



HEXAGON
MANUFACTURING INTELLIGENCE

PC-DMIS 2018 R2

- Release Notes -



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Release Notes - 2018 R2 SP4

- PCD-143502 - Fixed an issue where pressing Ctrl and left-clicking on a feature label did not work.
- PCD-146045 - Fixed an issue where laser scan simulation could lose data if CAD parts are hidden in the assembly manager.
- PCD-147124 - Fixed an issue where PC-DMIS stopped working when a pointcloud colormap was created from a triangle mesh model (STL or WaveFront model).
- PCD-147470 - Fixed a bug where the Graphic Display window would continually redraw with jumpiness when the center probe in the window was turned on.
- PCD-149265 - Fixed an issue with certain quick-fixturing operations.
- PCD-150203 - Fixed a crash that occurred when the Constructed Feature was selected and the measurement routine referenced a version 2015 "Attached external measurement routine" that contained a pointcloud.
- PCD-150722 - Improved the algorithm for pointcloud laser scanning simulation to take care of surface orientation when piercing the CAD. To be backward compatible for older measurement routines, the `Use CAD surface side correction` registry entry was created to enable or disable surface orientation checks. The registry entry is set to FALSE by default.
- PCD-150793 - Corrected showing the Exposure and Stripe Distance for Zeiss Eagle Eye sensor in Offline mode.
- PCD-150889 - Corrected an issue for the LeicaLMF tracker when re-executing a measurement routine with the LAS scanner, the program execution would automatically go to next command after the first 1st scan pass was taken, instead of waiting for the operator to click 'Scan Done'.

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- PCD-151173 - Corrected an issue where the LAS-XL probe was deleted when PC-DMIS was started. Since Tracker pilot does not specify LAS vs. LAS-XL, the LAS-XL probe will be treated the same as a custom probe and will not be deleted.
- PCD-151225 - Fixed an issue where the Pointcloud Colormap Max/Min annotations were turned off when an Inspection Routine was closed, re-opened, and then re-executed.
- PCD-151787 - Q-DAS Configurator was mistakenly locked for CAD and PRO users of PC-DMIS. This fix now allows CAD and PRO users of PC-DMIS to access Q-DAS Configurator.
- PCD-151981 - Fixed an issue where the laser extraction of Circles, Round and Square Slots from a pointcloud failed when the nominal feature was on the lower layer of two overlapping, parallel sheetmetal surfaces.
- PCD-151985 - Fixed a potential accuracy issue for some older systems using wcompen32.dll for volumetric compensation.
- PCD-152042 - Corrected a crash that occurred when the **COP Operator** dialog box was opened with a function and then the Select operation was chosen, performed, and applied.
- PCD-152074 - Fixed an issue that occurred when the **Auto Feature** dialog box was open. Performing a box zoom operation may have caused a feature to be programmed at the mouse button-up position.
- PCD-152075 - The Xact Measure Profile with ISO standard selected will now set the tolerance as a +TOL when created from the dialog box.
- PCD-152077 - Fixed an issue for a dual-arm machine where laser-scanned pointcloud data was not stored for Arm2 when the Incidence Angle filter in the **Laser Data Collection Settings** dialog box was enabled.
- PCD-152124 - The Insert rotary table move has to be able to insert the angle unconditionally. The ending angle of the previous 4-axis scan differs from the theoretical.

- PCD-152163 - I++ Auto Features - Speed and Point density from adaptive scanning parameters are now correctly sent to the I++ server.
- PCD-152178 - Fixed Load Active Probe for I++ client. It loads the active tip (I++ Tool).
- PCD-152648 - Fixed an issue where selecting multiple XYZ labels in surface mode wouldn't correctly use the XYZ point for the feature.
- PCD-152933 - Fixed an issue that prevented setting the minus tolerance of XactMeasure size dimensions from the FCF editor when "Minus Tols Show Negative" was active.
- PCD-152972 - Corrected an issue with connecting to the scanner when switching between the LAS and LAS-XL scanners. The workflow for switching between LAS and LAS-XL scanners is as follows:
 1. You are connected to scanner #1.
 2. Do not allow the tracker to lock onto the scanners while switching (for example, point the tracker down at the floor).
 3. Press and hold the controller's Sensor button (to disengage power) and physically switch to scanner #2.
 4. Press and hold the Sensor button (to engage power).
 5. Point the tracker at scanner #2.
 6. Wait for RDS to detect the probe change. PC-DMIS will load the new probe.
- PCD-153039 - Made a fix to avoid an application error when the **Auto Feature** dialog box was closed. This occurred on some machines if a selected parameter was out of range.
- PCD-154226 - Fixed an issue where PC-DMIS stopped working when Paste with Pattern was done with a fixed head. A fixed head is not able to rotate to the required angle. In the future, better support to support fixed head for determining the right angle will be created.

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- PCD-154532 - Fixed an issue for a tracker measurement routine with an LAS scanner and reflector. The LAS scanner was not initialized when re-executing.

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- PCD-141323 - Corrected the issue where the **Quick Fixture** buttons were not maintaining their highlighting.
- PCD-145242 - Corrected the issue where PC-DMIS was not recognizing the user-selected modes on the toolbars.
- PCD-145623 - Corrected the issue where PC-DMIS drew the Clearance Plane paths in the wrong orientation.
- PCD-146884 - Fixed the issue where PC-DMIS would crash if Optimize Path was running and you shut down PC-DMIS.
- PCD-147399 - Fixed the ability to click on a feature label and open the **Auto Feature** dialog box.
- PCD-147480 - Corrected the issue when the Tracker Overview Camera was clicked On, the machine would be in a "Not Ready" state unless you take a hit while on the Camera screen. This was an issue with the Leica interface 40x Tracker.
- PCD-148192 - Corrected the issue where PC-DMIS disables the middle mouse wheel when you square up the CAD image.
- PCD-149828 - Corrected an issue with Optimize Path that could destroy the contents of the Edit window. This only happened when you clicked **Cancel** followed by **Undo**.
- PCD-150013 - Corrected an issue when saving back to versions before version 2015.1, not all the global measurement routine variables would be read into PC-DMIS when you run that measurement routine, even though the command data would be correct.
- PCD-150164, PCD-152744 - Corrected an issue where the default print file type could change without user intervention.

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- PCD-150240 - Fixed a bug that puts PC-DMIS in a state where you cannot select CAD surfaces after you box-select features and then select a **Create Dimension** information box.
- PCD-150246 - Corrected an issue that caused the Excel output to start at 0 instead of 1.
- PCD-150622 - Fixed an issue with the Enable Interpreter that caused PC-DMIS to crash when executing a Basic script.
- PCD-150832 - Fixed an issue that affected scan commands where PC-DMIS would insert move points in the wrong locations.
- PCD-150834 - Fixed an application error when you cut a feature from the Edit window that you are using as a relative feature for a Laser auto feature.
- PCD-150870 - Corrected an issue where the COP vector was not correct if you rotate the probe head. The issue was that PC-DMIS stored the pointcloud stripe vector in the alignment coordinate system instead of machine coordinates.
- PCD-151205 - Fixed an issue that caused PC-DMIS to crash when you change the Vision feature type in the Edit window.

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- PCD-125813 - When the pointcloud is not well aligned to the CAD model, the resulting measured cross section (yellow polyline) may not be computed as expected and may produce the incorrect shape. By default, the PointcloudOperator `CrossSectionCopCadCrossSectionDrivenByCad` registry entry is set to 1. It is possible to obtain better results by changing the registry entry's value to 0 and recreating the cross section so that it uses this new setting. This alternative way to calculate COP/CAD cross sections could give better results when the medium distance between the cloud and the CAD model is relevant in the section zone, and the nominal section is strongly curved in this zone (distance is greater than 2 or 3 mm).
- PCD-128933 - Improved the logic to determine the appropriate tip when it is part of block for the copy and Paste With Pattern. It fixes the issue of the tip not patterned.
- PCD-135514 - Ring light intensity migration will now only be attempted for features where the top and bottom lights are not in use.
- PCD-138257 - Fixed an issue where PC-DMIS stopped working when executing a measurement routine that already contained extra instances of commands (extra instances of commands are created by executing the measurement routine with commands such as Loops, Goto, etc.).
- PCD-140115 - When a new patch scan is created, all points taken for previous patch scan are deleted so as to create patch scan at new location.
- PCD-140952 - Fixed an issue with the displayed datum bonus value when the datum was shifted to its limit.
- PCD-145264 - Fixed an issue for the Leica LMF interface AT960 tracker where the user could not save the first hit for a PNT with the CCR or T-Probe after swapping from the LAS scanner.

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- PCD-146159 - The trapeze that represents the working area of the laser sensor is no longer shown for features that are extracted from a COP command.
- PCD-146366, PCD-147443 - The auto wrist toggle got enabled when linear open scan commands were edited.
- PCD-146476 - Fixed an issue that caused the layout toolbar to always appear after a toolbar was customized.
- PCD-146494 - It is now again possible to execute directly-measured laser features offline.
- PCD-146558 - Fixed an issue where It wasn't possible to calculate the form error for laser cylinder features extracted from a COP command.
- PCD-147370 - Fixed an issue where the Mesh Colormap scale did not appear in the Graphic Display window and the Text and CAD, CAD Only, and CAD-Only Landscape report templates.
- PCD-147567 - Fixed I++ errors for Technology Server 1.x in the self-centering code.
- PCD-147569 - ToolName (the name of the tip in the I++ server) has never been composed correctly for the purpose of scrolling in the measurement routine in the Edit window when LOADTIP is done sometimes.
- PCD-147666 - PC-DMIS I++ server has fixed readouts for DEA machine interface for manual CMMs.
- PCD-147697 - Fixed a rounding issue of the percentages shown on the pointcloud colormap scale. The colormap scale now uses the number of decimal places that are defined on the Dimension Display Precision command (**Edit | Preferences | Setup | Dimension** tab).
- PCD-148128 - Added support for "minus tolerances show negative" in the new **XactMeasure** dialog box.
- PCD-148163 - Fixed an issue for the Leica LMF interface AT-960 tracker where two "OK to insert probe" messages occurred when switching from a reflector CCR probe (after measuring a feature) to the LAS scanner.

- PCD-149014 - Failed to restore the original string if the expression failed. It was saved in all uppercase letters, which was incorrect.
- PCD-149024 - For the Pointcloud Export function, the user can define the separator used for the XYZ export. In the PC-DMIS Settings Editor, in the PointcloudOperator section, use the `ExportXYZSeparator` registry entry. The default value is a space: " ". Examples of separators are ";" and ",". Type the separator without the quotation marks. If you type more than one character, only the first one is used.
- PCD-149051 - PC-DMIS considers "-" or "/" as a mathematical operation and tries to resolve the expression. This issue allows you to type drawing number in the Trace field menu and does not consider it as an expression, so that you can use - for entering drawing or part numbers. You can now enter the new value during execution.
- PCD-149075 - Fixed an issue where dimension IDs did not update when a different geometric tolerance was selected from the **XactMeasure** dialog box.
- PCD-149206 - Fixed temperature compensation V1 for Manual mode (this applies to I++, Zeiss, and other third-party machine interfaces).
- PCD-149332 - Fixed an issue where, at times, the Surface Colormap could not be reset from within the dialog box.
- PCD-149711 - Fixed scanning for the Zeiss direct machine interface.
- PCD-149950 - Display the **Datum Definition** dialog box when an additional datum is requested and isn't yet defined.
- PCD-149958 - Fixed a case where PC-DMIS could lock up while trying to cancel Optimize Path.
- PCD-150629 - Fixed an issue that prevented setting the Xact Measure Position nominal values from the dialog box.

Release Notes - 2018 R2 SP1

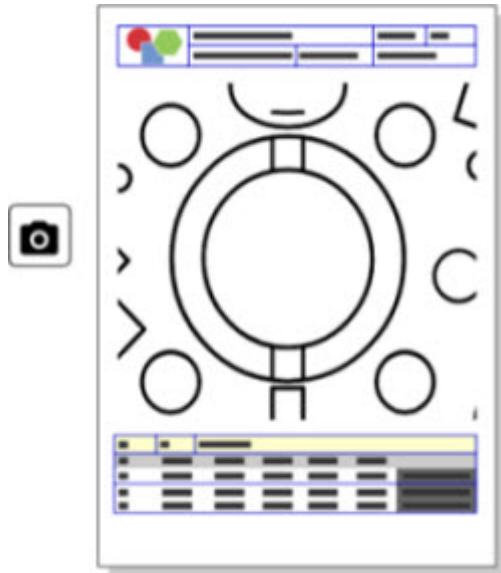
- PCD-50401 - Fixed an issue where the Jump Hole functionality failed or caused scans to fail.
- PCD-126983 - Fixed an issue where PC-DMIS stopped working if you reset the execution list while a measurement routine was executing.
- PCD-135742 - Fixed an issue where path lines for probe head rotations were not drawn for probe heads with a C-joint (heads with 6 axis).
- PCD-137806 - Eliminated a null pointer related to a commonly reported 2018 R1 issue where PC-DMIS stopped working.
- PCD-139668 - Fixed a crash that occurred when cast points were used in a loop.
- PCD-140397 - Fixed an issue where Wcompens32_2.dll did not correctly load the geometrical compensation map on DEA machines.
- PCD-140785 - Fixed the issue of an incorrect path for an auto feature cylinder spiral scan.
- PCD-144198 - Restored functionality that existed prior to PC-DMIS 2017 R1 to display the probe at the correct location in the Graphic Display window when a MOVE command was edited.
- PCD-144358 - Thickness now works for Auto Cylinder and Auto Cone.
- PCD-145193 - Implemented a change as required by Q-DAS. K2110, K2111, K2112, K2113, K2101, etc. should not be output to the DFQ or DFD/DFX file when "Use TP for tolerance of location" is not selected.
- PCD-145787 - Fixed an issue where the **Illumination** tab did not appear in the Probe Toolbox.
- PCD-146106, PCD-148762 - Fixed an issue that prevented setting Xact Measure dimension IDs from the dialog box.
- PCD-146258 - Fixed potential 15-second delays or crashes when switching between cameras on a multiple uEye digital camera system.

- PCD-146441 - Fixed an issue with the Custom Report Editor interface that occurred after the **Save** dialog box was canceled.
- PCD-147189 - Fixed an issue where PC-DMIS stopped working when switching dimension types from the toolbar.
- PCD-147291 - Features selected from the datum definition dialog box now highlight in the Graphic Display window.
- PCD-147292 - Prevented lowercase datum letters from being defined in the DATDEF command.
- PCD-147300 - Prevented a crash from occurring when the Vision laser (FLS) gain in the Probe Toolbox was edited.
- PCD-147324 - Fixed an issue where an out-of-date Inspect icon was used on the shortcut to Inspect within the PC-DMIS start menu group.
- PCD-147592 - Fixed an issue where the Edit window could not print to a file.
- PCD-147629 - Fixed an issue that prevented the Xact Measure feature list from updating after a "per unit" flatness dimension was created.
- PCD-147762, PCD-148548 - Fixed an issue where the **Pointcloud** toolbar and functions were not available for CAD and CAD++ licenses that did not have the Laser/BigCOP option.
- PCD-147955 - Fixed an issue introduced by changes to the mouse controls, which caused Marked Sets to fail when migrated from previous versions.
- PCD-148136 - Prevented a possible incorrect initialization of touch probes in combination with VisionBox.
- PCD-148270 - An incorrect web store address that was used for testing purposes was left out in the code. This fix removed the web store link to the U.S. web site.
- PCD-148439 - Fixed the error of incorrect reporting of legacy True Position.
- PCD-148479 - The sequence of the axis in True Position output in the DFQ file must be updated because O-QIS software from Q-DAS was not able to read the original format.

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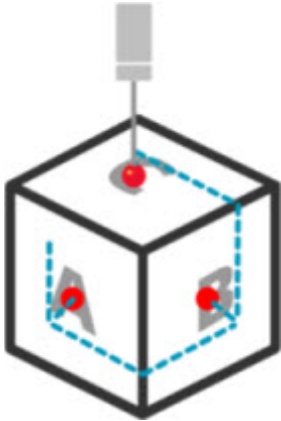
PC-DMIS 2018 R2 is a significant development release of the software. For detailed information and video tutorials about this release, visit hexagonmi.com/products/software.

Happy to Report




You can customize your report. No programming degree is required. Now build reports with drag and drop right in the report window. See PCD-121508.

Don't Walk - Run!



With QuickPath, creating an efficient measurement path is now as simple as A-B-C.

To create an efficient measurement path, use the **Quick Path** button () on the **Path** toolbar on the **QuickMeasure** toolbar. For complete details, see the "CMM QuickMeasure Toolbar" help topic in the PC-DMIS CMM documentation. See PCD-134180.

Follow the Trend



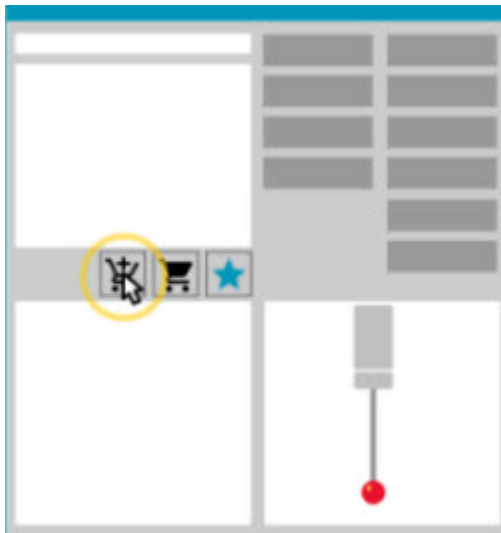
View qs-STAT run charts inside PC-DMIS. PC-DMIS can pull and display run charts from qs-STAT in the Report window. See PCD-134686.

Laser Guided



New laser field-of-view visualization and offline simulation are available. We now offer the visualization of the working area (trapeze) for laser-line scanners in the Graphic Display window. To use this feature, select the **Draw Laser Working Area** check box on the **Laser Sensor** tab in the **Setup Options** dialog box (**Edit | Preferences | Setup**). See PCD-135744.

Bringing Order to Your Probes



Mark your favorites. Click on your CAD part to create required tip angles. Buy replacements with our Shopping Cart tools.

You can shop for probe components from the **Probe Utilities** dialog box (**Insert | Hardware Definition | Probe**). Probe items that Hexagon manufactures are available for you to select and add to your shopping cart. You can edit and view your shopping cart and modify the quantity as well as add your "requester" information. You can also download a Purchase Request form. This feature provides a more convenient way for you to order the probing items that you need to measure parts. See PCD-138135.

2D Radius Gage

The 2D Radius Gage is a quick-check tool that you can use to measure the radii on a pointcloud or mesh cross section. When you hold down the Shift key, you can create a 2D Radius Gage graphically on a cross section in the 2D Slide Show view. The display widget shows the nominal, measured, and deviation values.

By default, the 2D Radius Gage uses a Least Square Best Fit algorithm to calculate the 2D Radius. The color of the radius gage graphic corresponds to its deviation on the dimension color scale.

- The 2D Radius initially uses the active tolerances that are set on the dimension color scale.
- You can change the tolerances, label, and report options through the Edit window. You can also use F9-Edit to display the **2D Radius Gage** dialog box.
- You can create a graphical snapshot of the cross section with measured gages.

See PCD-63393 and PCD-130865.

Auto Features (Laser)

- Directly-Measured Laser Auto Features for a CMM can now be simulated offline. When you select the Laser Auto Feature **Show/Hide Stripes** button in the **Auto Feature** dialog box (**Insert | Feature | Auto**), the scanned stripes appear while the dialog box is open. Only the laser features that can be scanned with one single pass are simulated. See PCD-119684.

Auto Features (Tactile)

- We enhanced the **Auto Wrist** dialog box. (This dialog box is available through the **Auto Wrist Toggle** icon on the **Auto Feature** toggle bar.) With this dialog box open, you can now also access the Graphic Display window. The dialog box only appears when the currently-active tip cannot measure the selected feature. See PCD-121636.

Automation

- A new Automation property, `ShowFormViewsInPopUpWindowWhileExecuting`, controls whether PC-DMIS Forms appear in the topmost view even if PC-DMIS is not visible. See PCD-116867.

CAD

- We added CAD system mouse and gesture support. See PCD-121724.
- We added support for NX 12 via its Direct CAD Translator (DCT). See PCD-133971.
- CATIA v5 Direct CAD Interface (DCI) now supports R27. See PCD-137701.
- CATIA v5 DCT now supports R27. See PCD-137700.

Calibration (Tactile)

- The new Check Calibration Limits command checks for the calibration limits that you set for Calibration Validity, Calibration Interval, Standard Deviation, and Tip Diameter deviations in the **Probe Setup** dialog box (**Insert | Hardware Definition | Probe | Setup** button). The developer of a measurement routine can use the On Error command to catch the calibration limit error and decide whether to stop the execution of the measurement routine. This command helps implement the organization's calibration policy. See PCD-137342.

CMM - I++

- We added dual-arm support for I++ client implementation of Zeiss Eagle Eye 2. See PCD-136860.

DCI

- We added support for NX 12 via its DCI. See PCD-129818.

GD&T - Dimensions

- The **XactMeasure GD&T** dialog box is smaller and resizable. The **Advanced** tab was replaced with the **Reporting** and **Nominals** tabs, and we added new + icons for adding and defining datums and adding a single-segment/composite Feature Control Frame (FCF). See PCD-141802.

Graphics



In the Graphic Display window, we removed the ability to zoom in and out with a right-click above or below an imaginary center line. This functionality was needed many years ago when computers came with mouse devices with only two buttons. Now that mouse devices come with a wheel button, this is no longer needed. In addition, this change helped us to improve the right-click menu coverage in that window.

You can still zoom in and out by rotating the mouse wheel button.

See PCD-133136.

Laser (CMM)

- Integrated two new Hexagon laser-line scanners: HP-L-5.8 Proto (60 Hz) and HP-L-5.8 Fumo (33 Hz). See PCD-109463.

Measurement Strategy Editor

- We improved Measurement Strategy Editor (MSE) parameter sets. See PCD-121633.

Path Optimization

- Path optimization now supports dual-arm machines. With this addition, the legacy path optimization tool is obsolete. See PCD-108705.

Planner

- Vero SMIRT integration. See PCD-134325.

Point Clouds

- When you create a 2D Radius Gage for a pointcloud or mesh cross section, you can hold the Shift key down and hover the mouse pointer over the desired radius. A widget appears and initially shows the nominal, actual, and deviation values for the radius. When you click on the radius, the widget expands and enables you to change the gage ID and other settings. See PCD-130775.
- The offline laser pointcloud simulation for CMM now works faster and more efficiently. To control the speed of the simulated laser scan, use the **Scan animate every NPts** option on the **Animation** tab in the **Setup Options** dialog box (**Edit | Preferences | Setup**). See PCD-129253.

Portable

- PC-DMIS supports the MoveInspect XR8 interface for probing. When connected to the machine with MoveInspect Pilot, PC-DMIS automatically recognizes and loads the correct probe tip. You can use the buttons on the MI.Probe to take and acknowledge measurements. This interface requires the MoveInspect license. See PCD-127770.
- A new **MoveInspect** toolbar is now available for the MoveInspect XR8 machine interface. Although these functions can be done directly from the MI.Probe, the toolbar has buttons that enable you to take a hit, delete a hit, and end the feature. You can also turn Live mode on and off from the toolbar. When Live mode is active, the probe is shown as "live" (real-time) in the Graphic Display window, and the Probe Readouts window is updated. This corresponds to the MoveInspect Pilot Trigger continuous mode. See PCD-130200.

Probes (Tactile)

- We simplified probe and tip creation. We added the "Favorite" concept to the **Probe Utilities** dialog box (**Insert | Hardware Definition | Probe**). You can mark the probing hardware that you own as a Favorite item. You can click the **Favorite** button in the **Probe description** area in the dialog box to filter the list of probe components by only the components that you own. This feature helps you find the component and create probe files more easily. See PCD-138090.
- You can use QuickFeature gestures in the **Probe Utilities** dialog box (**Insert | Hardware Definition | Probe**) to add tip angles to the probe file. With this ability, you can click on CAD objects to get a recommended angle, as well as an alternate angle, to measure a feature. There is no more guessing and hard work to determine tip angle requirements; just click on the CAD. PC-DMIS displays the recommended tip angle in the Graphic Display window and adds it to the list of angles. See PCD-140491.

Q-DAS

- The Q-DAS Data Editor facilitates to make changes to the QdasData.xml file from within PC-DMIS. If you want to customize your Q-DAS output, you can make changes to the characteristic K-field values from within the PC-DMIS environment. See PCD-125492.
- PC-DMIS Q-DAS Configurator has the additional ability to update an open QdasData.xml file with the associated DFQ file. This function is useful if you want to migrate your measurement routine and use integrated PC-DMIS Q-DAS functionality. See PCD-134558.
- PC-DMIS creates a folder named **Results** in this location:
C:\Users\Public\Documents\Hexagon\PC-DMIS\2018 R2\Q-DAS\Results. The ASCII result files (DFQ or DFX+DFD) for Q-DAS are stored in this folder by default. The names of the result files include the name of the part and a date/time stamp. See PCD-137955.

QuickFeatures

- When you use the QuickFeatures functionality to create a pattern of features, such as a bolt-hole pattern, PC-DMIS orders the features in a more optimum sequence to help minimize the machine's run time. See PCD-131900.

Quick Fixturing

- We enhanced the Quick Fixture Snap to Grid feature. It now allows more precise graphical positioning of fixture items. See PCD-77598.

Tracker

- We added the **T-probe Configuration** tab to the **Machine Options** dialog box for the AT960 Tracker (**Edit | Preferences | Machine Interface Setup**). Use this dialog box to set the function of each button on the T-probe. The options are Stationary, Scanning, Done, and None. If desired, you can save the buttons' functions as the default settings. The settings correspond to these registry entries in PC-DMIS Settings Editor: `ButtonForStationary`, `ButtonForScanning`, and `ButtonForDone`. See PCD-134172.

User Interface

- For ease of use, the Graphic Mode buttons were added to the **QuickMeasure** toolbar. See PCD-131005.
- We updated the PC-DMIS document icons to match the new product icon. See PCD-137762.
- We updated the icons on the Tracker and Vision status bars. Tracker icons are now unified with the next version of Tracker Pilot. See PCD-121367.

Information about this Release

We at Hexagon Manufacturing Intelligence are proud to bring you PC-DMIS 2018 R2. This platform brings together new aspects of the software for the development of a complete manufacturing process control solution. Available in this release are variations of the software designed to assist with every aspect of the fabrication and quality control process. The newly-created packages include the established PC-DMIS Laser, PC-DMIS NC, PC-DMIS Vision, PC-DMIS Pro, PC-DMIS CAD, and PC-DMIS CAD++ platforms.

The testing of this version has been significant. We'd like to take a moment to discuss this process and also make you aware of the various components of testing.

Testing consists of two parts. These can be described as functional testing and integration testing.

- The vast majority of testing effort goes on in the functional area. This is the testing that determines that specific functions that are core to the software, regardless of what type of machine is used, are working correctly.
- The integration testing is essentially a testing of the interface with a particular type of machine.

In the ideal scenario, Hexagon Manufacturing Intelligence would have access to at least one of every piece of hardware running the software that is operating in the field. However, in practical terms, this is impossible. This integration test plan is then performed on as many types of machines as we have available.

Should you experience problems with your system after you install PC-DMIS 2018 R2, it could possibly be an integration problem. If it is a problem of this nature, it will probably be evident immediately upon first use of the possibly untested configuration. To report any integration problems, see "[Contact Hexagon Manufacturing Intelligence](#)". Should such a problem materialize on a commercial release, you will be given the highest priority for correcting these problems.

For existing users of the software who currently have earlier versions of the software installed, it is advised that you install PC-DMIS 2018 R2 into a new directory. In this way, you can be assured of continuous use of the existing version should problems arise with this newer version.

Installing the Software

To install the software, follow these steps:

Step 1: Check System and Hardware Requirements

Before you attempt to install a new version, ensure that you meet the system and hardware requirements discussed above in "[Recommended System Requirements](#)". You must also have a USB portlock or valid LMS license for the installation to work. Your IT specialist can help you with this information.

- To get your computer's properties, highlight the **This PC** icon, right-click on it, and select **Properties**.
- To check the display properties for the graphics card, go to **Start** and type **Control Panel**, and then select **Display and Settings**.

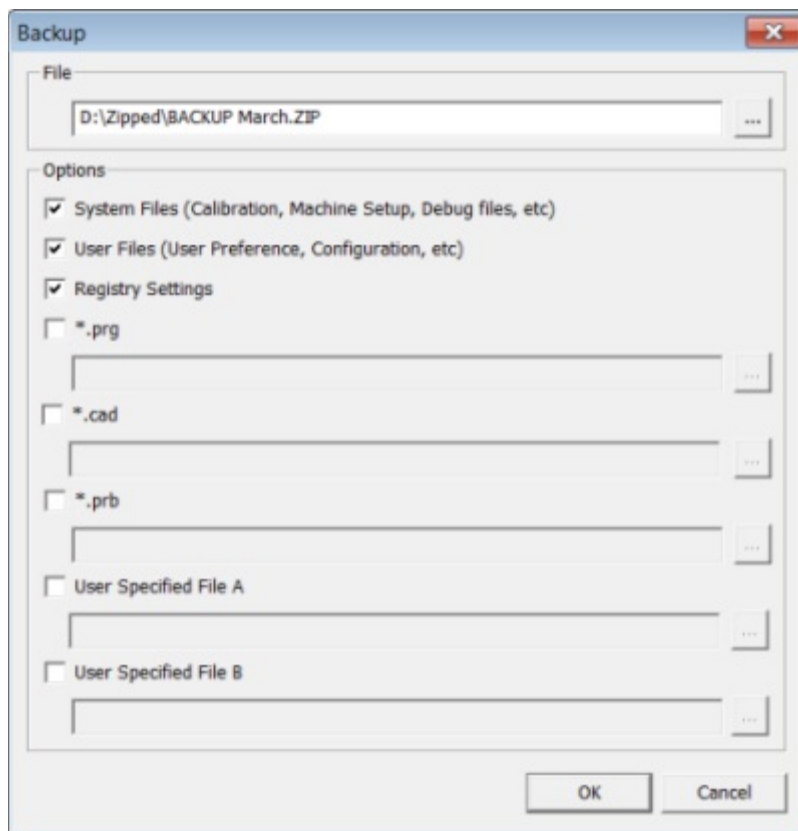
Step 2: Log on as an Administrator

To install and run your new version for the first time, you must be logged on as a user with administrator privileges.

Step 3: Back Up Existing Settings

Back up your settings from your previous version. By default, PC-DMIS 2018 R2 attempts to migrate existing settings from previous installs on the same computer, even from very old versions of the software where settings were stored in the pcdlrm.ini file.

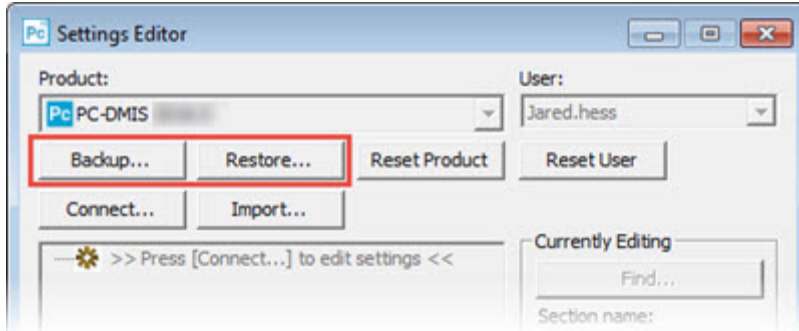
- If your current version uses the pcdlrn.ini file for its settings, back up your pcdlrn.ini file. This file is in the Windows system directory. Save a copy of the file in a safe place.
- If your current version uses the PC-DMIS Settings Editor, back up your PC-DMIS Settings Editor data. To do this:
 1. Start the Settings Editor.
 2. Click the **Backup** button (or **Export**). The **Backup** dialog box appears:



Backup dialog box

3. In the **File** box, define a safe location to save the backed-up files, and give the file a .zip extension.
4. Select the first three check boxes, and click **OK**.

If you replace your computer or transfer settings that reside on another computer, you can use the Settings Editor's **Backup** and **Restore** buttons:



Backup and Restore buttons

For more information on the backup and restore functionality, refer to the Settings Editor documentation.

Backing Up Machine Files for an Xcel CMM or a Sharpe Controller

If you are using a Brown and Sharpe Xcel CMM or a CMM that uses a Sharpe controller, and you are going to install PC-DMIS 2018 R2 on a new computer, save copies of the following CMM machine files from your previous version to a safe place:

- comp.dat

Starting with PC-DMIS 2013 MR1, the comp.dat file moved to:

C:\ProgramData\WAI\PC-DMIS\version

- downl.oad

The files are located in the installation (root) directory for all software versions prior to 2013 MR1, regardless of the operating system.

The location of the installation (root) directory is:

C:\Program Files\WAI\PC-DMIS version

For versions of PC-DMIS up to and including 3.7 MR3, the location of the installation (root) directory is:

C:\PCDMISW

Backing Up Machine Files for a CMM with a DEA Controller

If you are using a DEA or other CMM with a DEA machine controller, and you are going to install PC-DMIS 2018 R2 on a new computer, save copies of the following CMM machine files from your previous version to a safe place (the files vary according to the type of CMM):

- cosdat1.bin
- compens.dat

Starting with PC-DMIS 2013 MR1, the compens.dat file moved to:

C:\ProgramData\WAI\PC-DMIS*version*

- Fzyfile.txt
- Rcxfile.txt
- Rmxfile.txt
- Any file with your machine's serial number in its name

The files are located in the installation (root) directory for all software versions prior to PC-DMIS 2013 MR1, regardless of the operating system.

The location of the installation (root) directory is:

C:\Program Files\WAI\PC-DMIS *version*

For software versions up to and including 3.7 MR3, the location of the installation (root) directory is:

C:\PCDMISW

Step 4: Install the Software

The following steps run you through a typical installation. Your installation screens may differ if you are running a different version of PC-DMIS 2018 R2 or if you are installing a custom build with additional options. In addition, your license may be configured with different options.


1. Locate the installation file on your installation media; or, if you downloaded it, open the directory that contains the downloaded file. The name of the installation file is:

Pcdmis2018_R2_release_##.#.###.#_x64.exe

The # symbols represent the version and build numbers.

2. Double-click this executable file to open the installation program.
3. If a security warning appears, click **Run**.
4. From the initial license screen, read the license agreement, and select the **I agree with the License terms and conditions** check box.
5. In the box at the bottom, you can define the installation folder. By default, the file installs to:

C:\Program Files\Hexagon\PC-DMIS 2018 R2 64-bit

To change the folder, either click the browse button () and choose a folder, or in the box, type a new path.

6. Once you accept the license agreement and choose the installation folder, click **Next** to open the licensing screen.
7. From the licensing screen, choose your license type:
 - **LMS (Software) License** - If you have a software license (called an Entitlement ID), select this option. Complete the boxes beneath this option.
 - **LMS License Server** - If you have a license server to connect to, select this option and then type the server address.
 - **HASP** - If you have a portlock (a physical USB device with the licensed options), ensure that it is connected to your computer, and then select this option.

For help on how to set up an LMS license, see "[LMS License Setup](#)".

8. Click **Next**.
9. Choose to install additional software. If you chose a custom installation path, the additional software still installs to your default measurement routine directory (usually C:\Program Files\Hexagon\
 - **Inspect** - This is version 3.2 of the Inspect operator interface to PC-DMIS 2018 R2. You can open PC-DMIS 2018 R2 from within Inspect to generate reports and execute measurement routines. You can execute measurement routines from the local directory or HxGN SMART Quality.
 - **PDF Converter 5.0** - This third-party tool converts PC-DMIS 2018 R2 reports to PDF outputs.
 - **NOTIFICATION CENTER** - This application sends notifications from a client application, such as PC-DMIS 2018 R2, to your computer or measurement device. It does this during certain events, such as when the machine has an error.

Join the Hexagon Customer Experience Improvement Program - To help improve the product and send usage data to Hexagon Manufacturing Intelligence, select this check box. To opt out of sending usage data, clear the check box. For more information about this program, visit the [Hexagon Customer Experience Improvement Program](#) web site.

You can also choose to send usage data to Hexagon Manufacturing Intelligence after you install the software. For more information, see "[Updating the Software](#)".

10. Click **Install** to start the installation. A progress bar shows the overall progress.
11. When the installation finishes, a screen shows any warnings or errors. It also contains these options:
 - **Launch PC-DMIS** - To launch PC-DMIS 2018 R2 now, select this check box. If this is your first time installing this version on this computer, you should do this to initialize registry entries. For more information, see "[Administrator Privileges Explained](#)".
 - **Show Release Notes** - To display a Readme.pdf file that shows what is new or has changed in this release once you click **Close**, select this check box.
12. Click **Close** to close the installation program.

LMS License Setup

This topic provides information if you need to:

- Set up your LMS (software) license
- Connect to an LMS license server
- Update your LMS license
- Provide licensing information to the installer from the command line

LMS (Software) License


If you chose **LMS (Software) License** on the [licensing screen](#), and the installation cannot find a valid license on your system, you need to complete these options:

LMS (Software) License option

1. Complete the options:
 - **Entitlement ID** - If you have an Entitlement ID, type or paste the ID you were issued in the box. If you have supplied this value in a previous installation, the installer pulls in that value from the registry.
 - **URL to FNO Services** - This points to the URL that verifies your license. Ensure that it has this URL:

`https://licensing.wilcoxassoc.com/flexnet/services`

- Proxy information - If your computer is on a network where you need a proxy server to reach the Internet, contact your IT specialist to get this information. Enter the server host, user name, and password.
2. If you do not have an Entitlement ID and you need to activate your license offline, use the CLM Admin application. From the CLM Admin application, choose **Activate new licenses**, and follow the on-screen instructions.



For information on how to use the CLM Admin application, consult the Hexagon Client License Manager (CLM) Software documentation ([pcdmisclm.chm](#)). You can find this in the sub-folder for your language (such as the **en** directory for English).

3. Click **Next**. The installation software connects to the Internet and activates your license. It then installs the FLEXnet Licensing Service required to use LMS licenses.

LMS License Server



LMS License Server option

If you use a license server, select this item, and then type your license server name in the **License Server(s)** box. The format of this line of text is *port number@server name*, where *port number* is the TCP port number for the licenser server, and *server name* is the name of the server.

The default TCP port number is 27000. If you don't identify a specific port, the license server uses the default. For example, these mean the same thing:

@server1

27000@server1



If you use this option, place the "@" symbol in front of the server address. If the "@" symbol is left off, the installation process attempts to look locally for the license. This may result in an error.

You can also specify multiple license servers. You can separate them with semicolons. For example, suppose that you have three license servers called licenseserver1, licenseserver2, and licenseserver3, and all of them use the default TCP port. You can specify all of them in a single line of text, like this:

@licenseserver1;@licenseserver2;@licenseserver3

Updating Your LMS License

Once you finish with the license setup and install PC-DMIS 2018 R2, it checks for license updates when it starts and after every eight hours of running. If a license update is available, this notification appears:

PC-DMIS

Updates are available for your PC-DMIS license. Applying them now will require PC-DMIS to restart. Would you like to apply the updates now?

To apply the update, click **Yes**. If you click **No**, PC-DMIS 2018 R2 displays the message every eight hours of running or the next time it runs.

- If an option or a feature is added, you are given the choice to apply the changes. A pop-up message displays in the system tray if you apply the changes.
- If an option or feature is removed, a message that requests you to restart PC-DMIS 2018 R2 appears. A pop-up message also appears in the system tray to inform you of this.
- If an option or feature is obsolete, it is automatically removed.



After you apply an update, restart PC-DMIS to ensure that it functions properly.

Providing LMS Licensing Information to the Installer from the Command Line

You can send LMS licensing information to the installer through command line parameters. For more information, see "[Providing LMS Licensing Information to the Installer from the Command Line](#)" in Appendix A.

Administrator Privileges Explained

Software versions earlier than version 2012 require that you run the software as an administrator because some system settings (such as the last probe used, wrist angles, and other items) were shared among all users on that computer. This required that these settings were placed in the LOCAL_MACHINE section of the Windows registry instead of in the CURRENT_USER section (for user-specific settings). Making changes to settings in the LOCAL_MACHINE section requires administrator privileges.

In PC-DMIS version 2012 and later, the settings mechanism used by PC-DMIS changed to only require administrator access the very first time it runs at the end of the installation. From that point forward, standard user access is sufficient.

The PC-DMIS installer has a flag that is built into the setup executable file (Pcdmis2018_R2_release_##.#.###.#_x64.exe) that requires the setup process to run with administrator privileges. If the current user has lesser privileges, the setup program displays a prompt to provide a user name and password of an account with administrator privileges.

Once the installation finishes, the first time you run PC-DMIS 2018 R2, you must launch it with administrator privileges. If you mark the [Launch PC-DMIS after the install finishes check box](#) when the installation finishes, PC-DMIS 2018 R2 does this automatically by passing the original privilege level of the installer onto PC-DMIS.

Note, however, that if you do not mark this check box, you will need to explicitly right-click on the shortcut and select **Run as administrator** as described in [step 6](#).

For more information on the file system and registry rights that PC-DMIS 2018 R2 requires, see "[Required User Access Rights](#)" in Appendix B.

Step 5: Copy Files after Installation

If these files are available, copy them from your old PC-DMIS installation directory to the directory where you installed the newer version:

- Sysparam.dat
- Downl.oad
- Fzyfile.txt
- Rcxfile.txt
- Rmxfile.txt

Starting with PC-DMIS 2010 MR2, PC-DMIS automatically copies common system files to the program data files directory when you install a newer version of PC-DMIS.

The comp.dat, compgrid.at, comp.enc, and compens.dat volcomp files used with volcomp methods 13 (ASI) and 14 (BNS) must be in the program data files directory. When you install a newer version of PC-DMIS, these files automatically copy to the program data files directory for the new version. For the default path location of this directory, see "[Understanding File Locations](#)" in Appendix B.

For additional information on volumetric compensation files and setup, see the Machine Interface Installation Manual (MIIM).

You can access the MIIM.chm help file in the **en** subfolder where PC-DMIS is installed.

Copying Machine Files for an Xcel CMM or a Sharpe Controller

If you are using a Brown and Sharpe Xcel CMM or a CMM that uses a Sharpe controller, and you installed PC-DMIS 2018 R2 on a new computer, copy the backed-up CMM machine files to the following location on the new computer:

C:\Program Files\Hexagon\PC-DMIS *version*

For more information about these files, see "[Backing Up Machine Files for an Xcel CMM or a Sharpe Controller](#)".

Copying Machine Files for a DEA CMM with a DEA Controller

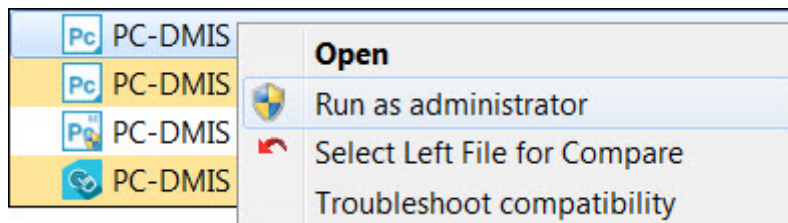
If you are using a DEA CMM with a DEA machine controller, and you installed PC-DMIS 2018 R2 on a new computer, copy the backed-up CMM machine files to the following location on the new computer:

C:\Program Files\Hexagon\PC-DMIS *version*

For more information about these files, see "[Backing Up Machine Files for a DEA CMM with a DEA Controller](#)".

Step 6: Launch the Software for the First Time

1. When you run PC-DMIS 2018 R2 for the first time, go to **Start** and type **PC-DMIS 2018 R2 64-bit**.
2. From the list of shortcuts in the **Start** menu, right-click on either the **Online** or **Offline** icon, and then select the **Run as administrator** option (required only if the **Launch PC-DMIS** check box wasn't checked at the end of the installation).



Run as administrator option

The **Run as administrator** option allows the program to write the needed machine-specific settings.

3. You can import settings from a previous version.

If your previous version used the pcdlrm.ini file, PC-DMIS 2018 R2 asks if the settings in your PCDLRN.INI file should be used as your registry settings. Click **Yes** at the prompt. Otherwise, PC-DMIS 2018 R2 loads in the factory defaults.

If your previous version used the Settings Editor, do the following to use your previous software settings:

- a. Close PC-DMIS 2018 R2.
- b. Launch the PC-DMIS Settings Editor from the **Start** menu.

- c. Once it opens, click **Import**, and open the PCDRegFile.dat file you backed up in the "[Step 3: Back Up Existing Settings](#)" section of this document. PC-DMIS 2018 R2 imports your settings.
 - d. Close the PC-DMIS Settings Editor.
4. When you launch PC-DMIS 2018 R2, the **What's New** information appears in your default web browser. You can also choose to display the **What's New** information after you launch PC-DMIS 2018 R2. To do this, click **Help | What's New**.

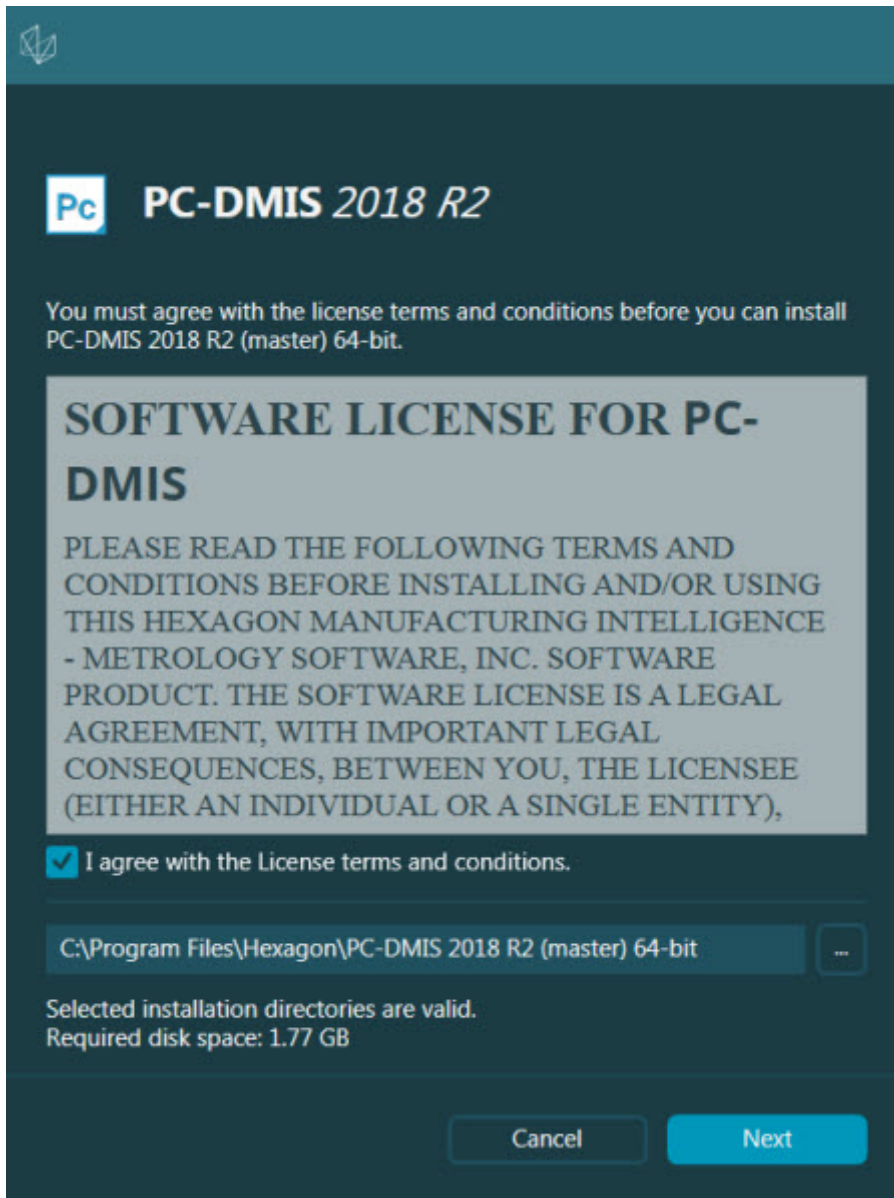
Subsequent Startups

For subsequent startups, you can launch PC-DMIS 2018 R2 normally by clicking the usual **Offline** or **Online** shortcut:



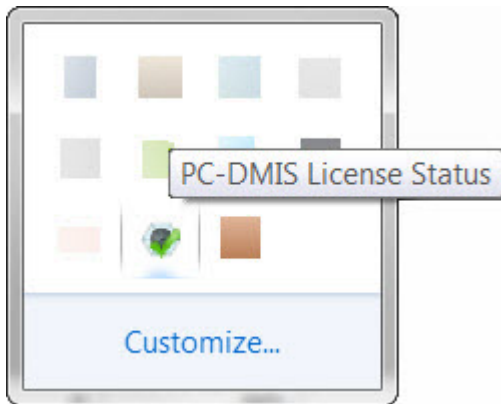
PC-DMIS 2018 R2 shortcuts

Once PC-DMIS 2018 R2 starts, the **Software License** screen displays the current license agreement. Read the agreement carefully and then at the bottom, click **I agree with the License terms and conditions** to proceed:



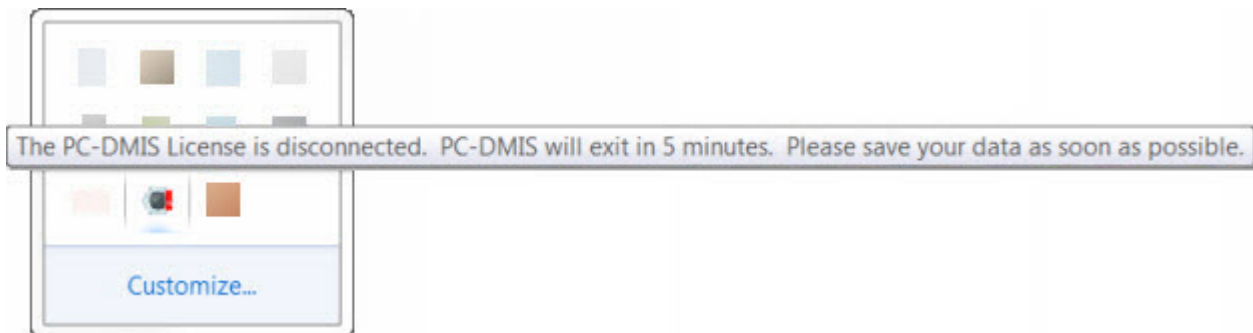
Software License screen

Once PC-DMIS 2018 R2 runs, an icon displays in your system tray. If your portlock or LMS license is programmed correctly, the icon displays a green check mark as shown below:



Message for valid PC-DMIS license

If your portlock is not connected or is not programmed correctly, or if you are using an LMS license and your software has not been properly licensed, the icon appears with a red exclamation point overlay. A pop-up message says that the license is disconnected:



Message for disconnected PC-DMIS license

If the license is disconnected, PC-DMIS 2018 R2 functions normally, but after 5 minutes, it automatically closes. Be sure to save your data immediately before this occurs.

Note About CMMs Using RS-232 Communications

By default, PC-DMIS 2018 R2 communicates through the COM1 communications port. You need to change this port number to the number that Windows automatically created if a serial-to-USB adapter cable or serial adapter card was installed for communicating with an older RS-232 CMM.

To change the COM port number:

1. In Windows Device Manager, note the number that Windows assigned to the communications port on your computer. For help, refer to Windows Help.
2. Open PC-DMIS in online mode, and then open or create a measurement routine.
3. Select **Edit | Preferences | Machine Interface Setup**.
4. In the **Comm port** box, enter the port number from Windows Device Manager.

Updating the Software

By default, PC-DMIS automatically checks for software updates if your computer is connected to the Internet. If PC-DMIS detects that an update is available, the HEXAGON UPDATES application opens to inform you of the update. You can then download and install these updates.

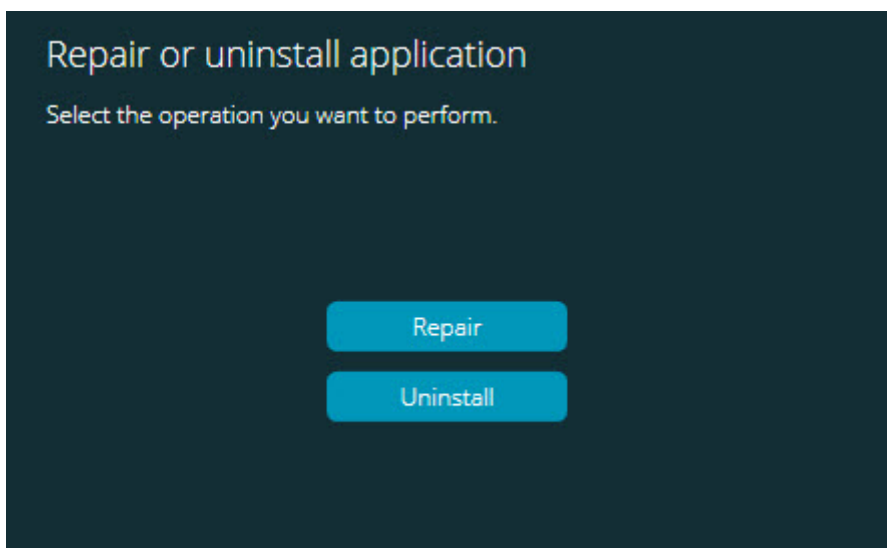
You can also manually check for updates. To do this, select **Help | Check for Updates** and then select the desired options in the HEXAGON UPDATES updater application.

The HEXAGON UPDATES updater application contains the **Settings** dialog box. You can use the **I would like to participate** option in the dialog box to choose whether or not to join the Hexagon Customer Experience Improvement Program and send usage data to Hexagon Manufacturing Intelligence. Hexagon Manufacturing Intelligence uses this data to improve the user experience. For more information about this program, visit the [Hexagon Customer Experience Improvement Program](#) web site.

For more information on the updater application, see "Updating the Software" in the "Getting Started" chapter in the PC-DMIS Core documentation.

Repairing or Removing an Installation

You can also repair or remove an installation once you install it. To do this, double-click the Pcdmis2018_R2_release_##.#.###.#_x64.exe file as if you were beginning the installation process. The setup displays a screen with these options:



"Repair or uninstall application" dialog box

- **Repair** - This option reinstalls all of the product files as they were originally installed. This option may help resolve issues where an installation didn't properly install all of the files.
- **Uninstall** - This option removes the application from where you installed it. You can also use the **Apps and features** screen or the **Programs and Features** control panel item in Control Panel to uninstall the application.

Running the Software in Another Language

The initial installation setup file for PC-DMIS 2018 R2 contains the user-interface files for all of the supported languages. When you install PC-DMIS 2018 R2, it installs the language files based on your operating system's language.

To run PC-DMIS 2018 R2 in a language other than the operating system's language, select **File | Language**, and then click the desired language. PC-DMIS shows a message that says the application will be shut down and restarted. Click **Yes** to continue. PC-DMIS 2018 R2 immediately closes and then reopens in the selected language.

To get the help content available in a non-English language, see "[Installing Non-English Help Files from Language Packs](#)".

Installing Non-English Help Files from Language Packs

Even though you may have a non-English operating system, the English help files are the only help files included in the main installation package. They are installed regardless of the installation language. However, non-English help files are not included in the main installation file.

This means that if you install a non-English language, or if you switch to a non-English language, in order to see any help content at all, you *must* also install a language pack for that language. Otherwise, if you try to access the help file, PC-DMIS 2018 R2 displays an error message indicating that it cannot find the help file.

A language pack contains all of the help content for that language. To install a language pack, do the following:

1. Locate the desired language pack (and .exe file) on your installation media or download it from the Internet here:

ftp://ftp.wilcoxassoc.com/PC-DMIS-Versions/Release/2018_R2/Release/x64/Lang/

2. Run the .exe file and follow the setup instructions. You do not need to have administrator access to do this step.

This procedure installs the help content into the appropriate language sub-folder (for most languages, this is a two-letter folder) where you have PC-DMIS 2018 R2 installed. You can then switch to that language in the software and access the help content.

Troubleshooting

This topic provides information for you to troubleshoot installation, startup, and software update problems.

Startup is Slow

Problem: You use a computer with at least the recommended system requirements as detailed in the "[Recommended System Requirements](#)" topic, and it takes longer than 30 seconds to launch the software.

Description: This happens if you try to run PC-DMIS 2018 R2 on a Windows 7 computer, but you didn't mark **Run as administrator** on the installation wizard. This results in a problem loading the HASP driver. Note that this problem only occurs when you install with a HASP license type, as discussed in "[Step 4: Install the Software](#)".

Solution: Uninstall PC-DMIS 2018 R2 and then reinstall it by right-clicking on the installation file and choosing **Run as administrator**.

Updating the Software Results in a "(407) Proxy Authentication Required" Message

Problem: You use the **Help | Check for Updates** menu option to update the software, and when the HEXAGON UPDATES updater application opens, it shows: "The remote server returned an error: (407) Proxy Authentication Required."

Description: A firewall on your computer may be blocking the updater application from connecting to the server.

Solution: Check your firewall's settings and ensure that the following address is not blocked: <http://www.wilcoxassoc.com/WebUpdater>

Setting Up the Network to Send Crash Reports

Problem: PC-DMIS 2018 R2 cannot automatically send crash reports to Hexagon Manufacturing Intelligence even when your software configuration does not use the **/nocrashdump** switch. (This switch disables crash reports in PC-DMIS 2018 R2.)

Description: A firewall on your computer may be blocking the HEXAGON UPDATES updater application from connecting to the server. If PC-DMIS 2018 R2 crashes, it uses a PHP script over HTTP to send the crash report. If this fails, it then tries to send the report to crashreport@wilcoxassoc.com. It tries using the standard SMTP email protocol. If that fails, it tries to send the email through MAPI.

Solution: The crash report system needs to be able to use port 80 to get out to the server, <http://www.wilcoxassoc.com/>.

Installing on top of an Existing Version Results in Unexpected Behavior

Problem: You installed on top of an existing version of the software, and now the software does not behave normally. Potential symptoms include:

- After you start up the software, you get a "Procedure Entry Point" error.
- When you select **Help | About**, it does not show the new build number.
- Reported bug fixes do not seem to be fixed, and PCDLRN.EXE does not have a newer date and time than the original release.

Description: Something did not install properly on top of the existing version.

Solution: Use **Apps & Features** or Control Panel to completely uninstall the existing version and then reinstall the version you're trying to install.

Running the Legacy DPUPDATE.EXE Does Not Work

Problem: The legacy DPUPDATE.EXE does not run.

Description: If you run PC-DMIS 2018 R2 without administrator privileges, DPUPDATE.EXE does not work.

Solution: Run PC-DMIS 2018 R2 with administrator privileges.

Contact Hexagon Manufacturing Intelligence

If you are participating in the *technical preview* of PC-DMIS 2018 R2, please post your feedback in the appropriate technical preview forum located at www.pcdmisforum.com/forum.php. Please do not contact Hexagon Technical Support for technical previews.

If you are using the *commercially-released version* of PC-DMIS 2018 R2 and would like further information or technical support, please contact hexagonmi.com/contact-us or visit hexagonmi.com/products/software. You can also reach Hexagon Technical Support at support.hexagonmi.com or by calling (1) (800) 343-7933.

Appendix A

Recommended System Requirements

Operating System

PC-DMIS 2018 R2 operates under 64-bit Windows 10, Windows 8.1, Windows 8, Windows 7, and Windows Vista. No other operating systems are supported.



When you use third-party drivers, you should contact your local Hexagon Manufacturing Intelligence representative to ensure operating system compatibility.

Running PC-DMIS inside a Virtual Machine (VM) is supported only if the VM supports OpenGL 3 or higher.



PC-DMIS Vision machines do not support 64-bit Windows 8.

The Matrox Framegrabber PC-DMIS Vision hardware component does not support a 64-bit operating system.

Microsoft .NET Framework

Microsoft .NET Framework 4.6.1 for Windows. If you do not have Microsoft .NET Framework 4.6.1, the PC-DMIS installer will install it for you.

RAM

- 4 GB of RAM or higher

The size of the CAD data file and the tessellation multiplier value used affect the amount of memory needed. These both affect the amount of tessellated facets needed to display the model. The smaller the tessellation multiplier value used, the more memory needed for the facets. For large CAD models, this could cause an "Out Of Memory" error. If this occurs, the current PC-DMIS session will be left in an unstable state and should be terminated.

The default tessellation multiplier value is 1.0. Setting a tessellation multiplier of 0.1 will result in a 10 to 20 percent increase in the memory required over the default value of 1.0. Decreasing the tessellation multiplier further to 0.01 will result in an additional 50 to 65 percent increase of memory required.

- 1 GB of video RAM

CPU

2 GHZ or higher quad core processor

Graphics

- For desktops: NVIDIA Quadro K620 graphics card
- For laptops: NVIDIA Quadro K1100M graphics card
- For laptops running PC-DMIS with an RS4 laser sensor: NVIDIA Quadro M3000M graphics card with 4 GB of memory

The graphics driver must support OpenGL 3.0 or higher. A warning message appears on PC-DMIS startup if the driver does not support OpenGL 3.0 or if your graphics driver is more than three years old.

Hard Drive

- 2 GB of free hard drive space plus allocated virtual memory of eight times the largest CAD file used
- SSD drive, HDD 10K, or two disks in RAID 0 mode (high-performance hard disk drive)

Display

Screen resolution of 1280 x 1024 or higher

Connectivity

- Two Ethernet ports. This may be required for specific installations in consideration of local needs, including but not limited to CMM systems where one port is required for controller communications and another for intranet/Internet communications.
- Two USB ports
- DVD drive
- A properly-configured LMS license or portlock



A HASP key does not act as general-purpose data storage; therefore, you cannot use a HASP key to store (download) arbitrary data from a computer. Similarly, you cannot use a HASP key to put (upload) arbitrary data on a computer. Also, only Hexagon Manufacturing Intelligence applications can read or write to a HASP key; other applications do not have this capability. As a result, you cannot use a HASP key to load and unload data to and from a computer.

Browser

Internet Explorer 10 or later

Anti-Virus Software

Hexagon Manufacturing Intelligence used the Sophos anti-virus tool to test PC-DMIS 2018 R2. You will need to confirm the performance of any other anti-virus tool.

<http://sophos.com/products/enterprise/endpoint/security-and-control/>

Solutions for CMMs Using RS-232 Communications

If you are installing PC-DMIS 2018 R2 on a new or existing computer, but you have an older CMM model that uses RS-232 communications, then you will need to install one of these solutions on your computer:

- An external RS-232 serial-to-USB adapter cable plus the serial-to-USB adapter cable driver
- An internal serial adapter card with serial ports

Providing LMS Licensing Information to the Installer from the Command Line

You can send LMS licensing information to the installer by using the command line:

- If the installer is running in silent mode (**-q**) or basic silent mode (**-passive**), and the correct information is provided, everything runs without user interaction. The command switch **-q** displays the progress bar and handles installer errors. The **-passive** switch hides the user interface.
- If the installer is not running in silent mode, the information provided is used to populate the LMS activation form and skip the [license screen](#).
- You can provide the **-?** to review additional command line arguments.

Descriptions of the parameters follow, along with examples.

Descriptions

USELMSLICENSING=1 - This flag is useful only if the system already has an LMS license that the user is using. It allows silent mode to work without having to prompt the user for a license choice. If the installer is not running in silent mode, it still allows the install process to skip the license type selection dialog (thus saving some time).

LMSENTITLEMENTID=*entitlement id* - This parameter and value are useful on a new system where no LMS license was previously installed. It indicates that you want LMS licensing and provides an Entitlement ID to try and activate. When this value is specified, there is no need to specify **USELMSLICENSING**.

LMSLICENSESERVERS="*server1,server2...*" - This parameter is used on systems that communicate with a license server. It also allows the license type selection dialog box to be skipped and the installation to be done silently.

LMSPROXYHOST="*proxyhostaddress*" - This optional parameter gives the address of a proxy host. In silent mode, it is used directly in activation. In non-silent mode, it populates the activation form with this value.

LMSPROXYUSERNAME="*user name*" - This parameter is another optional parameter for the proxy user name. It behaves in the same manner as **LMSPROXYHOST**.

LMSPROXYPASSWORD="*unencrypted password*" - This parameter is another optional parameter for the proxy password. It behaves in the same manner as **LMSPROXYHOST**.

LMSURLTOFNOSERVICES=URL to FNO server - This parameter is mostly for internal development. The default URL is to the production server. The new value can be used to override the default value and point to the development server.

Examples

On a brand-new system with a node-locked Entitlement ID, the following line installs PC-DMIS 2018 R2 in silent mode:

-q LMSENTITLEMENTID=99999-88888-77777-66666-55555

On a system that already has a license, the following line installs PC-DMIS 2018 R2 in silent mode:

-passive USELMSLICENSING=1

On a brand-new system using license servers, the following line installs PC-DMIS 2018 R2 in silent mode:

-passive LMSLICENSESERVERS="123.12.134.42"

On a brand-new system with no license, the following line skips the license type selection dialog box and populates the activation form:

LMSENTITLEMENTID=99999-88888-77777-66666-55555

LMSPROXYHOST="123.123.123.123" LMSPROXYUSERNAME="bob"

LMSPROXYPASSWORD="marley"

Appendix B

Understanding File Locations

These are the default file locations (path locations) for various user-specific settings and other files for PC-DMIS 2018 R2. These files are stored in the following locations, based on each file's role.

Public Documents

Measurement routine, CAD, probe, and other files:

C:\Users\Public\Public Documents\Hexagon\PC-DMIS\2018 R2

Demo CAD files:

C:\Users\Public\Public Documents\Hexagon\PC-DMIS\2018 R2\CAD

Public Documents (Reporting Directory)

Report template, label template, rule definition, and color definition files:

C:\Users\Public\Public Documents\Hexagon\PC-DMIS\2018 R2\Reporting

Fixturing Files

C:\Program Files\Hexagon\PC-DMIS 2018 R2 64-bit\Models\QuickFix

Program Data Files [Hidden]

Calibration files (such as comp.dat and compens.dat), setup files (such as tool.dat, toolc.dat, and usrprobe.dat), and other files:

C:\ProgramData\Hexagon\PC-DMIS\2018 R2

User Data Files

Files for toolbar and menu layout, lighting and materials, and settings:

C:\Users*user name*\AppData\Local\Hexagon\PC-DMIS\2018 R2

Where *user name* is your window's logon user name.

For more specific information on data files, see "Understanding Data Files" in the "Setting Your Preferences" chapter in the PC-DMIS Core documentation.



In addition, you can use the Settings Editor application to back up, restore, or clear user-specific files and settings. Rather than manually deleting or restoring individual files on your own, we recommend that you use the tools provided in Settings Editor instead. For more information, refer to the Settings Editor help file.

Required User Access Rights

PC-DMIS 2018 R2 requires read, write, and create access to the locations defined below in the file system and registry.

File System

Windows 10, Windows 8, Windows 7, and Windows Vista:

- C:\ProgramData\Hexagon\PC-DMIS\2018 R2
- C:\Users\Public\Documents\Hexagon\PC-DMIS\2018 R2
- C:\Users\UserName\AppData\Local\Hexagon\PC-DMIS\2018 R2
- Any user-specified folder locations for storing measurement routines, probes, subroutines, and so on

Registry

All of these versions have their own registry settings, which are stored in a version-specific registry key. The items shown below are for version 2018 R2.

- HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hexagon\PC-DMIS\2018 R2 Key and all sub keys
- HKEY_CURRENT_USER\Software\Hexagon\PC-DMIS\2018 R2 and all sub keys
- HKEY_USERS\DEFAULT\Software\Hexagon\PC-DMIS\2018 R2 and all sub keys

Notes

The first time you run a new version, PC-DMIS automatically copies the settings from the most recent version of PC-DMIS that is installed. For this to work, PC-DMIS needs to run with administrator privileges the first time you run it. During the installation, if you select the **Launch PC-DMIS** check box in the setup wizard, it runs PC-DMIS as an administrator and completes this first step.

This initial migration automatically sets read, write, and create permissions on the registry for the relevant keys.

If you are using fixturing or laser sensors, the following registry keys are stored back one level:

- HKEY_LOCAL_MACHINE\SOFTWARE\Hexagon\FxtServer
- HKEY_LOCAL_MACHINE\SOFTWARE\Hexagon\PC-DMIS\NCSSENSORSETTINGS

It may be easier to just apply create/read/write privileges to the HKEY_LOCAL_MACHINE\SOFTWARE\Hexagon\ key and all sub keys to cover these also.

Appendix C

First-Time Installation with Flexible Fixturing

To be compliant with the permission rules for PC-DMIS products, files associated with fixturing are now located in this folder:

C:\Program Files\Hexagon\PC-DMIS 2018 R2 64-bit\Models\QuickFix

This allows access to the files without needing administrator privileges on the computer running PC-DMIS. To accomplish this, the following steps are required when you install PC-DMIS for the first time:

1. The first time you install PC-DMIS and FxtServerInterface, run the FxtServerInterface installation program for the first time with administrator privileges (as is required for the PC-DMIS installation).
2. When you run FxtServerInterface, a message states that the system will migrate all of your data files to the "FIVEUNIQUE" Documents folder described above.
 - If you choose **Yes**, the files are moved, and the original folder is deleted.
 - If you choose **No**, the files are copied, but the original folder is kept.

Once this is done, the files are moved (or copied), and you are able to run FxtServerInterface.exe without administrator privileges.