

Leica QWin and Imaging Workstations

Image Processing and Analysis Software
Application Solutions for Quantitative Microscopy

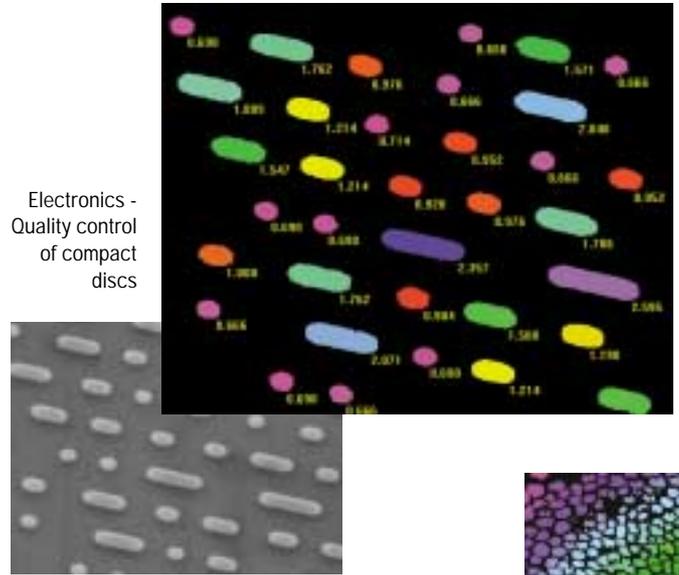
Leica
MICROSYSTEMS

Leica QWin Image Processing and Analysis Software

Leica QWin for Quantitative Microscopy

Leica QWin image processing and analysis software provides superior solutions for quantitative microscopy. The modular and scalable nature of Leica QWin is such that its capability ranges from simple interactive image measurements to automatic, multi-parameter measurements of an immense number of features. Leica QWin is available in four versions from Lite to Professional to meet your performance requirements and budget.

Electronics -
Quality control
of compact
discs



Application Solution Development

The QUIPS feature within Leica QWin makes customising and automating QWin for your specific application simple. This interactive macro-programming function offers benefits for optimising routine tasks and provides capabilities for developing more complex research solutions.

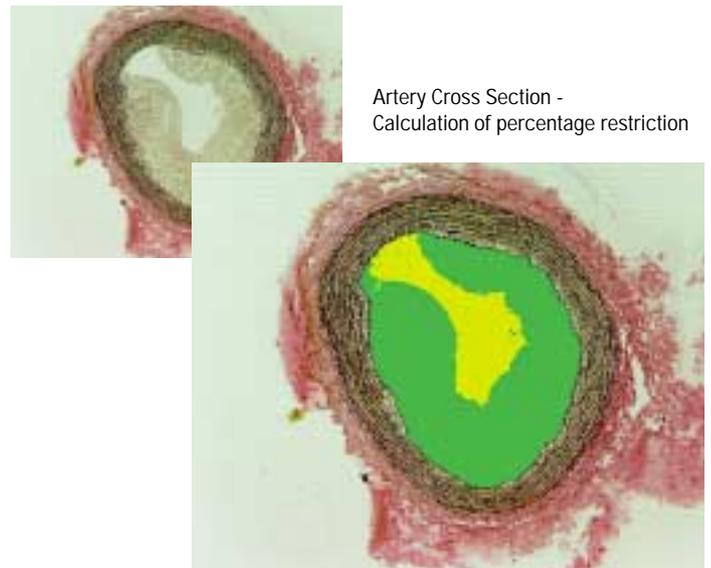
Integration and Automation

Leica QWin runs on the Leica Imaging Workstation (IW) offering a totally integrated imaging solution, with Leica Microscopes and Digital Cameras. The complete solution offers unrivalled performance particularly in applications requiring fast analysis, high sample throughput and unattended operation. Automation brings added benefits to the solution for improved laboratory productivity and using automatic microscopes, gives control of the stage, focus, lamp brightness, filter block and shutter.

Reliable Image Storage and Retrieval

Leica IM 1000, working in conjunction with Leica QWin, is an impressive image database and archiving option for maintaining, searching, documenting and storing images and data.

Artery Cross Section -
Calculation of percentage restriction



The Complete Imaging Solution

Diverse Specimen Range

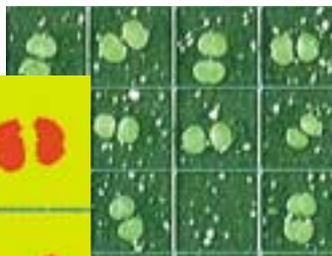
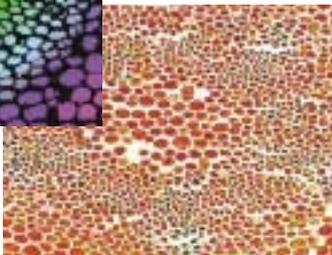
Specimens can be analysed from a diverse range including, cell monolayers, plant sections and seeds, tissue sections, natural and processed food products, in-situ hybridization of stained tissue sections, protein crystals, synthetic and forensic fibres, polished and etched metals, embedded and sectioned minerals, semiconductor wafer defects, abrasive powders and carbon black components.

Leica QWin is:

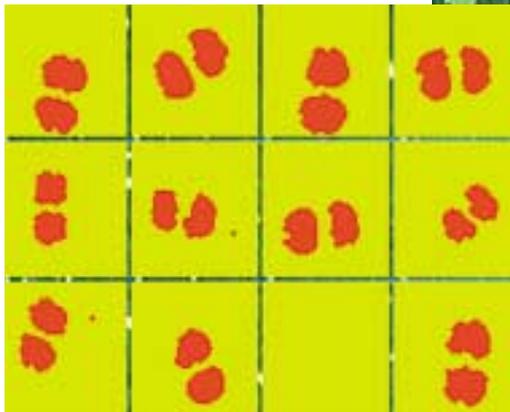
- Optimised for quantitative microscopy to solve a diverse range of life science and industrial applications.
- Integrated as a complete system solution, giving single supplier assurance.
- Unrivalled in its richness of image processing and measurement functions.
- A versatile and adaptable application solving a wide range of tasks from interactive to totally automated.
- Highly effective in creating solutions to new and demanding applications using the QUIPS macro programming language.



Cytology -
Radial size distribution
assessment



Botany -
Seed germination and
characteristics

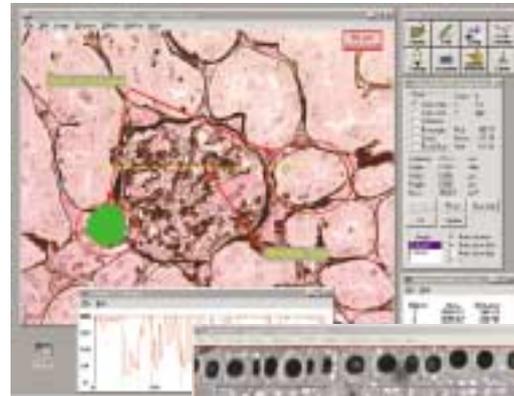


A Software Suite to Match Your Needs

The power of Leica QWin is made readily accessible to the widest range of potential users through its carefully structured software editions, which build on each other's capability.

Leica QWin Lite

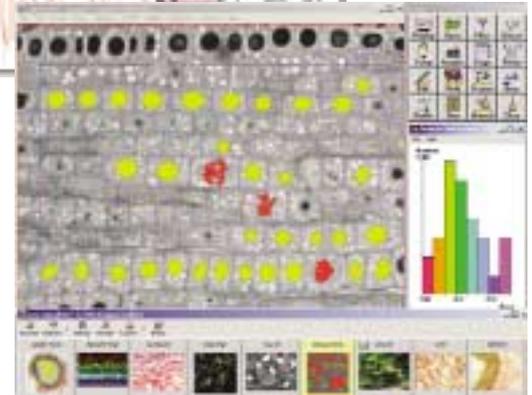
- For interactive feature measurements - draw directly on the screen using the mouse.
- Image annotation with arrows, text and calibration scale.
- Image printing and documentation.
- Storage and image review with Leica QGallery.
- Draw and edit complex regions.
- Measure image brightness, histograms and profiles.



Leica QWin Lite

Leica QWin Plus

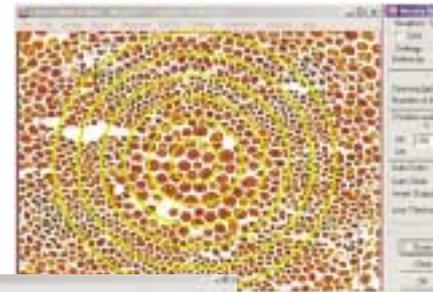
- For automatic measurement of multiple image features.
- Colour, grey and binary image processing.
- Image editing and automatic detection.
- Results in histogram, scatter-gram and statistical formats.



Leica QWin Plus

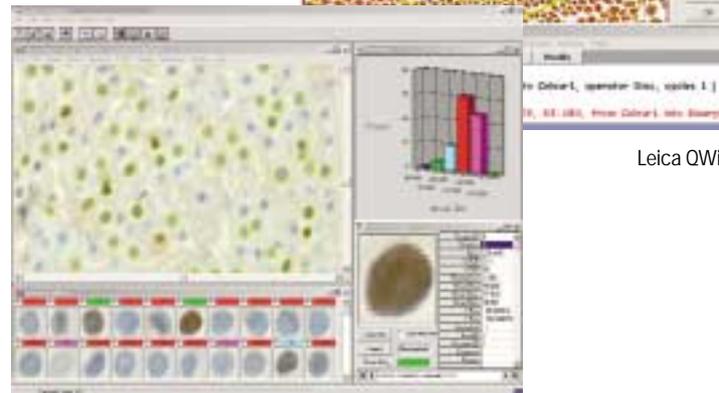
Leica QWin Standard

- Repeatable measuring routines by QUIPS macros.
- Application library of macros.
- Customised interface by Leica QForm.
- Advanced QUIPS for turn-key application development.



QWin Professional

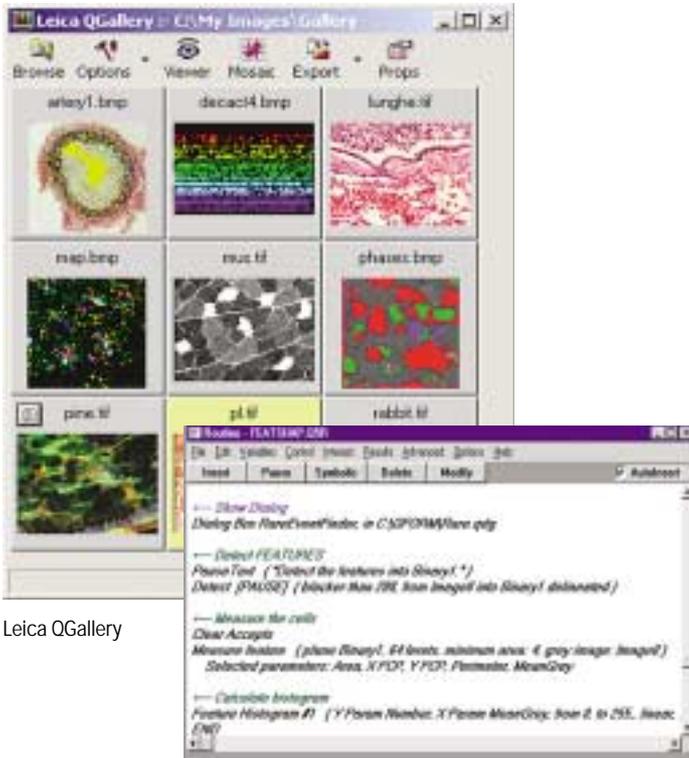
- Fast Fourier Transformation with Leica QFFT.
- Image visualisation and data interpretation through Leica QFAB.
- Viewing feature data in a gallery with relocation.
- Specimen map image overview.
- Editing, sorting and classification of individual features.



Leica QWin Professional

Leica QWin Professional

Rapid Application Solutions



Leica QGallery

The scalable nature of Leica QWin means that it may be customised exactly to meet your needs in terms of image resolution, image memory and computer power. It can be readily upgraded should your needs change.

Leica QGallery

Leica QGallery provides the user with a convenient method for viewing images acquired either directly through Leica QWin, or imported from alternative sources. Images can be displayed as thumbnails, with associated image information immediately accessible in adjacent windows.

Leica QUIPS for Automatic Routine Operation

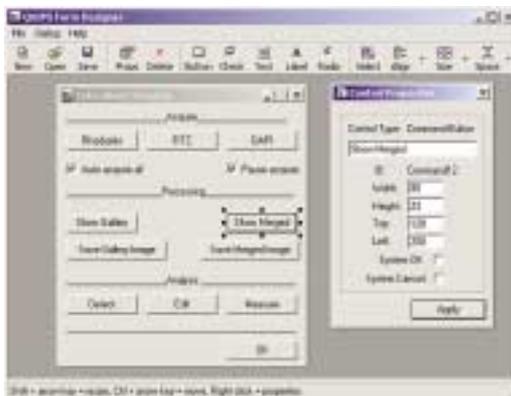
Leica QUIPS is an interactive macro-programming facility of Leica QWin Standard, which enables the user to create fully automatic routines for any repetitive or user intensive analysis task, with the steps automatically memorised to minimise the typing required. The resulting one click, routine operation reduces human error, without diminishing the authority of the operator.

Application Modules

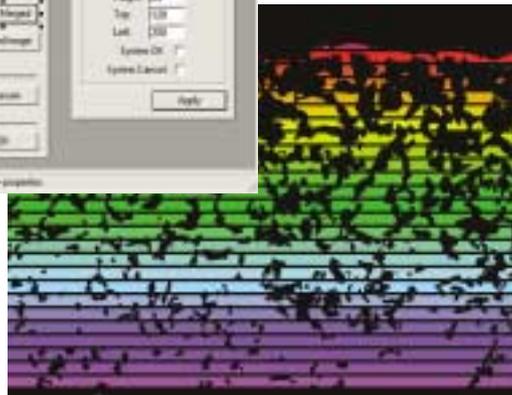
Optional application modules are available for extended focus, time lapse, multi-site imaging for use with QWin Plus.

Customised Applications

Advanced modules with Leica QWin Standard include Leica QForm, and Advanced QUIPS, which allow the user to design customised dialogs for specific applications and extend the capability for turnkey software development.



Leica QForm



Layer Thickness



Leica QWin Standard

Application Modules

Optional modules are available that implement popular additional functions. These are operated from a dialog dedicated to the task and have the added advantage of being extendable by the full range of QUIPS instructions.

Time Lapse - this module acquires images directly to the hard drive at intervals that you can define and replay as required. Analysis and measurement of the images can be performed by the extensive facilities of QWin.

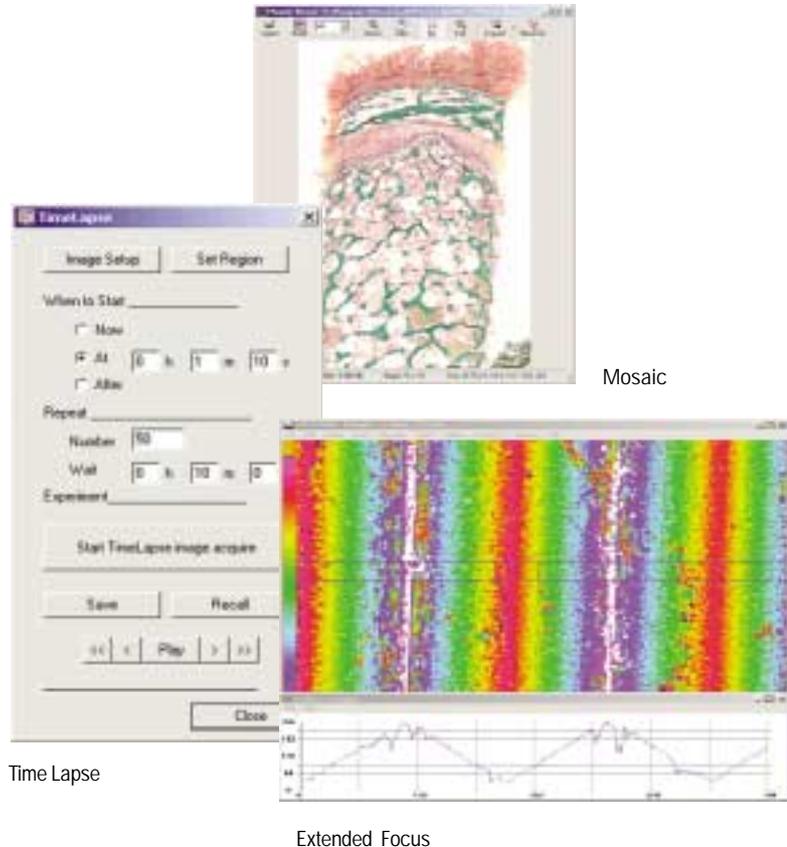
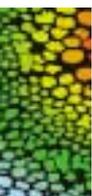
Extended Focus - used to acquire images at different Z-positions and to combine these into a single image representing the in-focus points. A corresponding depth-map is produced and the surface profile can be displayed from this. Normally used with a microscope with motorised Z-axis.

Mosaic - takes images from a stage scan pattern and stitches these into an overview or mosaic image. This image can be analysed by the QWin facilities or used to relocate to regions of interest for further analysis.

Multi-site Imaging - this module allows you to define multiple sites as a rectangular grid e.g. multi-well plates. Images are automatically collected from each site and displayed in a gallery. Further customisation is of course available using QUIPS.

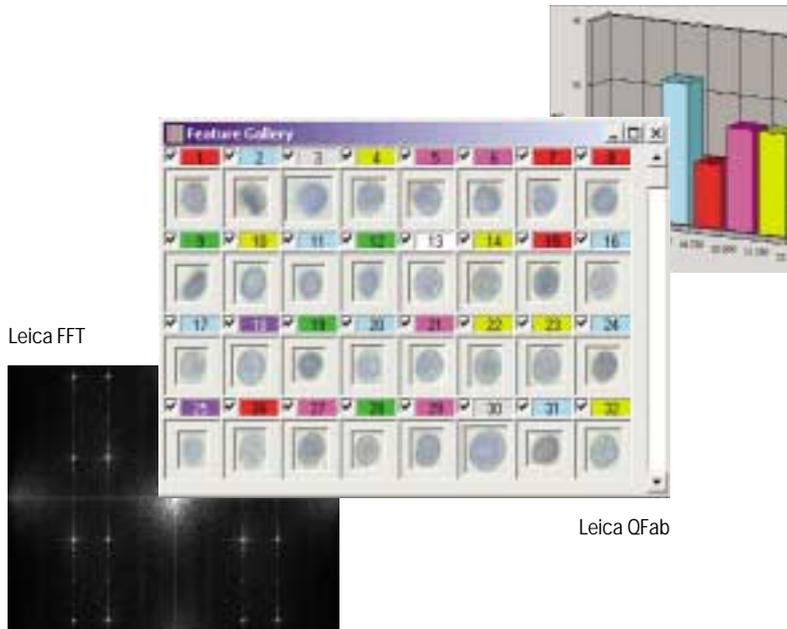
Leica QFab Feature Analysis Browser - Leica QFab can be used to process, interpret and report on raw data obtained through analysis in Leica QWin. Data views include tabular, pie chart, specimen map, feature gallery and feature detail, within which, editing, sorting and classification of individual features assist in statistical summarising.

Leica QFFT - Leica QFFT is integrated with Leica QWin to perform both forward and inverse Fast Fourier Transformation.



Time Lapse

Extended Focus



Leica FFT

Leica QFab

Leica Imaging Workstation Integrated Solutions

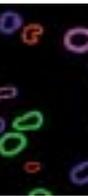
Integration and Automation

Leica QWin uses Leica digital, video and specialist cameras, in colour or monochrome, to acquire high definition digital images. Interesting features from acquired images can be automatically selected by colour, or contrast, making measurements of size, number, shape, position or orientation, possible. Selection can also be semi-automatic, using the mouse as a drawing device.

Optical microscopes are the most often used imaging device, using different forms of illumination, (incident, transmitted, polarised, Normarski, fluorescent, dark field or interference contrast). Images for analysis can also be derived from photographs, negatives, desktop scanners, digital cameras, video recorders, slides and radiographs, objects directly imaged, electron microscopes and Leica confocal microscopes.

Naturally the capabilities of a particular system depend on the configuration and options selected.

Leica Microsystems Imaging Solutions Ltd are certified by BSI as operating a quality system, which complies with the requirements of EN BN ISO 9001. Leica Imaging Workstations conform to CE standards for electromagnetic compatibility.



Leica Microsystems – the Brand for Outstanding Products

Leica Microsystems' Mission is to be the world's first-choice provider of innovative solutions to our customers' needs for vision, measurement, lithography and analysis of microstructures.

Leica, the leading brand for microscopes and scientific instruments, has developed from five brand names, all with a long tradition: Wild, Leitz, Reichert, Jung and Cambridge Instruments. Leica symbolises not only tradition, but also innovation.

Leica Microsystems – an international company with a strong network of customer services

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and representatives of Leica Microsystems in more than 100 countries.

The companies of the Leica Microsystems Group operate internationally in five business segments, where we rank with the market leaders.

Microscopy

Our expertise in microscopy is the basis for all our solutions for visualisation, measurement and analysis of microstructures in life sciences and industry.

Specimen Preparation

We specialise in supplying complete solutions for histology and cytopathology.

Imaging Systems

With confocal laser technology and image analysis systems, we provide three-dimensional viewing facilities and offer new solutions for cytogenetics, pathology and material sciences.

Medical Equipment

Innovative technologies in our surgical microscopes offer new therapeutic approaches in microsurgery. With automated instruments for ophthalmology, we enable new diagnostic methods to be applied.

Semiconductor Equipment

Our automated, leading-edge measurement and inspection systems and our E-beam lithography systems make us the first choice supplier for semiconductor manufacturers all over the world.

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