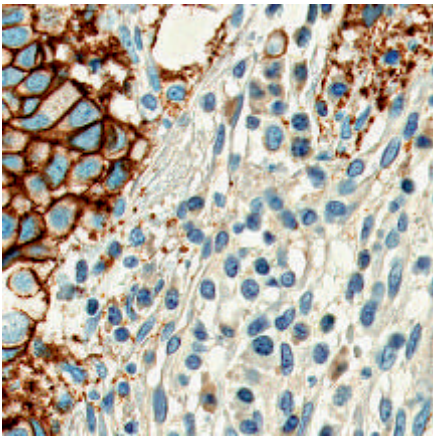




**MetaSystems**

Smart solutions  
for digital pathology  
and digital tissue FISH

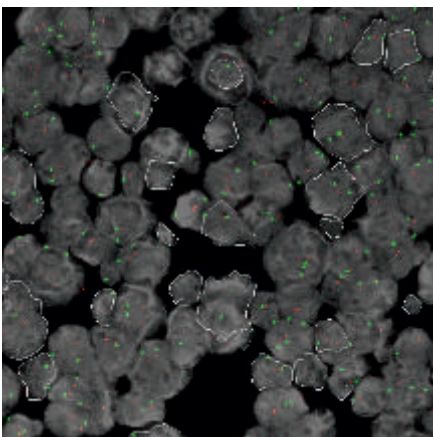


## **MetaSystems XT Probes and Neon Metafer**

*An innovative solution for routine pathology workflows*

MetaSystems has designed a system of hybridization and imaging tools to be integrated in the routine workflow of the pathology lab. Core of this system is the combination of dedicated DNA probes for tissue sections with the innovative platform **Neon Metafer**, a flexible and robust slide scanning system with many options.

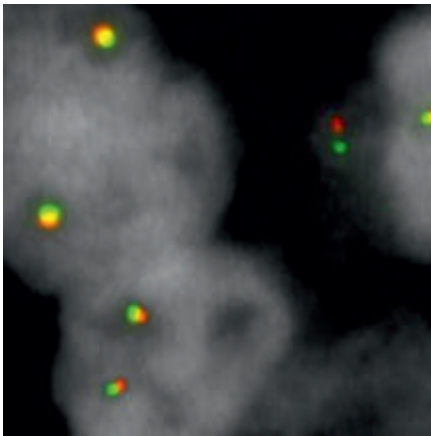
MetaSystems' XT range of locus-specific fluorescence-in-situ DNA probes for tissue FISH target amplifications, deletions, or translocations of gene regions involved in solid tumors (e.g., ALK, EGFR, HER2/neu, MYC, and many more). Intense signals aid with the interpretation on tissue sections. The **Neon Metafer** scanning platform automatically generates virtual slides in brightfield and fluorescence, acquires high resolution FISH images and provides an automatic score. Equipped with an automated bar code reader and the robust SlideFeeder for up to 800 samples, it can be operated in a 24/7 mode.



# PATHOLOGY

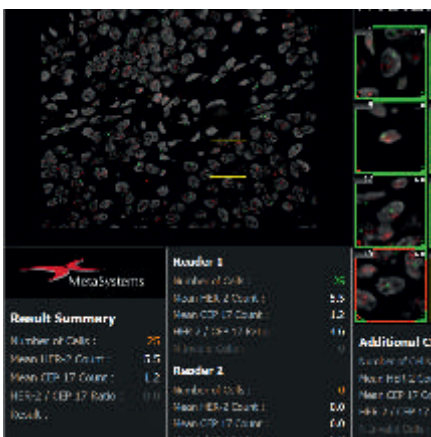
## The digital TissueFISH workflow:

1. As initial step a digital brightfield, e.g. H&E slide is generated by **Neon Metafer**. The pathologist calls up the digital slide and selects on screen the tumor region on the virtual slide that needs to be FISH-scored.
2. Next, the FISH slide (from a subsequent section of the same block) is being scanned at low magnification to generate an overview. Displayed side by side to the marked digital H&E image the tumor region can easily be transferred to the FISH slide.
3. **Neon Metafer** now has all the information to start automatic image acquisition of the FISH slide at higher magnification. Cell nuclei that are isolated or slightly connected will be separated automatically and spot-counted. Manual tools for segmentation help to separate touching nuclei for immediate automatic scoring until the preset number of cells to be analyzed has been reached.



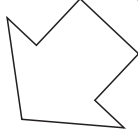
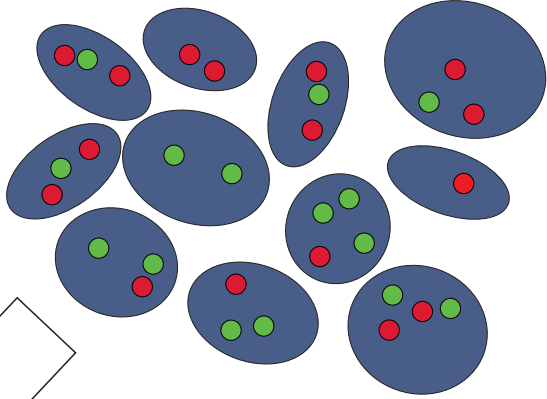
The **TissueFISH** module can be easily set up to match the individual analysis standards. For instance, it is possible to define a minimum number of cells to be analyzed, and also to define a number of independent readers.

4. For final review the system presents a full synopsis to the pathologist, comprising the cell gallery with the scoring results, the virtual DAPI slide showing the positions of analyzed cells, and the corresponding H&E virtual slide. Every cell can be traced back to the tissue section to confirm its location within the preselected tumor region.
5. Final results can either be exported as raw data, allowing for being processed in external software, or be summarized in comprehensive, user-adjustable reports.



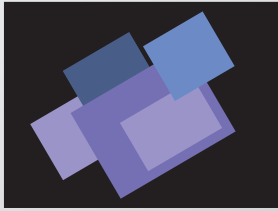
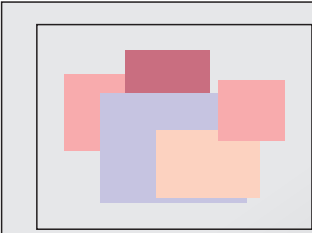
# PATHOLOGY

Tissue Section  
Hybridized with  
**MetaSystems XT**  
Tissue FISH Probes



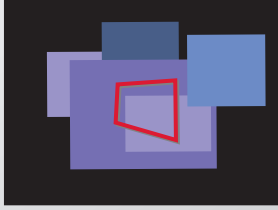
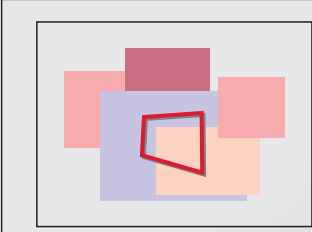
H&E Sample

FISH Sample



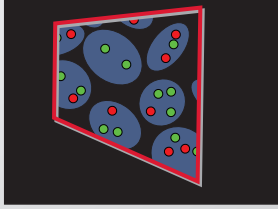
### Overview Image

Neon Metafer generates a digital image of the FISH sample using a low power objective. An H&E sample of the same specimen is also digitized.



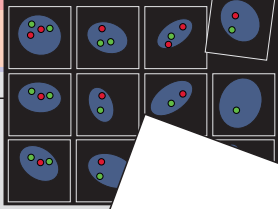
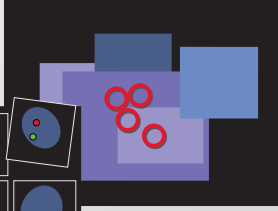
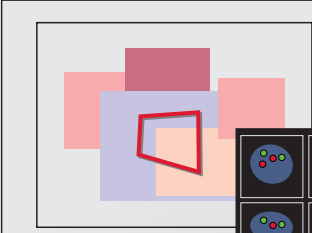
### Region Selection

Regions of interest are selected on the H&E sample, and transferred to the FISH image after automatic alignment of the images (*Quick Align*).



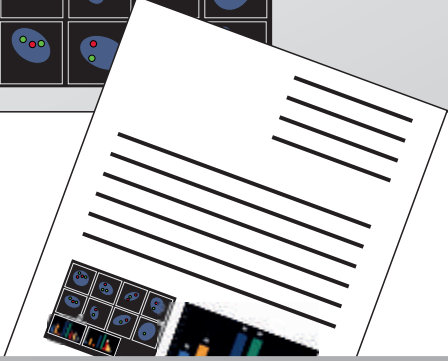
### Scan and Analysis

Metafer scans the selected regions on the FISH sample. Cells are segmented, and FISH signals are evaluated using the integrated TissueFISH module.



### Final Review

Both the H&E overview image and the FISH sample overview image are displayed together with the resulting cell gallery. Each single cell's location can be visualized in the overview image.



Summary Report  
and/or Data Export



**MetaSystems**

Innovative Solutions for  
Automated Imaging

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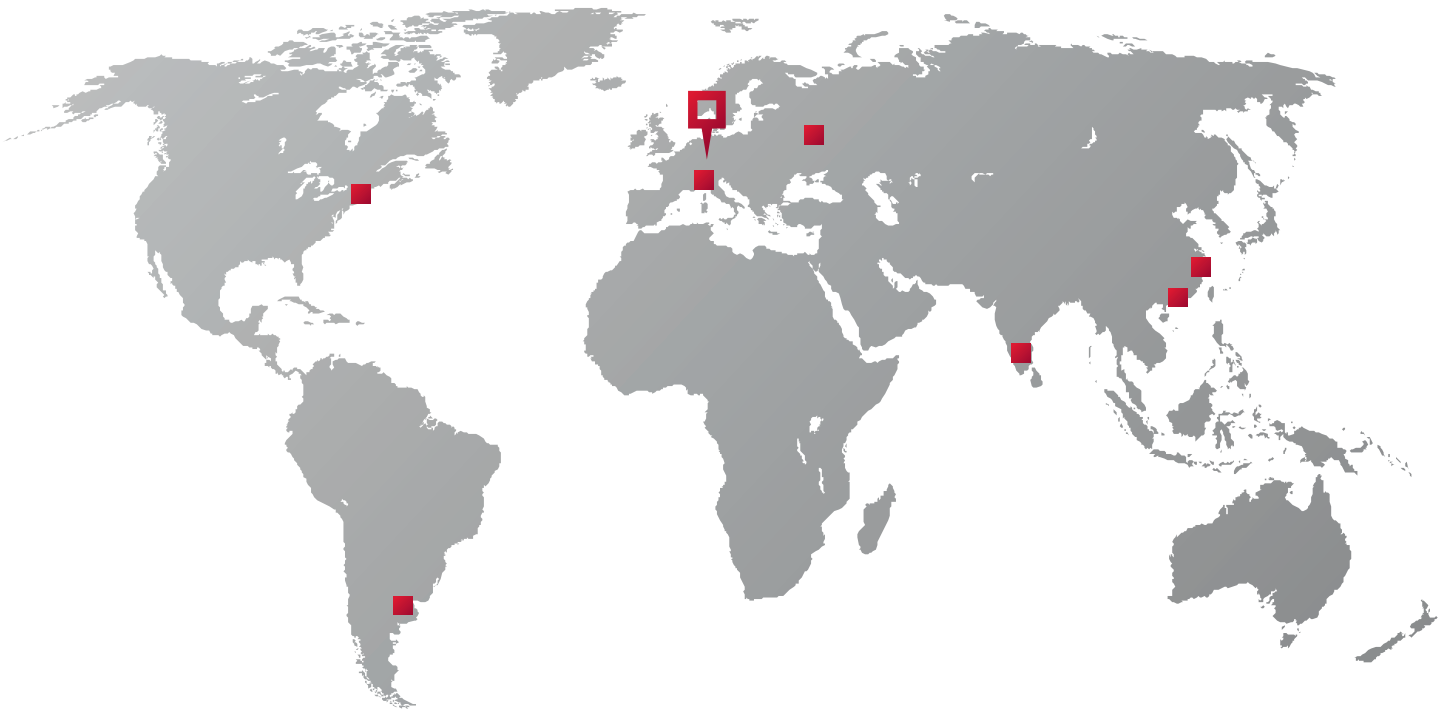
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