error when the north reference was set to True North.

#### Version 4.01.02.07 - released on 9th September 2022

- Fixed bug in uncertainty calculations where KellyDown was unable to evaluate an IPM file where a formula contained either a min or max function if they were imbedded inside other functions in the formula.
- Added function to reporting module whereby if the option to separate pages is set, the drillstring section of a drilling report is started on a new page if it wouldn't otherwise completely fit within the remaining space on a page.
- Added warning message when importing or pasting corrected survey data into a slidesheet when depths in the
  corrected survey data do not match those in the slidesheet. Surveys that are updated with corrected survey data are
  also now identified by a yellow status indicator at the left side.
- Added option under Tools, Options, Plot Options to show well paths in Google Earth when exporting selected wells to Google Earth<sup>11</sup>.
- Added ability to enter start and end dipping offsets and depths making it easier to define dipping planes.
- Added option under Company Properties, Company Options to enter and show inclinations relative to the horizontal
  plane as is often used in River Crossing applications, i.e. horizontal is zero degrees of inclination, sloping down
  from horizontal is positive and sloping up from horizontal is negative<sup>11</sup>.
- Added function to Dipping Planes Editor to modify selected Dipping Planes as a group where the user may modify
  the colours, text, direction, width, offset and high and low values<sup>11</sup>.
- Modified the Proposal Editor whereby you may now enter a curve section as a radius of curvature instead of a
  dogleg value<sup>11</sup>.
- Modified the Proposal Editor, Survey Editor and Slidesheet Editor so that the Vertical Section is updated for all
  records if the Vertical Section Direction is set to closure and a new record is added, which causes the closure
  direction to be updated.
- Added Vertical Section offset columns to the Proposal Editor, Survey Editor and Slidesheet Editor, which shows the
  positive or negative distance from each survey record to the vertical section line<sup>11</sup>.

#### Version 4.01.02.08 - released on 7th October 2022

- Fixed bug in Visualiser where dipping planes were not shown in correct place when horizontal or vertical origins
  were not set to well.
- Modified the Ouija Board, Correction Run and Build/Drop/Turn modules whereby the three extrapolation rows at the bottom of the Bit Projection section are now preceded by check boxes, which if checked, changes the corresponding row to Measured Depth, Inclination and Azimuth variables instead of Course Length, Dogleg Rate and Toolface variables, which persist the Measured Depths instead of the Course Length values. Previously, this function was available but wasn't so obvious. Checking one or more of the boxes allows you to enter a serious of virtual surveys beyond the bit that remain consistent as new data is received or entered into the survey editor or slidesheet editor, essentially allowing you to project ahead to the landing point without having to enter the same values after each update.
- Added checkbox to Ouija Board named "Automatically centre new survey data", which when checked will
  automatically reset the projection to target centre whenever the slidesheet or survey editor is updated, thereby
  forcing the Ouija Board to automatically calculate the best solution based on a given dogleg rate to hit the target
  centre as new survey data is entered or received.
- Added buttons to System Settings whereby the user may now export all personnel to, and import selected personnel
  from an export file thereby allowing collections of personnel to be easily transferred between databases. The import
  routine allows users to individually select the personnel they want to import into their database<sup>11</sup>.
- Added buttons to System Settings whereby the user may now export all companies to, and import selected personnel
  from an export file thereby allowing collections of companies to be easily transferred between databases. The import
  routine allows users to individually select the companies they want to import into their database<sup>11</sup>.

#### Version 4.01.02.09 - released on 28th October 2022

- Fixed bug in Slidesheet section of Drilling Reports where KellyDown didn't populate the Depth Drilled column.
- Fixed bug in Forward Projection modules where a magnetic toolface azimuth orientation, (i.e. 120.00 M) in the slidesheet was not converted to a highside toolface when transferring the toolface to the bit projection in forward projection modules.
- Modified Projection modules whereby setting the course length of an extrapolation to zero will delete the
  extrapolation.
- Modified System Settings whereby the user may now import selected export formats and report formats from export
  files instead of importing all the formats from the file. The import routine allows users to individually select the
  formats they want to import into their database.
- Added Chinese translations for licenses issued to China.

#### Version 4.01.02.10 - released on 11th November 2022

- Fixed bug in Magnetic Ranging module where deleting a row from the worksheet caused an error.
- Fixed bug in detailed Closest Approach proximity scan where depths were omitted from the report when the end of
  the reference well was detected.
- Fixed bug in Dipping Planes Editor where the Dipping Plane End value was copied to the Dipping Plane End Depth field after editing the Dipping Plane End field.
- Added new drilling Activity named Clock Adjust that allows the user to enter a negative Hours value into the slidesheet to handle the autumn daylight savings time adjustment.

#### Version 4.01.02.11 - released on 18th November 2022

- Fixed bug introduced in 4.01.02.10 in the Invoice module where you weren't able to save the invoice to the
  database
- Introduced function to handle Windows 11 changing Network IDs, which sometimes caused the KellyDown licensing mechanism to fail when connecting to a foreign network.

#### Version 4.01.02.12 - released on 20th November 2022

• Fixed bug in custom Excel export routine where magnetic field strength was exported as an incorrect value if the format for magnetic parameters in KellyDown included a comma thousandths separator.

Added Chinese Beijing 1954, 3TM coordinate systems to list of KellyDown coordinate systems.

#### Version 4.01.03.00 - released on 23rd February 2023

- Fixed bug in Quick Scan module where display wasn't updated when user switched between Grid North and True North in real-time using the Data Reference Panel.
- Fixed bug in custom export module where slide length values were repeated on lines where there was no slide where
  the slidesheet contained "Drilling" records, i.e. not Slide and Rotate records, and there was no slide between survey
  records.
- Added function to customer reports and custom exports to create daily reports/exports where the reported/exported data covers a 24 hour period (the start time for the 24 hour period is defined under Customer Properties).
- Added localisation capability where the KellyDown interface, custom reports and custom exports may be shown in a
  language other than English (currently Chinese), defined under System Settings, System Preferences. The language
  for reports and exported files may also be set independently by selecting the output language on the print options
  and export options dialogs<sup>12</sup>.
- Added function to Visualiser whereby holding down the Shift key and clicking on a profile (after having first
  initialised a dimension line by holding down the Ctrl + Shift keys) will show the distance from the initial point to the
  closest point on the adjacent profile or projection.
- Modified QuickScan module whereby an adjacent well is highlighted with a white centre if its associated clearance factor drops below 1.00.

#### Version 4.01.03.01 - released on 28th March 2023

- Modified Excel export module whereby magnetic toolface orientation values are now converted to highside toolface values when exported to Excel.
- Added option in each worksheet to export the worksheet to Microsoft Excel.
- Separated formation tops from dipping planes in all worksheet, report and export modules so they may be selected for inclusion independently.
- Modified Slidesheet Editor whereby Hole Sections on the parent below the sidetrack depth are relabeled to Sidetrack if a child slidesheet is tied onto the parent such that the tie-on depth is less than the total depth of the parent.
- Added option under System Settings, Admin Options to not enforce default columns in the slidesheet editor, thereby
  allowing the slidesheet to be used as a pure slidesheet without the mandatory columns for Activity and Time
  columns required for drilling records.

#### Version 4.01.03.02 - released on 1st May 2023

Fixed bug in Compass Import routine where an inclination-only profile was not flagged as being so when imported.

#### Version 4.01.03.03 - released on 1st June 2023

Added new Catalogue Editor where the user may enter a list of components into the KellyDown components catalogue via a spreadsheet interface instead of the existing dialog interface. Use the Duplicate row popup menu to duplicate the selected row where you may modify the parameters that are different from the copied row. Press the "=" key to copy the contents of the previous row for each individual column<sup>12</sup>.

#### Version 4.01.03.04 - released on 30th June 2023

- Added functions to add, edit and delete component classes in the Components Catalogue Editor<sup>12</sup>.
- Added functions to copy and paste components to and from the clipboard in Microsoft Excel format thereby
  enabling them to be edited in Microsoft Excel and pasted back into the KellyDown Components Catalogue Editor<sup>12</sup>.
- Added option when reading remote drilling/slidesheet records to automatically update existing survey data with corrected survey data read from the link file.

#### Version 4.01.03.05 - released on 25th August 2023

- Fixed bug in Hydraulics report where the cumulative depth wasn't calculated correctly if the total length of the
  drillstring was less than the bit depth.
- · Fixed bug in System Settings where the disclaimer wasn't saved to the database after being modified.
- Added Nahrwan Masirah Island Zone 40 coordinate system to database.

 Added option to Export Options and Report Options dialogs to only show drilling records in custom export files and custom reports.

#### Version 4.01.03.06 - released on 8th September 2023

- Fixed bug introduced in 4.01.03.05 where error was thrown when the mouse passed over the Reference Panel if the database contained no folders.
- Fixed bug in Anti-collision Report module where an error was thrown when the user attempted to scan the forward
  projection when there was no current target selected.

#### Version 4.01.03.07 - released on 15th September 2023

- Fixed bug in Visualiser where the inner circles of the survey plane were sometimes shown as odd shapes depending
  on the scale of the overall view.
- Fixed bug in Custom Reports where sub-sea depths weren't shown as negative depths even when that option was set under company properties.
- Modified Visualiser module whereby you may now use the < and > keys to manually traverse the Survey Plane backward and forward along the current wellpath<sup>12</sup>.
- Modified the Component Editor whereby you may now move component classes from one component type to
  another, move individual components to another class of the same type and paste components from the Windows
  Clipboard (and hence to and from Microsoft Excel) <sup>12</sup>.

#### **Updated KellyDown Website**

Updated links to new download site that enables Check for updates and Download Help functions etc.

Users need to download and install the patch (or full setup) from <a href="www.kellydown.ca">www.kellydown.ca</a> if the currently installed version of KellyDown is earlier than 4.01.04.00

#### Version 4.01.04.00 - released on 1st October 2023

- Switched to updated website.
- Added option under the Tools, View menu to show or hide inactive profiles in the Database Explorer.
- Added new function to Survey Editor and Slidesheet Editor to create a new concatenated survey from surface.

#### Version 4.01.04.01 - released on 7th October 2023

Updated links to new download site that enable Check for updates and Download Help functions etc. Users need to
download and install the patch (or full setup) if the currently installed version of KellyDown is earlier then
4.01.04.00.

#### Version 4.01.04.02 - released on 13th October 2023

- Fixed bug introduced in version 4.01.04.01 that prevented KellyDown from launching if there was no internet connection.
- Fixed bug in Survey Import routine where data wasn't converted properly when importing data from a file where the
  depths were in metres when the depths in KellyDown were set to a different unit.
- Modified export and report modules whereby company specific formats are now exposed to all users, thereby
  allowing contract directional drillers who have their own KellyDown licenses to output data in formats that were
  previously only available to companies who had specifically requested those formats.
- Modified Compass import routine whereby importing a single profile into KellyDown will cause KellyDown to
  search for the corresponding tie-on depth in all of the existing profiles under the same well and ask the user if he or
  she wishes to tie the new data onto that parent, thereby simplifying the task of updating a new wellplan when one is
  sent to the rig from the well-planning department.

#### Version 4.01.04.03 - released on 7th November 2023

 Fixed bug in daily drilling export function where wrong records were exported when drilling run contained only records with no increase in bit depth. Fixed bug in daily drilling export function where run number wasn't updated when the run number increased during
the period covered by the daily report.

#### Version 4.01.04.04 - released on 21st December 2023

- Fixed bug in proximity scan module where the size of the uncertainty ellipsoid wasn't calculated correctly for ISCWSA Rev.5 MWD+IFR1error models under certain conditions.
- Fixed bug in Quick-Scan module where distance and direction to adjacent well wasn't calculated correctly when Last Survey Range was selected.
- Modified Pipe Tally module whereby the user may now paste a collection of records consisting of a description
  followed by a pipe length in the spreadsheet from which KellyDown will calculate the survey station depths etc.
  from the BHA back up to surface.
- Modified Proximity Scan module whereby forward projections are interpolated at the same user defined scan interval as the survey data for detailed proximity reports.
- Added new option to Proximity Scan Options dialog named Bit Projection, which by default scans from the last survey depth to the bit depth. If the scan is called from the main KellyDown screen or from the Survey Editor, a straight line projection from the last survey to the bit is assumed. If the scan is called from the slidesheet, the motor output over the slide-ahead distance and then a straight line projection to the bit is assumed. If the scan is called when a Forward Projection module is open, information is copied from the forward projection. The user may modify the End Measured Depth if preferred.

#### Version 4.01.05.00 - released on 8th January 2024

- Added function under the Administration, Utilities menu to move the complete KellyDown Documents folder to a
  different location. This may be used to move the default KellyDown Documents folder out of the Windows
  Documents folder if the Windows Documents folder is located under the OneDrive folder, which could potentially
  cause problems for very large projects. It is recommended that the KellyDown Documents be moved to the root of
  the C: drive, i.e. C:\KellyDown Documents.
- Modified KellyDown Installer whereby it checks the location of the KellyDown Documents folder and updates new files to the same location.
- Added a routine when KellyDown starts, to check the existence of the KellyDown Documents folder and if one is not found, KellyDown will prompt the user to locate the folder manually.
- Moved menus for importing from a Compass transfer file from the Administration, Utilities menu to the File menu.
- Added option under the main KellyDown View menu to Show or Hide inactive profiles in the Database Explorer.
   Pressing the F6 key has the same function.

#### Version 4.01.05.01 - released on 26th January 2024

- Added several new ISCWSA Rev.5 IPM Error Models to installed database.
- Added new Proximity Report Type named "Email Summary" to list of Proximity Scans whereby the current well is
  projected from the last survey to the bit depth using the motor output and slide ahead values from the Slidesheet
  Editor and then straight extrapolated to one, two and three times the dogleg reference distance. This projection is
  then scanned for proximity against all selected wells in the Database Explorer and the results are automatically
  emailed to all Alert Recipients selected under Job Properties, Alerts<sup>12</sup>.
- Modified Instrument Performance Import module whereby the user may now select which error models he or she
  wishes to import from a .kdemf file. Use this function to distribute company approved IPM files to rig personnel.
- Added ability in System Settings whereby holding down the Ctrl key whilst clicking on the "Import error models
  from a transfer file" button will download the latest copy of the Instrument Performance Models from the
  KellyDown download site and present the user with a list from which he or she may select IPMs to import into the
  current System database. Selecting files will either import new files or update those that already exist under the same
  name
- Added new Scan Range option to Proximity Scan Options dialog named Bit Projection, which allows the user to
  perform a proximity scan along the projection to the bit.

#### Version 4.01.05.02 - released on 9th February 2024

• Added new Activity to Slidesheet Editor called Bit Projection, which calculates projection to the bit based on the Bit Distance, Motor Output, Slide Ahead Distance and Toolface Orientation, and adds a temporary survey to the slidesheet from which you may determine the offsets to the plan, dipping planes, hardlines etc. You may also edit the depth, inclination and azimuth of the bit projection to see further ahead of the bit if desired<sup>12</sup>.

- Added function to Visualiser whereby holding down the Shift key and clicking on a Dipping Plane (after having first initialised a dimension line by holding down the Ctrl + Shift keys) will show the distance from the initial point to the point on the dipping plane that is vertically above or below the initial point.
- Added function to Dipping Plane Editor which toggles between two possible calculation types. The first is typically used in conventional drilling where a dipping plane is referenced to a vertical depth (or sub-sea depth) below the well origin and the dipping angle is entered by the user. The second is typically used for river crossings to define ground level where the user enters vertical depths at each of several distances from the well origin and the dip angle is calculated by the software. Toggle between the two methods by clicking on the Toggle Calculation Method button on the toolbar.
- Added function whereby KellyDown checks for and displays messages from Agilis Software Solutions when KellyDown starts, thereby allowing important messages to be delivered directly to KellyDown users. Each new message is displayed only once. The last read message may be viewed again by selecting the View, Start-up Message menu.

#### Version 4.01.05.03 - released on 23rd February 2024

- Fixed bug in Magnetic Calculation model where Description for HDGM models showed Magnetic Model was HDGM 2010 even for later dated models.
- Changed the way in which KellyDown reacts when clicking on an editable dropdown list in worksheets whereby it
  now selects the text in the cell.
- Added new Customer Option to show the Activity Chart as a Pie Chart instead of a Bar Chart in Drilling Reports<sup>12</sup>.
- Added ability to append more than one Bit Projection activity to the bottom of a slidesheet. Also added function
  where pressing the Esc key will delete any appended Bit Projections from a slidesheet.<sup>12</sup>

#### Version 4.01.05.04 - released on 10th April 2024

- Fixed bug in Slidesheet module where the Adjust Slidesheet Depths routine didn't work.
- Fixed bug in KellyDown Visualiser where clicking on a solid lease line to measure the distance from a profile caused an error message.
- Fixed bug in KellyDown Visualiser where clicking on a profile on other than the current structure did not accurately position the cursor when the North Reference was True North.
- Fixed bug in Dipping Planes Editor where the Driller's Dip Direction wasn't enabled when the option was set to
  define the start and end dip depths.
- Improved the logic by which the major axes are drawn and labeled in the QuickScan module.
- Added function in Visualiser where holding down the Ctrl + Alt keys when clicking on a profile will cause the
  dimension line to be initialised at the last survey record for the profile section.
- Added function to Slidesheet Editor whereby a backup of the slidesheet is saved at regular intervals during editing
  so that it may be recovered if KellyDown detects that the slidesheet data was not saved at the end of the last editing
  session due to a system crash or power outage.

<sup>&</sup>lt;sup>1</sup>available with licenses 2014.07 or later

<sup>&</sup>lt;sup>2</sup>available with Magnetic Ranging licenses

<sup>&</sup>lt;sup>3</sup>available with licenses 2015.06 or later

<sup>&</sup>lt;sup>4</sup>available with licenses 2016.03 or later

<sup>&</sup>lt;sup>5</sup>available with licenses 2017.06 or later

<sup>&</sup>lt;sup>6</sup>available with licenses 2018.06 or later

<sup>&</sup>lt;sup>7</sup>available only with licenses issued by Agilis

<sup>8</sup> available with licenses 2020.04 or later

<sup>&</sup>lt;sup>9</sup>available with ROC Edition licenses

<sup>10</sup> available with licenses 2021.08 or later

 $<sup>^{11}</sup>$  available with licenses 2022.08 or later

<sup>&</sup>lt;sup>12</sup>available with licenses 2023.06 or later