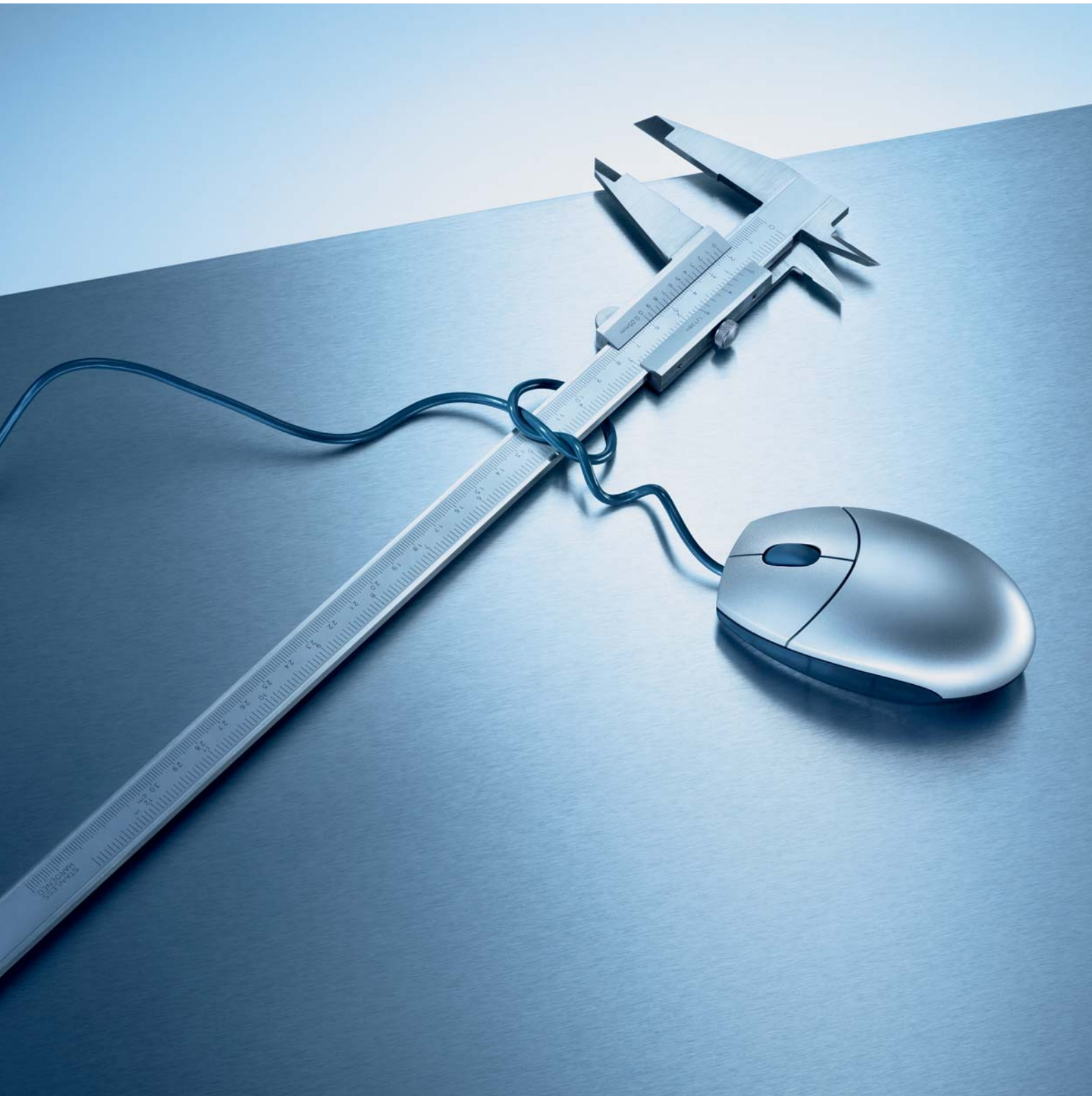


Materials Science Image-Processing Solutions



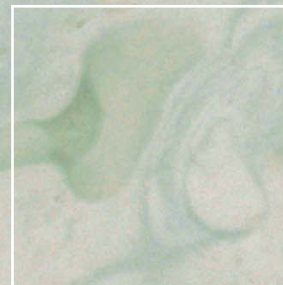
ANALYSIS – SOLUTIONS FOR DIGITAL IMAGE-PROCESSING

Taking proven methods down innovative, digital paths

Demands regarding product quality, process assurance and economic profitability are rising steadily. New technologies such as digital microscopy and image processing are becoming increasingly important for industrial production. These systems do not simply reduce the immense manual and visual efforts involved in quality control. They also automate familiar inspection methods, making them more ergonomic and faster. Inspection results are objective and reproducible as individual user influence is minimised via automated image processing.

Quality and process assurance today are based on proven methods, on experts' knowledge and evaluative skills as well as on strict national and international standards. Working jointly with well-known firms and experienced users from an enormous range of industry and research sectors, Olympus has developed specialised image-processing solutions for metallographic applications. The aim is making lab workflows as efficient as possible. The result? A family of software products so broad in scope that it spans the range of tasks today's materials labs are faced with – received orders to analysis and report generation.

With its handy modular structure, each member of this family can be easily expanded via specialised software extensions – be it basic image acquisition or complex automated image analysis and documentation. This family of products also includes application-specific comprehensive solutions, the Inspector series as well as our premium service and training programme.



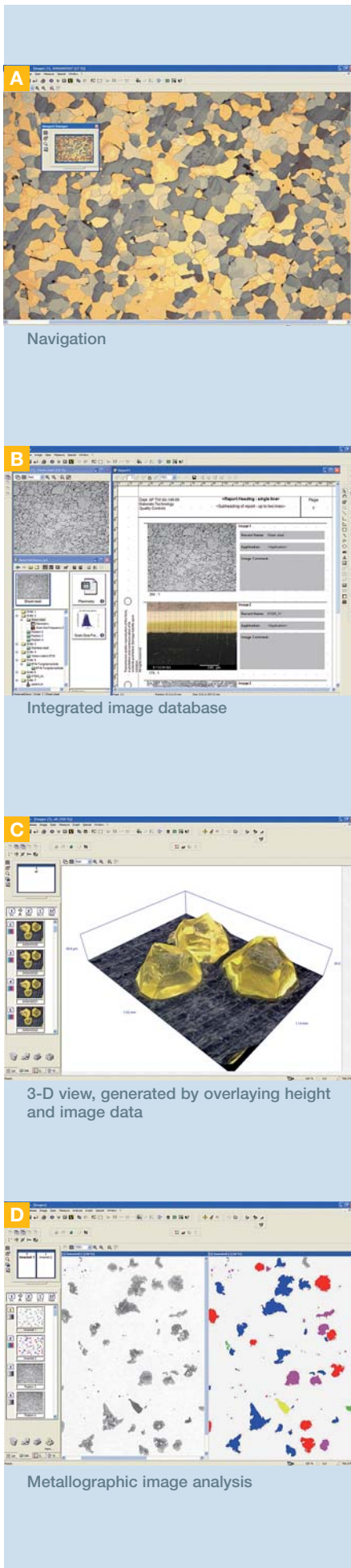


IMAGE PROCESSING FOR INDUSTRIAL AND METALLOGRAPHIC APPLICATIONS

The Olympus analyzeSIS software family presents a range of image-processing solutions specially designed for materials labs. The range of products spans simple single workstation solutions for first-time buyers as well as value-for-money multi-user systems, including complex networking of entire labs hooked up to company intranet, extranet and Internet systems. The Olympus analyzeSIS family comprises flexible and high-performance software solutions for digital image acquisition, image processing, analysis and evaluation, image archiving, document management and report generation.

analyzeSIS start

Entry-level solution for metallographic image acquisition

A analyzeSIS start is a high-performance image acquisition system with total software control of camera and microscope. Use analyzeSIS start to acquire perfect images, count particles, measure dimensions, calculate distances and much more – all at the click of a button.

analyzeSIS work

Basic-level solution for metallographic documentation

B Alongside the analyzeSIS start functions, analyzeSIS work offers what users need for all elementary metallography tasks. Just like analyzeSIS start, there's image acquisition and analyzeSIS work has an extended range of interactive measurement functions as well as structured archiving and professional report generation.

analyzeSIS docu

Image-processing system for advanced documentation and measurement tasks

C analyzeSIS docu is the most comprehensive documentation member of the analyzeSIS family. This version offers numerous valuable image acquisition and image display functions in addition to all the functions analyzeSIS work has. This includes acquiring images at infinite depth of focus and 3-D visualisation functions.

analyzeSIS auto

Automated image analysis for metallographic applications

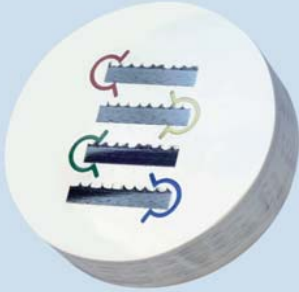
D analyzeSIS auto additionally offers many functions for particle-oriented image analysis with multifaceted classification options. Furthermore, fully automated execution of analysis sequences, including stage control, is supported.

analyzeSIS pro

Professional metallographic image analysis system

analyzeSIS pro is the highest expansion level of the Olympus analyzeSIS product series for the materials sciences. Complex image analysis tasks are effortlessly taken care of by analyzeSIS pro and automatically finished, one after the other. New methods for tracking objects, image filtering as well as particle analysis via intercept are included. analyzeSIS pro also offers an integrated software development environment.

E Embedded specimen Carbon fibre compound material



Planimetric grain size analysis



Cast iron analysis

APPLICATION-ORIENTED SOFTWARE EXTENSIONS

The requirements, tasks and processes in metallography labs, research and development departments and in quality assurance and process control are as varied as they are numerous. That's why all products of the Olympus analySIS series, starting with analySIS docu can be extended via additional software modules for specific applications.

Grain-size analysis according to line-intercept method

Analysing grain size using the intercept method is done via application of all standard line-intercept patterns. Horizontal, vertical, diagonal, circular and combined line configurations are supported. Grain-size analysis is performed according to accepted national and international norms.

Planimetric grain-size determination

F The planimetric measurement method determines grain size via grain boundary reconstruction and the resulting grain area. Thanks to integrated process automation, it is easy to define fixed task sequences and run them repeatedly at the push of a button.

Cast iron analysis with automatic graphite detection

G Cast iron is evaluated either automatically or manually. Each graphite particle is automatically detected and evaluated with regard to shape and size. In addition, the carbon-corrected ferrite/pearlite ratio is evaluated.

Inclusion analysis

Analysing non-metallic inclusions is no trouble, no matter how large the field of view. Standards-compliant classification distinguishes between sulphidic and oxidic inclusions. Where the latter is concerned, oxides are further subdivided into dissolved, striped and spheroidal.

Concrete analysis

Analysing voids of air within concrete is compliant with the following norms: DIN 1048 and EN 480-11 via the size distribution (L300 content) and the average distance of these voids (distance factor).

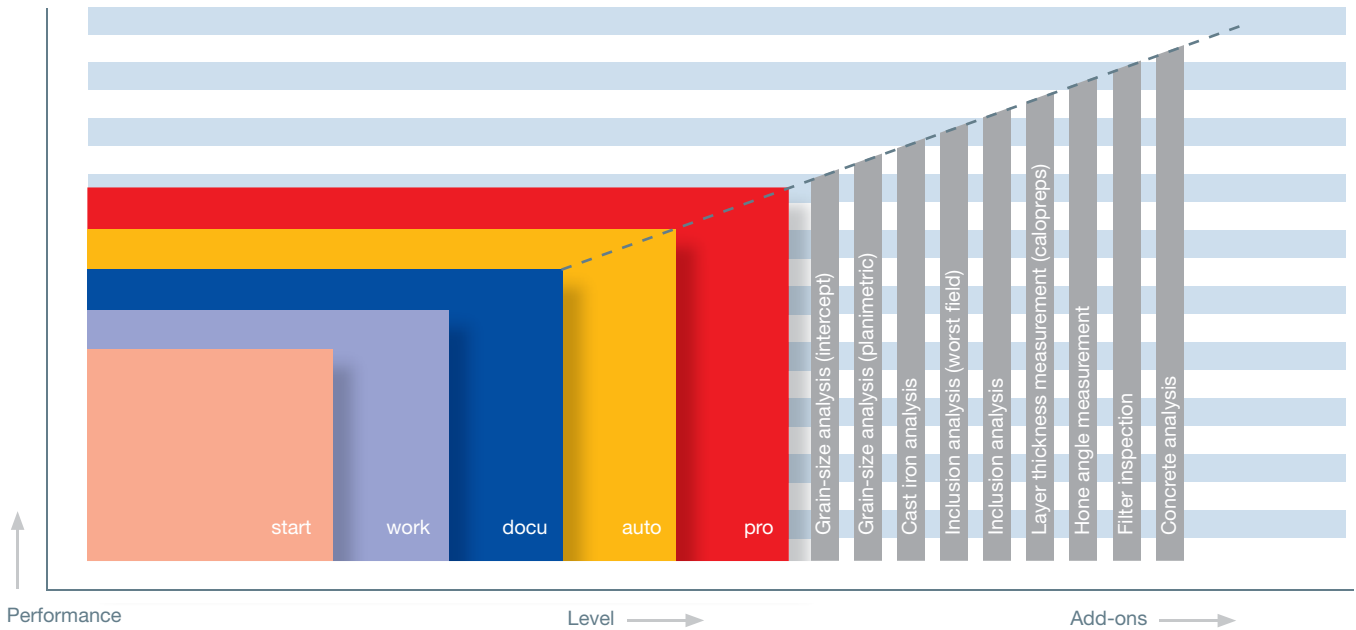
Filter inspection

This extension analyses and classifies residue particles on circular filters. The results provided are particle and classification maps as well as particle data.

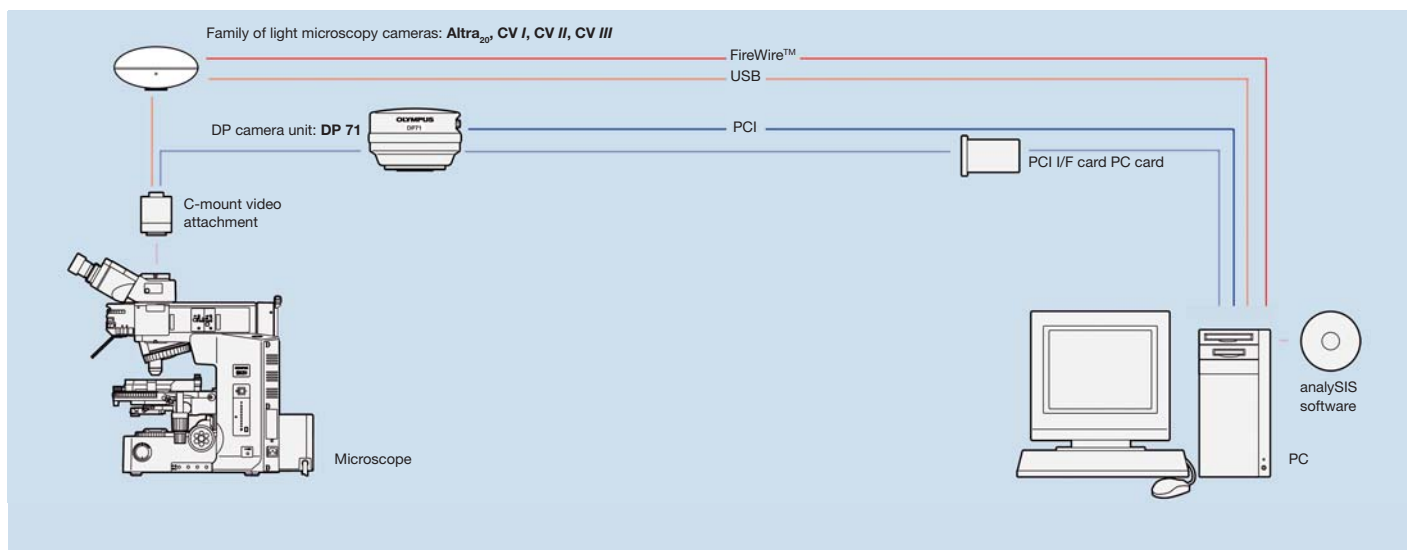
Layer thickness measurement via calopreps

Layer thickness is determined via automatic evaluation of calopreps.

Specifications



System diagram



The manufacturer reserves the right to make technical changes without prior notice.

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