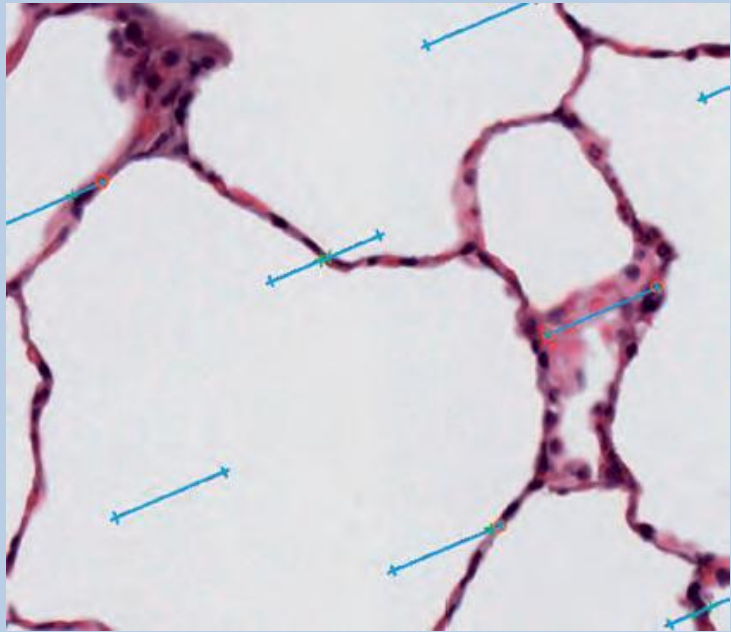


- a complete stereology toolbox

*Stereology software developed in close collaboration with inventors of modern design-based stereology, Prof. Hans Jørgen G. Gundersen and Prof. Jens R. Nyengaard from the Stereology Research Laboratory, University of Aarhus, Denmark.*



Whole Slide Stereology combines the benefits of whole slide imaging (digital slide systems) and stereology.

By using Visiopharm newCAST Whole Slide Stereology software, stereological analysis significantly faster and more cost-effective compared to microscope-based systems.

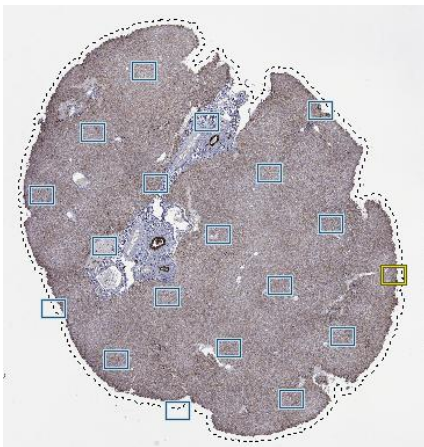
Image acquisition and stereological analysis are separated into two independent processes, which allows you to do the analysis on your laptop at any time and location.

Images are archived in a database and accessible for sharing. Furthermore, you avoid laborious challenges with the microscope setup, e.g. camera, stage and calibration issues.

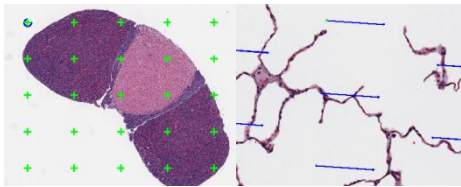
In Whole Slide Stereology, the entire workflow is more efficient, overview images are generated instantly, regions-of-interest can be outlined automatically, images are calibrated and in focus, which all result in a significant reduction in work hours. This enables laboratories with a need for high through-put analysis to apply stereological techniques.

newCAST Whole Slide Stereology is compatible with most whole slide image file formats on the market — and works with both brightfield and fluorescence.

The use of Visiopharm stereology software is widely cited in the scientific literature.

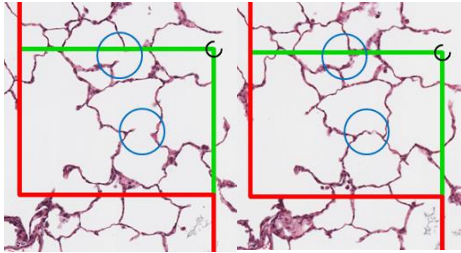


**Life Science Stereology** provides efficient practical techniques for obtaining 3D quantities from 2D sections — such as cell number and volume. The methods are statistically proven and the study is consequently unbiased by design - i.e. there are no assumptions, models or correction factors involved. The Visiopharm newCAST Whole Slide Stereology software includes methods for estimating: volume, surface area, length, and number of objects.

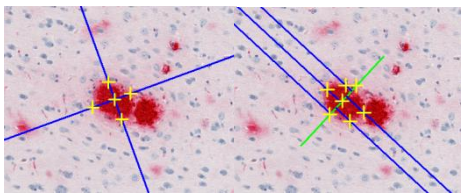


Point probe for volume estimation

Line probe for surface estimation



Counting frame for number and length estimation



Nucleator for local vol /area estimation

Rotator probe for local vol estimation

## About newCAST Whole Slide Stereology™

newCAST Whole Slide Stereology software provides a complete set of well-documented stereology tools allowing the researcher to accurately estimate relevant end-points through the use of:

- Points, lines, counting frames
- Physical disector and fractionator
- Local estimators – nucleator and rotator
- Unique, unbiased method for handling artificial edges

All probes are scientifically well-documented and have been rigorously tested by Prof. Hans Jørgen G. Gundersen and Prof. Jens R. Nyengaard from the University of Aarhus, Denmark.

With the Visiopharm newCAST Whole Slide Stereology software, it is possible to design the optimal setup for research projects, combining well-documented sampling strategies and stereological probes with an increased flexibility.

All collected data (sampling parameters, probe data, and analysis results) are seamlessly recorded for calculation of the final results, and are immediately available for export to MS Excel.

Add-on modules for automation of the physical disector method (Autodisector), for increase of sampling efficiency (Proportionator) are available, and for control of microscope set-ups are available.

### Technical features:

#### General

- Separate image acquisition and stereological analysis process allows analysis on laptop at any location
- Software contains database for images and sampling parameters, probe data and analysis results
- Possibility for image sharing with other labs
- Support of whole slide image formats: Olympus, Hamamatsu, Aperio, Leica, 3-D Histech/Zeiss, and standard images formats as tiff and jpeg
- All data can be exported to MS Excel
- Detailed user manual implemented in the software

#### Sampling

- Methods: Systematic uniform random sampling (SURS) based on either fractional area, X,Y – stepper or number of sample
- Sampling can be performed on the entire whole slide image or on user defined region-of-interest
- Overview image displays region-of-interest (ROI) and sampling progress within ROI during the sampling process
- Stereological designs: Cavalieri, Isotropic uniform random (IUR) sampling, Vertical sections (VUR), Physical fractionator

#### Geometrical probes and estimators:

- Point and line probes
- 2-D and 3-D counting frames
- Rotator, 2-D and 3-D Nucleator,
- Point sampled intercepts

#### Physical disector and fractionator:

- Visual alignment of section pairs
- Live sampling of paired fields of view
- Customized extended field of view in look up section
- Conn Euler analysis
- Handling of artificial edges

#### Non-stereological probes:

- Mean cord length
- Mean linear intercept
- Perimeter
- 2-D distance measurement

#### Counting:

- Define up to 30 different counting marks
- Count different objects simultaneously
- Automatic logging of count and sampling data during the counting process