PC-DMIS 2023.1

Release Notes

Hexagon Manufacturing Intelligence

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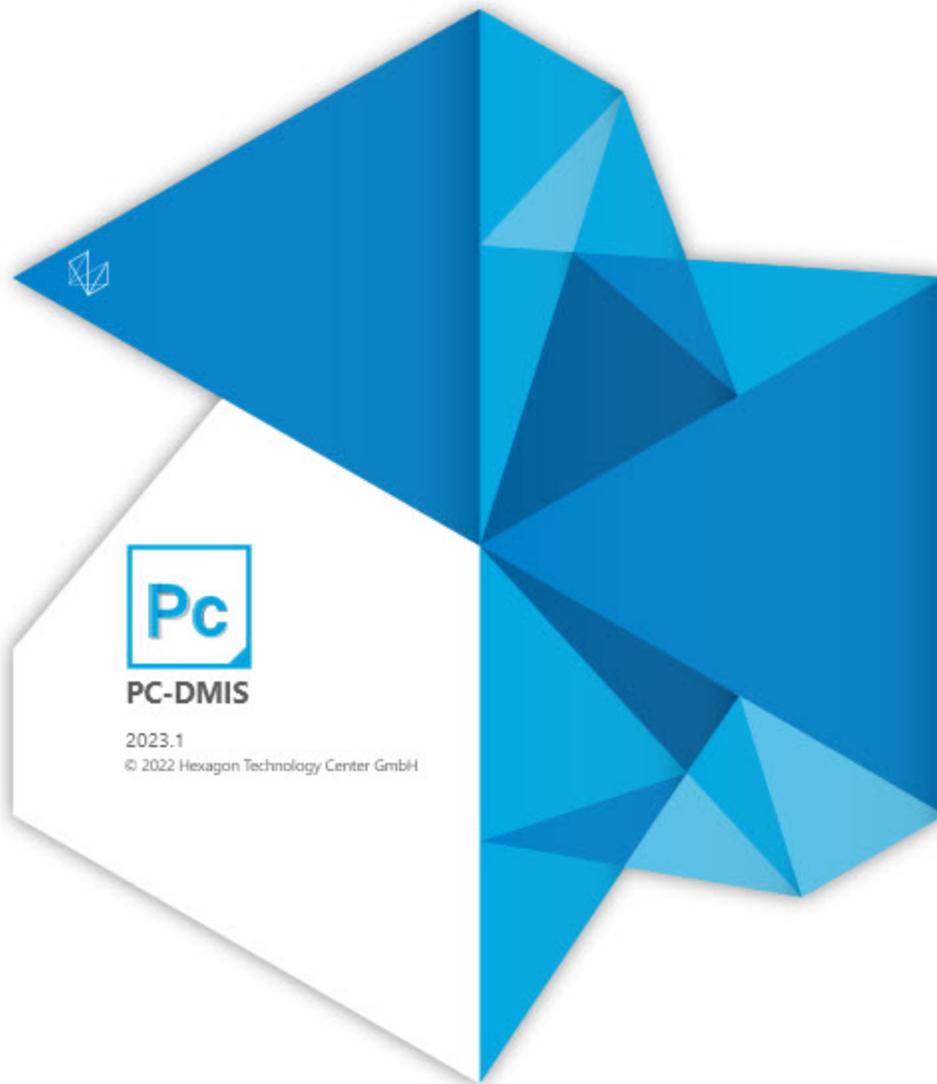
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PC-DMIS

2023.1
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PC-DMIS 2023.1

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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-258723.

Application Errors

You no longer get application errors:

- When you perform multiple probe calibrations in large measurement routines. See PCD-245712.

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

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

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

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

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.

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

- 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.

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.

Execution

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

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

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.

GD&T Selection

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

Graphics and Animations

- You can now see improved performance when you simulate laser scans using an HP-L-10.10 sensor. See PCD-255829.

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

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.

Reporting

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

- 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.

Scanning (Tactile)

- You can now see a collision-free movement when you execute an HSS Basic Cylinder scan. See PCD-256572.

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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.

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 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.

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.

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.

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.

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 - 2023.1 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-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 use a child feature as a datum definition. See PCD-247705.

- When you enable Stable Probing for an AT901 Leica Tracker. See PCD-248487.

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

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

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

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

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

- 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.

- 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 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.

Execution

- 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.

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

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

- You can now see the expressions that use the .meas extension display the correct (measured) value when referencing geometric tolerance commands. See PCD-244140.

- PC-DMIS now correctly draws the tolerance zones relative to the datum reference frame instead of the alignment origin when displaying graphical analysis for a symmetry geometric tolerance command. See PCD-246687.

- 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.

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

- 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.

- 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.

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.

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

- 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.

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 Features

- 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.

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

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

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

- 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.

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.

- PC-DMIS now correctly retains the illumination intensity variables after executing a measurement routine. See PCD-256668.

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Application

- You can now see the **Create** and **Close** buttons in the **Mesh Command** dialog box for the Portuguese and Polish language installations. See PCD-247067.

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.

Auto Features

- 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.

GD&T Dimensions

- 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 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.

Release Notes - 2023.1 SP5

Application Errors

- You no longer get an application error when you try to create a generic construction feature using generic feature arrays as the input. See PCD-249178.

Auto Features

- PC-DMIS now retains the selection of the **CAD Offset** check box from the previous Auto feature to the next Auto feature. See PCD-247643.

- 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.

Constructed Features

- The **Construct Plane** dialog box now correctly retains the selected features in the feature list area when you switch the construction method between **Best Fit** and **BF Recomp** for a Constructed Plane. See PCD-247418.

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.

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.

- PC-DMIS now correctly handles the datums when you use the **GD&T Selection Mode (from File)** option. This means, PC-DMIS no longer creates a constructed feature set and references this set as the datum. Instead, the features are now directly referenced as the

datum. See PCD-213622.

- 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.

Laser Feature Extraction

- You can now see that when you use the **CAD Offset** option, PC-DMIS displays the selected orange points in the Graphic Display window during the feature extraction process. See PCD-244015.

Pointcloud

- PC-DMIS now disables the options on the right side of the **Pointcloud Operator** dialog box when you select the **Create annotation points** check box in the **Pointcloud Operator** dialog box. See PCD-161680.

- 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.

Portable

- When you install PC-DMIS with a license that only has one specific portable interface option, you can now see all the portable environments when you select the **Edit | Select Environment File** menu option. Additionally, the appropriate portable environment is automatically selected. See PCD-243210.

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.

- PC-DMIS now updates the DFQ file with the correct measured values for 2D and 3D angles when you use the **Multiple Execution Wizard**. See PCD-247296.

Release Notes - 2023.1 SP4

Application Errors

You no longer get application errors:

- When you click the Next button in the Panel 1 area of the **Optimize Path Workflow** dialog box for measurement routines that contain multiple LOADPROBE commands. See PCD-246890.

- When you open or create a measurement routine and use the pre-defined illumination quick set in the Probe Toolbox. See PCD-247293.

CAD

- PC-DMIS now correctly redraws the path lines based on the new selection when you delete an item or a command from the Edit window in Summary mode with **Path lines from cursor** turned on. See PCD-243565.

Dual Arm

- PC-DMIS now correctly updates the Level, Rotate, and Translate alignments associated with DATDEF commands in DMIS mode when you execute a measurement routine in Dual Arm mode. See PCD-244442.

Edit Window

- PC-DMIS now correctly highlights the command text background color in Command mode when you select **Enable Background Highlighting** check box in the **Color Editor** dialog box. See PCD-244453.

GD&T Dimensions

- PC-DMIS now correctly shows the lower tolerance value for the ISO Size tolerance in the report. See PCD-246618.

- PC-DMIS now shows the correct value in the **Secondary-tertiary basic angle** box of the **Construct Point** dialog box when you press F9 on the constructed point in the Edit window. See PCD-246619.

Pointcloud

- PC-DMIS no longer displays an error message when you click the **Close** button after you select the Point Colormap or Surface Colormap option from the **Operator** list and there are

no features in the Feature area list of the **Pointcloud Operator** dialog box. See PCD-245893.

Portable

- PC-DMIS now correctly executes a measurement routine when you continue to scan to evaluate all laser features. See PCD-245905.

Reporting

- PC-DMIS now shows the correct dimension colors in the Graphic Display Window, Analysis View, and Analysis Window (Custom Report) when you set different dimension colors in the **Edit Dimension Colors** dialog box. See PCD-230367.

- You can now see the correct deviation values in an Excel form report for Profile Dimensions. See PCD-242364.

- PC-DMIS no longer disables the **All similar labels on this page** and **All similar labels on this section** options in the **Apply Changes To** area of the **Properties** dialog box when you right-click on a label in the Report window and select **Edit Object**. See PCD-245456.

- PC-DMIS now retains the label settings for all the pages of a report template when you insert the object in a page and select **Feature-Based Restricted** in the **Label Layout Wizard** dialog box. See PCD-246558.

Release Notes - 2023.1 SP3

Auto Features

- You can now type values in the **Levels** dialog box when you change the number of hits in the Edit window for a Cone, Sphere, Cylinder, or Torus feature. See PCD-245472.

- You can now change the number of levels in the **Levels** dialog box when you change the number of hits in the Edit window for a cylinder. See PCD-245759.

Custom Probe Builder

- PC-DMIS now correctly displays polygon components in the graphic area of the **Custom Probe Builder Utility** dialog box when you select **Edit | Preferences | Custom Probe Builder Utility**. See PCD-231486.

ESF (VWMP)

- PC-DMIS now includes the reference feature name for the L and D dimensions when you use the VW naming rule for the Flush or Gap features (MA,MB,MC,MD,NA) . See PCD-243566.

- PC-DMIS now supports output to statistics for the NA, MA, MB, MC, and MD Flush or Gap features when you use a custom naming rule. See PCD-245634.

GD&T Dimensions

- PC-DMIS now correctly displays a flatness analysis for Geometric Tolerance commands in the Graphic Display window when you turn on the ReportGraph option in the Edit window. See PCD-245556.

Laser

- PC-DMIS now does not enable the **Enable Filter** check box again in the **Acceptance Angle Filter** tab when you clear the check box and switch to other tabs in the **Probe Tool-box** area of the **Auto Feature** and **Scan** dialog boxes. See PCD-241153.

- You can now edit the move speed in the **Measure Laser Probe** dialog box when you create an HP-L-10.10 probe file and select calibration. See PCD-243610.

- PC-DMIS now maintains the original co-ordinates when you switch a laser auto Surface Point feature to a High Point feature in the Edit window. See PCD-244444.

- PC-DMIS now supports the Laser wrist mapping process for the HP-L-10.10 sensor. See PCD-246040.

Legacy Dimensions

- PC-DMIS now correctly adds the axes for the legacy Position dimension when you select the **Auto** check box from the **Axes** area in the **Position** dialog box. See PCD-110791.

- PC-DMIS no longer creates a hit index feature label in the Graphic Display window when you click **Create** in the **Feature Location** dialog box. See PCD-243805.

Measurement Strategy Editor

- PC-DMIS no longer allows you to delete all the rows when you edit smart parameters in the **Measurement Strategy Editor** dialog box. See PCD-225366.

Operator Mode

- PC-DMIS now opens the Operator mode instead of Online mode when you select **Edit | Select Environment File | Operator Mode**. See PCD-243451.

Pointcloud

- PC-DMIS now shows the header correctly in the exported .PSL file when you select **File | Export | Part Model | PSL**.See PCD-244062.

Portable

- PC-DMIS now saves the selection of the **Auto scale manual feature during execution** check box in the **Setup Options** dialog box even after you restart PC-DMIS. See PCD-243883.

Reporting

- PC-DMIS now generates a PDF of the report with nearly the same font size as in the Report window so that the labels do not overlap. See PCD-229996.

- PC-DMIS now correctly updates the location of the labels for all the report pages when you clear the **Apply to page only** check box in the **Label Layout Wizard** dialog box. See PCD-239173.

- PC-DMIS now moves the cursor to its original position after the multiplier is applied to a dimension. See PCD-240978.

- PC-DMIS now saves report settings correctly in the **Report** dialog box when you save a measurement routine in versions earlier than PC-DMIS 2022.1. See PCD-241322.

Vision

- You can now execute the Blob auto feature in Offline mode. See PCD-245762.

Release Notes - 2023.1 SP2

Application Errors

You no longer get application errors:

- When you modify the Proportion U and Proportion V values in the **Construct Surface** dialog box. See PCD-241436.

- When you delete a block of commands that contains ISO geometric tolerance commands and then perform an Undo operation. See PCD-242686.

- When you select hits on the CAD model from the Graphic Display window and then click **Clear** in the Construct feature dialog box. See PCD-242832.

- When you select the **Show Machine Volume** check box in the **Load Virtual Machine** dialog box after you type the LOADMACHINE command in the Edit window and press F9. See PCD-244383.

- You no longer get an application error when you select **View | Path Lines** in a measurement routine that contains Check Calibration and External Recall commands. See PCD-244554.

Auto Features

- PC-DMIS now correctly executes circular moves on Contact Auto features on DC controllers. See PCD-225539.

- PC-DMIS no longer changes the HIT/BASIC measured values when you edit the Auto feature theoretical values in the Edit window on Portable Arm. See PCD-238281.

- PC-DMIS now detects the void area correctly for sample hits for Auto Edge Point and Auto Line features. See PCD-240122.

- You can now change the value of Inner Horizontal Clipping from the Edit window on laser auto features when you use the HP-L-10.10 probe. See PCD-241437.

- PC-DMIS now remembers the last used tab in the **Probe Toolbox** area of the **Auto Feature** dialog box when you use contact probes. See PCD-243177.

CAD

- PC-DMIS now supports 8x symbols in a QIF file. See PCD-243468.

Constructed Features

- You can now select the input feature as the center point when you create Constructed Extreme Point features from the Construct Feature dialog box. See PCD-214435.

- PC-DMIS now supports the QualifySelectedTips automation method for probe calibration. See PCD-241389.

- You can now create a constructed extracted Edge Point feature without any manual changes in the Edit window. See PCD-241619.

- PC-DMIS no longer displays the duplicate input features message when you change elements in the Construct Feature dialog box after you upgraded from a previous version of PC-DMIS to a newer version. See PCD-242685.

- PC-DMIS now has a scroll bar that you can use to view the entire feature list in the **Pointcloud Operator** dialog box. See PCD-242843.

- PC-DMIS now correctly highlights hit data when you use the **Construct Feature** dialog box. See PCD-243112.

- You can now create a 1D width from the **Construct Width** dialog box. See PCD-243438.

Dual Arm

- PC-DMIS can now correctly calibrates a contact scanning probe on arm 2 when you use arm 1 in dual arm mode. See PCD-229565.

ESF (VWMP)

- PC-DMIS no longer displays an error in the Edit window when you create an ESF/VWMP LA feature. See PCD-242955.

- You can now use the **Custom** option from the **Type** list in the **Naming rules** area of the **Extended Sheet Metal Features** dialog box. See PCD-243270.

GD&T Dimensions

- PC-DMIS no longer displays an error message for more points when you report the profile of a surface with no datums in the **Geometric Tolerance** dialog box. See PCD-234320.

- PC-DMIS now correctly updates the Geometric Tolerance commands for the arrow density when you generate a graphical analysis view. See PCD-243004.

Legacy Dimensions

- PC-DMIS now increments the dimension IDs correctly in the **Feature Location** dialog box when you set the **Labeling** method as **Generic** in the **ID Setup** tab of the **Setup Options**

dialog box. See PCD-241853.

- PC-DMIS now displays the T, RT, S, and RS values correctly for Angle Point features when you turn on Graphical Analysis. See PCD-29563.

Measurement Strategy Editor

- PC-DMIS now retains the smart parameters values when you migrate from version 2020 R2 and earlier to versions 2021.1 and later. Also, you can now add before and after values for avoidance moves in the **Measurement Strategy Editor** dialog box. See PCD-210583.

- PC-DMIS now saves the settings of a smart parameter when you edit the values in the measurement strategy widget. See PCD-218289.

Moves

- You can now set the ClearanceCube settings for each basic scan in a scan. See PCD-243372.

- PC-DMIS now converts Moveset commands to a comment when you save a measurement routine in non-supported versions. See PCD-243640.

Pointcloud

- PC-DMIS now correctly displays the COP size when you delete COP commands and then perform an Undo operation in the Edit window. See PCD-109759.

Probes

- PC-DMIS now correctly maintains the scanning direction of a rotary scan when you use the HP-OW laser probe with embedded controller machines. See PCD-241611.

Reporting

- The SEGMENT1_POS.LBL now works correctly for CADONLY.rpt and CADONLY_ LANDSCAPE.rpt. See PCD-238704.

Settings Editor

- You can now see the feature labels in the Graphic Display window when you set the *ShowLegacyLabels* entry to 0 in the Settings Editor. See PCD-243376.

Summary Mode

- You can now select a measured feature in Summary mode when you select **View | Path Lines from Cursor**. See PCD-243573.

Temperature Compensation

- PC-DMIS no longer shows the THERMALEXPANSIONORIGIN command in red color in the Edit window when you use the advanced temperature compensation command. See PCD-242361.

View Sets

- PC-DMIS now correctly displays the RECALL/VIEWSET command when you use copy and paste functionality. See PCD-242276.

XML Output

- PC-DMIS now correctly outputs the minus tolerance values to an XML file when you select the **Minus Tols Show Negative** check box in the **Setup Options** dialog box. See PCD-243494.

Release Notes - 2023.1 SP1

Application Error

- You no longer get an application error when you click **Cancel** in the **Probe Utilities** dialog box. See PCD-241798.

Calibration

- PC-DMIS no longer displays errors when you use collision check on a probe calibration ScanRDV for multiple tips. See PCD-237399.

DMIS

- You can now export DMO files for ISO tolerance commands. See PCD-241276.

ESF (VWMP)

- You can now edit dimension tolerances in the Edit window for ESF (VWMP) features. See PCD-205720.

- PC-DMIS no longer displays an incorrect warning that references other features in a measurement routine when you delete ESF (VWMP) contact features from the Edit window. See PCD-241506.

Legacy Dimensions

- PC-DMIS now applies thickness correctly in dimension commands when you apply actual thickness to auto plane features. See PCD-167531.

Measurement Strategy Editor

- PC-DMIS now correctly converts the **Scan Speed** and **Acceleration** values in the **Measurement Strategy Editor** dialog box when a measurement routine is in inch units. See PCD-235998.

- PC-DMIS now updates feature values after you apply smart parameters in the **Measurement Strategy Editor** dialog box. See PCD-238583.

Pointcloud

- PC-DMIS now shows the **Portable Scanning Widget** toolbar when the current probe is a laser probe. See PCD-241723.

Portable

- PC-DMIS now works correctly for the Auto Trigger plane with an auto line feature. See PCD-228148.

Temperature Compensation

- You can now see the correct part temperature when you use manual temperature compensation V1. See PCD-241294.

What's New

AT500 Support

PC-DMIS now supports the AT-500 Tracker and B-Probe^{Plus}.

See "AT500 Support".

ClearanceCube Improvements

- You can now see the settings of ClearanceCube motions in the **ClearanceCube Settings** window when you work in the Edit window. You can now modify ClearanceCube motion settings with a few simple clicks of your mouse button.

- The Moveset command defines a set of move points. You can set ClearanceCube motions for move points using Moveset commands. You can add Moveset commands when you need to measure parts with complex geometries or to reach measurement areas before and after you move to each ClearanceCube face. This makes it possible to perform feature-based measurements with ClearanceCube.

- With the addition of the Moveset command and the **ClearanceCube Settings** window, you can now use ClearanceCube for parts with complex geometries. To do this, select your dimensions and then run a mini-routine when you create a routine with ClearanceCube.

See "ClearanceCube Improvements".

Dynamic Inspection

PC-DMIS now supports dynamic inspection using Q-DAS. You can use Dynamic Inspection to shorten measurement cycle time based on statistical analysis feedback from Q-DAS. PC-DMIS measures your part and then Q-DAS performs statistical analysis on the measurements. It uses this information to determine the dimensions necessary for measuring the next part. For the measurement of the next part, you must run a mini-routine so that only Q-DAS selected characteristics are measured.

See "Dynamic Inspection".

Pre-Defined Mesh Profiles

You can now select from the pre-configured meshing options from the **Profile** list in the **Mesh Command** dialog box to determine the mesh generation speed when you create a mesh from pointcloud data.

See "Pre-Defined Mesh Profiles".

Summary Mode Search and Filter

You can now quickly find commands, features, dimensions, positions, and other items in the Edit window of a measurement routine.

See "Search and Filter".

Other Improvements

Auto Features

- PC-DMIS now has improved behaviour for the **Measure Now** button on the **Auto Feature** dialog box. This prevents undesired machine movement in order to avoid hardware crashes.

CAD

- You can now associate existing features from their measurement with the respective CAD surfaces. This is useful to avoid the creation of duplicate features when you use GD&T Selection from CAD.

- PC-DMIS now recognizes more constructed and measured feature types when you use GD&T Selection from CAD.

Control Annotation Visibility in ViewSet

- You can now turn on and off individual colormap annotations to clean up the display of or add focus to specific annotations before you use ViewSet images in a report. To do this, you can use **Hide Annotation** and **Hide All Annotations visible in view** options from the Graphic Display window.

Controller

- PC-DMIS now allows you to save a measurement routine when a machine shows an error message. You can now see the **Shut Down** button in the Error dialog box that lets you save a measurement routine before it closes PC-DMIS.

Constructed Extracted Surface from COP or Mesh Data

- You can now segregate points from a COP or Mesh that relates to one or more CAD surface. You can then use those segregated points to report pointcloud or mesh as a profile of a surface with either Legacy Dimensioning or Geometric Tolerance commands.

- You can now stitch surfaces for the COP Clean operator and Constructed Extracted Surface command.

Environment Configurator

- You can now define machine types, machine controllers, and non-contact probes with the Environment Configurator. PC-DMIS automatically generates an environment file based on

your current license configuration. The environment file contains your interface and non-contact sensor type details. When you launch PC-DMIS, it uses this information to connect to your online device.

ESF (VWMP)

- You can now use the Copy and Paste Parameters functions for the Optical parameters when you work with the Optical (Laser) ESF (VWMP) features.

- You can now extract the CD, DI, EI, GD, HD, II, and LE features from pointcloud data based on the ESF specifications.

- PC-DMIS now supports version 2018 of the VWMP specifications for Optical features.

Geometric Tolerance Command

- PC-DMIS now supports more combinations of datum feature types when you build a common datum. In addition, PC-DMIS now allows up to five single datums or datum patterns. This improves the overall functionality and level of GD&T support. See "Common Datums".

- You can now add a description in the **Description** tab of the **Geometric Tolerance** dialog box. Also, you can control the visibility of this description in the report with the **Show on report** check box. This helps to avoid the creation of separate report comments in Metrology Reporting and replaces PC-DMIS report comments.

HxGN Robotic Automation

- You can now align a part with measured points using reflectors in an automated cell. Also, you can measure with reflector features where accessibility is difficult or impossible with the scanner.

Measurement Strategy Editor

- You can now see the **Avoidance Move - Distance Before** and **Avoidance Move - Distance After** boxes in the **Measurement Strategy Editor** dialog box and the **Measurement Strategy Widget**.

Pointcloud

- PC-DMIS now requires that you create a constructed extracted surface point, regardless if you have a CAD model in your measurement routine or not, when you click **Create Point** in the **Pointcloud Point Information** dialog box.

Portable

- PC-DMIS now stores your configurations (.dat files) based on your device. You no longer need to restore UI configurations when you restart PC-DMIS.

Probes

- PC-DMIS now supports the IDS 4.96 uEye digital camera interface.

- PC-DMIS now provides support for the HH-A-OWST2.5 wrist.

- PC-DMIS now added the HP-S-X1A sensor with Renishaw QC connection to the Probe.dat file.

- PC-DMIS now includes Senmation probe component definitions to use with the HP-OW sensors.

- PC-DMIS now supports the M&H LS-R Laser scanner for offline programming and pointcloud simulation.

- PC-DMIS now shows the status of the HP-OW dark reference in the **Probe Readouts** dialog box.

Q-DAS Configurator

- You can now send PC-DMIS Blade measurement results to the Q-DAS Configurator for statistical analysis. You must perform a blade measurement using PC-DMIS. PC-DMIS collects all the information for each K-field and records it in an RPT file. PC-DMIS Blade performs all the statistical analysis and generates the associated DFQ or DFX + DFD report files.

Reporting

- You can now generate reports in multiple file formats (such as PDF, RTF, and TXT) of a PC-DMIS report from a single statement in your measurement routine. To do this, use the PRINT statement to define your output types.

Tracker

- PC-DMIS now supports the AT-500 Tracker and B-Probe[Plus].

- The PC-DMIS Portable help now provides information on the AT-500 Tracker.

What's Fixed

Application

- PC-DMIS now shows the correct values for ACCELERATION commands in the Edit window when you press F9 on the commands to open the **Parameter Settings** dialog box. See PCD-215469.

- PC-DMIS now has improved the migration of user-defined toolbar items when you update the software. See PCD-219312.

- PC-DMIS now displays images in comments that have no text in full screen mode. See PCD-231489.

Application Errors

You no longer get application errors:

- When you mark the **Force Computation** check box and click **Test** in the **Extended Sheet Metal Features** (ESF - VWMP) dialog box that previously failed to extract. See PCD-226688.

- When you press the Esc key to close the **Calibration Results** dialog box. See PCD-230846.

- When you position your mouse pointer on an empty line in a measurement routine and then select **Insert | Statistics Command | Q-DAS Tracefields**. See PCD-231042.

- When you set PC-DMIS to the Japanese language and you connect to a machine to take hits on an Auto Polygon feature. See PCD-232469.

- When PC-DMIS cannot establish communication with the FDC controller. See PCD-232810.

- When you click the **Abort** button in the **UniScan** dialog box. See PCD-237714.

- When you cancel the current probe calibration, select another probe, and then click **Calibrate** in the **Probe Changer** dialog box. See PCD-238043.

- When you edit NA ESF (VWMP) features. See PCD-238127.

- When you send CAD data to HxGN Robotic Automation. See PCD-238528.

- When you send PC-DMIS measurement routines to HxGN Robotic Automation. See PCD-238904.

Auto Features

- PC-DMIS now has improved the memory management for pointcloud data scanned on DCC machines. See PCD-141369.

- PC-DMIS can now recall your inserted move points or break points in the scan path of the Adaptive Plane Circle strategy. You can now insert these path points at the time of the creation of the plane feature. See PCD-230391.

- PC-DMIS now generates the correct path for the Auto Cylinder Adaptive Spiral Strategy when you have a negative value for the length of the cylinder. See PCD-231974.

- You can now see the correct results when you create Profile 2D features with the improvements made to the CAD Section Cut. See PCD-236716.

- PC-DMIS now updates the actual values in the laser auto feature commands when you click the **Test** button in the **Auto Feature** dialog box. See PCD-238320.

CAD

- PC-DMIS now checks for CAD associations to determine whether features already exist in the measurement routine when you use GD&T selection from CAD. This prevents the creation of duplicate features. See PCD-211299.

- When you use GD&T Selection Mode (from CAD), PC-DMIS hides feature labels if you select **Hide All Ids** in the Graphic Display window. This means PC-DMIS now keeps currently hidden feature labels hidden even after you create new features whose labels will be visible. See PCD-221401.

- PC-DMIS now has an improved algorithm for tip selection when you perform path optimizations. See PCD-226029.

- PC-DMIS now imports a CATIA V5 CAD file correctly for the torus feature. See PCD-230402.

- PC-DMIS now exports DXF or DWG (CAD) files in the correct units defined by the measurement routine. See PCD-236285.

- PC-DMIS now correctly imports an EDGECAM file (.ip) and displays it in the Graphic Display window when your measurement routine contains a distance command. See PCD-238671.

Constructed Features

- You can now see the correct spelling for "Dependent" and "Independent" in the **Construct Generic Feature** dialog box. See PCD-231678.

Documentation

- The PC-DMIS Vision documentation now provides descriptions for the Coverage Active Targets and Pixel Size parameters. See PCD-230394.

- The PC-DMIS Core documentation now provides better alignment information on how to change a part's position and orientation. See PCD-230450.

- The PC-DMIS Core documentation now has the correct information to select the Minimum Circumscribed math algorithm (MIN_CIRCSC) option when you construct a Width feature. See PCD-232634.

- The PC-DMIS Portable documentation now has the correct information on how to resolve an On Error command when you use the AT-500 Tracker in Auto-Inspect mode. You must set the command to the **Reflector Not Found** option instead of the **Missed Probe Hit** option in the **On Error** dialog box. See PCD-234484.

- The PC-DMIS Core documentation now has a more clear note in the "Dimensioning Profile - Line or Surface" topic about legacy form and profile and the UseISOCalculations setting. See PCD-237825.

- The PC-DMIS Core documentation now mentions the correct location for the gbarstate.dat file. See PCD-238397.

Dual Arm

- You can now use the HP-L-10.10 sensor for scanning on a dual arm machine. See PCD-238186.

ESF (VWMP)

- PC-DMIS has improved the extraction from Mesh data for ESF (VWMP) algorithm for Flush and Gap features. See PCD-220453.

- PC-DMIS now shows a warning message when you delete a COP command that references an optical ESF feature. See PCD-233916.

- PC-DMIS now supports the Copy Parameters and Paste Parameters for optical ESF (VWMP) features in Summary mode. See PCD-234003.

- You can now only create ESF (VWMP) features that require multiple clicks after you completed all the selections on the CAD. This means you can no longer click the **Create** button after the first click selection in the **Extended Sheet Metal Features** (ESF) dialog box. See PCD-234025.

- PC-DMIS now shows the correct text for the BlueHole ESF (VWMP) features (DH, EH, GB, HB, IH) in the Edit window commands. Also, PC-DMIS now correctly shows the features and their labels in the Graphic Display window. See PCD-236045.

- When you create two ESF (VWMP) optical features from the same instance of the **Extended Sheet Metal Features** (ESF) dialog box without changing the parameters, and the second fails, it no longer carries the measured data from the first (successful) feature. See PCD-236407.

GD&T Dimensions

- PC-DMIS now makes it easier to visualize the effect that the U (ASME Y14.5) and UZ (ISO 1101) modifiers have on the tolerance zones. This is done by scaling the nominal geometry (black line) with the multiplier value. This is aligned with how the upper and lower tolerance boundaries (blue lines) and the deviation arrows scale when you perform a CAD graphical analysis of a geometric tolerance profile of a line or surface with the U or UZ modifier. See PCD-218590.

- You can now see the textual analysis (worst section) when multiple sections exist in the report. See PCD-219705.

- PC-DMIS now shows the correct Geometric Tolerance CAD graphic textual data for extracted cylinder features. See PCD-238290.

- PC-DMIS now uses the same units for the mean and standard deviation values as used for dimensions and the measurement routine in the graphical analysis dimension stats report. See PCD-238870.

Laser

- PC-DMIS now displays the laser probe based on your choice for the probe graphic item (display ON/OFF) regardless of the executed operation (direct measurement or extraction from COP object). See PCD-167720.

- PC-DMIS now creates the correct path when you create a laser freeform scan, delete points and add new points, and then recreate the laser freeform scan. See PCD-233359.

- PC-DMIS now has improved the auto wrist logic when you create a laser perimeter scan after a linear open scan on different orientations with the Scan dialog box open. See PCD-237702.

- PC-DMIS now has improved the auto wrist functionality for laser scans on all the bridge and gantry machines such as Lambda, Delta, and large Globals that mount the CW43L wrist. See PCD-238501.

- PC-DMIS now creates laser scan commands correctly when you import DMIS files with the HP-L-10.10 sensor. Also, PC-DMIS now correctly translates the acceptance angle filter values. See PCD-239053.

Legacy Dimensions

- You can now see the **To**, **From**, and **Supplemental Angle** options in the **Angle** dialog box. This provides you with better control over the reported angle quadrant. Also, starting with PC-DMIS version 2023.1, migration reports now show a message when you open measurement routines that contain older 3D dimensions. See PCD-130875 and PCD-234066.

Measurement Strategy Editor

- PC-DMIS no longer converts **Undulations Per Revolution** (UPR) values in the **Measurement Strategy Editor** dialog box based on the units of the measurement routine. See PCD-211426.

- PC-DMIS can now save smart parameter feature values immediately when you edit the values in the **Measurement Strategy Editor** dialog box. See PCD-238582.

Notifications - Edge Client

- PC-DMIS now sends all Geometric Tolerance command ID's to HxGN Metrology Reporting. See PCD-235771.

Pointcloud

- The Dimension Color bar no longer disappears when you select another operator from the **Operator** list in the **Pointcloud Operator** dialog box. See PCD-175829.

- You can now show or hide individual colormap annotation labels. Also, ViewSet now stores the state of each annotation label. See PCD-234008.

Probes

- You can now see that the slider bar in the **Probe Toolbox** dialog box works better with VisionBox controllers and behaves the same as the Live View image Illumination Adjustment overlay slider. See PCD-205757.

- PC-DMIS now shows the pixel size for the vision probe Set Optics command in the **Machine Commands** list of the **Execution** dialog box. See PCD-229900.

- PC-DMIS now performs the zoom function correctly when you use the shortcut key or vision menu item to change the magnification. See PCD-233826.

- PC-DMIS no longer truncates the units label for the **Move speed** and **Touch speed** options in the **Measure Probe** dialog box. See PCD-236259.

- PC-DMIS now warns you when toolchanger data (tool.dat) corruption occurs with a specific tool.dat message instead of an out-of-memory message. See PCD-236676.

- You can now build a probe with the ADAPT_AJ-TKJ component and the part number 03969651 in the **Probe Utilities** dialog box. This allows you to use the HP-L-10.10 sensor

on the CW43L continuous wrist. See PCD-240220.

Protect

- PC-DMIS now doesn't allow the certification of a measurement routine when there are errors in geometric tolerance commands. See PCD-231604.

Reporting

- PC-DMIS now updates the tracefield variable in the file header label of the report at the end of the execution of a measurement routine. See PCD-215343.

- PC-DMIS no longer crops custom reports when you edit the CadReportObject and convert it to a custom report. See PCD-230580.

- PC-DMIS now sends the angle values in decimal units regardless of the measurement routine's settings when exporting results to other file formats (such as Excel, .csv, or .dmo). See PCD-236068.

Scanning

- PC-DMIS no longer shows an incorrect warning message for perimeter scans when you select the **NULLFILTER** option from the **Scan Construction** area in the **Perimeter Scan** dialog box. See PCD-184610.

- PC-DMIS now correctly generates the scan path of the perimeter scan at the arc. See PCD-185344.

- You can now define control points for scans of plane type. See PCD-217873.

Settings Editor

- PC-DMIS no longer executes a measurement routine with the Ctrl + Q key when you set the *AvoidExecutionWithIllegalTip* setting to **TRUE** in the Settings Editor. See PCD-223942.

- PC-DMIS has removed the *ProbeQualVisionParCalibrationEnable* setting from the Settings Editor application. This means you can no longer disable the parfocal or parcentric calibration for zoom cells. See PCD-230056.

Summary Mode

- PC-DMIS no longer stops to scroll when you move your mouse position left of the scroll bar in Summary mode. See PCD-232837.

Vision

- PC-DMIS no longer ignores the negative sign in a value when you use the SETROTABDATA function. See PCD-116583.

- PC-DMIS now executes the vision probe parfocal or paracentric calibration and consistently adjusts the circle feature scan tolerance to be proportional to the circle diameter. See PCD-231519.

- PC-DMIS now shows the current pixel size in the vision probe **Calibration Illumination** dialog box. See PCD-231567.

- PC-DMIS now supports the magnification hotkey and vision menu magnification commands of the Live Image View magnification slider when you close the Probe Toolbox. See PCD-237287.

Information about this Release

We at Hexagon Manufacturing Intelligence are proud to bring you PC-DMIS 2023.1. 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 2023.1, 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 2023.1 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 2023.1 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.

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

RAM

- 4 GB of RAM or higher

The size of the CAD data file and the tessellation multiplier value used affect the amount of memory needed. These both affect the amount of tessellated facets needed to display the model. The smaller the tessellation multiplier value used, the more memory needed for the facets. For

large CAD models, this could cause an "Out Of Memory" error. If this occurs, the current PC-DMIS session will be left in an unstable state and should be terminated.

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

- 1 GB of video RAM

- 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

	Note
ℹ	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)

	Note
ℹ	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\2023.1 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 2023.1. 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 2023.1 on a new or existing computer, but you have an older CMM model that uses RS-232 communications, then you will need to install one of these solutions on your computer:

- An external RS-232 serial-to-USB adapter cable plus the serial-to-USB adapter cable driver

- An internal serial adapter card with serial ports

Installing the Software

To install the software, follow these steps:

Step 1: Check System and Hardware Requirements

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

- To get your computer's properties, highlight the **This PC** icon, right-click on it, and select **Properties**.

- To check the display properties for the graphics card, go to **Start** and type **Control Panel**, and then select **Display and Settings**.

Step 2: Log on as an Administrator

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

Step 3: Back Up Existing Settings

Back up your settings from your previous version. By default, PC-DMIS 2023.1 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.
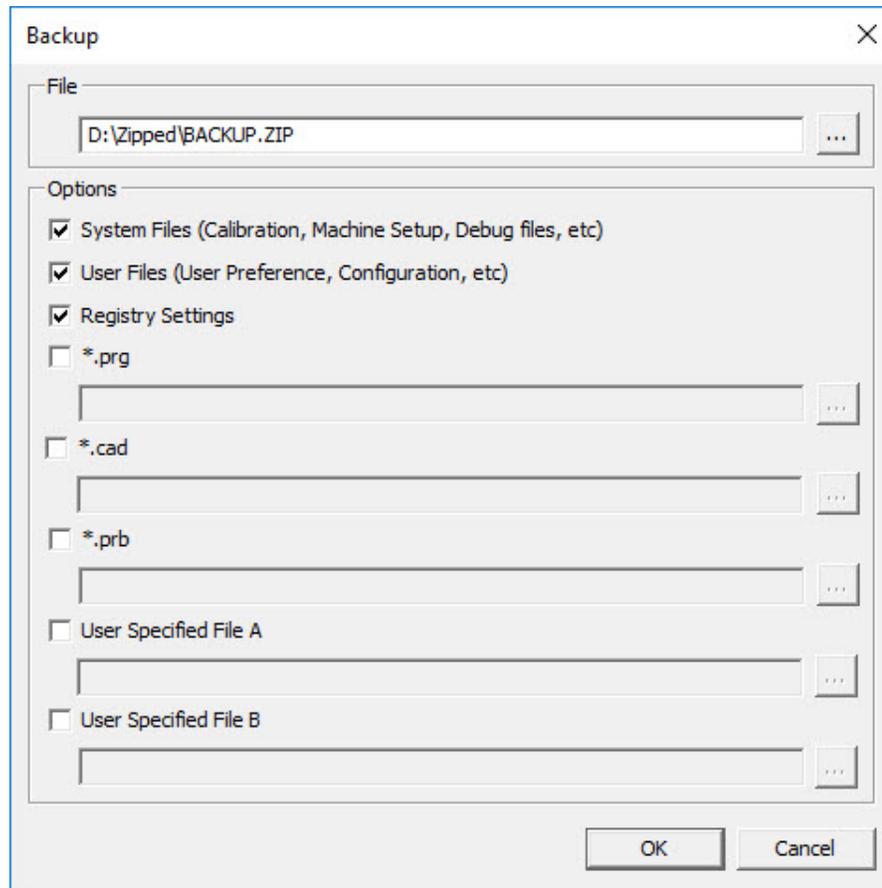
Backup dialog box

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:
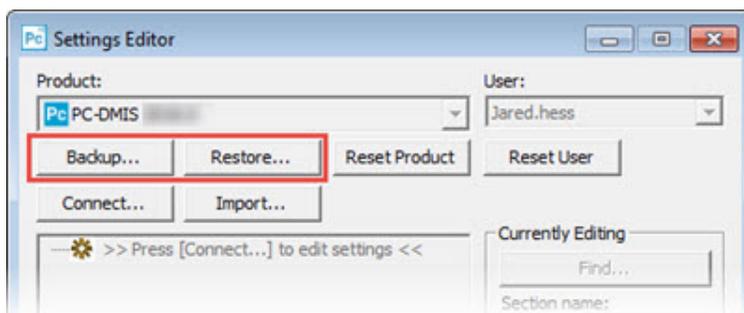
Backup and Restore buttons

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 2023.1 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 2023.1 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 2023.1 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:

   Pcdmis2023.1_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 2023.1 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 2023.1 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 2023.1 64-bit** - To launch PC-DMIS 2023.1 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 2023.1 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:
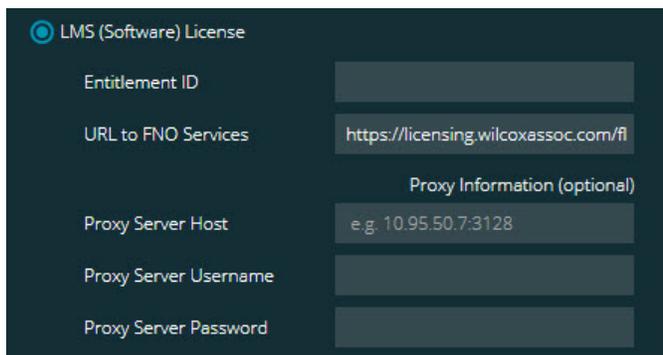
LMS (Software) License option

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 2023.1, 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 2023.1 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 2023.1 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.

	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 (Pcdmis2023.1_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 2023.1, you must launch it with administrator privileges. If you mark the **Launch PC-DMIS 2023.1 64-bit** check box when the installation finishes, PC-DMIS 2023.1 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 6.

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-DMIS2023.1 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 2023.1 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 2023.1 for the first time, go to **Start** and type **PC-DMIS 2023.1 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).
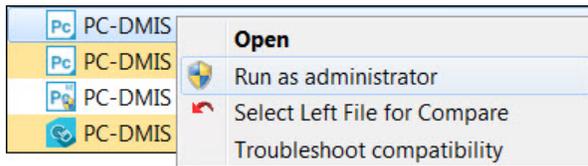
Run as administrator option

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 2023.1.

   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 2023.1 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 2023.1 normally :

PC-DMIS 2023.1 shortcuts

Once PC-DMIS 2023.1 starts, the **Software License** screen displays the current license agree-ment. Read the agreement carefully and then at the bottom, click **I agree with the License terms and conditions** to proceed:
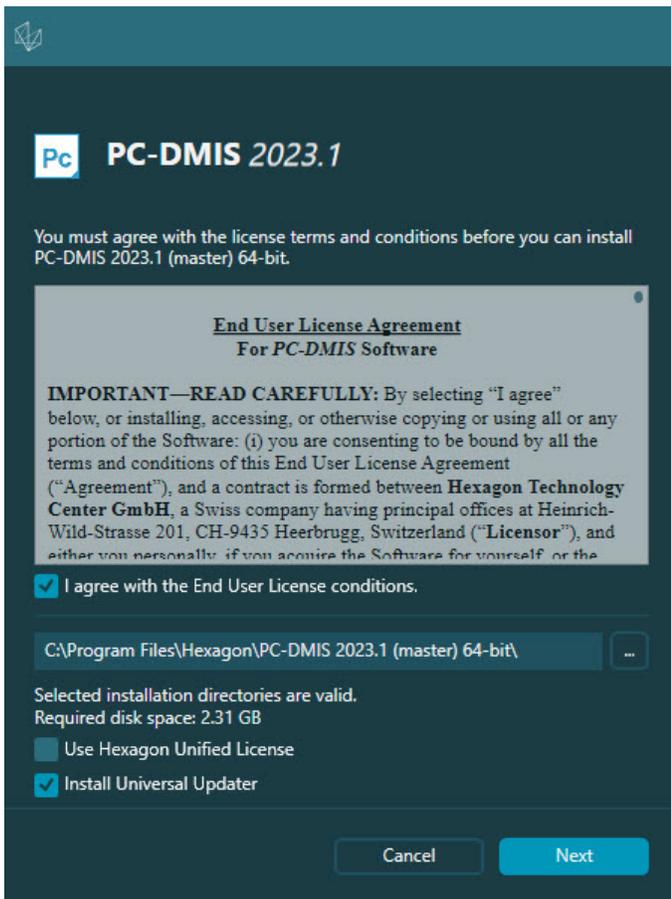
Software License screen

Once PC-DMIS 2023.1 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:
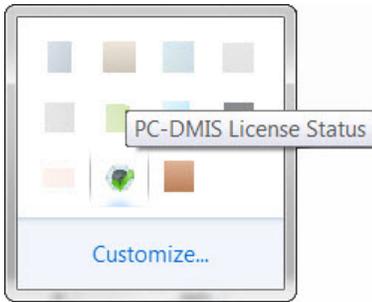
Message for valid PC-DMIS license

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 2023.1 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 2023.1 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.

![info] 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 2023.1 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 (Up). 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-mis2023.1_release_##.#.###.#_x64.exe file as if you were beginning the installation process. The setup displays a screen with these options:
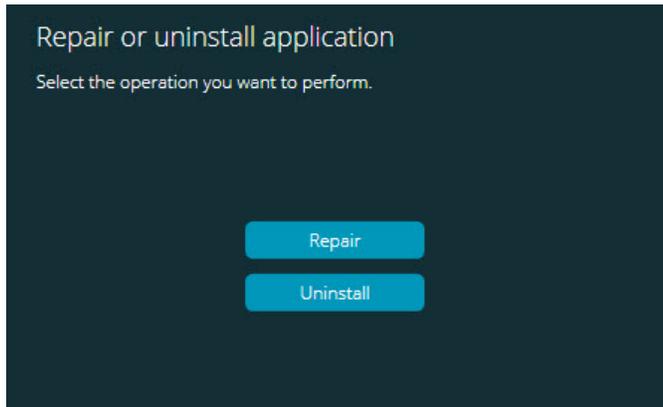
"Repair or uninstall application" dialog box

- **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 2023.1 contains the user-interface files for all of the supported languages. When you install PC-DMIS 2023.1, it installs the language files based on your operating system's language.

To run PC-DMIS 2023.1 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 2023.1 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 2023.1 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 2023.1 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/2023.1/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 2023.1 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 2023.1 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 2023.1.)

Description: A firewall on your computer may be blocking the Hexagon Universal Updater application from connecting to the server. If PC-DMIS 2023.1 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 2023.1 without administrator privileges, DPUPDATE.EXE does not work.

Solution: Run PC-DMIS 2023.1 with administrator privileges.

Contact Hexagon Manufacturing Intelligence

If you are participating in the *technical preview* of PC-DMIS 2023.1, 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 2023.1 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 2023.1 in silent mode:

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

On a system that already has a license, the following line installs PC-DMIS 2023.1 in silent mode:

 -passive USELMSLICENSING=1

On a brand-new system using license servers, the following line installs PC-DMIS 2023.1 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\2023.1

- C:\Users\Public\Documents\Hexagon\PC-DMIS\2023.1

- C:\Users\UserName\AppData\Local\Hexagon\PC-DMIS\2023.1

- 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.

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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 2023.1 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 install-ation 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.