PC-DMIS 2023.2

Release Notes

Hexagon Manufacturing Intelligence

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HEXAGON

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Application

- You can now see that numerous application errors based on crash reports have been fixed, and protection for various exceptions (crashes) to improve product stability was added. See PCD-262851.

- You can now select an existing environment with a node locked license. See PCD-264004.

Application Errors

You no longer get application errors:

- When you use a COP Cross Section to construct an Extreme Point. See PCD-263070.

- When you use three Circle features to create a tangent circle and you click the **Create** button in the **Construct Circle** dialog box. See PCD-264704.

Auto Features

- You no longer see corrupt features when you save a measurement routine to an older version of PC-DMIS and then you reopen it. See PCD-263190.

Documentation

- PC-DMIS now opens the introduction topic of the PC-DMIS Getting Started documentation when you select the **Help | Search** menu option in Online mode. See PCD-261831.

Laser

- You can now see that, for dual arm machines with HP-L sensors, when the software picks the sensor from its slot in the probe changer and a sensor initialization failure occurs, PCDMIS disables the **Continue** button in the **Execution** dialog box. This prevents double stacking in the rack. See PCD-263125.

Mesh

- You can now see that the Mesh Profiles works correctly for both Metric and Imperial unit measurement routines. See PCD-262705.

- PC-DMIS now uses a more robust method to section meshes for Blade sections. See PCD-263105.

Pointcloud

- PC-DMIS now correctly retains the Pointcloud Colormap on a CAD model when you select the **File | Save** menu option. See PCD-240123.

Reporting

- PC-DMIS now correctly hides the labels when you right-click in the Report window and select **Hide Selected Labels**, even at different report magnifications. See PCD-256165.

Release Notes - 2023.2 SP11

Application

- You can now see that numerous application errors based on crash reports have been fixed, and protection for various exceptions (crashes) to improve product stability were added. See PCD-261339.

Application Errors

- You no longer get an application error when you perform multiple probe calibrations in large measurement routines. See PCD-245712.

Auto Features

- PC-DMIS no longer changes the strategy to default when you select **Cancel** in the **Auto Feature** dialog box after you press F9 to edit a feature. See PCD-256697 and PCD-256698.

- PC-DMIS now correctly calculates the Auto Laser and Extracted cylinder segregated points when you select the **CAD Offset** check box in the **Feature Based Clipping area** of the **Auto Feature** dialog box. See PCD-260826.

Blade

- You can now see that the points in the report (.rpt) file, created by the Blade Report command, are listed in the correct order. See PCD-261229.

- PC-DMIS now correctly creates full section cuts when you cut a Mesh object with a Mesh plane. See PCD-261272.

Constructed Features

- PC-DMIS now correctly displays the secondary datum line reference feature in the **Construct Point** dialog box when you press F9 to edit a Constructed Tertiary Datum Point. See PCD-258475.

ESF (VWMP)

- PC-DMIS now displays the correct T deviation for ESF (VWMP) features in the Probe Readouts window. See PCD-262769.

Execution

- PC-DMIS now fully executes measurement routines created by a Uniscan command. See PCD-257824.

GD&T Dimensions

- PC-DMIS now displays scans as individual hits rather than a continuous scan when you enable the **DrawScansAsPoints** entry in the Settings Editor. When you measure the scan:

  - PC-DMIS applies default tolerances and colors the points based on their deviation values.

  - If a Legacy Profile command is added to the scan, the hits are recolored according to the tolerance in the Profile command.

  - If a Geometric Tolerance Profile (Surface or Line) is added to the scan, PC-DMIS no longer colors the hits and reverts them to black.

  See PCD-259472.

- PC-DMIS no longer displays an error in the Geometric Tolerance label in the Report window when you press F5 and select or deselect the **Display MAX/MIN values in the Profile command (Edit Window)** check box in the **Geometric Tolerance** tab of the **Setup Options** dialog box. See PCD-259611.

GD&T Selection

- PC-DMIS now creates correct command names when you select the **Use characteristics ID naming** check box in the **General** tab of the **Setup Options** dialog box, and there are no characteristic ID's defined in the CAD. See PCD-261463.

Graphics and Animations

- PC-DMIS no longer highlights the features in the Graphic Display window after you execute an Adaptive Circle Scan. See PCD-255515.

I++

- PC-DMIS now sends the updated radius command when the probe is at a C angle. See PCD-258315.

Laser Feature Extraction

- PC-DMIS now has improved memory consumption when you compute Laser features extracted from large pointclouds. See PCD-259557.

Pointcloud

- You can now see the correct Filter operator type in the **Pointcloud Operator** dialog box when you press F9 in the Edit window to edit a COP Filter operator command. See PCD-261876.

Reporting

- You can now export data to Excel Form reports when you use VWMP or other toolkit features. See PCD-200450.

Summary Mode

- PC-DMIS no longer moves the cursor to the child dimension when you edit a Vector Point in the Edit window in Summary mode. See PCD-260781.

Release Notes - 2023.2 SP10

Application

- You can now see that numerous application errors based on crash reports have been fixed, and protection for various exceptions (crashes) to improve product stability was added. See PCD-260673 and PCD-261099.

Application Errors

You no longer get application errors:

- When you use Any Order Execution with your measurement routine. See PCD-257350.

- When you take a snapshot from the overview camera of an HP-L-10.10 sensor on a dual arm machine. See PCD-259391.

- When you calculate estimated normals for pointclouds that contain only XYZ data. See PCD-259620.

- You no longer get an application error when you delete a command from the Edit window in Command mode after you import a DMIS file. See PCD-261283.

Auto Features

- PC-DMIS no longer reverts the measured values to nominals when you click **Test** in the **Auto Feature** dialog box. See PCD-258106.

Constructed Features

- You can now select 1st and 2nd points for a constructed scan segment when you input a pointcloud cross-section. See PCD-257741.

- PC-DMIS no longer displays child features as standalone features in the Feature List area of the **Construct Feature** dialog box when you press F9 to edit a constructed feature. See PCD-260633.

- You can now remove expressions used by constructed features when they are not needed as input to that feature. See PCD-260635.

Dual Arm

- You can now see a collision-free execution on Arm1 when you skip a measurement routine on Arm2 of a dual arm machine. See PCD-258680.

GD&T Dimensions

- You can now see that the Geometric Tolerance command reports the least material mating envelope size when you reference the features at Least Material Condition (LMC). See PCD-229808.

I++

- PC-DMIS now correctly sends the tool change command to the Serbia I++ service. See PCD-255570.

Laser

- You can now see that the Laser calibration and mapping now use the maximum acceleration values you set in the controller on Arm2, provided you do not lower these values on any arm of the dual arm machine. See PCD-257756.

Pointcloud

- You can now see improved performance when you simulate a laser scan using an HPL-10.10 sensor. PCD-255829.

Reporting

- You can now export data to Excel Form reports when you use VWMP and other toolkit features. See PCD-200450.

Release Notes - 2023.2 SP9

Application Errors

You no longer get application errors:

- When you open a 2020R1 measurement routine that contains Pointcloud Colormap. See PCD-258314.

- When you use measurement strategies and the Quick Feature Widget to create multiple features. See PCD-259462.

- When you add a Size command and then a Legacy Position or Position command into your measurement routine. See PCD-259545.

Laser

- You can now see that the sensor turns off when a laser scan is interrupted by an emergency or error on Arm2. Once the emergency or error is cleared, Motor On is restored on the machine and the current execution is cancelled, you can re-execute the scan command. To do this, you can use Ctrl + E or any other partial execution command without restarting the CMM controller or the application. See PCD-258461.

- You can now turn the laser beam on and off on Arm2 using the **Laser On/Off** button in the **Laser** tab of Live View or the **Laser start/stop** button in the **Overview Camera** dialog box. See PCD-259450.

Release Notes - 2023.2 SP8

Application

- You can now see that numerous application errors based on crash reports have been fixed, and protection for various exceptions (crashes) to improve product stability was added. See PCD-258723.

Application Errors

- You no longer get an application error when you perform multiple probe calibrations in large measurement routines. See PCD-245712.

Dual Arm

- You can now see that the overview camera shows the image from the current arm when you use an HP-L-10.10 sensor on a dual arm machine. See PCD-258440.

- You can now see that the Visual Guide on Arm2 of a dual arm machine is functional when using an HP-L-10.10 sensor. See PCD-259210.

ESF (VWMP)

- You can now see that Gap measurements for ESF (VWMP) Optical features return accurate positive deviations when the actual Gage cloud is positioned at a greater height than the actual Master cloud. See PCD-258404.

Exection

- PC-DMIS now executes large measurement routines (5000 commands or more) at a faster speed. See PCD-259178.

GD&T Selection

- PC-DMIS now creates a correct angle when you work with CAD PMI data. See PCD-258700.

Legacy Dimensions

- PC-DMIS now displays the correct measured value of a Profile of a Surface (Form only) when you use an extracted cone as an input feature. See PCD-247691.

- You can now search for a feature in the feature list area of the Flatness dialog box using the feature name. See PCD-258385.

- You can now see Pointcloud Surface Colormap groups in the **Feature List** area of the Surface Profile dialog box when you create a feature using the **Surface Profile** option. See PCD-258751.

- You can now see a separate axis for Bonus in an Excel form report when you dimension a Position Tolerance. See PCD-258992.

Reporting

- You can now see all the pages in the Report window when you are in CAD-Only landscape view and you click **Ok** in the **Label Layout Wizard** dialog box after you update the label count and select the **Apply to page only** check box. See PCD-258941.

Release Notes - 2023.2 SP7

Application

- You can now see that numerous application errors based on crash reports have been fixed, and protection for various exceptions (crashes) to improve product stability was added. See PCD-PCD-257973.

Dual Arm

- You no longer get an error message that states "No Laser Stripes" when you scan with a laser probe after a probe change. See PCD-258336.

ESF (VWMP)

- PC-DMIS now correctly calculates the deviation values of an MD Gap feature. See PCD-258264.

I++

- PC-DMIS now correctly handles the Temperature Compensation for the Renishaw UCC. PC-DMIS now only reads the temperature and does not set it. See PCD-246947.

Release Notes - 2023.2 SP6

Application

- You no longer receive a PC-DMIS error message that states "The process cannot access the file because another process has locked a portion of the file" when you open a large measurement routine in a newer version of PC-DMIS. See PCD-258153.

Application Errors

- You no longer get an application error when you press F9 to edit an Arm2 laser scan of dual arm machine. See PCD-256839.

GD&T Dimensions

- PC-DMIS now correctly applies the PMI modifier when you change the input to a Width feature. See PCD-257113.

- PC-DMIS now correctly applies the tolerance when you create a Width feature from a CAD PMI data. See PCD-257814.

Release Notes - 2023.2 SP5

Application Errors

- You no longer get an application error when you press F9 to edit a location dimension with a D axis when no input feature is defined. See PCD-257454.

Auto Features

- You can now see that the Cylinder Ending Offset smart parameter remains disabled after you create a feature and remains disabled throughout any subsequent edits to that feature command. See PCD-255835.

- PC-DMIS now correctly draws the clipping zones when you import a DMIS file. This means PC-DMIS now correctly creates Laser Auto Slot features when you import a DMIS file. See PCD-256163.

- You can now disable the Cylinder Ending Offset smart parameter using the EnableEndingOffsetSmartCalculation registry key. See PCD-256797.

Constructed Extracted Feature

- PC-DMIS now correctly generates a pointcloud point vector where the points are along the line. This means PC-DMIS no longer excludes points that should be kept when you use the Constructed Extracted Surface command. See PCD-245366.

Documentation

- You can now see that when you run PC-DMIS and you have it set to use the online help, when press the F1 key for help, the help opens from Hexagon's Nexus Documentation Center (NDC) site. See PCD-257401.

Dual Arm

- PC-DMIS now supports the MCR20 probe for dual arm machines with CW43L wrists on DC4K controllers. See PCD-257451.

Environment Configurator

- You can now choose to start PC-DMIS in Online mode from the Environment Configurator after PC-DMIS was previously running in Offline mode. See PCD-256010.

ESF (VWMP)

- You can now see the correct computation of the Flush measurement for ESF (VWMP) Optical features when the actual Gauge cloud is at a greater height than the actual Master cloud. See PCD-257062.

GD&T Dimensions

- You can now see the [DF] modifier for ISO in the Feature Control Frame Editor when you select the Advanced Modifiers check box. See PCD-252670.

- PC-DMIS has improved the import of PMI CAD models. This provides better support for Geometric Tolerance commands. See PCD-255885.

Laser Feature Extraction

- You can now see all the segregated points in the Graphic Display window when you use the **Max incidence angle** filter and there are two overlapping pointcloud patches in your measurement routine. See PCD-257238.

Moves

- PC-DMIS no longer moves the tip to the ClearanceCube when you execute a Readpoint in Manual mode. PC-DMIS now treats a Readpoint as a constructed feature, which means that it no longer has any ClearanceCube settings and associated motion. See PCD-255532.

- PC-DMIS no longer moves the tip to the ClearanceCube after every hit when you perform a basic scan with a tactile probe. See PCD-255598.

Pointcloud

- PC-DMIS now accurately performs pointcloud auto alignment with the refine max distance. See PCD-241297.

- PC-DMIS now correctly exports Pointcloud data to a .PSL file when the size of the pointcloud exceeds 4 GB. PCD-257254.

Reporting

- PC-DMIS now generates a correct Excel output when you set PREVIOUS_RUNS-S=DELETE_INSTANCES in a PRINT/REPORT command. See PCD-248639.

- PC-DMIS now shows the header correctly at the bottom of custom reports when you use Report Expressions. See PCD-251791.

Release Notes - 2023.2 SP4

Application

- You can now see that numerous application errors based on crash reports have been fixed, and protection for various exceptions (crashes) to improve product stability was added. See PCD-256656.

Application Errors

You no longer get application errors:

- When you answer "NO" to the message for probe repositioning and remeasure when you measure a Notch Slot using the Find Hole method. See PCD-241081.

- When you execute a linear open scan with execution mode set to normal (Execution=NORMAL) using a CWS probe. See PCD-249378.

- When you cut and paste features in Summary mode with associated Geometric Tolerance commands. See PCD-252651.

- When you delete a dimension that has its features deleted. See PCD-252288.

Auto Features

- PC-DMIS now correctly moves the probe in the tip vector direction when you create an Auto Cylinder feature after you select **Both** from the **Avoidance move** list and select **Along Tip Vector** in the **Contact Auto Move Properties** tab of the **Auto Feature** dialog box. See PCD-252283.

CAD

- You can now click and drag any of the section cut handles in the Graphic Display window to modify the CAD Section Cut properties. See PCD-224078.

Configuration

- You can now modify the VolCompMethod entry value when you migrate your PC-DMIS application. See PCD-252200.

Constructed Extracted Feature

- You can now set the BF_MATH_TYPE for a constructed extracted surface point using BASIC scripting. See PCD-251709.

- You can now delete a selected hit when you press the Alt key plus the - (minus) key combination when you create a Constructed Extracted feature from a pointcloud data with no CAD model. See PCD-252229.

- You can now delete hits with the Alt key plus the - (minus) key combination when you construct an extracted Round or Square Slot feature from a COP. See PCD-252512.

Constructed Features

- PC-DMIS now correctly selects the hits when you click **Select All Hits** after you hold down the Shift key and select features in the feature list area of the **Construct Plane** dialog box. See PCD-250360.

- PC-DMIS now maintains the sort order in the Features list area of the **Construct Feature** dialog box when you click the **Select All Hits** button. See PCD-251851.

Execution

- You can now skip the manual alignment features on execution if they are not needed. See PCD-214110.

- You no longer get an error message stating that the ClearanceCube motion is constrained from all sides for a feature when you execute a measurement routine and the ClearanceCube is not defined. See PCD-249679.

- You can now see the media in the Operator comment message box when you execute a measurement routine created from a template. See PCD-251971.

Gage

- PC-DMIS no longer shows the Temperature Gage as out of tolerance in the Edit window in Command mode when you select the **Minus Tols Show** Negative check box in the **Dimension** tab of the **Setup Options** dialog box. See PCD-227528.

GD&T Dimensions

- PC-DMIS now restores the DATADEF command when you select the **Undo** icon from the **Edit Window** toolbar after deleting a feature. See PCD-149333.

- PC-DMIS is now updated to GD&T Library version 3.2.20231024. See PCD-250396.

- You can now see that the Planar Zone Orientation vector no longer changes when you close and open a measurement routine that includes a Geometric Tolerance Planar position command followed by a recall alignment command. See PCD-256173.

Graphic Display Window

- PC-DMIS now correctly applies the center of rotation when you select the feature in the Graphic Display window to set the center of rotation for a feature pattern (Paste with Pattern). See PCD-255488.

HxGN Robotic Automation

- You no longer get a server error message when you group commands using the CSV Converter. See PCD-250693.

Laser

- PC-DMIS now correctly uses the assigned expressions to parameters in a Laser feature when you use an HP-OW / CWS sensor. See PCD-250680.

- PC-DMIS no longer resets the Mesh command when you press F9 on the Mesh command in the Edit window. See PCD-256648.

Laser Scanning Simulation

- PC-DMIS now performs collision detection at a faster speed when you use an HPL-10.10 sensor. See PCD-256622.

Legacy Dimensions

- PC-DMIS now updates the polar angle upper and lower tolerance to all the dimensions with the same values you type in the **Feature Location** dialog box when you click the **Create** button after you select multiple features from the Feature List area of the **Feature Location** dialog box. See PCD-226504.

Moves

- You no longer get an error message that states "TIP inside ClearanceCube" when you execute a measurement routine that includes a feature with ClearanceCube set at the starting and ending face followed by an alignment command. See PCD-257011.

Probes

- PC-DMIS no longer overwrites the migrated settings with default values when you install an updated version for the first time. See PCD-247065.

Quick Feature

- PC-DMIS now displays the correct values when you create an Angle Point and the part alignment differs from the CAD alignment. See PCD-248005.

RDS

- PC-DMIS now allows you to switch from a scanner (T-Scan, AS1, AS1-XL) to a reflector on an ATS960 Tracker. See PCD-246381.

Reporting

- You can now export the results from caliper and radius gage measurements for statistics. See PCD-252757.

- PC-DMIS no longer removes report modification, specifically graphical analysis modifications, in the Report window when you save and reopen measurement routines. See PCD-252376.

- You can now see the correct measurement values in the Report window when you open a measurement routine upgraded to a newer version. See PCD-255803.

Statistical Output

- You no longer get an error message stating that the conversion from string to integer is invalid when you apply the GM naming rule for the K2001 field in Q-DAS Configurator. See PCD-245622.

Summary Mode

- You can now see that the child-parent link is retained in a group with a Thickness Gage command when you collapse and expand the group. This means the Thickness Gage command and Thickness command maintain the parent-child link in a group command. See PCD-252446.

Temperature Compensation

- PC-DMIS now correctly reads the part temperature when you use temperature compensation V1 and multiple part sensors (changeable and magnetic). See PCD-252754.

Toolkit

- You can now see the trace field name in the trace field error message when you execute a measurement routine and the input has an error. See PCD-251995.

Release Notes - 2023.2 SP3

Application Errors

You no longer get application errors:

- When you enable stable probing for an AT901 Leica Tracker. See PCD-248487.

- When you delete a block of commands that includes a geometric tolerance command. See PCD-250166.

Auto Features

- You can now use the **Max incidence angle** filter to create a stud feature when you mark the **Ring Band** check box in the **Auto Feature** dialog box. This allows you to filter out points with normals outside a specified angle when you extract a stud feature from laser data. This filter is particularly useful for data scanned from both sides of a sheet metal part and acts only on the planar portion of the pointcloud data, leaving the cylindrical portion unfiltered. See PCD-241367.

Constructed Features

- PC-DMIS now correctly retains the input of a constructed curve in the Edit window when you copy a constructed curve including the input command and select the **Edit | Paste With Pattern** menu option. See PCD-250517.

GD&T Dimensions

- PC-DMIS now uses the CAD elements of a linked GD&T reference when you use GD&T Selection Mode (from CAD) and the selected GD&T callout has no associated CAD elements. See PCD-199699.

- PC-DMIS now correctly draws the tolerance zone for a cylindricity tolerance. See PCD-242797.

- You can now see that an expression that uses the .meas extension returns the same value when it references the Geometric Tolerance command as it did when it referenced the Xact Measure command. See PCD-244140.

- PC-DMIS no longer changes the measured value of a profile of a surface to nan in the Edit window in Command mode when you select the **FILE | Export | Part Model | STEP | STEP AP214** menu option. See PCD-249034.

- PC-DMIS no longer displays an error message in the **Geometric Tolerance** dialog box when you create a perpendicularity tolerance command between two 3D lines created using laser auto Surface Point features. See PCD-249659.

- PC-DMIS now correctly stores the CADToPart and MachineToPart transforms of a child feature from Adaptive Cone Line Scan, Adaptive Cylinder Line Scan, and Adaptive Plane Line Scan strategies. You no longer get an error message stating that the child features are out of sync when using them to create a geometric tolerance command. See PCD-249966.

HxGN Robotic Automation

- The **HxGN Robotic Automation Connector** application dialog box now opens when you click the left-most green **Connector Application** button in the bottom-right corner of the **HxGN Robotic Automation** application screen. See PCD-250189.

Laser Feature Extraction

- PC-DMIS now has improved behaviour for the incidence angle filter when extracting studs (external cylinders) from thin sheet metal parts with pointcloud data on both sides. The filter now excludes data from the lower surface during feature extraction. See PCD-248468.

Measurement Strategy Editor

- PC-DMIS now correctly retains the selection of the Ending Offset smart parameter when you click **Save** or **Save As** in the **Measurement Strategy Editor** dialog box. See PCD-250180.

Moves

- PC-DMIS now utilizes the machine arm position instead of the tip location for safe moves when the measurement routine contains a LOADMACHINE command. This means PC-DMIS now correctly inserts clearance moves automatically when you enable Auto Insert Moves with Feature Creation and Collision Detection. See PCD-250547.

Reporting

- PC-DMIS now correctly displays the label of an Angularity dimension in a Text and CAD report. See PCD-249934.

- PC-DMIS now correctly uploads the tracefields data to the Metrology Reporting Cloud when you execute a measurement routine. See PCD-250021.

Scanning

- The Variable Scan Speed functionality is now available for the HP-L-10.10 LITE sensor. See PCD-250313.

Vision

- PC-DMIS now correctly applies the filter and enables the **Show Filtered Points** icon when you select the **Nominal Form** filter type in the **Hit Targets** tab of the **Auto Feature** dialog box. See PCD-233817.

Release Notes - 2023.2 SP2

Alignments

- PC-DMIS now displays an error message for a ROTATE_CIRCLE alignment command that has no associated features assigned to it. See PCD- 249235.

Application Errors

- PC-DMIS now works correctly with stationary environments when you use an HP-OW sensor without a vision sensor. This means, you no longer get an error message that states "Machine type not selected" when you start the PC-DMIS application. You can now see the **Machine Options** dialog box when you select the **Edit | Preferences | Machine Interface Setup** menu option. See PCD-248663.

- You no longer get an application error when you use child features to create a Datum Definition command. See PCD-247705.

Environment Configurator

- PC-DMIS now correctly downgrades to a lower version when you configure an environment file to a lower version. See PCD-250052.

GD&T Dimensions

- You can now see that an expression that uses the .meas extension returns the same value when it references the Geometric Tolerance command as it did when it referenced the Xact Measure command. See PCD-244140.

- PC-DMIS now correctly creates all the GD&T callouts when you answer "YES" to the "Do you want to create commands from the CAD GD&T" message after you import a CAD PMI model. See PCD-244935.

- PC-DMIS no longer displays invalid features in the features list area in the **Feature Control Frame** tab of the **Geometric Tolerance** dialog box when you use the search box to filter the features. See PCD-245713.

- You can now see the size dimensions in the Report window when you migrate from XactMeasure to Geometric Tolerance commands. See PCD-249215.

- PC-DMIS now correctly retains the datums when you press Ctrl + U to execute a measurement routine from the cursor's current location inside a loop. See PCD-249256.

- PC-DMIS now correctly handles the common datums when you answer "YES" to the "Do you want to create commands from the CAD GD&T" message after you import a CAD PMI model. See PCD-249338.

Graphical Analysis Window

- PC-DMIS now correctly retains the new value as the default when you click **Default** after you modify the **Sphere size** from the **Display Options** tab of the **Graphical Analysis** dialog box. This means, PC-DMIS now saves the new value to the User-Settings.json file. See PCD-249759.

Laser Feature Extraction

- PC-DMIS now compares each scanned point's estimated normal to the pointcloud point's nominal normal when you use the **Max incidence angle** filter to create a 3D Laser feature from the **Auto Feature** dialog box. See PCD-247677.

Legacy Dimensions

- PC-DMIS now correctly assigns each feature a number to the right of the feature ID in the feature list area when you use the **Search ID** box in a dimension dialog box. See PCD-249703.

- You can now see the last feature in the feature list area of the **Angle** dialog box when you use a high-resolution monitor. See PCD-249704.

Reporting

- PC-DMIS is now updated with the latest uploader NuGet package. This means you can now see the Nexus icon in the **Nexus Settings** dialog box, **Upload to Nexus Cloud** dialog box, and Upload window. See PCD-249490.

Vision

- PC-DMIS now correctly updates the COVERAGE ACTIVE TARGETS value when you change in the Edit window, Command mode after you change the COVERAGE value. See PCD-249071.

Release Notes - 2023.2 SP1

Application Errors

You no longer get application errors:

- When you click **Apply** in the **Pointcloud Operator** dialog box after you modify the percentage (%) value in the **Pointcloud size** area for a **CURVATURE** type Pointcloud filter operator. See PCD-247706.

- When you click **New** in the **Measurement Strategy Editor** dialog box to create a custom Touch Trigger User Defined Plane strategy. See PCD-248212.

- When you try to create a generic construction feature using generic feature arrays as the input. See PCD-249178.

Auto Features

- PC-DMIS now correctly displays all the labels under the **Perimeter Controls** area in the **Path Definition** tab of the Auto Feature dialog box when you use the Adaptive Free Form Plane Scan strategy. See PCD-246477.

- PC-DMIS now correctly creates a Cone feature from COP data when you select the **CAD Offset** check box in the **Feature Based Clipping** area of the **Auto Feature** dialog box. See PCD-247899.

- You can now correctly extract an Auto Cylinder feature when you select the **Remove outliers** check box in the Laser **Auto Feature** dialog box. See PCD-248770.

CAD

- PC-DMIS now generates the path lines faster. See PCD-247888.

Documentation

- The "ClearanceCube Definition - Constraints tab" topic in the PC-DMIS Core documentation is now updated to remove information about Resize ClearanceCube. See PCD-249367.

ESF (VWMP)

- You no longer get an error message that states "Object reference not set to an instance of an Object" when you press F9 in the Edit window to open an ESF (VWMP) Laser feature that you have created with flipped edge vectors. See PCD-247483.

Execution

- You no longer need to re-execute the program when the Tracker Beam is reset after the Operator comment message box is displayed. See PCD-241826.

- You no longer get an error message that states "Unable to generate safe ClearanceCube motion" when you execute a measurement routine that includes a tip change command. See PCD-248545.

GD&T Dimensions

- You can now see the correct per unit flatness and unit shape in the Feature Control Frame Editor in the **Feature Control Frame** tab of the **Geometric Tolerance** dialog box when you work with **GD&T Selection Mode (from CAD)**. See PCD-212704.

HxGN Robotic Automation

- PC-DMIS now retains the actual values for Generic Point features that are not measured by Robotic Automation. Only the Generic Point features within the Robotic Automation program are updated with the new measured value. See PCD-245303.

Legacy Dimensions

- You can now see the correct upper and lower tolerance values in the Edit window, as per the ISO standard 286-1:2010 + AC:2013 (D), for a location dimension with Tolerance Class (M) and Tolerance Grade (IT6). See PCD-53902.

Moves

- You can now see that the probe head moves to a reasonable safe height, instead of a very high height, when you define ClearanceCube motion for the TIP command. See PCD-248632.

Notification

- You can now see the correct information icon in the message box that states "Upload to Nexus was successful". See PCD-248332.

Pointcloud

- PC-DMIS now sets the last used filter **Type** as the default in the **PointCloud Operator** dialog box when you create a COP filter. See PCD-240929.

- PC-DMIS now correctly creates the COP Select Operator command when you click **OK** in the **Pattern Setup** dialog box after you set the angular offset between pattern occurrences and the number of times to offset a pattern. See PCD-243806.

Reporting

- PC-DMIS now displays the ELOGO.DAT information (footer) when you print PDF or RTF reports that do not have a defined rule. See PCD-246171.

- PC-DMIS now generates only one Excel report, instead of two, to upload to the Metrology Reporting Cloud when you execute a measurement routine. See PCD-248615.

Vision

- PC-DMIS now correctly executes a measurement routine when you copy and paste parameters from one Auto Line feature to another Auto Line feature. See PCD-243528.

- You no longer get an error message stating that the illumination set is missing when you run a measurement routine using automation. See PCD-246098.

What's New

Create Pointcloud from CAD Model

You can now create a theoretical pointcloud on your CAD model for a single surface, multiple surfaces, or the entire model without scanning a part. This allows you to simulate offline laser scanning measurement routines that include feature extraction, colormaps, and Geometric Tolerance commands.

See Create Pointcloud from the CAD model.

Feature Creation Improvements

PC-DMIS can now create features more efficiently:

- PC-DMIS now activates void detection with a CAD offset and applies smart parameters to reduce the need for further editing when you create an Auto feature. This optimizes the measurement strategies based on the Manual or DCC mode and sensor type.

- You can now see the **Along Feature Vector** option in the Avoidance Move - Direction list in the **Measurement Strategy Editor** dialog box. Also, you can now access more options from the Quick Feature Widget.

- PC-DMIS now provides an enhanced Quick Path functionality. When you enable Quick Path, it turns on Auto Wrist along with Auto Insert Moves with Feature Creation and Collision Detection. These functions combined with Quick Features enable visualization of paths in the Graphic Display window between current and previous features, including auto-inserted tip change and move points. As you select features, PC-DMIS performs the path generation, and you don't need to deal with manually creating path commands (such as tips or moves commands).

- PC-DMIS now performs a smart calculation of the Ending Offset parameter when you create an auto cylinder contact feature based on the stylus length. You can now see a smart calculation (indication) beside the **Ending Offset** option in the **Contact Path Properties** tab of the **Auto Feature** dialog box.

See Feature Creation Improvements.

Touch Trigger Probe (TTP) User Defined Plane

You can now use the TTP User Defined Plane Strategy instead of a measured plane. This allows you to take hits at desired locations and insert move points between the hits to avoid any obstacles on the path. This strategy is available in the **Measurement Strategies** tab of the **Auto Feature** dialog box.

See TTP User Defined Plane.

ClearanceCube Improvements

PC-DMIS now provides the ability to use ClearanceCube for complex geometry parts.

- You can now define ClearanceCube in a simple and user-friendly way. You can now click and drag a face of the ClearanceCube in the Graphic Display window to resize Clear-anceCube or you can now click an edge in the Graphic Display window to define or remove the constraints.

- You can now define ClearanceCube motion for the TIP command. You can now switch on or switch off the ClearanceCube motion in the **ClearanceCube Settings** window. This provides you with the ability to change the TIP where desired.

- You can now define the ClearanceCube smaller than the CAD bounding box to accom-modate fixtures in a CAD model.

- You can now see the **Show ClearanceCube** icon in the **ClearanceCube** Toolbar. You can use this icon to show or hide the ClearanceCube in the Graphic Display window.

- PC-DMIS now allows you to execute a measurement routine when the tip is inside a Clear-anceCube and you press Ctrl + U. This allows you to fix any errors during measurement and continue from where it stopped.

See ClearanceCube Improvements.

Offline Animation Speed Control

You can now see the Offline Animation Speed slider in the **Execution** dialog box. You can use the slider to control the animation speed of the measurement when you execute it in Offline mode.

See Offline Animation Speed Control.

Select all Hits

You can now click the **Select All Hits** button in the **Construct Feature** dialog box when you con-struct the Best Fit or Best Fit Recompensate feature.

See Select all Hits.

Other Improvements

Auto Features

- You can now select a **Conical** shape from the **Control Element** list in the **Path Definition** tab of the **Auto Feature** dialog box when you create an Auto Circle with the **Adaptive Circle Scan** strategy. This is useful to measure a circle on a cone-shaped feature. The probe moves perpendicular to the surface of the cone and the controller scans the circular path at desired height.

CAD

- PC-DMIS now exports a CAD model as a STEP file with the application Protocol 214 when you select the **FILE | Export | Part Model | STEP | STEP AP214** menu option.

Documentation

- The "Extracting Auto Features from Pointclouds" topic in the PC-DMIS Laser documentation now has information on how to use the Depth option for Auto Circle feature.

ESF (VWMP)

- PC-DMIS now has optical nm as the default measurement type for laser features.

- PC-DMIS now supports custom naming rule for ESF (VWMP) features. You can select the **Custom** option from the **Type** list in the **Naming rules** area of the **Extended Sheet Metal Features** dialog box.

- PC-DMIS now supports copy and paste parameters in the **Extended Sheet Metal Features** dialog box when you use contact probes.

- You can now edit dimension tolerances in the Edit window for ESF (VWMP) features.

- PC-DMIS now sets the last used pointcloud ID as the default when you add Optical ESF features in the measurement routine.

GD&T Dimensions

- You can now select the GD&T standard in the **New Measurement Routine** dialog box when you select **File | New** to create a new measurement routine. This means you can no longer toggle between ASME and ISO standards. Also, PC-DMIS now shows the GD&T standard in the file header of the Edit window in the Command mode.

- PC-DMIS now converts all migrated size and geometric tolerance commands to a single GD&T standard based on the most referenced standard during XactMeasure migration. To discard the migrated measurement routine and automatically restore the original version, click the **Cancel** button on the **Migration Report** dialog box.

Laser

- PC-DMIS now collects data immediately when you use an HP-L-10.10 sensor during scanning.

- You can now build a probe using an HP-L-10.10 LITE sensor as a component.

- You can now adjust the scan properties for an HP-L-10.10 LITE sensor from the **HP-L-10.10 Lite Scan Properties** tab on the Probe Toolbox when you run your measurement routine on a CMM with an FDC controller.

Measurement Strategy Editor

- You can now see the grid button for the **Ending Offset** option when you select **Cylinder** from the Features Toolbar of the **Measurement Strategy Editor** dialog box. You can use this grid button to enable or disable the smart parameters.

Operating System

- Starting with RDS version 6.3, the Windows 11 operating system is supported.

Reporting

- You can now directly upload the PC-DMIS report data to Metrology Reporting without the SFx desktop application.

Temperature Compensation

- You can now switch the default sensor from the **Default Part Sensor** list in the **Temperature Compensation Setup** dialog box.

Vision

- You can now see that, when in Online mode, PC-DMIS now shows the correct controller type information for the Metronics and Embedded Optiv controllers in the **Help | About** dialog box.

What's Fixed

Alignments

- PC-DMIS now displays an error message for alignments that have no associated features assigned to them. See PCD-129802.

Application Errors

You no longer get application errors:

- When you import VDAFS files. See PCD-238455.

- When you import DMIS files. See PCD-239133.

- When you deselect constructed feature hits in the feature list area of the Construct Feature dialog box. See PCD-243735.

- When you run a measurement routine in Guess mode, and PC-DMIS tries to create a manual scan at the same time as a tip change. PC-DMIS now creates the scan without tip change. See PCD-244245.

- When you change the per-unit flatness orientation vector value in the Edit window in Command mode. See PCD-245555.

- When you click **Apply** in the Measurement Strategy Widget after you select the hits to create a Plane using QuickFeature. See PCD-246544.

- Several changes were made to PC-DMIS to improve its stability. Please see PCD-235965 for details.

Auto Features

- You can now only type positive values in the **Pt. Size** field in the Analysis area of the **Auto Feature** dialog box. See PCD-1036.

- PC-DMIS no longer shortens the relative vision line feature after the execution of a measurement routine. See PCD-124510.

- You can now use the **Re-Measure** option from the **Feature Properties** area of the **Auto Feature** dialog box when you execute an Adaptive Circle Scan or an Adaptive Cylinder Concentric Circle Scan. See PCD-213128.

- PC-DMIS now proposes the best wrist position (tip) for creating an Auto Circle feature using scanning strategies when you turn on the **Auto Wrist** functionality in the **Measurement**

properties area of the **Auto Feature** dialog box. See PCD-226208.

- You no longer get an error message stating that the Horizontal Clipping Must be larger than Ringband Outer Offset when you create a laser sphere after creating a laser cylinder. See PCD-238869.

- You can now see all the teach points in the **Path Definition** tab in the **Measurement Strategies** tab of the **Auto Feature** dialog box when you create an Auto Plane feature using the Adaptive Free Form Plane scan strategy. See PCD-240422.

- PC-DMIS no longer displays the **Auto Wrist** dialog box when you change the Actual thickness value in the **T** box in the **Feature Properties** area of the **Auto Feature** dialog box for contact features. See PCD-241305.

- PC-DMIS now correctly calculates the thickness value when you create an Auto Vector Point or an Auto Edge point in manual mode. See PCD-241841.

- You can no longer edit the NUMROWS parameter for a non-default measurement strategy in the Edit window in Command mode. See PCD-242393.

- PC-DMIS now correctly creates an Auto Edge Point when you rerun the measurement routine after you click **Cancel** in the message box for Comment Text. See PCD-243849.

- You can now see the correct size of the Sphere Point Symbol in the Graphic Display window in the same units as the measurement routine when you click **Add Path** in the **Path Definition** tab in **the Measurement Strategy** tab of the **Auto Feature** dialog box after you generate a free form path using the Adaptive Free Form Plane Scan strategy. See PCD-245663.

- PC-DMIS no longer moves the scan along the feature axis when you create an Auto Cylinder feature with a Cylinder Centering Thread Scan strategy after you close and re-open a measurement routine. See PCD-245805.

CAD

- You can now see that the **Display Coordinates** are set to **Datum Reference Frame** instead of **Current Alignment** in the **Nominals** tab of the **Geometric Tolerance** dialog box when you work with **GD&T Selection Mode (from CAD)**. See PCD-217350.

- PC-DMIS now correctly displays a CAD model in the Graphic Display window when you import a CATIA file. See PCD-226262.

Constructed Features

- You can now see the CAD offset boundaries on the CAD model in the Graphic Display window when you construct a surface using the COP Clean operator with CAD Offset and

Constructed Extracted Surface commands. See PCD-240976.

- PC-DMIS now has improved the memory management for Constructing a Tertiary Datum Point. See PCD-241602.

- PC-DMIS now correctly sorts the hits in the feature list area of the Construct Feature dialog box when you take hits on the CAD model in the Graphic Display window. See PCD-242858.

Documentation

- The "Performing a Low Level Matrix Calibration" topic in the PC-DMIS CMM documentation is now updated to provide clear information on how PC-DMIS uses the calculated Low Level Matrix Calibration Values. See PCD-239749.

- The "Hit Arrays" topic in the PC-DMIS Core documentation now has information on how to use Hit Arrays to define Constructed Feature inputs. See PCD-242835.

- The "Filter" topic in PC-DMIS Laser documentation now has information about the intensity filter. See PCD-245785.

ESF (VWMP)

- You can now only create multiple Flush or Gap features when you click on the CAD model in the Graphic Display window to define nominal for new features. See PCD-241119.

- You can now only create an Optical or an Optical NM measurement type hole feature when you add a Pointcloud command to the measurement routine. See PCD-241601.

Execution

- You can now see translated UI text in the **Execution** dialog box when you press Ctrl + Q to execute a measurement routine. See PCD-246698.

Five Unique

- PC-DMIS no longer modifies the Fxtserver.dat file when you restart the system. This no longer results in a wrong fixturing location for the Five Unique systems. See PCD-232240.

GD&T Dimensions

- PC-DMIS now correctly handles the common datums when you use the **GD&T Selection Mode (from File)** option. This means, when you use a feature control frame that references a common datum, PC-DMIS will now guide you through the process of creating individual datum components and then adds a common datum definition that is referenced in the geo-metric tolerance commands. See PCD-211319.

- PC-DMIS now creates a Cylinder feature instead of a Line feature when you create a straightness callout associated to a CAD entity using **GD&T Selection Mode (from CAD)**. See PCD-212206.

- PC-DMIS now recognizes the profile all around symbol in the CAD PMI model and creates the associated feature profile dimensions. See PCD-213621.

- You can now see the minus sign for minus tolerance in the Report window when you select the **Minus Tols Show Negative** check box in the **Dimension** tab of the **Setup Options** dialog box. See PCD-219008.

- PC-DMIS no longer sets the tolerance zone math of the lower segment for all the per unit-tolerances to default. Instead, the lower segment now follows the tolerance zone math setting of the first (or upper) segment. See PCD-232605.

- PC-DMIS now has an improved GD&T creation from a CAD PMI model. This provides a better method for PC-DMIS to detect existing features and geometric tolerance commands, reducing the number of duplicate commands that might get created. See PCD-236946.

- You can now import GD&T from a file in PC-DMIS CAD. See PCD-240722.

- The legacy **Position** dialog box now correctly retains the **Use datums** and **Fit To Datums** status when you edit a legacy Position command using the F9 key. See PCD-242776.

- PC-DMIS now displays the correct icons for Round Slots and Square Slots in the datum features list area of the **Datum Definition** dialog box when you select the **Insert | Dimension | Datum Definition** menu option. See PCD-244447.

- PC-DMIS now correctly updates the Size Tolerance Editor in the **Geometric Tolerance** dialog box when you select a feature in the Graphic Display window. See PCD-245775.

Laser

- You now see an updated sensor based clipping region when you modify the values in the **Laser Clipping Region Properties** tab of the **Laser Probe Toolbox** dialog box. See PCD-246068.

- You no longer see **Point Reduction Filter** list in the **HP-L-10.10 Properties** tab and **HP-L-10.10 Lite Scan Properties** tab when using a laser scan and a laser Auto feature. See PCD-246665.

Legacy Dimensions

- When you dimension the legacy position of a cylinder with the Worst End method selected, you are now able to see the nominals carried back to the respective feature if you edit one of the dimension axes and answer "YES" to the "Carry nominal back to the feature" message.

See PCD-63636.

- PC-DMIS now creates Runout Dimensions only when you select a valid combination of features in the Feature List area of the **Circular Runout** dialog box or the **Total Runout** dialog box. See PCD-133806.

- You can now see the correct results when you create a legacy position dimension with a tertiary datum at MMB or LMB for a feature that is not in the Z workplane after you select the **Use Datums** and **Fit to Datums** check boxes in the **Position** dialog box. See PCD-240888.

Measurement Strategy Editor

- PC-DMIS now correctly resizes the measurement strategy widget to accommodate long strategy names. See PCD-196119.

- PC-DMIS no longer creates duplicate strategy names when you create a new strategy after creating a new group in the **Measurement Strategy Editor** dialog box. See PCD-238456.

- PC-DMIS now prompts you to save the Factory Defaults group with a new group name when you make any changes to any of its parameters in the **Measurement Strategy Editor** dialog box and you click the **Close** button. See PCD-246275.

Moves

- PC-DMIS now supports the CAD selection of an Extended Sheet Metal Features (ESF) point in the Graphics Display window when you select the **Insert | Move | Move Point** menu option. See PCD-245741.

- PC-DMIS now correctly moves the probe in the tip vector direction when you create an Auto Cone feature after you select **Both** from the **Avoidance move** list and select **Along Tip Vector** in the **Contact Auto Move Properties** tab of the **Auto Feature** dialog box. See PCD-245877.

Probes

- You can now see the load probe message when you execute a measurement routine that contains a manual LOADPROBE command. See PCD-244218.

Quick Feature

- You can now see the path lines within and between the features when you enable **Quick Path** in the **Path** toolbar when creating Quick Features. See PCD-240746.

Reporting

- PC-DMIS now correctly displays the size of a user-defined label in a custom report. See PCD-217396.

- PC-DMIS now correctly shows or hides the annotation points in the custom report as per the viewset when you use the SNAPSHOT command to generate a report. See PCD-242749.

Scanning

- PC-DMIS now generates a more accurate scan path when you click **Ok** in the **Patch Scan** dialog box after you click **Generate** in the **Theoretical Path** area on the **Path Definition** tab of the **Patch Scan** dialog box. See PCD-238773.

- PC-DMIS now correctly switches between arms when you click an arm icon in the **Active Arms** toolbar when using an HP-L sensor on a dual arm machine. See PCD-240292.

Summary Mode

- You can now cut or paste contiguous collapsed group commands in the Edit window in Summary mode. See PCD-158057.

- PC-DMIS now correctly updates a group in Summary mode when you cut and paste the ENDGROUP command in the Edit window in Command mode. See PCD-238289.

Version Support

- You can now only load measurement routines created in PC-DMIS version 2018 R1 and later, and you can only save measurement routines back to PC-DMIS version 2018 R1. See PCD-243745.

Vision

- PC-DMIS now correctly performs an edge focus during probe offset calibration when you take three manual crosshair points in **Man+DCC** mode using a jogbox. See PCD-238694.

- You can now see a horizontal scroll bar in the **Hit Target** tab when you select **YES** for **Outlier Filter** parameter in the **Hit Targets** tab of the **Auto Feature** dialog box. See PCD-239140.

Information about this Release

We at Hexagon Manufacturing Intelligence are proud to bring you PC-DMIS 2023.2. 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 organization, 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 2023.2, 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 2023.2 into a new directory. This lets you continue to use your current version if you have problems with the new version.

Important Information about the Geometric Tolerance Command

The release of PC-DMIS 2020 R2 introduced the Geometric Tolerance command which completely replaces XactMeasure (Feature Control Frames). The Geometric Tolerance command offers numerous improvements over XactMeasure and provides these benefits:

- Support for the latest revisions of GD&T standards. The standards governing dimensional analysis have or will soon be updated to define datums in a precise and consistent way and to provide a new, single value definition for profile (ASME Y14.5 – 2009, ASME Y14.5 – 2018, ASME Y14.5.1 - 2019, ISO 1101: 2017, ISO 5459: 2011).

- Robust and intelligent validity checking of feature control frames and measurement strategies of associated features.

With the replacement of the XactMeasure command with the new Geometric Tolerance command, when you open measurement routines in this latest version, PC-DMIS now does an automatic review and migration.

The reason for this automatic review is that in some cases there may be invalid GD&T or measurement strategies in the original routine.

With this latest version, PC-DMIS now automatically checks for and only allows the creation of correct GD&T commands. In previous versions, this was less stringently enforced. Now, in this latest version, when you open a measurement routine, PC-DMIS performs the validity checks, and then one of these cases occurs:

- All the XactMeasure GD&T commands in the original measurement routine are valid or these routines contain no XactMeasure commands (Legacy dimensions remain unaffected). In this case, PC-DMIS doesn't generate any migration report which indicates that the migration is successful and needs no further action.

- The original measurement routine contains invalid XactMeasure GD&T commands or measurement strategies. In this case, PC-DMIS generates a detailed migration report to notify you of any changes that PC-DMIS made and any other items that require further attention.

❗	**Important**
	In all cases, to maintain compatibility with your previous versions, PC-DMIS retains the original unchanged measurement routine and sets it aside in this folder:
	C:\Users\Public\Documents\Hexagon\PC-DMIS\<version>\MigrationBackup, where <version> is the PC-DMIS version.
	Whenever PC-DMIS performs a migration, the probe hits, and probe paths of those measurement routines remain untouched.

We recommend that you can perform the migration process as a separate offline activity before you update your production machines. To help you with this, Hexagon has created a utility that sorts measurement routines based on the presence of a migration report.

- Routines that generate a migration report require review by a programmer.

- Routines without a migration report do not require a review, and you may release them to production.

To help with this offline migration, if needed, Hexagon can provide free access to an offline subscription to PC-DMIS for a limited time period.

For more details, please contact your local Hexagon representative.

Recommended System Requirements

Operating System

PC-DMIS 2023.2 operates under 64-bit Windows 11 and Windows 10. No other operating systems are supported.

	Important
	Starting with RDS version 6.3, the Windows 11 operating system is supported.

	Note
	For HP-L systems and systems that use RS-SQUARED sensors that run PC-DMIS in DCC mode, you need to use a 64-bit Windows 10 Pro Computer with up to 4 Cores.

You can find a list of supported operating systems for most versions of PC-DMIS here:

https://support.hexagonmi.com/s/article/Windows-OS-Compatibility-Listing-for-PC-DMIS

	Important
	When you use third-party drivers, be sure to 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.

Microsoft .NET Framework

Microsoft .NET Framework 4.8 for Windows. If you do not have Microsoft .NET Framework 4.8, 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

- 64 GB of RAM Dual-Channel @1063 MHz DDR4-2666 MHz ECC RDIMM memory (for HP-L systems and systems using RS-SQUARED sensors)

CPU

- 2 GHZ or higher quad core processor

- Intel Xeon W-2223 Processor (3.6GHz, 3.9GHz) for HP-L systems

- Intel Xeon Processor E3-1505M (3.00 GHz) for systems using RS-SQUARED sensors

- Intel Core i7 9th Generation or higher (for example, i7-9xxxHx) 6 Cores hyper-threading enabled (for HP-L systems and systems using RS-SQUARED sensors)

Graphics

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

- GPU Memory 2 GB DDR3*

- 6 GB Memory Bandwidth 29.0 GB/s (for HP-L systems)

- CUDA Cores 384

- Open GL 3.0

- NVIDIA Quadro P5000 (4 GB) (for HP-L systems and systems using RS-SQUARED sensors)

- AC or AX type Wi-Fi card for systems using RS-SQUARED sensors

* 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

- SSD drive, HDD 10K, or two disks in RAID 0 mode (high-performance hard disk drive)

- 128 SSD, 128 SSD RAID, 1 TB HDD

Display

Screen resolution of 1920 x 1080 or higher

ℹ	**Note**
	If you use a high resolution monitor under low-light conditions, some PC-DMSI UI elements may be difficult to see. If so, you can try these options: • From the PC-DMIS Home screen, select the theme (**Light** or **Dark**) that provides the best UI visibility. For details on how to change the PC-DMIS theme, see "Changing the Theme" in the online Help. • Increase the ambient lighting.

Connectivity

- One Serial port

- Three 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

- A properly-configured LMS license or a HASP key (a physical USB portlock)

- LAN port with Intel Chipset (for example, I219) (for HP-L systems)

ℹ	**Note**
	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.

Firmware Distributed Controller (FDC) Connection

PC-DMIS establishes a connection with FDC through the following parameters:

- Controller address - 100.0.0.1

- PC-DMIS computer address - 100.0.0.2

- Subnet mask - 255.255.255.0

- Port - 1234

Pcdlrn.exe and PC-DMIS process listens on port 1294.

Some other ports used are 138 and 1900. The port 1900 was listed as a UDP port.

LMS Licensing

The License verification server and ClmAdmin utility for node locked licenses:

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

The Floating License servers with Flexnet LmAdmin64.exe uses port 27000-27009 on the server. The LocalHost server on port 8090 and older versions defaults to port 8080. You can define these ports when you install license server or through the server interface. These are only Offline licenses when you are not connected to a machine.

Hexagon Universal Updater

WebSocket URL - ws://webupdater.hexagonmi.com

Server - http://webupdater.hexagonmi.com/v2/db.live

Username - Null

Password - Null

Port - 80

File - updates_v4.20190702090658181.db

If you select to install Offline Help when you update the software, it opens the second remote address on port 443. This port verifies the license.

CrashSender1403.exe

This executable is of PC-DMIS Crash Report Utility tool. You can turn off this option because of Windows Event management.

C:\Program Files\Hexagon\2023.2 64-bit\Launcher\HexagonLauncher.exe

LauncherPC-DMIS.config/nocrashdump

A few Hexagon products need to establish remote connections such as Pulse, Notification Center/Message Lights and Smart Factory.

Browsers

- Microsoft Edge, Mozilla Firefox, Google Chrome

ⓘ	**Note**
	We recommend that you keep your browser up to date by installing its latest version.

Anti-Virus Software

Hexagon Manufacturing Intelligence used the Sophos anti-virus tool to test PC-DMIS 2023.2. 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 2023.2 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

HP-L-10.10 Laser Scanner System

If you need to use the HP-L-10.10 laser scanner system, your laser scanner controller firmware version must be updated to version 0.10.6. Please contact your local Hexagon representative to perform the firmware upgrade.

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 2023.2 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, follow these steps:

    1. Start the Settings Editor.

    2. Click the **Backup** button (or **Export**) to open the **Backup** dialog box.
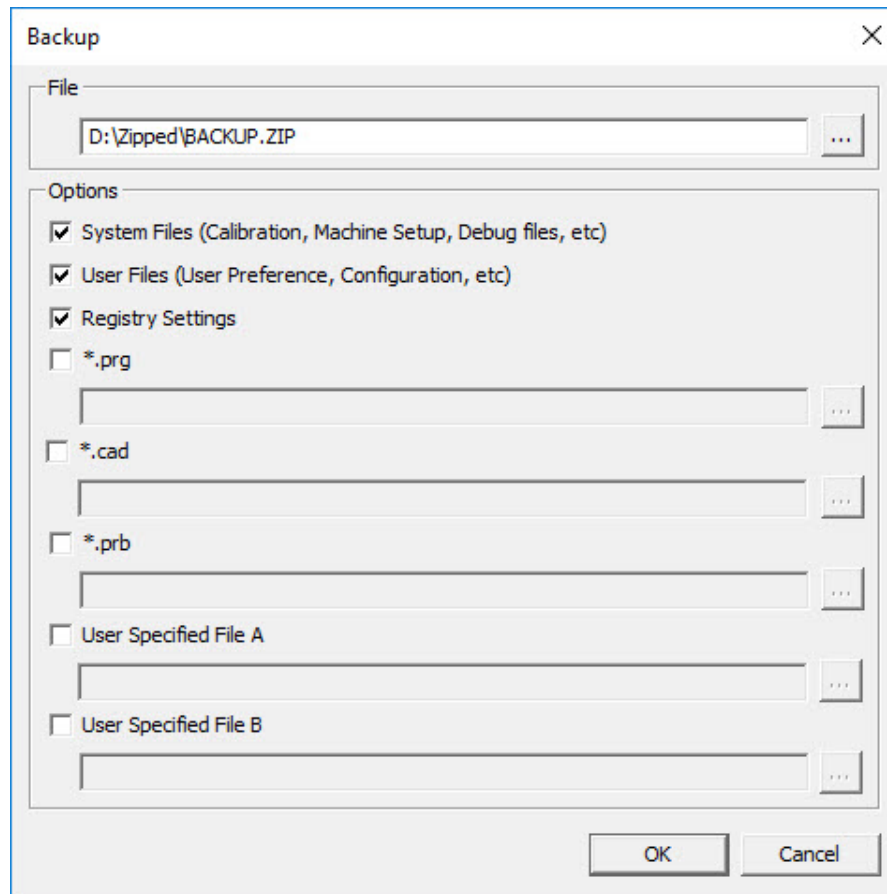
Backup dialog box

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**.

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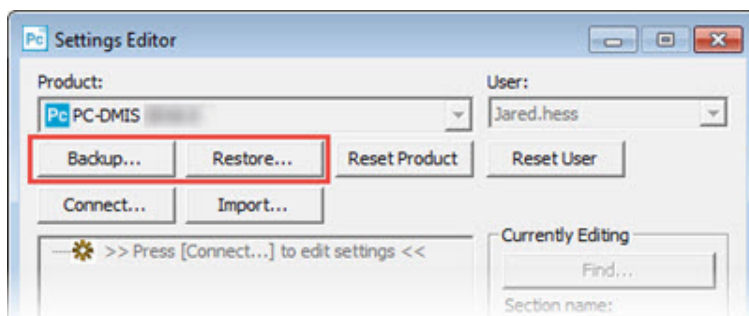
Backup and Restore buttons

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 2023.2 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 2023.2 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 2023.2 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:

   Pcdmis2023.2_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 End User License 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 2023.2 64-bit

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

6. By default, the software marks the **Install Universal Updater** check box to install the Universal Updater application. If you do not want to install the application, clear this check box.

7. Once you accept the license agreement and choose the installation folder, click **Next** to open the licensing screen.

8. 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".

9. Click **Next**.

10. You can choose to install additional software components. If you selected a custom 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 2023.2 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".

- **Select default portable interface** - From the list, select the Portable interface that you want defined when PC-DMIS starts up. You can choose from any of these supported Portable devices:

  RomerRDS Arm

  Romer Arm (WinRDS)

  AT40x Leica Tracker

  AT500 LeicaLMF Tracker

  AT9x0 LeicaLMF Tracker

AT901 Leica Tracker

ATS600 Leica Tracker

TDRA6000 LeicaTPS Tracker

Aicon - Offline

MoveInspect

Faro Arm

- **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.

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

12. When the installation finishes, a screen shows any warnings or errors. It also contains these options:

- **Launch PC-DMIS 2023.2 64-bit** - To launch PC-DMIS 2023.2 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.

13. Click **Close** to close the installation program.

ⓘ	**Note**
	If you selected the **Offline English Help** check box in step 10, the English help installer starts up as soon as the PC-DMIS application installation is complete.

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 2023.2 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:

   - **URL to FNO Services** - This points to the URL that verifies your license. Ensure that it has this URL:

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

   - Proxy information - If your computer is on a network where you need a proxy server to reach the Internet, contact your IT specialist to get this information. Enter the server host, user name, and password.

2. If you do not have an Entitlement ID and you need to activate your license offline, use the CLM Admin application. From the CLM Admin application, choose **Activate new licenses**, and follow the on-screen instructions.

ℹ	**Note**
	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
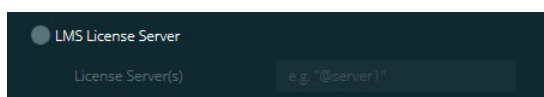
LMS License Server option

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

❗	**Important**
	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 2023.2, 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 2023.2 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 2023.2 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.

ℹ	**Note**
	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 (Pcdmis2023.2_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 2023.2, you must launch it with administrator privileges. If you mark the **Launch PC-DMIS 2023.2 64-bit** check box when the installation finishes, PC-DMIS 2023.2 does this automatically, bypassing 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 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).

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-DMIS2023.2 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 2023.2 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 2023.2 for the first time, go to **Start** and type **PC-DMIS 2023.2 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).
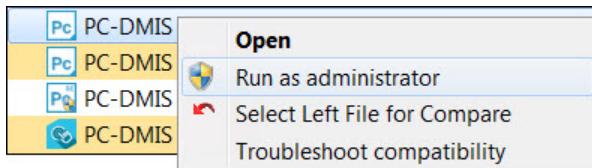
Run as administrator option

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 Settings Editor, follow these steps to use your previous software settings:

   a. Close PC-DMIS 2023.2.

   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 thStep 3: Back Up Existing Settings. PC-DMIS 2023.2 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 2023.2 normally :

PC-DMIS 2023.2 shortcuts

Once PC-DMIS 2023.2 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:
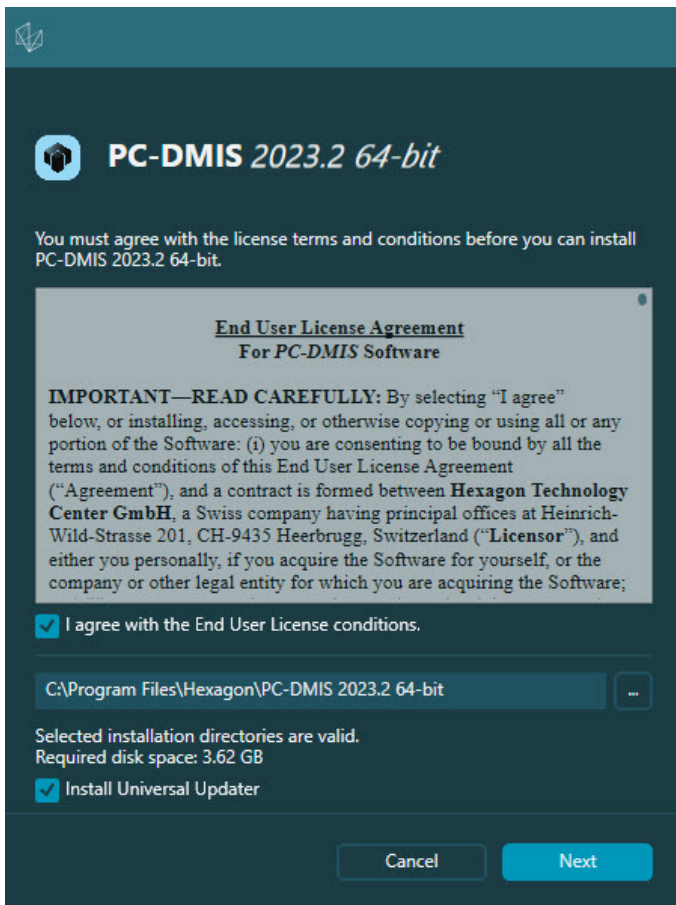
Software License screen

Once PC-DMIS 2023.2 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:
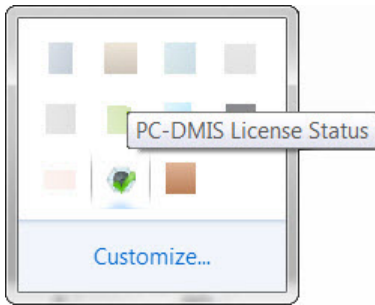
Message for valid PC-DMIS license

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:

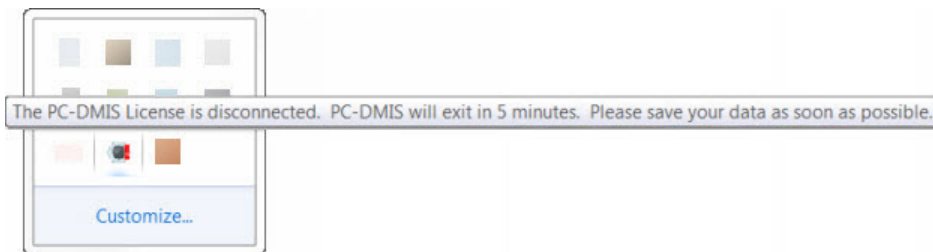Message for disconnected PC-DMIS license

If the license is disconnected, PC-DMIS 2023.2 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 2023.2 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, follow these 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.

ⓘ	**Note**
	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.

USELMSLICENSING - When this parameter is turned on (*USELMSLICENSING=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*

LMSURLTOFNOSERVICES=<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: *LMSURLTOFNOSERVICES-S=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}*

LMSLICENSESERVERS (@\{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.

Network Connections

This section describes network access details for some Hexagon products.

Firmware Distributed Controller (FDC) Connection

PC-DMIS uses these parameters to establish its connection with FDC:

- Controller address - 100.0.0.1

- PC-DMIS computer address - 100.0.0.2

- Subnet mask - 255.255.255.0

- Port - 1234

LMS Licensing

You can find the license verification server and the ClmAdmin utility for node-locked licenses here:

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

The Floating License server with Flexnet LmAdmin64 uses ports 27000-27009 on the server. lmgrd and lmadmin listen on TCP port 27000 by default. Communication must be allowed from the client computer to the network license server on this port (or another port if the network license administrator has changed the default). Communication is transitioned from lmgrd / lmadmin to the vendor daemon after the initial connection is made. By default, this is done on a random TCP port. Unless your firewall has built-in support to recognize the randomly chosen port, you need to manually specify a port for the vendor daemon.

The LocalHost server on port 8090 and older versions defaults to port 8080. You can define these ports when you install license server or through the server interface. These are only Offline licenses when you are not connected to a machine.

Offline Help

If you select to install Offline Help when you update the software, it opens the second remote address on port 443. This port verifies the license.

Hexagon Universal Updater

Port - 80 and 8089 (SignalR)

CrashSender1403.exe

This executable is for the PC-DMIS Crash Report Utility tool. If you run this executable with the /nocrashdump switch, the Event Viewer screen takes over the crash report functionality.

C:\Program Files\Hexagon\PC-DMIS 2023.2 64-bit\Launcher\HexagonLauncher.exe

LauncherPC-DMIS.config /nocrashdump

Other Products

A few Hexagon products need to establish remote connections which enables them to send emails and text alerts. These products include Pulse, Notification Center/Message Lights, and SMART Factory.

Updating the Software

The Hexagon Universal Updater application automatically checks for software updates if your computer is connected to the Internet. This application is installed with PC-DMIS and Inspect. If the updater detects that an update is available, the updater uses the Windows notification area to the right of your clock on your taskbar to inform you of the update. You can then click on a notification to open the updater to download and install that update.

If the updater is running, a small icon for the updater appears in your taskbar's Notifications area ( ). You can click this icon to open the updater.

If the updater is not running, you can manually run the updater to check for updates. You can also use the updater to launch software or install new software applications. To run the updater, from the **Start** menu, type **Universal Updater**, and select the shortcut for the updater.

If you need additional help with the updater, you can access the help content available from within the updater itself.

❗	**Important**
	During the download and installation processes, your firewall must allow the http://www.wilcoxassoc.com/WebUpdater Internet address. In addition, you must have Administrator privileges to install the software update.

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.

When you update PC-DMIS from the Universal Updater, the software opens the **Associated Products** dialog box. The software displays a list of the required and recommended products.

Required

HxGN SFx | Connector - This software connects your assets to your SFx account. It also monitors your assets and sends data to your SFx account.

Recommended

Inspect - This software provides a simplified operator interface for operators to execute measurement routines from supported products and then generate reports.

Notification Center - This software sends notifications from a client application (such as PC-DMIS) to a measurement device (such as a CMM) during certain events (such as when the machine has an error).

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 Pcd-mis2023.2_release_##.#.###.#_x64.exe file as if you were beginning the installation process. The setup displays a screen with these options:
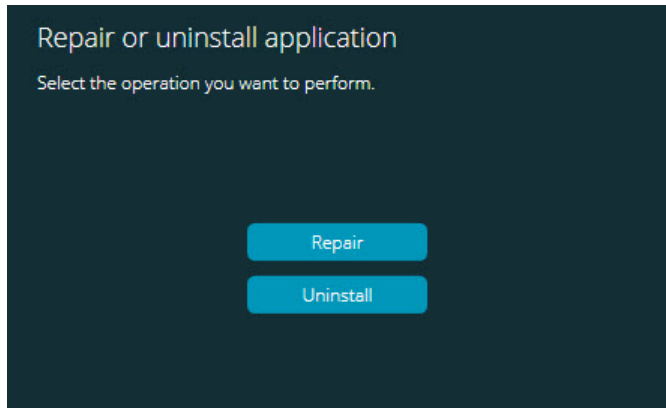
"Repair or uninstall application" dialog box

- **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 2023.2 contains the user-interface files for all of the supported languages. When you install PC-DMIS 2023.2, it installs the language files based on your operating system's language.

To run PC-DMIS 2023.2 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 2023.2 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 2023.2 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 2023.2 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, follow these steps:

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

   https://downloads.ms.hexagonmi.com/PC-DMIS-Versions/Release/2023.2/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, but you didn't mark the **Launch PC-DMIS 2023.2 64-bit** check box 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 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 2023.2 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 2023.2.)

Description: A firewall on your computer may be blocking the Hexagon Universal Updater application from connecting to the server. If PC-DMIS 2023.2 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 2023.2 without administrator privileges, DPUPDATE.EXE does not work.

Solution: Run PC-DMIS 2023.2 with administrator privileges.

Contact Hexagon Manufacturing Intelligence

If you are participating in the *technical preview* of PC-DMIS 2023.2, 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 2023.2 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

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

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

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

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

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

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

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

Examples

On a brand-new system with a node-locked Entitlement ID, the following line installs PC-DMIS 2023.2 in silent mode:

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

On a system that already has a license, the following line installs PC-DMIS 2023.2 in silent mode:

 -passive USELMSLICENSING=1

On a brand-new system using license servers, the following line installs PC-DMIS 2023.2 in silent mode:

 -passive LMSLICENSESERVERS="123.12.134.42"

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

 LMSENTITLEMENTID=99999-88888-77777-66666-55555 LMSPROXYHOST-T="123.123.123.123" LMSPROXYUSERNAME="bob" LMSPROXYPASSWORD="marley"

Appendix B

Required User Access Rights

File System

- C:\ProgramData\Hexagon\PC-DMIS\2023.2

- C:\Users\Public\Documents\Hexagon\PC-DMIS\2023.2

- C:\Users\UserName\AppData\Local\Hexagon\PC-DMIS\2023.2

- Any user-specified folder locations for storing measurement routines, probes, subroutines, and so on

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.

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 2023.2 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 FxtServer-Interface.exe without administrator privileges.