QUARTZPCI
VERSION 11 FEATURES

▲ ACQUIRING

- Options available to acquire images from virtually any image producing device including slow scan, TWAIN, video capture and digital file import.
- "Spider" system automatically loads images saved to a "hot" folder.
- Most popular file formats can be imported.
- Support for 24-bit color and 8- and 16-bit grayscale images.
- Imports EMSA format x-ray.
- Can import files, and retain calibration information, from most EM manufacturers including Delong, FEI, Gatan (DM3, DM4), Hitachi, Hitachi CDSEM, JEOL, Phenom, Tescan, ThermoFisher and Zeiss. Keyence light microscope files are also supported.
- Common user interface for all image sources enhances ease of use.
- Add Print to PCI as a Printer and print any file type to LIMS Database. ★

▲ REPORTING

- Comprehensive built-in report editor.
- Permits layout of images, text and drawing elements.
- Any number of pages.
- Secure PDF Export.
- Grid/Snap-to-grid features.
- Master page.
- Automatic population of database fields in the report.
- Automatic generation of reports from templates.
- Export reports in PDF or Microsoft Word and PowerPoint formats.
- Job/Client Report created in PCI can be exported to a PPTX file without the need to have PCI Office installed on your PC. ★
- Easy and fast to merge multiple reports for the same Job with the correct Sample sequence. ★

▲ ARCHIVING

- Images can be stored in most popular file formats including TIFF and JPEG.
- Workgroup Database included as a standard feature. Enterprise Database available as an option. Workgroup Database tracks jobs, sessions, samples, images and external documents including multimedia files.
- Permits composition of sophisticated database queries.
- Robust record locking and file sharing in networked environments.
- "Send To" feature allows documents from other applications to be sent directly to the database.
- Scan feature automatically searches disks and network devices for images and allows them to be added to the database.
- ODBC compliance ensures compatibility with third-party tools such as Microsoft® Access.
- Burn CDs and DVDs from inside PCI.
- Full support for removable media.
- Auto-Save Acquired Images.

▲ ANNOTATING

- Whether you are working with images or reports you can select multiple elements to work with all PCI functions.
- Once you have selected multiple elements you can Group (and Ungroup) the elements.
- Complete set of tools for adding text, arrows and geometric shapes to images.
- Drawing elements can be rotated.
- Drawing tools operate on separate overlay layer. Overlay elements can be moved or deleted without interfering with each other or the underlying image.
- Grid overlay can be displayed on image.
- Default overlay burn-in option allows all images to be permanently marked, such as with company logo or confidential indicator.

▲ PROCESSING

- Image resizing and fine image rotation.
- Ability to reverse raster rotation, using angle information contained in image file.
- Tilt correction.
- SEM resolution measurement.
- Image mixing using various arithmetic operators.
- "Plug-in" interface for user-developed processing and analysis code.
- Histogram functions for contrast, brightness and gamma adjustment.
- Smoothing, sharpening and median filtering functions.
- Display functions for zooming, panning, false coloring and slide show display.
- Construction of anaglyph stereo image from separate left and right images.
- Includes ability to align stereo pair.
- Spectrum zooming/scrolling with mouse wheel.
- Spectrum auto-scaling and default display region.
- Spectrum automatic peak labeling.
- Spectrum automatic peak identification.
- Spectrum KLM line markers.
- Spectrum cursor displays energy, counts and possible x-ray lines.

▲ MEASURING

- PCI 11 works with Version 8 of the optional PCI-AM Module that provides Automated Measurement.
- Complete set of measurement tools for measuring distances, angles and shapes in the image.
- Values automatically update when measurements are adjusted with the mouse.
- Measurement results displayed in spreadsheet grid and can be easily pasted into Excel or other software.
- Numerous options for displaying arrow heads, extension lines, projections etc.
- Micron marker function for adding micron marker to images, such as from light microscope, that do not contain a micron marker.
- Measurement Sequence Function allows repeated sequence of measurements to be pre-programmed.
- Read out of the image's Field of View (FOV) on the status bar.

▲ OTHER

- Supports Microsoft Windows 11. It also works on Microsoft Windows 7, Windows 8 and Windows 10.
- Runs on 32-bit and 64-bit operating systems.
- Dual Monitor and Widescreen Support.
- Output to any Windows®-supported printer.

▲ ALSO AVAILABLE — PCI-CFR

- Acquires images and stores them consistent with the requirements of 21 CFR Part 11.
- Maintains an audit trail that records all changes to each image, retention of all versions of each image.
- Use of encryption and digests to ensure data integrity.
- Add digital signatures.
- Export data as digitally signed PDF files.
- User rights and roles.
- Works with the Windows security system to provide password protection, permissions and user roles.

★ for Quartz LIMS customers only

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VERSION 11

Windows 11 compatibility
PCI 11 is the first version that supports Microsoft Windows 11. It also works on Windows 7, Windows 8 and Windows 10.

Unicode support
PCI is now a Unicode application. This means images can be annotated and reports can be generated using Unicode characters. This facilitates use of PCI with languages that do not use Roman characters and the sharing of data within international organizations.

Mouse wheel zooming and scrolling
You can now use the mouse wheel to zoom in and out and to scroll the image horizontally and vertically. To scroll vertically, simply spin the scroll wheel. To scroll horizontally, hold the Shift key down while rotating the scroll wheel. To zoom, hold the Ctrl key down.

Works with more types of instruments
The PCI File Import Function will now read calibration information from files saved by Delong electron microscopes and Keyence light microscopes, in addition to the numerous types of files supported by earlier versions of PCI.

Field of View (FOV) read out
For calibrated images, PCI 11 will display the field of view of the image in the status bar under the image.

Improvements to the Automated Measurement Module
The release of PCI 11 coincides with the release of Version 8 of our Automated Measurement Module. PCI AM can now check measurements against tolerances that you specify and flag outliers. It adds the ability to rotate the image automatically to orient the features horizontally and vertically. A new layer detection tool is included and manual horizontal reference lines can also be added. In addition, PCI AM also includes advanced improvements to our edge detection algorithms.

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VERSION 10

Windows 10 compatibility
PCI 10 supports Microsoft Windows 10. It also works on Microsoft Windows XP, Windows Vista, Windows 7 and Windows 8.

Works with more types of instruments
The PCI File Import function will now recognize DM4 files and will read the Hitachi CD tool cond.txt file calibration.

Select Multiple Elements
Whether you are working with images or reports you can select multiple elements to work with all PCI functions.

Grouping Elements
Once you have selected multiple elements you can now Group (and Ungroup) the elements.

The PCI-AM module
PCI 10 works with Version 4 of PCI-AM that provides Automated Measurement of semiconductor features.

Virtual Printer Driver ★
Add Print to PCI as a Printer and print any file type to LIMS Database.

Job/Client Report Merge & Export ★
Easy and fast to merge multiple reports for the same Job with the correct Sample sequence.

Direct PPTX export ★
You can now export a Job/Client Report created in PCI to a PPTX file without the need to have PCI Office installed on your PC.

VERSION 9.5

SEM Image Sharpness Measurement
Calculates the sharpness of SEM images using the FT and DR methods described by ISO standard ISO/TS 24597. Operates with single or multiple images. Integrates with PCI's report layout editor to produce custom instrument performance reports.

Automated Measurement Module
Optional module for making automated measurement of lines and spaces in semiconductor devices.

Import Calibrated Images from Most EMs
Reads calibration information from most FEI, Hitachi, JEOL, Phenom, Tescan and Zeiss image files, as well as Gatan DM3 files.

Image Mixing
Mix any two images of the same size (such as two images acquired from different detectors).

Auto Saving of Images
PCI can now be set up to save images automatically upon acquisition, saving time and reducing the possibility of data loss.

Reversal of Raster Rotation
Uses the calibration information read from the microscope to reverse any raster rotation in the image. Sometimes charging and other artifacts can be reduced by acquiring a raster-rotated image. However, for measurement, it may be desirable to rotate the back to its normal orientation.

Tilt Correction & Image Tilt Indicator
Compensate for stage tilt before making measurements. A new indicator is also shown on the image status bar to show whether the image either has zero degree tilt or has been tilt corrected.

Set Significant Figures for Angle Measurements
PCI now lets you set the number of significant figures for angle measurements.

Copy and Paste Drawing Elements
Drawing elements can be copied to the clipboard and pasted either back into the same image or into another image.

Fine Image Rotation
Rotate images by any angle.

Set Size of Overlay Elements in Points
As a configuration option, PCI now lets you set the size of overlay elements in absolute units rather than pixels.

Database Toolbar
New toolbar icons allow you to select jobs, select samples, end the session, or display the database information window.

Sort Open Images by Magnification
Order all of your open images by increasing magnification.

Simplified Connectivity to Quartz LIMS and FA-LIMS
PCI Version 9.5 supports an improved security model that simplifies connectivity to Quartz LIMS and FA-LIMS in complex IT environments.

Polyline and Curve Length Measurements
Measure the lengths of polylines and freehand curves.

Grid Overlay on Image
You can now superimpose a grid on the image to facilitate aligning the image in conjunction with the new fine rotation function. It is also helpful, when counting features in the image, to be able to divide it into sections.

Toggle Between Selection Tool & Last-Used Drawing Tool with Space Bar
You can now quickly toggle between the selection tool and a drawing tool by pressing the space bar.

Runs on Microsoft Windows 7 & Windows 8 (32-bit and 64-bit versions)
PCI Version 9.5 runs on the 32-bit and 64-bit versions of Microsoft Windows 7 and Windows 8. It will also run on XP and Vista.

Other Improvements
PCI Version 9.5 also includes the following improvements:

- JPEG and TIFF file name extensions are recognized by the file import function.
- The system remembers different outline and fill color settings for images and reports.
- Widescreen and dual monitor support is improved.
- A logging function has been added to help diagnose connectivity issues.