# PC-DMIS 2015.1 - Hexagon Manufacturing Intelligence

- Release Notes -

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Recommended System Requirements

Attention Windows XP users! PC-DMIS 2015.1 is the final version of PC-DMIS supported by Hexagon Manufacturing Intelligence on the Windows XP operating system. If you have not already done so, please update your measurement device operating system and hardware (personal computer), if necessary, to a modern 64-bit system with a more current and stable Windows operating system such as Windows 10, Windows 8.1, or Windows 7. **Furthermore, PC-DMIS will no longer support the 32-bit Windows operating system, regardless of the operating system version number, starting with the PC-DMIS 2017 release.**

Customers moving to a modern operating system will benefit from:

- Dramatically enhanced security
- Broad device choice for a mobile workforce
- Higher user productivity
- A lower total cost of ownership through improved management capabilities

Operating System

PC-DMIS 2015.1 operates under the following:

- 32-bit and 64-bit Windows 10
- 32-bit and 64-bit Windows 8.1 and 8
- 32-bit and 64-bit Windows 7
- 32-bit and 64-bit Vista

No other operating systems are supported.

IMPORTANT:

- When using third-party drivers, you should contact your local Hexagon Manufacturing Intelligence representative to ensure operating system compatibility.
- Running PC-DMIS inside a Virtual Machine (VM) is not supported.

Notes:

- PC-DMIS Vision machines do not support 32-bit and 64-bit Windows 8.
- The Matrox Framegrabber PC-DMIS Vision hardware component does not support a 64-bit operating system.

Advantages of 64-bit:

- Customers with the x64-bit version of CAD packages need the 64-bit version of PC-DMIS in order to use Direct CAD Interfaces (DCI) to connect to the packages.
- The 64-bit version of PC-DMIS can use all of the physical memory that is available on the computer. The 32-bit version of PC-DMIS can only use the first 2 GB. Therefore, customers with large CAD or measurement routines are advised to use the x64-bit version.

.NET Framework

- Microsoft .NET 4.5 for Windows 10 and Windows 8
- Microsoft .NET 4.0 for Windows 7

RAM

- 4 GB of RAM or higher (4 GB is the highest amount of memory capable on a 32-bit OS)

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

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

- 1 GB of video RAM

CPU

2 GHZ or higher Duo-Core processor

Graphics

- For desktops: Nvidia Quadro K620 graphics card
- For laptops: Nvidia Quadro K1100M graphics card
- 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 a year old.

Hard Drive

- 2 GB of free hard drive space plus allocated Virtual Memory of 8 times the largest CAD file used
- SSD drive, HDD 10K, or two disks in RAID 0 mode (high-performance hard disk drive)

Display

Screen resolution of 1280 x 1024 or higher

Connectivity

- 2 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.)

- 2 USB ports

- DVD drive

- HASP key (a physical USB portlock) or a software license

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

Browser

Internet Explorer version 9 or later

Anti-Virus Software

Wilcox Associates Inc. used the Sophos Anti-virus tool to test PC-DMIS. The user 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 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 PC-DMIS

To install the application, follow these steps:

Step 1: Check System and Hardware Requirements

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

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

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

Step 2: Log on as an Administrator

To install and run your new PC-DMIS 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 attempts to migrate existing settings from previous installs on the same computer, even from really old versions of PC-DMIS 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:

    1. Start the Settings Editor.

2. Click the **Backup** button (or **Export**). The **Backup** dialog box appears:
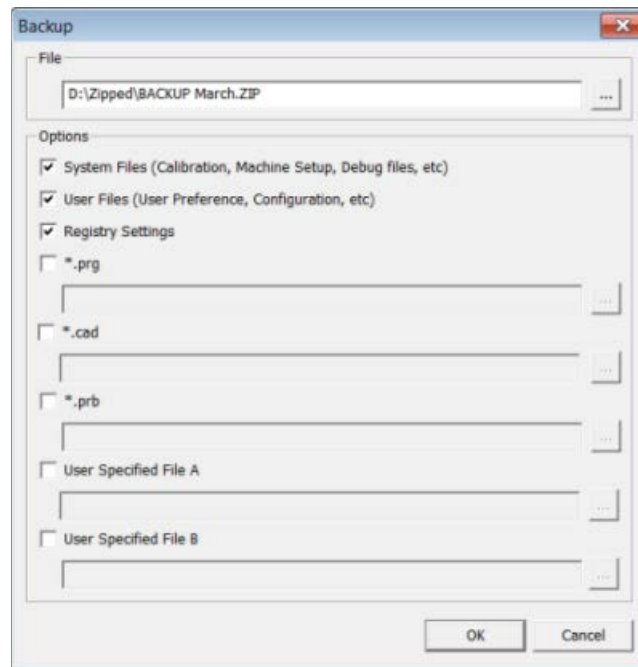
3. In the **File** box, define a safe location to save the backed up files, and give the file a .zip extension.

4. Mark the first three check boxes, and click **OK**.

If you are replacing your computer or transferring settings that reside on another computer, you can use the Settings Editor's **Backup** and **Restore** buttons:
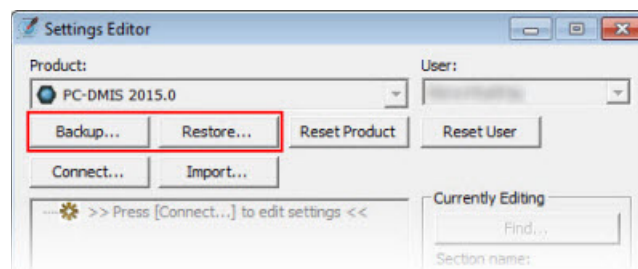
For more information on the backup and restore functionality, refer to the Settings Editor documentation.

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 2015.1 on a new computer, save copies of the following CMM machine files from your previous version to a safe place:

*   comp.dat
*   downl.oad

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

The location of the PC-DMIS installation (root) directory depends on the operating system and version of PC-DMIS:

- **C:\Program Files (x86)\WAI\PC-DMIS <version>** (if you have a 32-bit version)
- **C:\Program Files\WAI\PC-DMIS <version>** (if you have a 64-bit version)

   Where <version> is the 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

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

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

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 2015.1 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
- Fzyfile.txt
- Rcxfile.txt
- Rmxfile.txt
- Any file with your machine's serial number in its name

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

The location of the PC-DMIS installation (root) directory depends on the operating system and version of PC-DMIS:

- **C:\Program Files (x86)\WAI\PC-DMIS <version>** (if you have a 32-bit version)
- **C:\Program Files\WAI\PC-DMIS <version>** (if you have a 64-bit version)

   Where <version> is the 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

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

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

Step 4: Install PC-DMIS

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

1. Locate the PC-DMIS install file on your installation media; or, if you downloaded it, open the directory containing the downloaded file. The install file looks like this:

   Pcdmis2015.1_Release_#.#.###.#_x##.exe

   Where the # symbols represent the specific version numbers and the version type (x64 or x86).

2. Double-click this executable to begin the installation process. If a security warning appears, click **Run**. The files are extracted to a temporary directory:
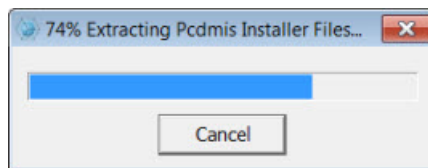
   The **Choose License Type** screen appears:
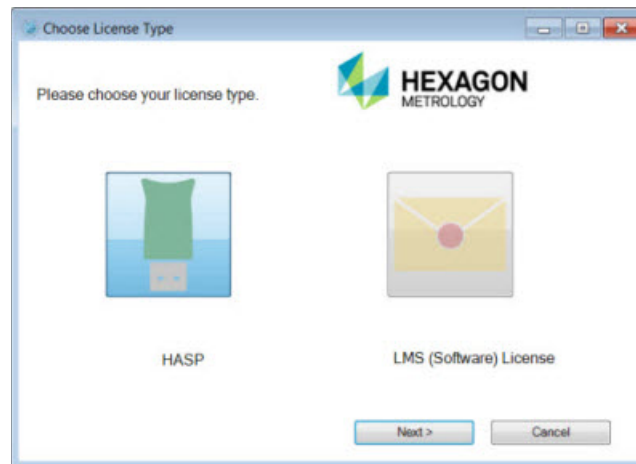
3. Select one of the following license types:

   - **HASP** - If you have a physical USB portlock, ensure that it is connected to your computer, and then select this license type. It is selected by default.

   - **LMS (Software) License** - If you have been issued a software license (called an Entitlement ID), or if you are connecting to a local license server, select this license type.

   Click **Next**.

4. If you chose **HASP**, ignore this step, and proceed to step 5. If you chose **LMS (Software) License**, and it cannot find a valid license on your system, the **LMS License Setup** screen appears. For help with completing this screen, see "LMS License Setup".

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5. The main setup screen then appears:

Click **Next**. The license agreement appears:

6. Read and accept the license agreement, and then click **Next**. The **Choose Setup Type** screen appears:
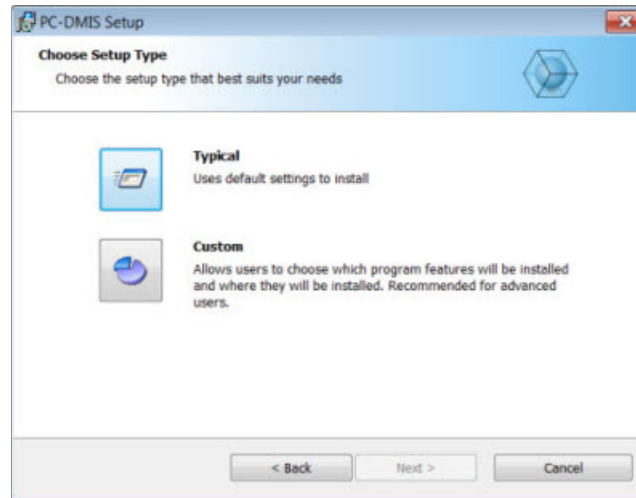
7. Choose a setup type:

- **Typical** - This option installs the program files to the default installation location: **C:\Program Files\WAI\PC-DMIS 2015.1**

- **Custom** - Use this option to specify the components to install and customize the installation location. The **Custom Setup** screen appears. For help with completing this screen, see "Custom Setup".

8. Once the installation has all the information it needs, the **Ready to Install** screen appears:
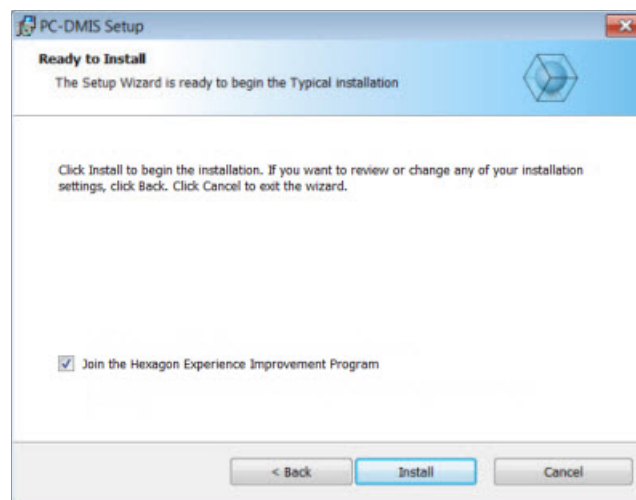
To send usage data to Hexagon Manufacturing Intelligence, select the **Join the Hexagon Experience Improvement Program** check box. To opt out of sending usage data, clear the check box.

You can also choose whether or not to send usage data to Hexagon Manufacturing Intelligence after you install PC-DMIS. For more information, see "Updating the Software".

9. Click **Install**. When the installation finishes, this final screen appears:

- **Launch PC-DMIS after the install finishes.** - To launch the application once you click **Finish**, select this check box. You should do this so that the needed registry entries initialize. For more information, see "Administrator Privileges Explained".

- **Display Release Notes.** - To display a PDF file that shows what is new or has changed in this release once you click **Finish**, select this check box.

10. Click **Finish** to close the installation program. PC-DMIS is now installed.

LMS License Setup

If you chose **LMS (Software) License** on the **Choose License Type** screen, and a valid license cannot be found on your system, you need to fill out the **LMS License Setup** dialog box:

1. Fill out the **LMS License Setup** screen as needed:

   - **Use Entitlement ID** - If you have an Entitlement ID, select this item, and then type or paste the ID you were issued in the box.

   - **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** - You only need to fill this out if you are on a network where a proxy server is needed to reach the Internet. Contact your IT specialist to get this information, and then fill in the server host, user name, and password.

   - **Use License Server(s)** - If you are using a local license server, select this item, and then type your license server name. The format of this line of text should be <portnumber>@<servername>, where <portnumber> is the TCP port number for the license server and <servername> is the name of the server. The default TCP port number is 27000, and is used automatically if no specific port number is identified. For example, these mean the same thing:

     @server1

     27000@server1

     > **Important:** When using this option, make sure the "@" symbol is used in front of the server address. If the "@" symbol is left off, the install attempts to look locally for the license which may result in an error.

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

@licenseserver1;@licenseserver2;@licenseserver3

2. If you do not have an Entitlement ID and need to activate your license offline, click the **CLM Admin** button and follow the instructions.

> **Note:** Please consult the PC-DMIS CLM Licensing Software documentation (pcdmisclm.chm) located in the PC-DMIS language subdirectory.

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

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.

LMS License Update

Once the licensing is completed and PC-DMIS is installed, PC-DMIS checks for license updates on startup and every eight hours of running. If a license update is available, a notification message 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?

Click **Yes** to apply the update. If you click **No**, PC-DMIS displays the message every eight hours of running or on the next startup.

- If an option or 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 requesting you to restart PC-DMIS is displayed. A pop-up message also displays in the system tray to inform you of this.

- If an option or feature is obsolete, it is automatically removed.

> **Note:** To ensure that PC-DMIS functions properly, you must restart PC-DMIS after any update is applied.

Custom Setup

If you chose **Custom** on the <u>**Choose Setup Type** screen</u>, a screen similar to the following appears:
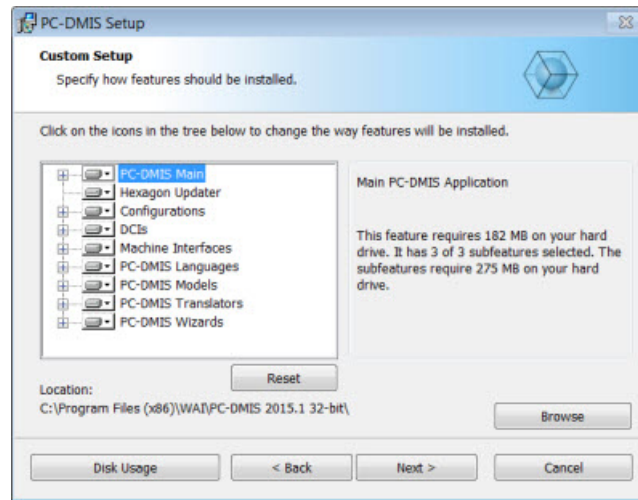
Customizing Installed Features

By default, all program components are selected to be included in the installation. You can use the tree view to customize when or if these features are installed. To do this:

1. Click the small drop-down icon ⬛▾ next to the component to exclude. This list appears:
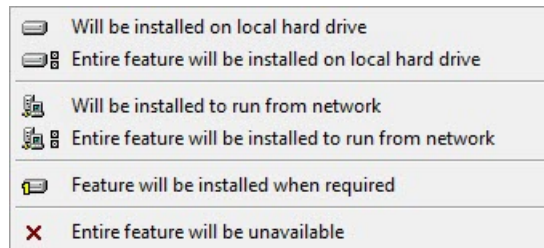
2. Choose the desired option:

    *   **Will be installed on local hard drive** - The selected feature installs to the hard drive on your computer.

    *   **Entire feature will be installed on local hard drive** - The entire feature installs to the hard drive on your computer. This means that sub-features of the selected feature also install.

    *   **Will be installed to run from network** - *This option is currently unsupported.* This option installs the selected feature on a network share.

    *   **Entire feature will be installed to run from network** - *This option is currently unsupported.* This option installs the entire component to a network share. This means that sub-features of the selected feature are also installed.

- **Feature will be installed when required** - The feature only installs if required during the installation process. Some files are informational and are not required for the application to run. These may include documentation or other files.

- **Entire feature will be unavailable** - This option excludes the component from installation.

Customizing the Installation Location

By default, the program installs to this location under the "PC-DMIS 2015.1" directory:

- **C:\Program Files (x86)\WAI** (if you have a 32-bit version)

- **C:\Program Files\WAI** (if you have a 64-bit version)

To change the default location:

1. Click the **Browse** button and navigate to the directory on your computer that you want to hold the program files. When you click **OK**, the **Location** box changes to show the selected location.

   If you want to reset the items to the default selection, click **Reset**.

2. Click **Next** when you have finished customizing the install.

Administrator Privileges Explained

PC-DMIS versions earlier than version 2012 require that you run PC-DMIS 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 built into the setup executable (setup.exe) that requires the setup process to run with administrator privileges. If the current user has lesser privileges, the setup 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, you must launch it with administrator privileges. If you mark the **Launch PC-DMIS after the install finishes** check box when installation finishes, PC-DMIS does this automatically by passing the original privilege level of the installer onto PC-DMIS.

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

For more information on the file system and registry rights that PC-DMIS requires, see "Required User Access Rights" in Appendix B.

Step 5: Copy Files after Installation

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

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

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

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

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

Copying Machine Files for an Xcel CMM or a Sharpe Controller

If you are using a Brown and Sharpe Xcel CMM or a CMM that uses a Sharpe controller, and you installed PC-DMIS 2015.1 on a new computer, copy the backed-up CMM machine files to the following location on the new computer:

- **C:\Program Files (x86)\WAI\PC-DMIS <version>** (if you have a 32-bit version)
- **C:\Program Files\WAI\PC-DMIS <version>** (if you have a 64-bit version)

    Where <version> is the 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 2015.1 on a new computer, copy the backed-up CMM machine files to the following location on the new computer:

- **C:\Program Files (x86)\WAI\PC-DMIS <version>** (if you have a 32-bit version)
- **C:\Program Files\WAI\PC-DMIS <version>** (if you have a 64-bit version)

    Where <version> is the 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 PC-DMIS for the First Time

1. When running this version of PC-DMIS for the first time, choose **Start**, **All Programs**, and then **PC-DMIS 2015.1**.

2. From the list of shortcuts, right-click on either the **Online** or **Offline** icon, and then select the **Run as administrator** option (required only if the **Launch PC-DMIS after the install finishes** check box wasn't checked at the end of the installation).
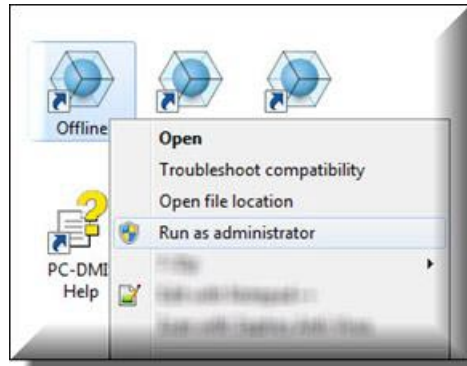
3. This allows the program to write the needed machine-specific settings.

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

   - If your previous version used the Settings Editor, do the following to use your previous PC-DMIS settings:

     a. Close PC-DMIS.

     b. Launch the PC-DMIS Settings Editor from the Start menu.

     c. Once it opens, click **Import**, and open the PCDRegFile.dat file you backed up in the "Step 3: Back Up Existing Settings" section of this document. PC-DMIS imports your settings.

     d. Close the PC-DMIS Settings Editor.

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

Once PC-DMIS starts, the **Software License** screen displays the current license agreement. Read the agreement carefully and then at the bottom, click **Accept Agreement** to proceed:
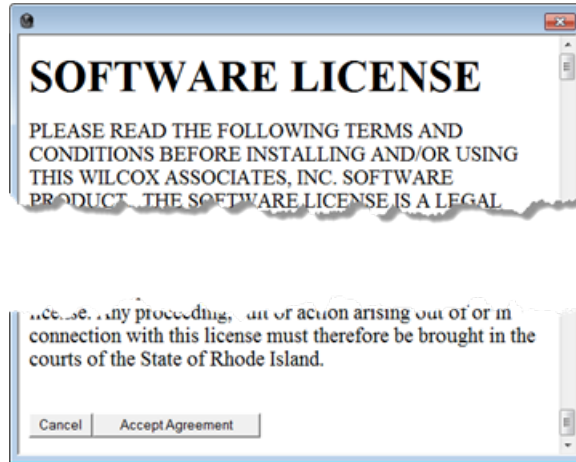
Once PC-DMIS runs, an icon displays in your System Tray. If your portlock or license is programmed correctly, the icon displays a green check mark as shown below. A message says that the PC-DMIS license is valid:

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 appears and says that the PC-DMIS license is disconnected:

When the license is disconnected, PC-DMIS functions normally, but after five 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 communicates through the COM1 communications port. You need to change this port number to the number that Windows automatically created if a serial-to-USB adapter cable or serial adapter card was installed for communicating with an older RS-232 CMM.

To change the COM port number:

1. In Windows Device Manager, note the number that Windows assigned to the communications port on your computer. For help, refer to Windows Help.

2. Open PC-DMIS in online mode, and then open a measurement routine.

3. Select **Edit | Preferences | Machine Interface Setup**.

4. In the **Comm** port box, enter the port number from Windows Device Manager.

Updating the Software

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

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

The **HEXAGON UPDATES** updater application contains the **Settings** dialog box. You can use the **I would like to participate** option in the dialog box to choose whether or not to join the Hexagon Customer Experience Improvement Program and send usage data to Hexagon Manufacturing Intelligence. Hexagon Manufacturing Intelligence uses this data to improve the user experience.

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

Modifying, Repairing, or Removing the Installation

You can also modify or repair an installation as needed once you install it. To do this, double-click on the **Pcdmis2015.1_Release_#.#.###.#_x##.exe** file as if you were beginning the installation process. The setup displays the **Modify, Repair or Remove** installation screen with these options:
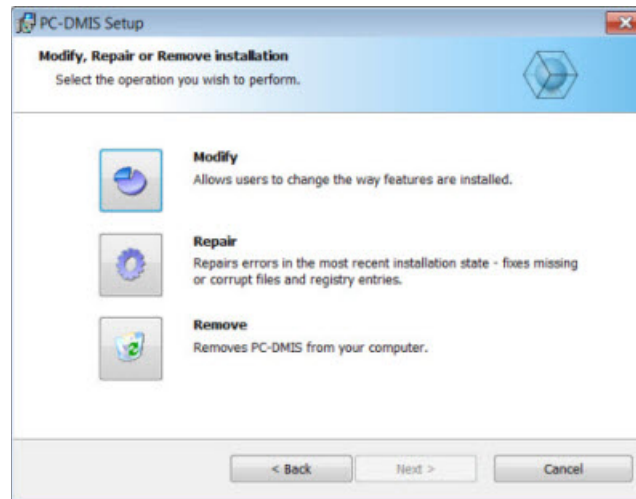
- **Modify** - This option opens the **Custom Setup** screen as discussed in "Custom Setup". Use this option to change the installed features. You can add something that you previously did not install or remove a software feature that you no longer need.

- **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.

- **Remove** - This option removes the application from where you installed it. You can also use the Programs and Features control panel item in Control Panel to uninstall the application.

Running PC-DMIS in Another Language

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

To run PC-DMIS in a language other than the operating system's language, select **File | Language**, and then click the desired language.

PC-DMIS restarts and displays the application in the desired language. To get the help content available in a non-English language, see the information below.

Installing Non-English Help Files from Language Packs

The English help files are the only help files included in the main installation package. They are installed regardless of the installation language. However, non-English help files are not included in the main installation file.

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

A language pack contains all of the help content for that language.

To install a language pack, do the following:

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

   ftp://ftp.wilcoxassoc.com/PC-DMIS-Versions/Release/2015.1/Release/Lang

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

This procedure installs the help content into the appropriate two-letter language subdirectory where you have PC-DMIS installed. You can then switch to that language in the software and access the help content.

Troubleshooting

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

PC-DMIS 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 PC-DMIS.

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

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

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

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

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

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

Setting Up the Network to Send Crash Reports

Problem: PC-DMIS cannot automatically send crash reports to Hexagon Manufacturing Intelligence even when the **/nocrashdump** software configuration switch is not being used. (This switch disables crash reports in PC-DMIS.)

Description: A firewall on your computer may be blocking the updater from connecting to the server. If PC-DMIS 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 get out to the server, http://www.wilcoxassoc.com/, using port 80.

Installing on Top of an Existing Version Results in Unexpected Behavior

Problem: You installed on top of an existing version of PC-DMIS, 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 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 PC-DMIS is run without administrator privileges, DPUPDATE.EXE does not work.

Solution: Run PC-DMIS with administrator privileges.

Information about this Release

We at Hexagon Manufacturing Intelligence are proud to bring you this new version of PC-DMIS 2015.1. This platform brings together new aspects of PC-DMIS for the development of a complete manufacturing process control solution. Available in this release are variations of PC-DMIS designed to assist with every aspect of the fabrication and quality control process. The newly created packages include the established PC-DMIS Laser, PC-DMIS NC, PC-DMIS Pro, PC-DMIS CAD, and PC-DMIS CAD++ platforms.

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

Testing is comprised 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 that is operating in the field running PC-DMIS. 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 2015.1, 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. See "Contact Hexagon Manufacturing Intelligence" on how to report any integration problems. Should such a problem materialize on a commercial release, you will be given the highest priority for correcting these problems.

For existing users of PC-DMIS who currently have earlier versions of PC-DMIS installed, it is advised that PC-DMIS 2015.1 be installed into a new directory. In this way, you can be assured of continuous use of the existing version should problems arise with this newer version.

New Product Information

2015.1 Release

The 64-bit version of PC-DMIS is only supported on Windows 10, Windows 8.1, Windows 8, Windows 7, and Windows Vista. It is not supported on Windows XP.

For a listing of the enhancements for the 2015.1 Release, refer to "Release Notes". For detailed information and videos tutorials regarding the enhancements, log on to hexagonmi.com/products/software.

About the PC-DMIS 64-Bit Version

The following items are only supported in the 32-bit (x86) version of the software; they are not available in the 64-bit version.

- CAD (3D ACIS data embedded inside of DXF Files)

- Translators (Avail, Datalog, MeasureMax, MMIV, and Tutor)

- NC product line

- Vision (MEI, Metronics, QVI, ROI, TESAI++, and TESAVISIO). Note that the FDC and Leitz controllers are available in the 64-bit version.

- CMM (B & S Backtalk, Embedded Board, Manmiti, Manmora, Metrocom, Mitutoyo GPIB, GeoCom, GOM, LK, Numerex, Omniman, and anything using the parallel port driver)

- Portable (FaroArmUSB and Axila)

ManualCMM and Tech80 have reduced functionalities.

Running the PC-DMIS Universal Jogbox Utility

If you are using the PC-DMIS Universal Jogbox Utility (PCD_UJB_Util.exe *32), ensure that you do the following:

- Start the utility as XP-SP2 compatible:

  1. Right-click on the **PC-DMIS Universal Jogbox Utility** icon on your desktop, and then select **Properties**.

  2. Select the **Compatibility** tab.

  3. Select the **Run this program in compatibility mode for** check box, and then select **Windows XP (Service Pack 2)** in the list.

  4. Select **Apply** and then **OK**.

- After the utility has been installed, do not run it as an administrator.

- Run the utility with the logon account properties that are set for the current user.

Release Notes

Version 2015.1 is a significant development release of the software.

Featured Items

TTP Free Form Plane Strategy

The Touch Trigger Probe (TTP) Free Form Plane strategy for the Plane Auto Feature measures a plane by selecting hit points along a path defined by a set of points (scan path). The path can be continuous, contain a break, or contain move points. Break and move points in the path can help to measure a face as one single plane.

The advantage of this strategy is you can generate a scan path from which you can select a hit path. You do this with the strategy's tabs in the Probe Toolbox in the **Auto Feature** dialog box (**Insert | Feature | Auto | Plane**).

You can add move points to avoid obstructions in the path.

For complete information on this strategy, refer to "TTP Free Form Plane Strategy" in the PC-DMIS CMM documentation.

TTP Plane Circle Strategy

The TTP Plane Circle strategy for the Plane Auto Feature generates hits points in a circular path to measure a plane. This strategy is available for touch trigger probes and scanning probes. As its name suggests, this strategy takes single hits.

The advantage of this strategy is you can generate a hit path according to the criteria you specify. You do this with the strategy's tabs in the Probe Toolbox in the **Auto Feature** dialog box (**Insert | Feature | Auto | Plane**).

You can add move points to avoid obstructions in the path.

For complete information on this strategy, refer to "TTP Plane Circle Strategy" in the PC-DMIS CMM documentation.

Travel Rack X1V Tool Changer

PC-DMIS supports the Travel Rack X1V tool changer. The values for the following registry entries specify an offset in millimeters (mm) from the measured location of the tool changer's port to the desired center point for the port. The registry entry's value is in the direction of the depth, height, or length of the rack:

- `ToolChangerPortDepthOffsetTRAVELRACKX1V`
- `ToolChangerPortHeightOffsetTRAVELRACKX1V`
- `ToolChangerPortLengthOffsetTRAVELRACKX1V`

The values for the following registry entries provide the depth, height, and length distances that PC-DMIS applies to the calibrated port location of the tool changer (the default values are 0 mm):

- `TCFinalAdjustDepthTRAVELRACKX1V`
- `TCFinalAdjustHeightTRAVELRACKX1V`
- `TCFinalAdjustLengthTRAVELRACKX1V`

For complete details about registry entries, refer to the related help topics in the Settings Editor documentation.

Rotary Table with Error Map

PC-DMIS supports the rotary table with error map on the Leitz CMM. This support is available on B4 and B5 Leitz controllers. You can index the rotary table on a Leitz machine and use it for measurement purposes. For details about rotary tables, refer to "Working with Rotary Tables" in the PC-DMIS documentation.

Measuring Distances on a Cross Section

There is a new **Distance Gage** option in the **Pointcloud Operator** dialog box. This is for the Cross Section operator (**Insert | Pointcloud | Cross Section**) in the PC-DMIS Laser application.

You can use this **Distance Gage** option to measure distances on a cross section. You can create the distance gage on the nominal CAD polyline or the measured polyline. The gage uses the **Distance Gage** option's **Size** value to determine the amount of data PC-DMIS uses to calculate the measurement. If you enter 0 (zero), PC-DMIS uses the selected point for the distance gage. The picked point is the center of the measurement.

For example, if you enter a size of 4 mm, PC-DMIS uses 2 mm on each side of the picked point. For details on the **Distance Gage** and **Size** options, refer to "Measuring Cross Section Distances" in the PC-DMIS Laser documentation.

You can view annotation and distance gage labels for a cross section in reports. You can do this from a report template that has a graphic image or in the Report Graphical Analysis template. For complete information, refer to "Viewing Cross Section Labels in Reports" in the PC-DMIS Laser documentation.

Cross Section Slide Show

The **Cross Section** toolbar was added to the **QuickCloud** toolbar (**View | Toolbars | QuickCloud**) and **Pointcloud** toolbar (**View | Toolbars | Pointcloud**).

The **Cross Section Slide Show** button displays an individual cross section in a 2D (Show Only) view. The **Show Previous Cross Section** and **Show Next Cross Section** arrow buttons enable you to move from one cross section to another.

For complete instructions, refer to "Show and Hide Cross Section Polylines" in the PC-DMIS Laser documentation.

Adaptive Illumination Calibration

To apply the adaptive calibration mode to the calibration process (if required), select the new **Adaptive Mode** check box in the **Calibrate Illumination** dialog box in PC-DMIS Vision. To open the **Calibrate Illumination** dialog box, select **Calibrate Illumination** from the drop-down list in the **Calibrate Probe** dialog box (**Insert | Hardware Definition | Probe | Measure** button). For more information, refer to "Calibrate Illumination" in the PC-DMIS Vision documentation.

The following registry entries apply to illumination calibration:

- `ProbeQualVisionIlluminationCalDoCharacterization_Lamp(0-5)`

- `ProbeQualVisionIlluminationCalGradientMaximum_Lamp(0-5)`

- `ProbeQualVisionIlluminationCalGradientMaximumResolutionAdjustments_Lamp(0-5)`

- `ProbeQualVisionIlluminationCalGradientMinimum_Lamp(0-5)`

- `ProbeQualVisionIlluminationCalGradientMinimumSamples_Lamp(0-5`

- `ProbeQualVisionIlluminationCalPreFrameDelay`

- `ProbeQualVisionIlluminationCalUsedFrameFactor`

For complete details about registry entries, refer to the related help topics in the Settings Editor documentation.

Auto Features

- PCD-82060 - Added the TTP Free Form Plane strategy. For details, see "Featured Items".

- PCD-77357 - Added the TTP Plane Circle strategy. For details, see "Featured Items".

- PCD-73964 - Added the **Adaptive Mode** check box to the **Calibrate Illumination** dialog box in PC-DMIS Vision. For details, see "Featured Items".

- PCD-79240 - Added an algorithm to adjust the analog-output-value for all illumination channels available on the SLC hardware.

Automation

- PCD-61125 - Added the following application object members:

  - CurrentLanguage - This public, read-only property returns the ID of the current PC-DMIS language.

  - GetAvailableLanguages - This public property returns a list of the available PC-DMIS language IDs or descriptions.

  - GetLanguageDescription - This public property returns the description of the PC-DMIS language ID that you supply. The description is in the current PC-DMIS language.

- PCD-83924 - Added the ability to use Automation with the Settings Editor application to import the default Registry.dat file.

CAD

- PCD-45424 - Added the **Colormaps** check box to the **Light model** dialog box. You can use this check box to specify whether or not PC-DMIS applies the lighting properties on the **Lighting** tab in the **CAD and Graphic Setup** dialog box to colormaps.

  The related registry entry in the Settings Editor application is `LightModel_Colormaps`.

- PCD-47939 - Added the ability to extract cylinder and torus information out of a composite surface.

- PCD-78587 - Modified the **Files of type** list in the **Import** dialog box (**File | Import | CAD**). It now displays the last file type that you imported. Previously, "CAD Files" appeared as the default file type.

- PCD-82911 - Added the ability to import an Autodesk Inventor model into a PC-DMIS measurement routine. You can import a part file (.ipt) as a CAD file or an assembly file (.iam) as a CAD assembly.

Graphics

- PCD-77582 - Added CAD captures. CAD captures show and hide CAD elements similar to CAD groups. However, they also include orientation, shading, scaling, and clipping plane information. You can use the **CAD Captures** dialog box (**Edit | Graphic Display Window | CAD Captures**) to define multiple captures and the CAD to store in each capture. You can also activate or deactivate these captures to show or hide the CAD elements inside each capture.

  The `CadCapturesRectangle` registry entry in the Settings Editor application stores the last window position and size of the **CAD Captures** dialog box.

- PCD-81818 - Reversed GD&T notes that the software used to mirror after a CAD model rotates.

Installation

- PCD-65188 - Added support for the Bravo HA 90-16-24 Skoda virtual machine.

Interface

- PCD-23707 - Added support for the stacked rotary table on the FDC.

Laser / Cloud of Points

- PCD-73204, PCD-81115 - Added the **Cross Section** toolbar to the **QuickCloud** and **Pointcloud** toolbars. For details, see "Featured Items".

- PCD-31416 - Added a Curve function to the **Pointcloud Operator** dialog box for the Cross Section operator (**Insert | Pointcloud | Cross Section**). You can use this function to create a cross section along a curved feature and normal to the CAD curve.

- PCD-74222 - Enabled the ability to select an existing plane as the cloud of points (COP) exclusion plane. You can select it from a plane that already exists in the measurement routine. When you select an existing plane, it becomes the new exclusion plane for the COP. This happens when you re-execute the measurement routine and re-measure the plane.

Machine Interface

- PCD-33202 - Added support for the rotary table with error map on the Leitz CMM. For details, see "Featured Items".

- PCD-75523 - Added the **Disengage Drives** check box to the **Protocol Setup** tab for FDC machines. You should select this check box for FDC machines with drives that can be disengaged and that are going to be used manually.

Planner

- PCD-71490 - Added the **Plan Dimension** tab to the **Setup Options** dialog box (**Edit | Preferences | Setup**). You can use the check boxes on this tab to automatically create the following:

  - Form dimensions for feature types that have a form dimension

  - Location dimensions for feature types that have a location dimension.

  Planner creates the selected dimensions immediately after you create features.

- PCD-81667 - Added the ability to import or export a Planner Inspection Plan file (.planxml) in .xml format.

  The `LastExportType` registry entry in the Settings Editor application stores the file extension ("PlanXML", "Xml", or "ip") that you selected the last time you exported a file from Planner.

Pointclouds

- PCD-63388 - Added the **Distance Gage** option to the **Pointcloud Operator** dialog box for the Cross Section operator. You can use this option to measure distances on a cross section. For details, see "[Featured Items](#)".

- PCD-65419 - Please note that, as in previous versions, the Mesh display functionality is only supported for portable machines while scanning; the Mesh display functionality is not supported for CMMs while scanning.

- PCD-73669 - Changed automatic label positioning to turn off when you create cross-section annotation points.

- PCD-74092 - The software now creates a cross section based on the entire cut plane that you define. Before, it only created a part of the nominal CAD cross section where there was corresponding pointcloud data.

- PCD-78832 - Consolidated the buttons on the **Pointcloud** toolbar. Added buttons with drop-down arrows that display additional toolbars.

- PCD-83736 - Added the message "Hole edge size should be bigger than point distance!". This message appears when you try to enter an **Edge size** value that is smaller than the **Points distance** value in the **Mesh Command** dialog box in PC-DMIS Laser.

Quick Fixturing

- PCD-77597 - Added the **Quick Fixture** toolbar. This toolbar replaces the Quick Fixture feature's shortcut menu. When you display the toolbar, PC-DMIS docks it to the right side of the main application window.

  To display or hide the Quick Fixture toolbar, select one of the following:

  - **Quick Fixture Mode** button on the **Graphic Modes** toolbar (**View | Toolbars | Graphic Modes**)

  - **Operation | Graphic Display Window | Change Screen Mode | Quick Fixture Mode**

Reporting

- PCD-80403 - Added the `HighResLegacyOutput` registry entry to the Settings Editor application. This entry specifies the resolution of AnalysisWindow objects and CADImage objects. If you set the entry to 0 (zero), PC-DMIS prints the objects at a low resolution. If you set the entry to 1, PC-DMIS prints them at a high resolution.

- PCD-80584 - Changed the output report to use a high resolution for AnalysisWindow and CADImage objects.

- PCD-80623 - Improved what happens when PC-DMIS executes a `DISPLAY/METAFILE` command. Now, the probe and toolchanger models no longer appear in the image of a CAD screen capture in the report.

Tool Changers

- PCD-44239 - Added the Travel Rack X1V tool changer. For details, see "Featured Items".

Toolkit

- PCD-72849 - Added the **Force** check box to the **Nose/Tail Definition** area in the **Section Information** dialog box. This is for the Blade Nominals Editor toolkit module (**Operation | Modules | Blade Nominal Editor**). You can use this check box to generate a nominal file with the word "FORCE" in Nose and Tail lines for the normal and square ends of a blade.

Vision

- PCD-67995 - Added the **Min/Max Type** column to the **Hit Targets** tab in the Probe Toolbox. This is for the Vision Edge Point Auto Feature (**Insert | Feature | Auto | Point | Edge Point**). You can select **None**, **Min**, **Max**, or **Mean** in the **Min/Max Type** column.

Contact Hexagon Manufacturing Intelligence

If you are participating in the *technical preview* of PC-DMIS 2015.1, please post your feedback in the appropriate technical preview forum located at www.pcdmisforum.com/forum.php. Please do not contact Technical Support for technical previews.

If you are using the *commercially released version* of PC-DMIS 2015.1 and would like further information or technical support, please feel free to contact hexagonmi.com/contact-us or visit hexagonmi.com/products/software. You can also reach Hexagon Manufacturing Intelligence Technical Support 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 (**/qb**), and the correct information is provided, everything runs without user interaction. The command switch **/qb** displays the progress bar and handles installer errors, while the **/q** 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 **Choose License Type** screen.

A description of the parameters follows, along with examples:

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).

ENTITLEMENTID="<entitlement id>" - This parameter and value are useful on a new system where no LMS license was previously installed. It indicates that the user wants 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 speak 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="<username>" - 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**.

LMSFNOURL="<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.

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

/qb ENTITLEMENTID="99999-88888-77777-66666-55555"

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

/qb USELMSLICENSING

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

/qb LMSLICENSESERVERS="123.12.134.42"

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

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

Appendix B

Understanding File Locations

The default file locations (path locations) for various user-specific settings and other files have changed in PC-DMIS 2010 MR2 and later to comply with newer operating system standards. Previously, much of this information was stored inside of the install directory of PC-DMIS.

These files are now stored in the following locations for Windows 10, Windows 8.1, Windows 8, Windows 7, and Windows Vista, based on each file's role (where <version> is the PC-DMIS version).

Public Documents

Measurement routine, CAD, probe, and other files:

C:\Users\Public\Public Documents\WAI\PC-DMIS\<version>

Demo CAD files:

C:\Users\Public\Public Documents\WAI\PC-DMIS\<version>\CAD

Public Documents (Reporting Directory)

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

C:\Users\Public\Public Documents\WAI\PC-DMIS\<version>\Reporting

Public Documents (Fixturing)

Fixturing files:

C:\Users\Public\Public Documents\WAI\PC-DMIS\<version>\FIVEUNIQUE

Program Data Files [Hidden]

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

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

User Data Files

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

C:\Users\<username>\AppData\Local\WAI\PC-DMIS\<version>

Where <username> is your window's logon user name.

Also see "Understanding the .DAT Files" in the PC-DMIS Core documentation for more specific information on data files.

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

Required User Access Rights

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

File System

Windows 10, 8, 7, and Vista

- **C:\ProgramData\WAI\PC-DMIS\2015.1**

- **C:\Users\Public\Documents\WAI\PC-DMIS\2015.1**

- **C:\Users\UserName\AppData\Local\WAI\PC-DMIS\2015.1**

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

Windows XP

- **C:\Documents and Settings\All Users\Application Data\WAI\PC-DMIS\2015.1**

- **C:\Documents and Settings\All Users\Documents\WAI\PC-DMIS\2015.1**

- **C:\Documents and Settings\User Name\Local Settings\Application Data\WAI\PC-DMIS\2015.1**

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

Registry

All of these versions have their own registry settings, which are stored in a version-specific Key. The items shown below are for version 2015.1.

x86 OS

- HKEY_LOCAL_MACHINE\SOFTWARE\WAI\PC-DMIS\2015.1 Key and all sub keys

- HKEY_CURRENT_USER\Software\WAI\PC-DMIS\2015.1 and all sub keys

- HKEY_USERS\.DEFAULT\Software\WAI\PC-DMIS\2015.1 and all sub keys

x64 OS

- HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\WAI\PC-DMIS\2015.1 Key and all sub keys

- HKEY_CURRENT_USER\Software\WAI\PC-DMIS\2015.1 and all sub keys

- HKEY_USERS\.DEFAULT\Software\WAI\PC-DMIS\2015.1 and all sub keys

Notes

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

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

- If you are using fixturing or laser sensors, the following registry keys are stored back one level:
    - HKEY_LOCAL_MACHINE\SOFTWARE\WAI\FxtServer
    - HKEY_LOCAL_MACHINE\SOFTWARE\WAI\PC-DMIS\NCSENSORSETTINGS
    - It may be easier to just apply create/read/write privileges to the HKEY_LOCAL_MACHINE\SOFTWARE\WAI\ key and all sub keys to cover these also.

Appendix C

First-Time PC-DMIS 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:\Users\Public\Documents\WAI\PC-DMIS\FIVEUNIQUE

This allows access to the files without needing administrator privileges on the computer running PC-DMIS.

To accomplish this, the following steps are required when you install PC-DMIS for the first time:

1. The first time you install PC-DMIS and FxtServerInterface, run the FxtServerInterface installation program for the first time with administrator privileges (as is required for the PC-DMIS install).

2. When running FxtServerInterface, a message states that the system will migrate all your data files to the "FIVEUNIQUE" Documents folder described above.

   - If you choose "Yes", the files are moved, and the original folder is deleted.
   - If you choose "No", the files are copied, but the original folder is kept.

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