VISIOPHARM®

Turning images into knowledge...

...for confident decisions

Author™

Everything should be as simple as it can be, but not simpler as Albert Einstein said. Working with image analysis in a constantly evolving research environment, comes with a unique set of challenges that warrant careful consideration; on one hand, the analysis tools must be simple, easy to use, provide instant productivity and consistency of results across users. On the other hand, researchers will always need the flexibility to grow with their research, as insights evolve. If this latter requirement is not met, chances are that progress will either be very expensive and/or there will be significant delays.

Advantages of Author™:

- High-level and intuitive language for defining new image analysis APPs

- Infinitely configurable and does not require programming skills

- Develop, design and lock APPs for automated application

- Driving proven improvements in reproducibility, sensitivity, and specificity of automated quantitative biomarkers assessments compared to manual reading

- Access to the world's largest library for pre-defined APPs, immediately modifiable and useful as templates for new APPs

The Author™ module makes it possible to meet both needs in a unique straightforward way with 3 user profiles – Operator, Designer and Reviewer.
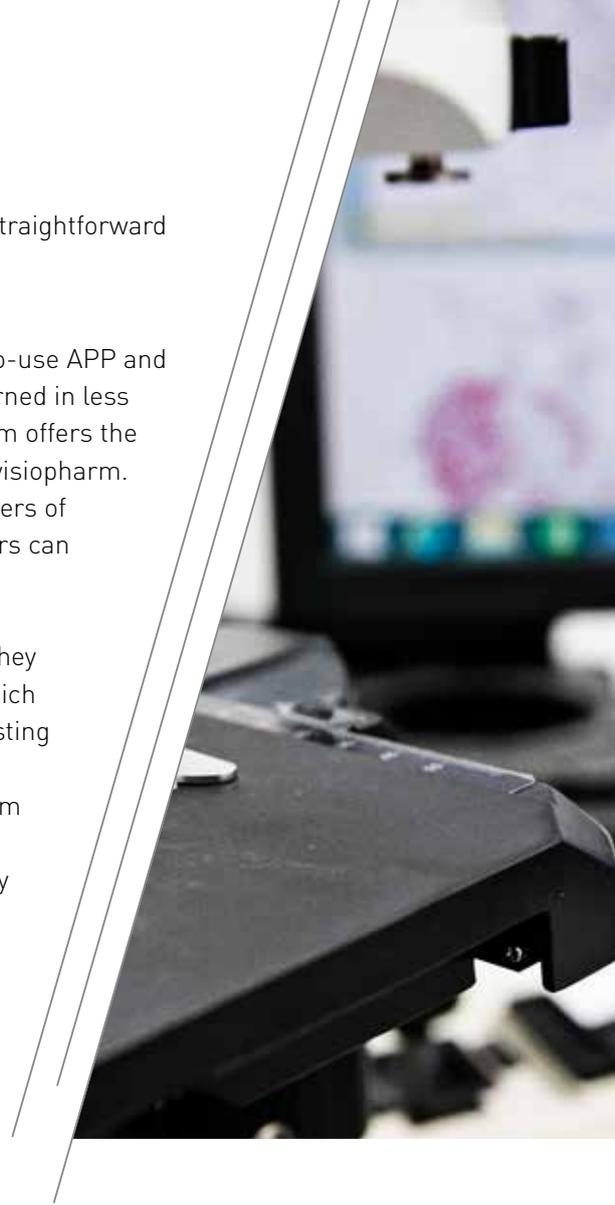
Operators: Will only need to know how to load a ready-to-use APP and run that APP across one or more slides. This can be learned in less than an hour and ensures instant productivity. Visiopharm offers the largest available library of pre-defined APPs (see www. visiopharm. com/appcenter), where uncalibrated APPs are free to users of the Author™ module. With a Ready-to-Use APP Operators can prepare cases for a Reviewer.

APP Designers: Can design new APPs from scratch or they can modify ready-to-use APPs to fit new applications which is a great starting point for creating and maintaining existing workflows. The Author™ module offers researchers a comprehensive and dedicated tool with unlimited freedom of expression for creating new fit- for-purpose analysis APPs. These APPs can be locked and deployed for use by Operators and Reviewers.
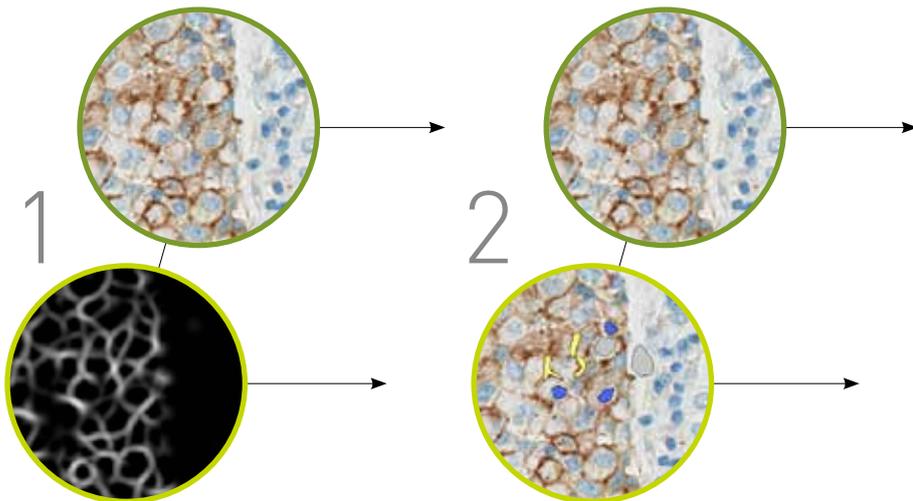
Reviewers: Reviews the quantitative results, integrates to the native file-format, which ensures fast view with zooming, pan, flip rotate and adjustment properties. This gives researchers the full flexibility to grow with their research, with minimum additional costs and/or delays.

Authoring APPs in a few easy steps

The Author™ module offers a user-guided environment, allowing users to express, modify and define all relevant aspects of a tissue analysis APP in almost a natural language. Programming experience is not required for working with the Author™ module.

Image analysis in general can be broken down into a few basic steps. These steps are implemented in a logical workflow driven in the Author module, allowing control of every aspect of the analysis:
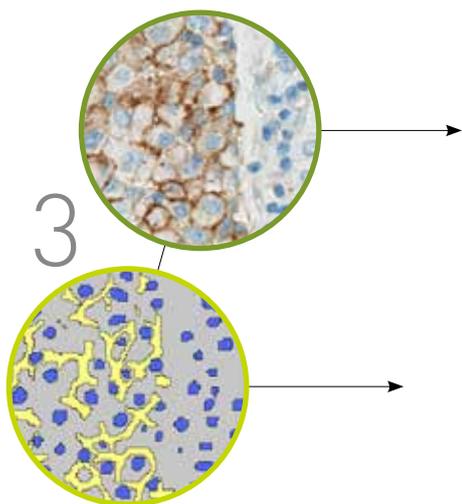
1 Pre-processing

A set of operations allowing enhancement of relevant image structures for use in image segmentation, combining spectral, local spatial, and local morphological information. These can be user defined by applying the highly sophisticated feature selection technology.
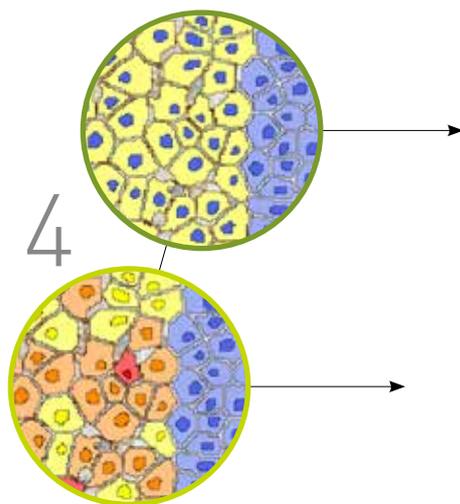
2 Training

Tools allow definition and naming of relevant structural content to be recognized. ˝Teach-by-Example˝ allows the user to train the APP by simply ˝painting˝ examples of the relevant structures in the image.

3 Segmenting

Selection and definition of a decision rule combining the defined image features and training data, based on which images are segmented into their relevant components.

4 Post processing

Allows for further refinement of the segmentation results based on morphological and contextual information.

5 Calculating results

Specification of end-points based on the segmented image, the original image, derived feature images, and combinations of other end-points.
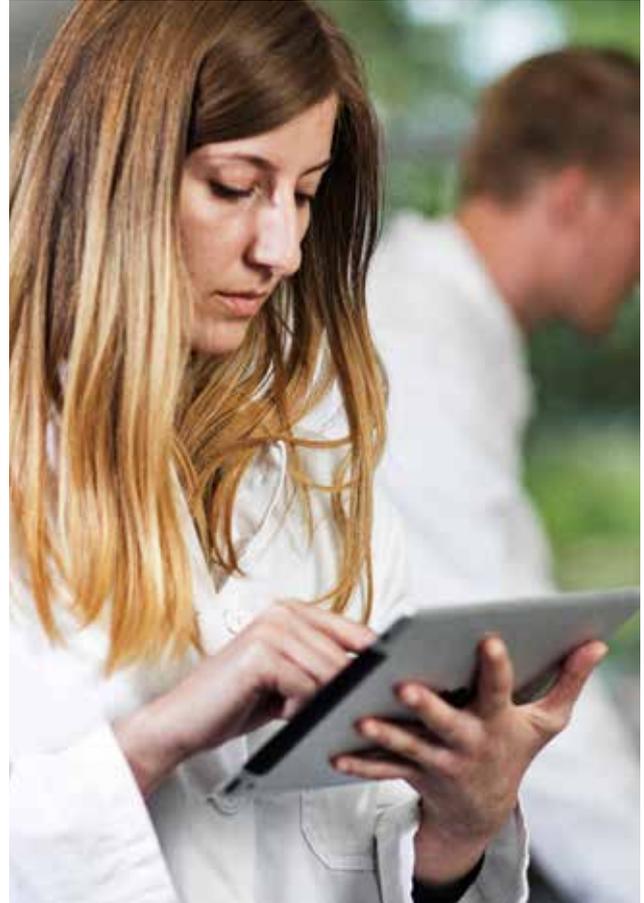
Product Features:

- Simple and intuitive guided workflows
- Integrates with native file formats
- Long list of refined tools for easy application
- Work in conjunction with complex TMA designs (requires the Tissuearray™ module)
- High-precision alignment of any number of scanned tissue sections independently of tissue and image modality (requires the Tissuealign™ module)

Over the last 15 years Visiopharm has invested more than 100 man years in developing the most innovative, comprehensive and easy-to-use high-level platform for tissue and cell image analysis currently available on the market.
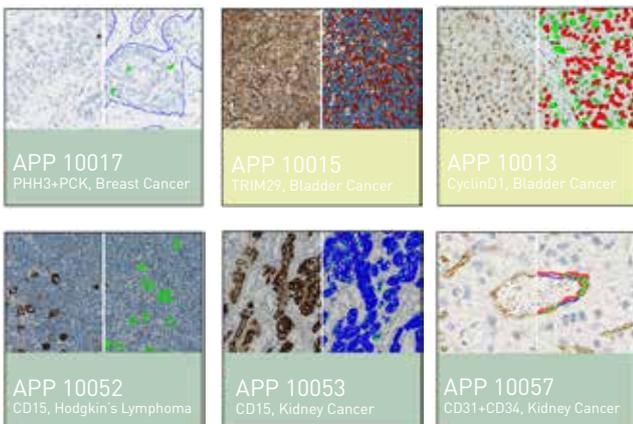
The Author module has more than 500 users, and has been used in more than 800 peer reviewed scientific papers since 2010.

APP Center

The largest and fastest growing library of Ready-to-Use APPs:
www.visiopharm.com/appcenter.

APP 10017
PHH3+PCK, Breast Cancer

APP 10015
TRIM29, Bladder Cancer

APP 10013
CyclinD1, Bladder Cancer

APP 10052
CD15, Hodgkin's Lymphoma

APP 10053
CD15, Kidney Cancer

APP 10057
CD31+CD34, Kidney Cancer

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