



HEXAGON
MANUFACTURING INTELLIGENCE

PC-DMIS 2020 R1

- Release Notes -



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Application Errors

You no longer get an application error in these instances:

- PCD-210924 - When you click the **Generate** button on the **Scan** dialog box to re-generate hits after you edit a scan feature.
- PCD-212766 - When you copy and paste a true position dimension that contains a laser feature as a datum.
- PCD-213322 - When you cancel the **Dimension** dialog box and the status window is visible.
- PCD-213335 - When you close a measurement routine while you edit a report that contains a CAD reporting object.
- PCD-213348 - When you select items from the CAD if the Edit window cursor is above the first alignment.
- PCD-213396 - When you are in Step mode and the software steps past the last command.
- PCD-213410 - When you save a label in an old format that contains an analysis object.
- PCD-213540 - After a Cut and Paste, you execute a feature.
- PCD-213578 - When you close PC-DMIS after you use the Tutor Quick Start feature.
- PCD-213584 - When the paste operation fails to create a copied command.
- PCD-213723 - When you center the probe on a command after you delete a group that contains the dependent command.

- PCD-213729 - When you delete command selections after you create auto features.

Auto Features

- PCD-200282 - When you are in Command mode, PC-DMIS now displays the correct boundary offset value in the Edit window when you create an Auto Plane in inch units.
- PCD-210492 - You can now extract Laser Auto feature Circles on multiple layers of sheet metal on the selected plane.
- PCD-211587 - PC-DMIS no longer resets the actual values to the nominal values on some Auto features that use scanning strategies when path lines are set to show or hide.

CMM

- PCD-204855 - You can now see the correct message at start-up when you minimize PC-DMIS.
- PCD-206502 - PC-DMIS no longer makes unexpected incremental moves immediately after a tool change.
- PCD-211352 - PC-DMIS no longer shows a probe error when you take manual hits for the TP200 probe on a Wenzel controller.
- PCD-213715 - PC-DMIS no longer use an incorrect tip offset after a tool change in some configurations that involves multi-rack changes.
- PCD-214772 - PC-DMIS now allows you to set the width of a Vision Rectangle Gage tool in the **Probe Toolbox** dialog box.

Dual Arm

- PCD-211667 - PC-DMIS no longer keeps the Execution dialog box open when you calibrate a group of tips on the Arm2 contact probes.

HxGN Sfx

- PCD-214298 - PC-DMIS no longer sends dimensions to HxGN Sfx when you set the dimension output type to **None** in the **Dimension** dialog boxes. Also, PC-DMIS no longer reports axes as out of tolerance for Geometric Tolerance dimension when only the Size is out of tolerance.

Laser

- PCD-202632 - You can now use animation speed for Collision Detection. Also, the TTP Circular Plane now supports circular and straight paths.
- PCD-211338 - PC-DMIS now updates the CWS spectrum chart correctly even after you carry out a scan.

Reporting

- PCD-214396 - PC-DMIS now displays text reports correctly when you print PDF or RTF reports. This means that PC-DMIS no longer positions print report text to the right edge of the page.

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Application Errors

You no longer get an application error in these instances:

- PCD-204768 - When you switch between the portable interfaces and then click the **File** menu.
- PCD-208987 - When you move the cursor above all the alignment commands and define the cross-section commands.
- PCD-209148 - When you click the **Generate** button on the **Scan** dialog box to re-generate hits after you edit a scan feature.
- PCD-209155 - When you open PC-DMIS on locked down IT accounts without Internet access, and you didn't turn off the Internet access on the Home page settings.
- PCD-210119 - When you copy true position dimensions in certain cases.
- PCD-210133 - When you delete features that use the true position legacy dimensions.
- PCD-210361 - When you open PC-DMIS Online in certain cases.
- PCD-210366 - When the Romer interface fails to initialize in certain cases.
- PCD-210455 - When you switch from probe to scan in certain cases.
- PCD-210466 - When you preview a pointcloud in certain cases.
- PCD-210587 - When you select **File | Exit** in certain cases.
- PCD-210608 - When you switch between active measurement routines in certain cases.
- PCD-210681 - When PC-DMIS displays a license failure error message immediately after you open PC-DMIS.

- PCD-210719 - When you close a measurement routine with an active clearance plane.
- PCD-211060 - When you calibrate tips in certain cases.
- PCD-211128 - When you perform an undo operation on an alignment.
- PCD-211308 - When you carry tolerances forward.
- PCD-212092 - When you send the FCF data to the Edge Client.

Auto Features

- PCD-185254 - You can now change the **Row overlap** value in the **Auto Feature** dialog box on Auto Laser plane features.
- PCD-210189 - You can now see the improved spectrum output for the Precitec CHRocodile S and CHRocodile SE controllers.
- PCD-211055 - PC-DMIS now avoids the probe collision when you measure a small cylinder feature with a probe size more than 2/3 the diameter of the hole.
- PCD-211307 - PC-DMIS no longer leaves hits in the hits buffer and a feature label in the Graphic Display window after you create a feature.
- PCD-212277 - PC-DMIS now correctly converts the dimension units for the legacy position of a slot when you use the LF and WF axes.
- PCD-211612 - You can now see that when in Offline mode and you measure an Auto Circle Contact with zero sample hits relative to a feature, PC-DMIS projects the circle onto the theoretical plane of the circle.

CMM

- PCD-211016 - You can now correctly calibrate multiple arms in INCH mode when you use the [AUTOCALIBRATE/MULTIPLEARM](#) command.

Laser

- PCD-208518 - You no longer get an "illegal tip" error message when you execute dual arm measurement routines on CW43.

- PCD-208943 - You can now execute thickness scan features with the Precitec 2SHS controller.
- PCD-210143 - PC-DMIS now displays an error message in the **Execution** dialog box when there is no signal from the CWS or HP-OW probes.

HxGN Sfx

- PCD-196206 - PC-DMIS no longer sends incorrect error events when you enable the **Find Hole** option for auto features.
- PCD-212187 - PC-DMIS now updates Edge Client data streams to add session trace fields.

Reporting

- PCD-207509 - PC-DMIS no longer consumes resources when you refresh the custom report with the snapshot images in the Report window.

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- PCD-149154 - You can now see PC-DMIS correctly transforms the probe position when you transform a CAD model and compute the deviation from CAD (T) in the Probe Readout window.
- PCD-151794 - You no longer see the feature remains highlighted in the Graphic Display window that you selected from the **Size** dialog box when you click **Create**.
- PCD-171694 - You can now see that the AT960 tracker with a T-scan immediately starts to scan when you switch from another sensor type.
- PCD-185414 - You can now see the correct theoretical values for a constructed 3D width.
- PCD-193861 - Fixed an issue where PC-DMIS showed an incorrect message when you added Point of Interest (POI) in the **Thickness Gage** dialog box.
- PCD-194064 - You can now create or open a measurement routine online from the Home page with the AT403 tracker.
- PCD-198413 - You can now define the A and B wrist angles in the **Measure Probe** dialog box from the **Wrist Calibration** area. This allows you to put the related Offset values in the controller.
- PCD-198971 - Fixed an issue where the CWS Thickness Scan didn't work with the feature-based measurement.
- PCD-199362 - You can now create pointcloud surface colormap annotations at a low zoom level in the Graphic Display window.
- PCD-201537 - You no longer get an offset when you scan in inch mode with a laser scanner on Arm2 of the DEA Bravo HP/HD Dual Horizontal Arm CMM.

- PCD-201986 - You can now see pointcloud cross-section in the Graphic Display window after you execute, close, and then reopen a measurement routine.
- PCD-202475 - You can now see correct results for the Legacy Profile dimension of a Point Colormap.
- PCD-203163 - Fixed a software crash that occurred when you executed thickness scans.
- PCD-204562 - Fixed an issue when PC-DMIS didn't retain the tolerance values of the internal min/max dimensions when you edited the values in the Edit window.
- PCD-204720 - You no longer get an application error when you cancel the execution during the auto-calibration process.
- PCD-204767 - You can now see that PC-DMIS prompts you to load the Reflector when you disconnect from the Tscan. Also, you can now see PC-DMIS disconnects from the Tscan software before you load the Reflector during execution of a measurement routine.
- PCD-205779 - You no longer get an application error when you changed a nominal value in the Edit window on a constructed line.
- PCD-206086 - Fixed an issue where PC-DMIS couldn't take the hit on the CAD under a feature glow when you selected **Adaptive Circle Scan** in the **Auto Feature** dialog box.
- PCD-206263 - Fixed an issue where PC-DMIS showed an incorrect nominal value of the internal distance dimension for a Point of Interest (POI) with zero gage distance.
- PCD-206597 - Fixed an issue where the positions of the **Graphic Window in Y+** and the **Graphic Window in Y-** icons were reversed in the **Graphic View** toolbar on the high resolution monitors.
- PCD-207984 - You can now see the correct default options for graph, text, and output of the Thickness Gage feature's internal 3D distance dimension.

- PCD-208067 - You no longer get an application error when you save a measurement routine that contains an image capture command.
- PCD-208631 - PC-DMIS no longer sets the Thickness Gage internal location dimension options to their default values after you execute the measurement routine.
- PCD-208824 - You no longer get an application error when you define a width feature with zero points.

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- PCD-82062 - Fixed an issue where the [Copy Parameters](#) functionality didn't work properly for the Laser Edge Point features.
- PCD-129562 - Fixed an issue where there was an unexpected move on the adaptive circle scan when you used [MOVE/CLEARPLANE](#).
- PCD-188259 - Fixed a software crash that occurred when you used the HP-C-VE camera and the probe went to the focus position.
- PCD-190082 - Fixed an issue with the automation interface that would cause the PC-DMIS application to not properly terminate.
- PCD-194376 - Fixed an issue where PC-DMIS didn't create a point pair alignment when you clicked on points on the CAD model.
- PCD-194852 - Fixed an issue where PC-DMIS showed a black background in the **DOF** area of the **Best Fit Alignment** dialog box.
- PCD-195227 - Fixed an issue where PC-DMIS would color the Pointcloud Thickness Colormap red when you clicked the **Apply** button on the **Pointcloud Operator** dialog box instead of the Thickness colors when working in Inch units.
- PCD-199080 - Fixed an issue where each feature's point was drawn as a hit in the Graphic Display window when you selected a Laser Auto feature in the **Alignment Utilities** dialog box.
- PCD-201556 - Fixed an issue where new measurement routines couldn't send their file name to the **HxGN SFX | Asset Management**.
- PCD-201881 - Updated device drivers for the Heidenhain IK5000 (Metronics) controller.

- PCD-202609 and PCD-205590 - Fixed an issue where PC-DMIS allowed you to edit the measured value in the Edit window for the ESF (VWMP) features.
- PCD-203000 - Fixed an issue where PC-DMIS failed to set the tolerance to a negative value in the Thickness Gage command when you changed from the Edit window.
- PCD-203241 - Fixed an issue where the `COP` command was incorrectly removed from the Edit window when you opened and closed the Caliper **Gage** dialog box without any changes.
- PCD-203601 - Added bonus tolerance to the K0060 field for the .dfq output file in Q-DAS Configuration.
- PCD-203620 - Fixed an issue where the scanning parameters were incorrect for the Eagle Eye Laser scanning probe.
- PCD-203628 - Fixed an issue where PC-DMIS would hang when you used the Quick Feature to extract an ellipse.
- PCD-203865 - Fixed an issue where PC-DMIS changed the internal dimensions when you pressed F9 to open the **Thickness Gage** dialog box and closed the dialog box without any changes.
- PCD-204106 - Fixed a software crash that occurred when you created a construct feature set from the `COPCLEAN` command.
- PCD-204302 - Fixed an issue where PC-DMIS didn't show an error message when decimal symbol comma didn't convert to decimal point in the Windows regional settings for the number formats.
- PCD-204457 - Fixed an issue where the tabs in the **Best Fit Alignment** dialog box were not displaying properly on high resolution monitors.
- PCD-204558 - Fixed an issue where the CWS scan reported no points even though the scan was successful.

- PCD-204661 - Fixed an issue where the size command was not able to calculate the ISO limits and tolerance when the tolerance was associated with an ISO 286 tolerance code.
- PCD-204858 - Fixed a software crash that occurred when you edited the thickness gage dimensions from the **Thickness Gage** dialog box and used internal command suffixes in the feature names.
- PCD-204861 - Fixed an issue where lines didn't join polylines properly when you created a thickness scan on the CAD.
- PCD-204936 - Fixed a software crash that occurred when you opened a measurement routine with CAD GD&T elements.
- PCD-204963 - Fixed an issue where spherical surfaces didn't tessellate correctly when you imported some CAD models.

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- PCD-177993 - Fixed an issue where the calibration matrix for Laser probes didn't transform correctly and showed high standard deviation errors when the tool was mounted off the rotary table.
- PCD-185747 - Fixed an issue where PC-DMIS took more time to export a pointcloud file than usual when you exported a psl file.
- PCD-188653 - Fixed an issue where the `On Error` command couldn't skip the current command when you worked with the Leica LMF interface.
- PCD-194875 - Fixed an issue where PC-DMIS didn't create annotation points to a selected CAD face for a Point Colormap when you marked the **Create annotation points** check box in the **Pointcloud Operator** dialog box.
- PCD-195832 - Added the new names for TesastarMP US components and support for the 6-way module.
- PCD-197686 - Fixed an issue where PC-DMIS didn't update the **Grid Size** value when you selected **Grid Mesh** and changed the **Finalize Mode** options in the **Mesh Command** dialog box.
- PCD-198080 - Fixed an issue where a new custom laser scanning profile was added when you pressed the portable arm button to close the **Laser Data Collection Settings** dialog box after you measured an exclusion plane.
- Fixed an issue where, instead of executing the `COP/OPER, EXPORT` command from a subroutine, PC-DMIS would display an error message.
- PCD-201313 - Added definitions for the HP-Te series of probes.

- PCD-201581 - Fixed an issue where the generic features were highlighted in the Graphic Display window after the execution of a measurement routine.
- PCD-202002 - Fixed an issue where the vision features had an incorrect calibration when you used the illumination override on a feature.
- PCD-202580 - Fixed a software crash that occurred when you calibrated the CWS probe from the probe calibration toolbox.
- PCD-202759 - Fixed a software crash that occurred when you clicked **OK** in the **Thickness Gage** dialog box after you edited the **Point of Interest** for the command.
- PCD-203142 - Fixed a software crash that occurred when you clicked **Apply** in the **Animated Probe Changer** dialog box.
- PCD-203163 - Fixed a software crash that occurred when you executed thickness scans.
- PCD-203246 - Fixed an issue where the Vision 2D distortion compensation was not active when the execution was started after a first magnification change.

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- PCD-178506 - Fixed an issue where the alignment on the slave arm was not restored correctly if the execution of a measurement routine on a dual arm system was interrupted.
- PCD-187629 - Fixed an issue where the paste operation didn't work properly when you copied the measurement sequence from one measurement routine into another.
- PCD-198325 - Fixed a software crash that occurred when you created a circle with the use of a Quick Feature gesture.
- PCD-198560 - Fixed an issue where the first tip calibration didn't register when you indicated that the tool has moved and elected to use the Probe Collision Check for the calibration process.
- PCD-198971 - Fixed an issue where the CWS Thickness Scan didn't work with the feature-based measurement.
- PCD-200143 - Fixed a software crash that occurred when you changed the hit target direction in the Live View for the 2D profile.
- PCD-200174 - Fixed an issue where the section cut profiles and feature vectors for ESF (VWMP) features were not drawn when you pressed F9 in the Graphic Display window.
- PCD-200640 - Fixed the HP-TM components issue which included updating the nomenclature from HP-TM2 to HP-TMe, and ensured the compatibility with the Samara rack (HP-MP).
- PCD-201006 - Fixed a hardware crash that occurred when you selected the **Move Feature to Reference Plane** check box and performed the calibration of an HR-MP rack.

- PCD-201077 - Fixed an issue where auto calibrate didn't work when a machine was in Manual mode which caused PC-DMIS to report collisions that did not exist.
- PCD-201365 - Fixed a software crash that occurred when the HMV debug files were closely investigated.
- PCD-201520 - Fixed an issue with I++ interface where the CMM used the move speed from the previous measurement routine unless you changed the tool.
- PCD-201561 - Fixed an issue where PC-DMIS would hang when you generated a PPAP report.
- PCD-201611 - Fixed a software crash that occurred during the optical calibration when you selected **<Current>** from the **Illumination** list in the **Calibrate Optics** dialog box.
- PCD-201813 - Fixed an issue where a laser scanner would disconnect automatically when you changed the face and one or more scanner LEDs were covered.
- PCD-201970 - Fixed a software crash that occurred when you imported the NX part file from the **File | Direct CAD Interfaces | NX** menu item.
- PCD-202099 - Fixed an issue where the CAD model views indicated the incorrect presence of the GD&T features when PC-DMIS added the icons next to the views without PMI.
- PCD-202892 - Fixed a software crash that occurred when you closed the **Extended Sheet Metal Features** dialog box after you created the Contact feature.
- PCD-203293 - Fixed an issue where the **Report Output** check box was automatically deselected in the **Output Configuration** dialog box when you clicked the **Print Full Report** button in the marked sets window.

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- PCD-201302 - Fixed an issue where PC-DMIS Home page couldn't display the News feed on the upper-right corner of the page.
- PCD-200694 - Fixed an automation issue where PC-DMIS was not able to activate the **Use COP** check box in the **Linear Open Scan** dialog box.
- PCD-200643 - Fixed an issue where PC-DMIS wouldn't set the **Stripe Distance** and **Exposure** values in the **Linear Open Scan** dialog box and Edit window for the Eagle Eye sensor.
- PCD-199946 - Updated a DLL to help fix a software crash that occurred when you closed a measurement routine.
- PCD-199556 - Fixed an issue where PC-DMIS required two clicks to select a feature when you selected a surface with a different orientation.
- PCD-199068 - Fixed a software crash that occurred when you created a plane through the feature widget and attached a plane circle scan strategy to it.
- PCD-198515 - Fixed an issue where PC-DMIS didn't import specific geometry STEP models.
- PCD-198346 - Fixed a software crash that occurred when you collapsed or positioned your mouse pointer over any group item.
- PCD-198282 - Fixed an issue where PC-DMIS Settings Editor wouldn't setup the CMM2 registry entry keys correctly when you installed PC-DMIS on a new computer.
- PCD-197714 - Fixed an issue where the Auto Intensity for CWS didn't work properly when you queried the calibration table from the PRECITEC controller.

- PCD-197509 - Fixed an issue where the surface colormap annotations didn't appear at the correct location when a measurement routine was opened and saved in one version of PC-DMIS, and then you tried to open and save it in another version.
- PCD-197422 - Fixed an issue where PC-DMIS converted the nominal incorrectly when you edited the Distance command and changed the units from inch to mm.
- PCD-196204 - Fixed an issue where the ESF (VWMP) features selection on a CAD data didn't work when there was a pointcloud data over the CAD model.
- PCD-196048 - Fixed an I++ issue where there was no information for a tool change on Arm2 when you pressed Ctrl + M to insert a move point.
- PCD-195155 - Restored the `DebugFlush` registry entry in the PC-DMIS Settings Editor.
- PCD-194153 - Fixed an issue where the pointcloud cross-section annotations were not updated automatically when you changed the associated profile line tolerances.
- PCD-192526 - Fixed an issue where the Shift + right mouse button in the Graphic Display window corrupted the mouse controls.
- PCD-192158 - Fixed an issue where Q-DAS Configurator doesn't output the correct value for the legacy Profile Form and Location.
- PCD-191254 - Fixed a software crash that occurred when you opened the **Constructed Plane** dialog box and selected **Primary Datum** from the list.
- PCD-186811 - Fixed an issue where the **Use datums** check box in the legacy **Position** dialog box was turned on for all dimensions when you selected the **Use datums** check box for only a single dimension.
- PCD-186451 - Fixed an issue where PC-DMIS prevented the clearing of a feature list when you selected a new geometric tolerance from the **Xact Measure** dialog box.

- PCD-183067 - Fixed an issue where a measurement routine took a long time to save and close files when a measurement routine contained large pointclouds.
- PCD-178948 - Fixed an issue where PC-DMIS didn't apply the **No data color** that you selected in the **Color Scale Editor** dialog box for areas on the part where no data was found.
- PCD-178003 - Fixed an issue where the **Probe** and **Probe Trigger Options** tab were not visible in the **Parameter Settings** dialog box when you edited the `AutoTrigger` command.
- PCD-164339 - Fixed an issue where both perpendicularity and parallelism showed an incorrect color representation of the size deviation graphic colors.

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- PCD-146826 - Fixed an issue where the Gaussian filter didn't work when you created a measurement in the inch mode.
- PCD-163923 - Fixed an issue where PC-DMIS didn't show correct leader line's style when you applied it from the **Label Layout Wizard** dialog box.
- PCD-172988 - Fixed an application error that occurred when there were many `Write` commands in a measurement routine.
- PCD-177908 - Fixed an issue where PC-DMIS showed incorrect results when you calculated ESF features with and without actual thickness.
- PCD-185384 - Fixed an application error that occurred when you pressed **Cancel** in the **Extended Sheet Metal Features** dialog box after you minimized and then restored PC-DMIS.
- PCD-188047 - Fixed an issue where the probe tips were duplicated in the probe file.
- PCD-189557 - Fixed an issue where PC-DMIS didn't show the leader line's arrow head in the custom and legacy report even though you selected **Arrow Head** from the **Label Layout Wizard** dialog box.
- PCD-189807 - Fixed an issue where PC-DMIS was not able to export ESF (VWMP) features to a DMIS file.
- PCD-190902 - Fixed an application error that occurred when you used Degree Minutes Seconds with FCF dimensions.
- PCD-191049 - Fixed an issue where the variables with a fixed text were imported incorrectly when you imported a DMIS file.
- PCD-192420 - Fixed an issue where the Laser view in the Graphic Display window didn't work when you loaded a CWS probe.

- PCD-193487 - Fixed an issue where PC-DMIS showed default leader line's arrow head in custom reports and the CADONLY template.
- PCD-193875 - Fixed an issue where PC-DMIS showed incorrect spacing between data values when you viewed the DimInfo labels in the report.
- PCD-194631 - Fixed an issue where PC-DMIS showed the features during execution when the features were turned off.
- PCD-195192 - Fixed an issue where PC-DMIS showed an incorrect collision message when you calibrated a list of tips twice and didn't close the **Probe Utilities** dialog box.
- PCD-195197 - Fixed an issue where some of the parameters were not copied to the destination features when you used the Copy Parameters and Paste Parameters functions in Summary Mode and Summary Mode (Preview).
- PCD-195513 - Fixed an application error that occurred when you pasted an ESF feature that doesn't carry a VW standard name.
- PCD-196237 - Fixed an issue where the Laser extraction results were inaccurate when you migrated from an older version of PC-DMIS to a newer version.
- PCD-197418 - Fixed an issue where PC-DMIS opened the recent routines from the Home page before the machine homing was completed.
- PCD-197497 - Fixed an issue where the ESF references were lost in dimension commands when you opened a measurement routine through a specific automation method.
- PCD-197763 - Fixed an issue where the Paste With Pattern feature failed when all the axis values were not defined in the `Move/Point` command.
- PCD-198324 - Fixed an issue where PC-DMIS showed an error message when you created a QdasData.xml file with a legacy true position dimension with axes in polar coordinate.

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- PCD-145735 - Fixed an issue where the Analysis View was different when you viewed it in the Custom Report and Report windows.
- PCD-147397 - Fixed an issue where the vectors and sizes were incorrect when you used the **Create Multiple Features** check box in the **Auto Feature** dialog box for Flush and Gap.
- PCD-154534 - Fixed an issue where the report modifications weren't applied to the report when you used a custom report.
- PCD-155187 - Fixed an issue where the mouse pointer was shown as an hourglass when you selected curves on the CAD model to create multiple Laser Edge Point features.
- PCD-158031. Fixed an issue where PC-DMIS displayed a message about the failure to load the HSI.DLL library when you opened PC-DMIS.
- PCD-163049 - Fixed an issue where the T-probe button was not able to close the **Probe Measurement Failed** message box when you tried to take points.
- PCD-164604 - Fixed a software crash that occurred when you clicked **Cancel** in the **Snapshot** dialog box.
- PCD-169301 - Fixed an issue where the labels were lost when you double-clicked on the image in the Report window to edit the Analysis View command.
- PCD-170663 - Fixed a hardware crash that occurred when an invalid tip was created for a probe.
- PCD-175235 - Fixed an issue where relative measure doesn't work when you selected multiple features from the Graphic Display window.

- PCD-176498 - Fixed an issue where the pointcloud exclusion plane was connected to an incorrect plane when you executed a measurement routine.
- PCD-177160 - Fixed an issue where PC-DMIS wouldn't automatically switch the Edit window to Summary Mode when you edited a custom report.
- PCD-177755 - Fixed an issue where PC-DMIS showed incorrect symbols for deviations in a custom report when you used positive reporting for all axes.
- PCD-177971 - Fixed an issue where PC-DMIS showed incorrect point positions in the CAD report when the points were used in the loop instructions.
- PCD-180323 - Fixed an issue where the pointcloud and mesh data objects were highlighted when you selected points in the **Auto Features** dialog box.
- PCD-181805 - Fixed an issue where PC-DMIS didn't update the leader lines with arrow heads in the Report window when you changed the **Arrow head** option in the **Label Layout Wizard** dialog box.
- PCD-183229 - Fixed an issue where PC-DMIS didn't show the correct number of digits after the decimal when you generated the Excel Form report.
- PCD-185194 - Fixed an issue where the colormap annotations were evaluated at 0,0,0 position when you executed a measurement routine.
- PCD-186532 - Fixed a software crash that occurred when you tried to tessellate certain probe components.
- PCD-186676 - Fixed an issue where the report label changed its position in a custom report when you closed and reopened a measurement routine.
- PCD-187386 - Fixed an issue where the 3D Grid lines wouldn't display properly in the Graphic Display window after you took a snapshot.

- PCD-187660 - Fixed an issue where PC-DMIS didn't associate a label template file for ESF features that you drag-and-drop to reposition them in the Edit window.
- PCD-187890 - Fixed an issue where the colormap gradient scale was not shown in the Graphic Display window when you loaded a different scale profile that wasn't the default one from the **Profiles Manager** dialog box.
- PCD-188182 - Fixed an issue where PC-DMIS inserted an additional [MOVE/CLEARPLANE](#) command before the Roughness scan command when you clicked **OK** in the **Roughness Scan** dialog box.
- PCD-188204 - Fixed an issue where PC-DMIS didn't scan properly on the machine when you scanned small size holes.
- PCD-188449 - Fixed an issue where Q-DAS Configurator wouldn't report the maximum and minimum values for legacy profile of surface of a plane (Form Only).
- PCD-188578 - Fixed an issue where the diameter of the circle was calculated incorrectly when you selected **MIN_SEP** (Best Fit type) in the **Auto Features** dialog box.
- PCD-188888 - Fixed an issue where the **Thickness Colormap** scale values were incorrect in the **Mesh Operator** dialog box when you didn't mark the **Compare to CAD** check box.
- PCD-189732 - Fixed an issue where the CAD window displayed the elements and their Ids when you generated the legacy report.
- PCD-190603 - Fixed an issue where PC-DMIS didn't update the **CAD Setup Toolbar** list with the standard CAD model views when you imported a CAD file.
- PCD-190622 - Fixed a software crash that occurred when you typed a non-existing Mesh ID for the [MESH/OPER](#) command in the Edit window.
- PCD-191391 - Fixed an issue where PC-DMIS automatically unmarked the **Symmetrical** check box when you changed the feature type in the **Extended Sheet Metal Features** dialog box.

- PCD-191441 - Fixed an issue that occurred when you didn't center the calibration slide rectangle at the beginning of the pixel size calibration, it caused distortion calibration failure after PC-DMIS prompts you to retry the calibration.
- PCD-191484 - Fixed an issue where the **Colormaps** list was disabled when the measurement routine doesn't contain a pointcloud.
- PCD-192421 - Fixed a software crash that occurred when the `On Error` command failed to set a variable.
- PCD-193410 - Fixed a collision issue that occurred when an incorrect wrist position failed to recover a probe change from Contact to Laser.
- PCD-193699 - Fixed an issue where the Thickness Colormap gradient scale value showed a negative percentage at the lowest level when you didn't mark the **Compare to CAD** check box.
- PCD-194186 - Fixed an issue where PC-DMIS didn't update the temperature values in the report when you used the **Temperature Compensation** version 1 dialog box. To use version 1 dialog box, set the `UseTemperatureCompensationV2` registry entry to False in PC-DMIS Settings Editor.
- PCD-194646 - Fixed an issue where PC-DMIS Home page Internet access settings were on a per user rather than a global setting for all users.
- PCD-194926 - Fixed an issue with the I++ DME client where indexing head support was incorrect due to a mistake with how angles were treated if they were not reported from the I++ server.
- PCD-195737 - Fixed an issue where an improper move in an incorrect direction occurred at the start of a Defined Scan with a Zeiss VAST XT probe when a measurement routine used Imperial units.

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SP3

- PCD-47924 - Fixed an issue where PC-DMIS didn't execute the `Go 6DOF` command when you pressed Alt + F9 for the AT960 and AT901 trackers.
- PCD-123716 - Fixed an issue where the `IMAGECAPTURE` command added a blank feature label when you had generated the report.
- PCD-155565 - Fixed an issue where Laser scanning performance was affected with blue and purple points when you re-executed a measurement routine.
- PCD-164073 - Fixed an issue where the offline Help didn't work even when the offline help was installed and the **Use Offline Help** option was selected.
- PCD-171401 - Fixed an issue where a laser pointer was not activated when you had done the machine configuration.
- PCD-177404 - Fixed an issue where the **Probe Toolbox** dialog box appeared when the **Feature Extraction** tab was active and you clicked **Cancel** in the Laser **Auto Feature** dialog box.
- PCD-183366 - Fixed an issue where PC-DMIS didn't change the file type for the COP ID in the Edit window when you changed the file type from the **Type** list in the **Pointcloud Operator** dialog box.
- PCD-185964 - Fixed an issue where some scan data were not imported properly when you used the **Simulate Pointcloud** function.
- PCD-186792 - Fixed an issue where a distortion calibration file was not created when a vision probe with multiple tips was calibrated for Pixel Size and Distortion.

- PCD-186848 - Fixed an issue where pre-defined **Pointcloud Display | Mesh display** profiles were visible in the **Laser Data Collection Settings** dialog box for DCC CMMs.
- PCD-186957 - Fixed an issue where PC-DMIS didn't generate a unique probe name for each orientation when you worked on UCCServer.
- PCD-187251 - Fixed an issue where a measurement routine was not created or opened when you used a portable SCANMESH license with the AICON - Offline interface.
- PCD-187589 - Fixed a software crash that occurred when you imported a pointcloud file that didn't have stripe information and created the Grid mesh.
- PCD-187655 - Fixed an issue where PC-DMIS didn't display the Pointcloud select area when you edited the `select` command from the **Pointcloud Operator** dialog box.
- PCD-188327 - Fixed an issue where PC-DMIS reported incorrect values of D1, D2, and D3 when you had generated the statistics.xml file.
- PCD-188784 - Fixed an issue with the I++ interface where automatic tool changes took place when you moved your cursor position in the measurement routine.
- PCD-189225 - Fixed an issue where PC-DMIS didn't create multiple Mesh Thickness colormaps when you executed a measurement routine.
- PCD-190223 - Fixed an issue where the Pointcloud or Mesh shading was lost and became flat when the COP or Mesh was picked from the **Pointcloud Operator** or **Mesh Operator** dialog box.
- PCD-191253 - Fixed an issue where PC-DMIS failed to extract BH Laser features when the pointcloud was far away from the CAD model.
- PCD-191781 - Fixed a software crash that occurred when you opened your measurement routine in modes other than the Operator Mode.

- PCD-192474 - Fixed an issue where the laser auto features were not automatically executed when data was received from a TCP/IP transfer, such as the AICON OptoCat software.

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SP2

- PCD-164450 - Fixed an issue where the Auto Line projection to a sample feature (for example, a measured plane) failed even though the vectors were fine.
- PCD-180502 - Fixed an issue where you were not able to select the text labels when you selected the **Back face culling** check box on the **Lighting** tab of the **CAD and Graphic Setup** dialog box.
- PCD-183493 - Fixed a software crash that occurred when you closed the measurement routine after the execution of a Laser calibration program.
- PCD-184579 - Fixed a tessellation corner issue where spherical surfaces were inverted when you imported the SolidWorks model.
- PCD-186461 - Fixed an issue where the CSV converter displayed an error message when you imported an EG (square slot) Laser feature.
- PCD-186675 - Fixed an issue where the left-click on the GD&T callout doesn't create any features when you enabled the **GD&T Selection Mode** and **Characteristic IDs**.
- PCD-186862 - Fixed an issue where the **Defined scan** option in **Blade Scan** dialog box was not working when CAD equals part was not performed and an external alignment was recalled.
- PCD-187004 - Fixed an issue where the Tip angles for the Roughness sensor had an accuracy of 0.1 degrees instead of 0.02 degrees when you sent the angle values to the BMT firmware.
- PCD-187875 - Fixed an issue where the template match code was used incorrectly in the Probe Offset Calibration and the Pixel Size Verification of the Vision sensor.

- PCD-187925 - Fixed a software crash that occurred when you opened the **Auto Feature** dialog box in a measurement routine that contained the Extended Sheet Metal (ESF) and then clicked on the CAD.
- PCD-187973 - Fixed an issue where you were not able to close the Load Probe message when you pressed the RomerRDS RA8 arm button.
- PCD-188006 - Fixed an issue where extra surface anomalies were visible for some probe models.
- PCD-188128 - Added the ability to add the "RANGE_" prefix to the axis name in the statistics (.xml) file.
- PCD-188448 - Fixed an issue where Q-DAS Configurator doesn't show nominal values of true position (X, Y, Z) in Q-DAS output files when the tolerances were turned off.
- PCD-189207 - Fixed an issue where the DMIS Output file (.dmo) file was not proper when you imported the .dmi file.
- PCD-189273 - Fixed a software crash that occurred when you migrated your measurement routine to the previous version and selected any light settings.
- PCD-189525 - Fixed an issue where PC-DMIS failed to move the CAD objects to a part when you clicked the **Move To Part** button in the **CAD Assembly** dialog box.
- PCD-189577 - Added the ability to add the "RANGE_" prefix to the range of the Size dimension in Q-DAS Configurator so that the ID is not blank.
- PCD-189631 - Fixed an issue where a invalid data message occurred for Laser Plane auto feature when you re-executed a measurement routine.
- PCD-189691 - Fixed an issue where PC-DMIS was not able to output correct values of K8500 and K8501 for the size command in the Q-DAS output files.
- PCD-189846 - Fixed an issue where the Pointcloud cross-section function used hidden CAD surfaces when you used the Analysis window.

- PCD-189855 - Fixed an issue where Q-DAS Configurator doesn't show the correct number of digits after decimal for the K2022 value when Q-DAS Configurator reads characteristic from a measurement routine in inch units.
- PCD-189889 - Fixed an issue where the Control string and unit fields were missed when Q-DAS Configurator generated the statistics.xml file for the UAME axis of the Size ASME command.
- PCD-190049 - Fixed the resource file issue for the Italian language.
- PCD-190213 - Fixed an issue where the Adaptive Scan strategies under the **Measurement Strategies** tab in the **Auto Feature** dialog box were shown in the Dutch language when you launch PC-DMIS the first time after installation.
- PCD-190708 - Replaced the library function from `irprops.cpl` to `bthprops.cpl` that connects Roughness sensor with bluetooth.

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SP1

- PCD-147628 - Fixed an issue where the path line for the adaptive cone concentric circle scan was incorrect when the start angle and end angle were changed.
- PCD-159921 - Fixed an issue where PC-DMIS displays an error when the number of hits or the density value was set greater than 1000 in the **Spline Path** area on the **Path Definition** tab in the **Scan** dialog box.
- PCD-160138 - Fixed an issue where PC-DMIS would hang when you used a RomerRDS arm, and the distance to target with auto zoom is enabled on the **Probe Readouts Setup** dialog box.
- PCD-161301 - Fixed an issue where the z-axis was missed when you automatically inserted Location for a Laser circle.
- PCD-162438 - Corrected an issue where the **Remove points with normals outside** check box was not available in the Laser **Auto Feature** dialog box when the pointcloud was imported as an STL file type. For existing measurement routines, the STL file needs to be re-imported so the normal IJK values are calculated.
- PCD-171107 - Fixed an issue where you could not extract Extended Surface Point features when you marked the **Remove outliers** check box in the Laser **Auto Feature** dialog box.
- PCD-173273 - Fixed a crash that occurred when you typed the FCF command and pressed F9 with no features selected.
- PCD-176095 - Fixed an issue where the **Skip** and **Jump** buttons were not available in the **Execution** dialog box when you executed an optical **Extended Sheetmetal Feature**.

- PCD-177031 - Fixed an issue where the **Temperature Compensation** dialog box did not show text properly when you set PC-DMIS to the dark theme.
- PCD-179194 - Fixed an issue where PC-DMIS had displayed the **Feature failed to execute** dialog box from the On Error command in automation.
- PCD-179545 - Fixed an issue where the values on the Pointcloud Colormap gradient scale defaulted to three decimal places of accuracy when it was expected to be more than three decimal places.
- PCD-179890 - Fixed an issue where PC-DMIS did not draw the minimum and maximum annotations of Pointcloud Thickness Colormap correctly at the XYZ location.
- PCD-180004 - Fixed a software crash that occurred when you tried to delete and undo the Thickness Scan and Thickness Gage features.
- PCD-183193 - Added a support feature for Service Engineers to measure scan noise at the installation location.
- PCD-183249 - Fixed a software crash that occurred when you pressed the emergency button on arm 1 or arm 2 and the machine goes into an emergency mode.
- PCD-184311 - Fixed an issue where the Quick Feature (Shift + Click) method did not create a Laser Auto Feature because the dense Pointcloud covered the CAD model.
- PCD-184346 - Fixed an issue where the trapezoid had appeared when you programmed extracted Laser ESF features.
- PCD-184966 - Fixed an issue where PC-DMIS would clear the **Remove Outliers** check box when you execute a measurement routine. This made it impossible to apply the Remove Outliers process on all features except for Plane features.
- PCD-185291 - Fixed the issue where you could not close the **Exclusion Plane** dialog box from the Portable arm after you measure the Exclusion plane.

- PCD-185347 - Fixed an issue where Edit window failed to print when you select the **Prompt** option in the **Output Configuration** dialog box.
- PCD-185395 - Fixed an issue where all the deviation values were zero when you marked the **Force computation** check box in the **Extended Sheet Metal Features** dialog box.
- PCD-185560 - Fixed an issue where the Roughness Feature ID did not appear in capital letters in the Edit window when you created it in the **Roughness Scan Evaluation** dialog box.
- PCD-185686 - Fixed an issue where the Pointcloud display changed a little when PC-DMIS was online with a laser probe and the cloud was not rotated in the Graphic Display window.
- PCD-185751 - Fixed an issue where the extraction of a circle feature from a perfect cloud created on a 20mm circle always returned a bigger diameter value after you executed the measurement routine.
- PCD-185974 - Fixed an issue where the context mapping didn't work in the Microsoft Edge browser for Offline Help when you pressed the F1 key on any feature or dialog box.
- PCD-186426 - Added an update to the SimilarProbeComponents.xml file that is located in the installation folder. This file provides a list of all the components sold by Hexagon on the Web shop.
- PCD-186469 - Fixed a mathematical error that PC-DMIS uses to calculate the center of the T2 tip of the Roughness sensor probe from the kinematics file.
- PCD-186515 - Fixed an issue where PC-DMIS now retracts the roughness scanner needle before the Avoidance Move Position location instead of at the Avoidance Move Position location.
- PCD-186606 - Changed the probe start position when measuring roughness in small holes from the self-centering point to the center of the hole.

- PCD-186651 - Fixed an issue with an inconsistency between the segregated points (orange) and the analysis points (green) for Laser Plane auto feature.
- PCD-186714 - Fixed an issue where scanning circle paths for Adaptive Scan strategies was incorrect.
- PCD-186746 - Fixed a crash that occurred when you pressed F9 on the [LOADPROBE](#) command.
- PCD-186763 - Added the [ONERROR/LASER](#), [SKIP](#) functionality to a measurement routine that contains failed ESF (VWMP) commands and is managed as the standard Laser Auto Feature.
- PCD-186995 - Fixed an issue where the camera was not able to find the focus position during the optical calibration when the **Move to focus position** check box was not marked in the **Setup Options** dialog box.
- PCD-187016 - Fixed a software crash that occurred when you execute a measurement routine from Inspect that contains a Form command.
- PCD-187266 - Fixed an issue where the QdasData.xml file was broken for the Size dimension.
- PCD-187363 - Fixed a software crash that occurred when you executed a measurement routine that contains a Pointcloud Point Colormap and selected the **Dots** check box in the **Pointcloud Operator** dialog box.
- PCD-187390 - Added a probe component that was not available in the **Probe description** list in the **Probe Utilities** dialog box.
- PCD-187441 - Fixed an issue where Q-DAS Configurator was not able to read the second and subsequent Size dimension modifiers.
- PCD-187471 - Fixed a translation issue where the **Probe Toolbox** in the **Auto Feature** dialog box did not appear correctly in the Italian language when you select **Adaptive Free Form Plane Scan** in the **Measurement Strategies** tab.

- PCD-187491 - Updated the syntax of the Dimension command format in the Edit window for the Extended Sheet Metal Features.
- PCD-187553 - Fixed an issue where PC-DMIS did not update a 2D distance or 2D angle dimension when you inserted the [WORKPLANE](#) command.
- PCD-187822 - Fixed an issue where the range of Size dimension was not reported in Q-DAS output files.
- PCD-188072 - Fixed an issue where a few GD&T icons did not appear correctly in the Excel Form Report.
- PCD-188086 - Fixed an issue where Q-DAS Configurator was not able to read datum features from the Legacy True Position dimension.
- PCD-188339 - Fixed a feature calculation error issue that occurred where you executed a Laser Auto Circle when the start and end angles were used.
- PCD-188408 - Fixed an issue where the .dfq file displayed a positive value instead of a negative value of K-field K2112 (Lower Allowance) for Legacy Profile form and Location Dimensions.

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PC-DMIS 2020 R1 is a significant development release of the software. For detailed information and video tutorials about this release, visit hexagonmi.com/products/software.

Featured Items

Graphical Guidance Tools

Added new graphical guidance tools to lead the way when you take your manual measurement hits.

See "[Guided-Portable-Execution](#)".

Home Improvement

Added an example routine library to help you discover advanced techniques from our top application engineers. You can also create new routines from useful templates.

See "[Home Page](#)".

E-Store

For similar probe components, you have the option to order them with different materials for the sphere and shaft. Also, you can choose to make the shafts with different diameters or working lengths. When you select the **Add to Cart** option in **Probe Description** area, PC-DMIS checks if similar components are available. PC-DMIS then displays a menu to select one or more of similar components to add to your shopping cart.

We also support Online Shopping from PC-DMIS. When you click the **Online Shopping** button in cart view, the button opens a link in your default browser where you can complete your order.

See "[E-Store](#)".

New Enhancements

CMM

- Updated the HR-MP rack calibration measurement to account for a design change in the production rack to allow it to use TP20 probes. See PCD-171391.

DCI/DCT

- Added DCI support for CREO 6 and NX 1872. See PCD-169888 and PCD-176809.
- Improved load times for the communication model of NX DCI. See PCD-161354.

Constructed Features

- We added a 1D option to the constructed width feature, completing the family of width feature types (1D, 2D, and 3D). The 1D width is constructed from two opposed points. It supports FCF Position at MMC/LMC. It can be referenced as a tertiary datum at MMB/LMB or as an origin in an alignment. See PCD-173380.

Laser

- Added a **Plane Selection** button to the Laser Auto Cylinder properties. This button helps to manually select the intersection plane when you enable the **Ring Band** option. See PCD-170264.
- Added the Start Angle and End Angle properties to the Laser Circle feature. These properties help to measure the segment of a circle. See PCD-56396.
 - Added the Start Angle and End Angle properties to the Laser Auto Cylinder feature. These properties help to measure a part of a cylinder thereby reducing the area used to extract the feature from the pointcloud data. See PCD-147564.

- The default values of the following settings for 3D laser auto features have been changed when a CAD model is used. This change was made so that 3D laser features would have more reasonable settings and could be extracted without editing:
 - When a Laser Auto Plane, Cylinder, Cone, or Sphere is created using the QuickFeature method, the CAD Offset is enabled by default.
 - For Laser Auto Cylinder and Cone features, the **Center offset** is automatically computed to be in the center of the feature **Length**. The **Search length** is automatically computed as 90% of the feature **Length**.

See PCD-164816.

- Added the ability to delete the last scan pass with the use of the arm's left button when you use the Hexagon Absolute Portable Arm with the integrated laser scanner. See PCD-73199.
- When the measurement routine has an existing pointcloud (COP) and is aligned to a CAD model, the laser Auto Feature is extracted and also measured when it is created. This applies to the following:

Creating a laser Auto Feature using the QuickFeature method (Shift + Click)

See PCD-175110 and PCD-162357.

- Updated the **Laser Data Collection Settings** dialog box to include the **Mesh** option under the **Pointcloud Display** section for Portable laser scanners. The Mesh license is required to use this option. See PCD-176214.

Measurement Strategy Editor (MSE)

- Added a toolbar for the Measurement Strategy Widget so that you can now change the active group without opening the widget. See PCD-169898.

- Added the capability in the Measurement Strategy Editor to start in a state that reflects the active probe type and program mode. See PCD-151077.
- When you open PC-DMIS for a portable device for the first time, PC-DMIS automatically clears the **Use Measurement Strategy Widget** and **Use Measurement Strategy Editor** check boxes in the **Setup Options** dialog box. When you later update PC-DMIS, these check boxes remain cleared. See PCD-175384.
- Added the ability to decide the available parameters in the Measurement Strategy Widget. You can do this from the Measurement Strategy Editor. See PCD-163804.

Pointclouds/Mesh

- Added a **Profiles** section to the **Laser Data Collection Settings** dialog box that allows you to select pre-configured scan profiles. You can also create your own scan profiles. The list of pre-configured pointcloud scan profiles that come with PC-DMIS are:

COP - Standard resolution (to scan parts with details 1 mm or larger)

COP - Fine Resolution (to scan parts with details 1 mm or smaller)

COP - Very Fine Resolution (to scan parts with details 0.5 mm or smaller)

If you have the Mesh_option license, the pre-defined Mesh profiles are available:

Mesh Normal (The scan speed and the drawing of scanned points is good, the Mesh Display resolution is medium.)

Mesh Smooth (The scan speed and the drawing of scanned points is faster, but the Mesh Display resolution is low.)

Mesh Detailed (The scan speed and the drawing of scanned points is slow, but the Mesh Display shows more details.)

See PCD-63593.

- Added a new **Max Angle** setting to the Pointcloud CLEAN command. When you enable this function, it returns the relevant points with estimated normal vectors that are within a specified angle of the CAD vectors. This tool results in a cleaner CLEAN to select data related to CAD faces. By default, the **Max Angle** setting is off so that it does not impact existing measurement routines. See PCD-169206.
- Added a **Noise Reduction** filter to the Pointcloud Filter operator. The filter works on the global density of the selected pointcloud and removes points that are too far away from the global cloud. A slider represents the minimum and maximum values for the **Noise Reduction** filter. The default value is 80.

The minimum value is zero which means PC-DMIS applies no noise filter to the data.

The maximum value that PC-DMIS allows to set the noise filter is 99.

As you move the slider, PC-DMIS updates the Graphic Display window with included points in green and excluded points in red.

See PCD-106520.

- Added a **Import Pointcloud** operation to the **Pointcloud** toolbar that allows you to simulate the individual scan passes as an XYZ or PSL file, whichever is imported.

You can visualize the way the pointcloud was originally scanned.

You can see the result of real-time filters. PC-DMIS applies any active settings in the **Laser Data Collection Settings** dialog box.

From the **Pointcloud** toolbar, click the **Simulate Pointcloud** button to open the **Simulate** dialog box that lets you navigate and select the file to import.

You can use the **Frequency** value to control the speed of the simulation during the import process. The range is 1 through 500. See PCD-61589.

- Added the ability to expand or collapse to show or hide the sections in the **Laser Data Collection Settings** dialog box. See PCD-178353.
- PC-DMIS now supports grey-scale graphical rendering for pointclouds. When an imported pointcloud file or scanned data contains intensity values (such as from the Leica ATS600 Tracker), the **Pointcloud Display** of the COP is automatically set to Grey Scale. You can right-click the COP in the Edit window and select **Pointcloud Display** to change the display setting. See PCD-162485.
- Improved the Pointcloud Surface Colormap performance time. See PCD-96922.
- When you do Laser scanning with a portable device and you use the **Pointcloud Display | Mesh** menu option, you can show triangles in the Graphic Display window which were scanned to part-surface orientation. The triangles that are scanned with a good sensor for surface orientation are shown in green, and the ones which are outside the **Quality Angle** setting area are in red. You can adjust the **Quality Angle** value from the **Pointcloud Laser Data Collection** dialog box. When you select the **Remove Overlap** option and re-scan the low-quality areas with a better sensor orientation, the red triangles might be replaced with the new scanned data. You can also enable the display of the low quality triangles from the **Portable Scanning Widget** toolbar. See PCD-63839.
- Updated the **Create Mesh** dialog box and command so that you can select between two different methods to create a Mesh data object. The two different methods are the existing **3D Mesh** method and the new **Grid Mesh** method. See PCD-176213.
- Improved the performance when you compute the Pointcloud Point Colormap with the help of Dots, Needles, or Text options on the full COP and CAD. See PCD-173921.

Portable

- For the T-scan with an AT960 tracker, if the T-Scan Interface is already running when you open PC-DMIS, you can lock onto the T-scan and start scanning. The T-Scan Interface and PC-DMIS must be started by the same Windows user with the same permission level. See PCD-168533.
- PC-DMIS automatically shows the **Portable Scanning Widget** toolbar when you are connected to a portable device, and the active probe is a laser scanner. This widget allows you to do the following:
 - Set the exclusion plane that allows you to measure and set exclude data during scanning
 - Select a scanning profile
 - Delete the acquired scan pass
 - Create a mesh data object with the use of scanned data

See PCD-169561.

- Added a change to manage the probes for the AT-9x0 LeicaLMF interface. When you run a measurement routine with the LeicaLMF interface, PC-DMIS does not ask you to load a probe if the probe is a smart probe and is the active probe. Smart probes are the T-probe, LAS/LAS-XL scanner, T-scan, and so forth. See PCD-169332.
- Added a change to manage the probes for the Absolute Portable Arm. When you run a measurement routine with a Hexagon Absolute Portable Arm with the RDS interface, PC-DMIS does not ask you to load a probe if the probe is already the active probe. See PCD-154213.
- Moved settings for the Leica AT960 T-scan from the **Probe Toolbox** dialog box to the **Parameter Settings** dialog box. These settings are seen in the Option Probe command in the PC-DMIS measurement routine and are sent to the T-scan interface software. These parameters are useful when you export with the **File | Export | XML** command. See PCD-168216.

- Added the ability to select the ATS600 LeicaLMF tracker from the PC-DMIS Home page (**Edit | Set Portable Interface**). See PCD-169321.
- Added the ability to zoom and rotate the active feature when you execute a portable measurement routine. See PCD-174405.

HTML Help

- Added support for multiple languages on the default page of the documentation website (<https://docs.hexagonmi.com>). You can now select a language, and the browser remembers your selection when you come back to that site. See PCD-160163.
- Added the ability to more easily view specific versions of our Help content on our documentation website (<https://docs.hexagonmi.com>). Before you had to manually change the version in the address bar. We now provide dynamic links from the main page. See PCD-166652.
- Documented a workaround to get better search results in the Help documentation. If the Help is not returning search results, surround your search word or phrase with quotes. See PCD-178087.
- Improved the PC-DMIS Help to include the rules and limitations of the Vision Multi Capture functionality. See PCD-174465.
- Improved the documentation to include an example of how to use the PRINT command within loops. See PCD-155586.

User Interface

- Added light and dark themes support for the **Optimize Path** dialog box. You can change the theme from the Home page in PC-DMIS. See PCD-173796.

Vision

- Added CHRocodile SE unit support for CWS. See PCD-166596.
- Added 2D lens distortion to calibrate the non-linear errors in the field of view (FOV) throughout the zoom cell's magnification range or for a given

optics configuration. This can significantly improve measurement accuracy away from the center of the FOV, especially on lower magnification optics. See PCD-165013

List of Fixes

- PCD-127845 - Fixed an issue where a variable name can be used in the **Output Configuration** dialog box.
- PCD-155115 - Fixed an issue where PC-DMIS would hang when you tried to move up or down in newly-created assemblies.
- PCD-159846 - Fixed an issue to save the CAD model's hidden status in the snapshot command.
- PCD-161426 - Corrected an issue with GD&T import from JT files where datum A was not generated with the GD&T selection tool.
- PCD-162253 - Corrected an issue where the reference ID for Pointcloud Operators was not used in automation.
- PCD-162438 - Corrected an issue where the **Remove points with normals outside** check box was not available in laser Auto Feature dialog box when the pointcloud was imported as an STL file type. For existing measurement routines, the STL file needs to be re-imported so the normal IJK values are calculated.
- PCD-162651 - Fixed an issue for undo and redo function where the **Save** dialog box does not appear when you had edited the commands in a measurement routine.
- PCD-164330 - Corrected an issue where if you ran PC-DMIS online and opened the **Auto Feature** dialog box and manually changed the probe position, PC-DMIS didn't show and update the position.
- PCD-164339 - Fixed an issue where both Legacy Perpendicularity and Parallelism displayed an incorrect color representation for the feature material condition size.

- PCD-164342 - Fixed an Expression issue that caused FCFLOC1.TP.MEAS to not report the MEAS value.
- PCD-165032 - Fixed an F9 issue where datums were added before the FCF command and not after the command.
- PCD-165872 - Fixed an Expression issue that caused the variable .m to not report the .m value.
- PCD-168938 - Fixed an application error that occurred when you had used "To Points".
- PCD-169815 - Fixed a per-unit Straightness issue that allowed the diameter to report twice.
- PCD-169834 - Fixed an issue where PC-DMIS didn't allow you to create a QuickFeature whenever the feature size was smaller than the probe diameter.
- PCD-169963 - Fixed an issue in PC-DMIS Vision where the machine would drive off into the air when executing a template matching feature. Now, when you don't have an actual required camera image, PC-DMIS restricts Template Matching in these ways:
 - During execution of a feature with Template Matching, PC-DMIS skips the Template Matching.
 - When you edit a feature with Template Matching, PC-DMIS shows the Template Matching, but you cannot edit it.
 - When you teach a new feature with the **Auto Feature** dialog box, PC-DMIS turns off Template Matching, and you cannot turn it on.
- PCD-170088 - Fixed a feature computation error where the laser feature execution did not finish when the feature was skipped.
- PCD-170401 - Fixed an issue where the Edit window cursor was left in an incorrect location.
- PCD-170402 - Fixed an issue where a Mesh Thickness Colormap was not applied when you used selected CAD surfaces.

- PCD-170523 - Fixed an issue where the **Laser AF Multiple Creation** tab was not available for the Laser Auto Feature Flush and Gap when using a laser probe offline.
- PCD-170533 - Added an ability in the installer to add the LampDefinitions.xml file into the PC-DMIS application directory.
- PCD-171132 - Fixed a crash that occurred when you deleted the thickness gage from the measurement routine.
- PCD-171477 - Fixed an issue where the software stopped responding when you cut a GROUP in the Edit window Summary mode. PC-DMIS now checks for a positive index while accessing a command.
- PCD-171501 - Corrected an issue where the Surface Profile dimension was not calculated for a Point Colormap.
- PCD-171649 - Fixed a crash that occurred when you used the Summary Preview mode in the Edit window and performed a pointcloud alignment.
- PCD-171945 - Fixed an issue where the amount of video RAM was incorrectly reported.
- PCD-172111 - Fixed an issue where the **Close** button overlapped the text of the Reorder title.
- PCD-172581 - Fixed an issue where the video descriptions on Home Page were cropped in some languages.
- PCD-172591 - Fixed an application error when you used optimize path.
- PCD-172875 - Corrected an issue where sample hits were not handled correctly.
- PCD-173016 - Fixed an issue where some spherical surfaces didn't tessellate correctly.
- PCD-173105 - Fixed a crash that occurred when you selected the **Use large menus** check box in the **Customize** dialog box after execution of a measurement routine.

- PCD-173164 - Fixed an application error in Summary Mode (Preview) that occurred when you changed the animation percentage through the F5 settings.
- PCD-173263 - Fixed an issue where the CMM limits used for the collision avoidance during tactile probe calibration with indexable probe heads did not correctly reflect the current active unit. This happened when you opened measurement routines with different units (metric vs inch).
- PCD-173320 - Fixed an issue in multi QuickFeature circle creation where PC-DMIS could not find all the circles. This happened when the circles were colinear and on opposite sides of a flange.
- PCD-173578 - Fixed an issue where PC-DMIS displayed an error when you edited a constructed feature and the input feature is an array.
- PCD-173825 - Fixed an issue with Summary label MEAS and DEV for Position of a Width feature.
- PCD-173826 - Fixed a crash that occurred when you ran the BASIC script file in Summary Mode (Preview).
- PCD-174176 - Fixed an issue where the CAD display state did not match the viewset when a viewset was created.
- PCD-174369 - Fixed an issue where PC-DMIS multiplied the inch value by 25.4 instead of dividing the value when you used the Edge Offset in a Patch scan.
- PCD-174543 - Fixed an issue in the Measurement Strategy Editor where it did not apply the **Find Hole** setting.
- PCD-174611 - Fixed an issue where Avoidance Move and Surface Thickness parameters were not properly working when you tried to change the values from the MSE widget.
- PCD-174719 - Fixed an issue where annotation points for the Pointcloud Point Colormap were sometimes picked on the back-facing surface. PC-DMIS now picks the points from the current front-facing view.

- PCD-174740 - Fixed an error that occurred in Change Manager when you used inch units.
- PCD-174779 - Corrected mismatch of units with the use of Step and PMI.
- PCD-174780 - Fixed an issue when you performed auto GD&T where the RFS condition on the Feature Control Frame didn't have this modifier defined.
- PCD-174980 - Fixed an issue where the CAD transform rotation matrix failed.
- PCD-175227 - Changed the default value in the Settings Editor of the VectorToIMM registry entry under the RomerRDS_Interface section. This was done to correct an occasional incorrect compensation when you measured a pulled hit.
- PCD-175329 - Corrected an OCR crash that occurred when you processed a tolerance.
- PCD-175336 - Fixed an issue where the Solidworks files were not able to recognize the characteristic IDs.
- PCD-175726 - Fixed an issue where the QuickFeature was not able to create the pattern circles on the Z+ plane when you used the **To Points** toggle button.
- PCD-175889 - Fixed a crash that occurred during the creation of an Auto Vector Point.
- PCD-176014 - Fixed an issue where the wrong illumination value was shown in the **AutoTune** dialog box.
- PCD-176016 - Fixed an issue where the Measurement Strategy Widget stopped working when you created a feature with To Point mode if you were in Probe point-only mode.
- PCD-176049 - Fixed an issue with point selection for laser feature extraction from a COP without CAD where the selection was incorrectly

piercing through the side of the cloud. Now, the the selection is done using the current view.

- PCD-176200 - Fixed an issue where True Position was not updated properly in the analysis view.
- PCD-176955 - Fixed an issue so that Change Manager properly loads xyz files.
- PCD-177118 - Fixed an issue where the user interface did not respond after simulation of a Laser scan, such as a Laser linear open scan.
- PCD-177345 - Fixed an issue where there was no warning displayed when the LampDefinitions.xml file was missed. This caused incorrect illumination behavior.
- PCD-177379 - Fixed a software crash that occurred when you used Five Unique.
- PCD-177382 - Fixed an issue that caused the nominal values to change to incorrect measurement units when a Size tolerance was entered in an XactMeasure command.
- PCD-177599 - Fixed an issue where when you edited a vision feature with Template Matching turned on. The problem was that the sizes of the Template Area and Template Search Area changed if they were even partially out of the FOV. Now the size remains the same.
- PCD-177611 - Fixed an issue that showed incorrect intensity values for illumination in the editor.
- PCD-177972 - Corrected an issue where PC-DMIS reported a false warning regarding a "template area" that was not inside the "template search area" when the system had a rotary table at certain angles, such as >90 or <-90.
- PCD-177989 - Fixed a crash that occurred when the Undo or Redo operation was performed in the **Thickness Gage** dialog box.

- PCD-178443 - Corrected a crash that occurred when you selected **Undo** after you chose **Edit | OverrideGuess** and changed the feature type.
- PCD-178534 - Fixed an issue where labels were not seen after the conversion of a Text Only report to a custom report.
- PCD-179333 - Improved vision feature multi-capture checks for similar illumination between features.
- PCD-179370 - Fixed a software crash when you pressed the reset message with the buttons on the arm at the end of the execution from the hardware machine.
- PCD-179768 - Fixed a software crash that occurred when you changed some properties in the **Label Layout Wizard** dialog box and then clicked **Cancel**.
- PCD-179871 - Fixed a software crash that occurred when you selected two or more commands from top to bottom with the Shift key in Summary mode (Preview) and then deleted those commands.
- PCD-180549 - Fixed a software crash that occurred when you saved measurement routines that contained vision features.
- PCD-180650 - Fixed a software crash that occurred when you clicked on the expand arrow in the **Selected Items** list in the **XactMeasure GD&T** dialog box.
- PCD-180688 - Fixed an issue where values weren't parsed correctly when XYZ files were imported as CAD.
- PCD-180868 - Fixed a software crash that occurred when you executed vision features after you closed the **Probe Toolbox** dialog box.
- PCD-181221 - Fixed an issue where the offline vision CAD camera view did not work when you renamed the machine HSI.dll.
- PCD-181556 - Fixed a software crash that occurred when you cancelled a vision probe tip offset calibration where a focus operation was active.

- PCD-181558 - Fixed a software crash that occurred when you opened an existing legacy report into a measurement routine and then clicked F9 on the legacy report command to view it.
- PCD-183181 - Fixed a software crash that occurred when you closed PC-DMIS.
- PCD-183698 - Fixed an issue where the measured values exported from symmetry and coaxiality were tolerance values when you exported DMO data.
- PCD-183924 - Fixed an issue where the Role column in Protect Viewer does not show the localized values when opened in various languages.
- PCD-184685 - Fixed a software crash that occurred where the **Execution** dialog box doesn't respond when you used Clearance Moves with the **With Feature Creation** option.

Information about this Release

We at Hexagon Manufacturing Intelligence are proud to bring you PC-DMIS 2020 R1. PC-DMIS brings together aspects of the software for the development of a complete manufacturing process control solution. With PC-DMIS, dimensional measurement data can flow through your organisation, as it is collected from coordinate measuring machines (CMMs), portable measuring arms, and laser trackers.

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 2020 R1, 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 2020 R1 into a new directory. This lets you continue to use your current version if you have problems with the new version.

Recommended System Requirements

Operating System

PC-DMIS 2020 R1 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

Any popular graphics card that meets or exceeds the following suggested minimums:

- GPU Memory 2 GB DDR3*
- Memory Bandwidth 29.0 GB/s
- CUDA Cores 384
- Open GL 3.0

* For an RS4 laser sensor or later model, you need to have a GPU with at least 4 GB DDR3.

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

Recommended System Requirements

- 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 a HASP key (a physical USB 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 11 or later

Anti-Virus Software

Hexagon Manufacturing Intelligence used the Sophos anti-virus tool to test PC-DMIS 2020 R1. 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 2020 R1 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

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 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**.

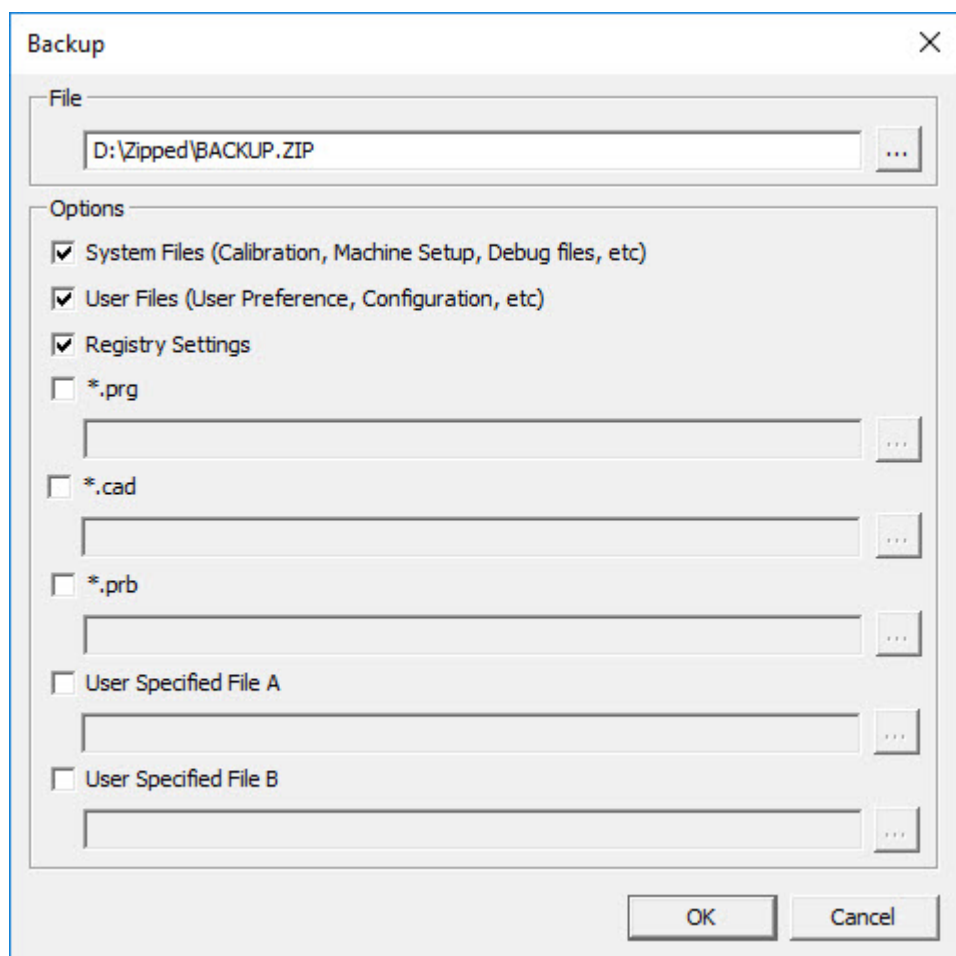
Step 2: Log on as an Administrator

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 2020 R1 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 pcdlrn.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, perform the following steps:
 1. Start the Settings Editor.
 2. Click the **Backup** button (or **Export**) to open the **Backup** dialog box.

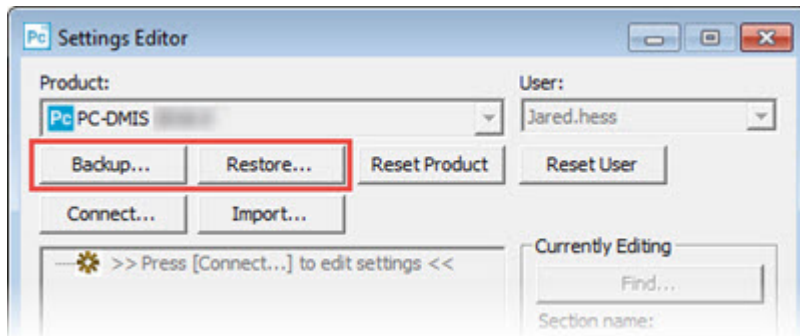


Backup dialog box

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

Installing the Software

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 2020 R1 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 2020 R1 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 2020 R1 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:

Pcdmis2020_R1_release_##.###.#_x64.exe

The # symbols represent the version and build numbers.

2. Right-click on this executable file and click **Run as administrator** 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 2020 R1 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 components. If you chose a custom installation path, the additional software still installs to your default measurement routine directory (usually C:\Program Files\Hexagon\).

- **PDF Converter 5.0** - This third-party tool converts PC-DMIS 2020 R1 reports to PDF outputs.

If you are a Portable user and you have the appropriate license, you can select a Portable interface as your default. For details, see "[Switchable Portable Interface](#)" in the PC-DMIS Portable documentation.

- **Offline English Help** - This option installs the English HTML5 Help into an installation folder that you define in step 14. When you access the Help, PC-DMIS tries to use the Internet-based Help, but if it cannot detect an Internet connection, it then attempts to access this offline fallback Help. If you mark the **Use Offline Help** option from the **Help** menu, then it also accesses this offline fallback Help even if you are connected to the Internet. This option appears if you have not installed the offline Help yet. Once you install the offline Help, and you later install an update to PC-DMIS, any updates to the Help occur automatically without presenting a prompt.

If you need a non-English offline Help, see "[Installing Non-English Offline Help Files from Language Packs](#)".

- **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](#) website.

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 2019 R2 64-bit** - To launch PC-DMIS 2020 R1 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.

13. If you have marked the **Offline English Help** check box in step 9, the Help installer program opens to install the offline Help.

14. In the box at the bottom, you can define the installation folder. By default, the file installs to:

C:\Program Files\Hexagon\PC-DMIS 2019 R2 64-bit English Help

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

15. Click **Install** to start the installation. A progress bar shows the overall progress.

16. When the installation finishes, a screen shows any warnings or errors. Click **Close** to close the installation program.

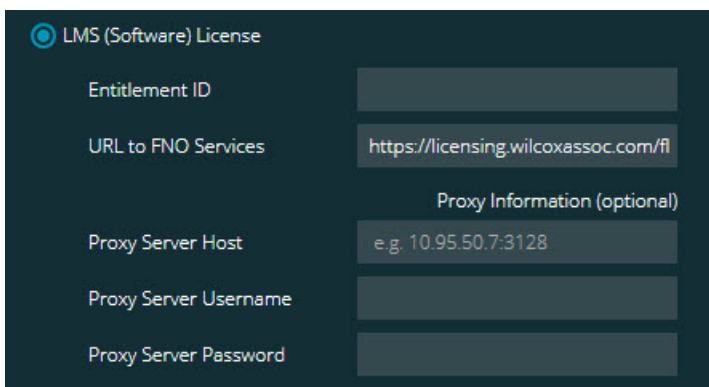
LMS License Setup

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.

Installing the Software

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. You can find this in the subfolder 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 license 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 2020 R1, 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 2020 R1 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 2020 R1 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 (Pcdmis2020_R1_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 2020 R1, you must launch it with administrator privileges. If you mark the [Launch PC-DMIS 2019 R2 64-bit check box](#) when the installation finishes, PC-DMIS 2020 R1 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 2020 R1 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 the PC-DMIS Core documentation.

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

You can access the MIIM help file in the language subfolder where you installed the offline PC-DMIS documentation. For the English 2020 R2 Release version of

PC-DMIS, it is located here: "*C:\Program Files\Hexagon\PC-DMIS 2020 R2 64-bit English Help*".

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 2020 R1 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 2020 R1 on a new computer, copy the backed-up CMM machine files to the following location on the new computer:

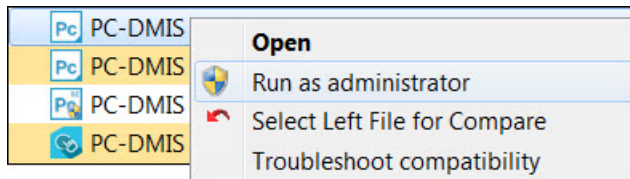
C:\Program Files\Hexagon\PC-DMIS version

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 2020 R1 for the first time, go to **Start** and type **PC-DMIS 2020 R1 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 pcdlrn.ini file, PC-DMIS 2020 R1 asks if the settings in your PCDLRN.INI file should be used as your registry settings. Click **Yes** at the prompt. Otherwise, PC-DMIS 2020 R1 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 2020 R1.
- 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 2020 R1 imports your settings.
- d. Close the PC-DMIS Settings Editor.

Subsequent Startups

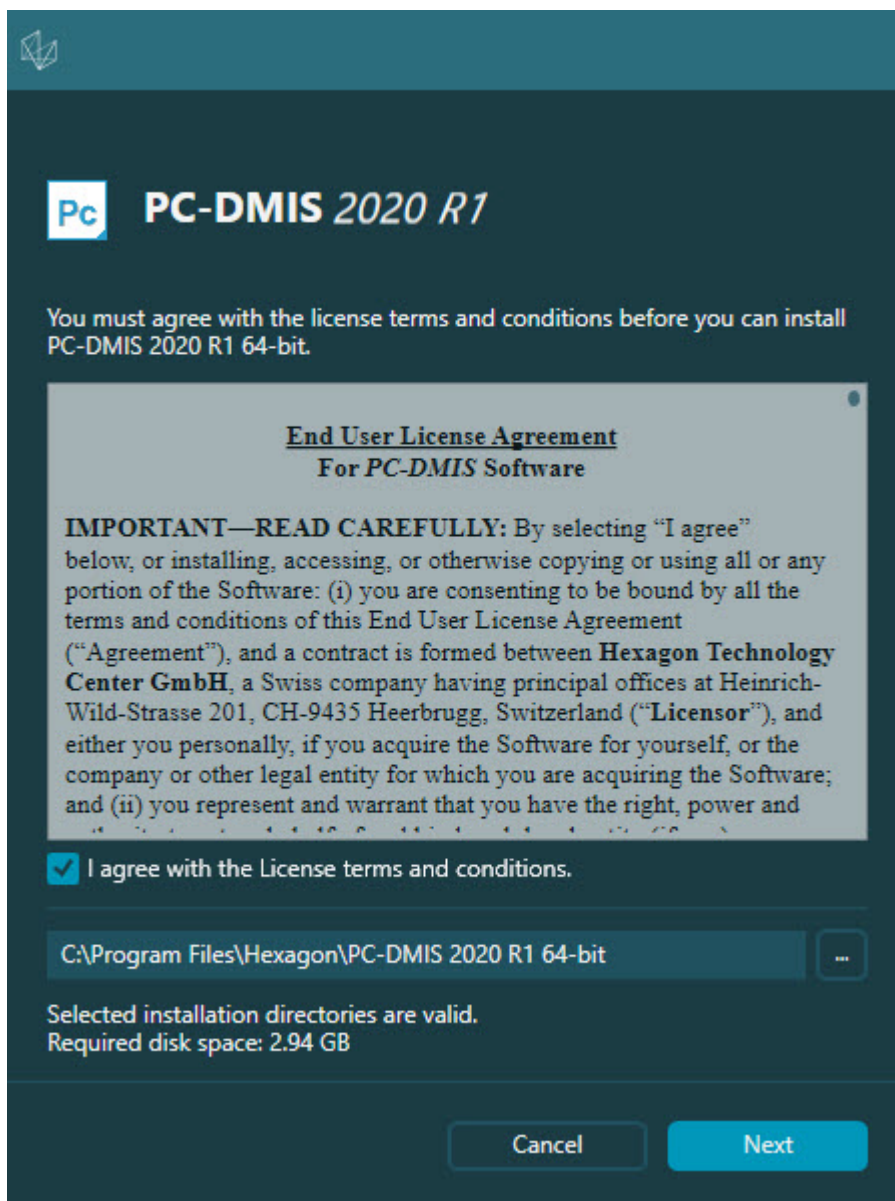
For subsequent startups, click the usual **Offline** or **Online** shortcut to launch PC-DMIS 2020 R1 normally :

Installing the Software



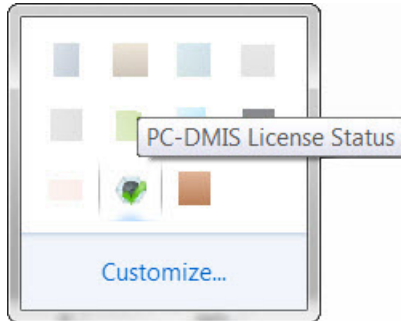
PC-DMIS 2020 R1 shortcuts

Once PC-DMIS 2020 R1 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:



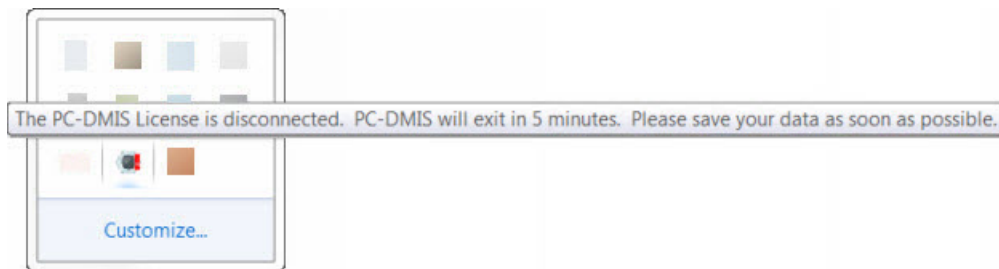
Software License screen

Once PC-DMIS 2020 R1 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 2020 R1 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 2020 R1 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, perform the following steps:

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.

Command Line Installation

You can install PC-DMIS from the command line instead of double-clicking on the PC-DMIS installation executable. In addition, you can turn various command line arguments on or off to speed up the installation process.

This topic lists the supported command line arguments.



Command line arguments are case sensitive.

User Interface Parameters

-q, -quiet, -s, -silent - Installs without any user interaction

-passive - Does a progress-bar-only install

Installation Commands

-uninstall - Removes the application from the computer

-repair - Repairs (or installs if not installed) the application

-package, -update - Install (default)

-layout - Creates a local/admin image

HEIP - This parameter sets the Opt-in option for the Hexagon Customer Experience Improvement Program. This provides analytics for PC-DMIS to help

us improve the application. By default, this option is on (**HEIP=1**). Set this parameter to 0 (zero) to turn this option off.

USEMSLICENSING - When this parameter is turned on (**USEMSLICENSING=1**), PC-DMIS checks for an LMS license. Set this parameter to 0 (zero) to turn this option off.

INSTALLPDFCONVERTER - When this parameter is turned on (**INSTALLPDFCONVERTER=1**), the PC-DMIS installation installs the PDF Converter. By default, this option is turned on. Set this parameter to 0 (zero) to turn this option off.

INSTALLOFFLINEHELP - When this parameter is turned on (**INSTALLOFFLINEHELP=1**), the PC-DMIS installation installs the offline English help system. By default, this option is turned on. Set this parameter to 0 (zero) to turn this option off.

Restart Handling

-norestart - Suppresses any restarts

-promptrestart - Prompts if a restart is required (default)

Logging

-l, -log - Creates an installation log to a specific file (default TempFolder)

-logtoconsole - Logs installation information to the console, if started from the console

Help

-? - Shows the **Supported command line arguments** information screen

Additional Parameters

INSTALLDIR - Specifies the installation folder for the PC-DMIS application. The default location is "C:\Program Files\Hexagon\PC-DMIS <version>", where <version> is the PC-DMIS install version.

SQLCONNECTIONSTRING - Defines the connection string if required by the application

LICENSESTRING - Defines the license string if required by the application

LMSENTITLEMENTID=<EID> - This parameter specifies the LMS Entitlement ID (EID) for your LMS license. Replace "<EID>" with your actual Entitlement ID. For example: **LMSENTITLEMENTID=99999-12345-67890-12345-67890**

LMURLTOFNOSERVICES=<FNO server address> - This parameter defines the URL address to the LMS FNO server. Replace "<FNO server address>" with the actual URL to the LMS server. For example:

LMURLTOFNOSERVICES=https://licensing.wilcoxassoc.com/flexnet/services

LMSPROXYHOST=<{\proxyhostname}> - This parameter defines the name of the proxy host server. Replace <{\ProxyHostName}> with the name of the proxy host server. For example: **LMSPROXYHOST={\fnoserver}**

LMSPROXYUSERNAME=<{\proxyhostusername}> - This parameter defines the user name of the proxy server. Replace <{\proxyhostusername}> with the user name of the proxy server. For example: **LMSPROXYUSERNAME={\jrjones}**

LMSPROXYPASSWORD=<{\proxyhostpassword}> - This parameter defines the password for the proxy server. Replace <{\proxyhostpassword}> with the password for the proxy server. For example:

LMSPROXYPASSWORD={\AS4BGxpZyu}

LMLICENSESERVERS (@{\ipaddress}) - This parameter defines a comma-separated list of the LMS license servers.

LICENSETYPE - This parameter specifies the license type. The options are HASP, LMSEntitlement, or LMSServer. For example: **LICENSETYPE=LMSEntitlement**.

The correct usage for the additional parameters is:

PARAMETER=value

Unattended Installation Example

To perform a fully-unattended installation into a directory named **C:\PCDMISW**, use the following command line argument:

```
Pcdmis<installer information>.exe -q  
INSTALLDIR="C:\PCDMISW"
```

Where <installer information> is the PC-DMIS version and build numbers of the .exe file that you are installing.

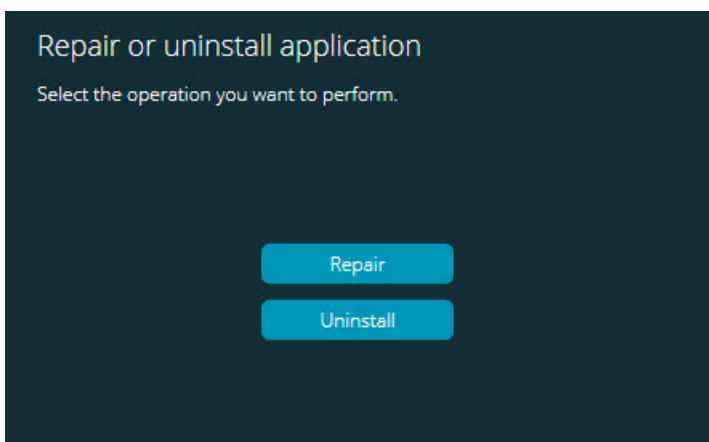
Updating the Software

For information on the installation process, follow the installation steps described in the topics above. Once the installation process finishes, you can use the latest version.

For information on evaluation versions and changing HASP to LMS, see "Updating the Software" 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 Pcdmis2020_R1_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 2020 R1 contains the user-interface files for all of the supported languages. When you install PC-DMIS 2020 R1, it installs the language files based on your operating system's language.

To run PC-DMIS 2020 R1 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 2020 R1 immediately closes and then reopens in the selected language.

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

Installing Non-English Offline Help Files from Language Packs

This topic only applies to users who don't have Internet access.

- With Internet access, the online Help for PC-DMIS 2020 R1 is already available from a public web server in all supported languages. The Help opens in your browser whenever you access it.
- Without Internet access, PC-DMIS 2020 R1 uses the Help where you installed the offline Help for your version.

With the main installation file, you can install the offline Help in English. However, non-English offline Help files are not included in the main installation file. This means if you intent to use a non-English language, and you don't have Internet access, in order to see any Help content, you *must* also install a language pack for that language.

A language pack contains all of the offline 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/2020_R1/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 folder where you installed the offline Help for your version.

You can then switch to that language in the software and access the Help content as expected.

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 2020 R1 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 2020 R1 and then reinstall it. To reinstall it, right-click on the installation file and choose **Run as administrator**.

Setting Up the Network to Send Crash Reports

Problem: PC-DMIS 2020 R1 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 2020 R1.)

Description: A firewall on your computer may be blocking the Hexagon Universal Updater application from connecting to the server. If PC-DMIS 2020 R1 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 2020 R1 without administrator privileges, DPUPDATE.EXE does not work.

Solution: Run PC-DMIS 2020 R1 with administrator privileges.

Contact Hexagon Manufacturing Intelligence

If you are participating in the *technical preview* of PC-DMIS 2020 R1, 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 2020 R1 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

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

USEMSLICENSING=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 **USEMSLICENSING**.

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 2020 R1 in silent mode:

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

On a system that already has a license, the following line installs PC-DMIS 2020 R1 in silent mode:

-passive USELMSLICENSING=1

On a brand-new system using license servers, the following line installs PC-DMIS 2020 R1 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:

Appendix A

LMENTITLEMENTID=99999-88888-77777-66666-55555

LMSPROXYHOST="123.123.123.123" LMSPROXYUSERNAME="bob"

LMSPROXYPASSWORD="marley"

Appendix B

Required User Access Rights

PC-DMIS 2020 R1 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\2020 R1
- C:\Users\Public\Documents\Hexagon\PC-DMIS\2020 R1
- C:\Users\UserName\AppData\Local\Hexagon\PC-DMIS\2020 R1
- 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 2020 R1.

- HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hexagon\PC-DMIS\2020 R1 Key and all sub keys
- HKEY_CURRENT_USER\Software\Hexagon\PC-DMIS\2020 R1 and all sub keys
- HKEY_USERS\.DEFAULT\Software\Hexagon\PC-DMIS\2020 R1 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\NCSENSORSETTINGS

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 2020 R1 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.