

Sell Sheet | SCREEN NX

Value Proposition: The Screen NX enables high-speed fluorescence and brightfield imaging of 3D/2D cultured cells. High quality image stitching and focus composition functions generate high resolution images that can be further analyzed via machine learning algorithms.

Flow cytometry is a technique used to detect and measure physical and chemical characteristics of a population of cells or particles

Brightfield Imaging: Illumination using visible light to contrast dark cell targets against a brightly lit background.

◦ **Phase Contrast Imaging:** A contrast-enhancing technique that makes it possible to visualize internal structures based on the different densities of material within a cell, and how light diffuses differently through these materials.

Major Features

High-definition Stitchings

- One single well is imaged in segments at high magnification.
- Segments are “stitched” together into one whole-well image.
- Poor stitching results in image seams between stitches, image artifacts, and loss of visual data.
- Screen NX has high quality image stitching that avoids image seams.

Focus Composition Technology

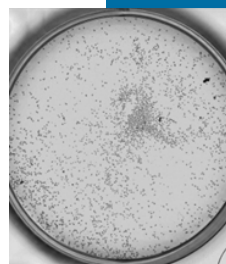
- Images are taken across multiple layers (Z-axis).
- These images have different objects in focus.
- Focus Composition combines the in-focus objects across all layers into one image with all objects in focus.

Deep Learning Analysis

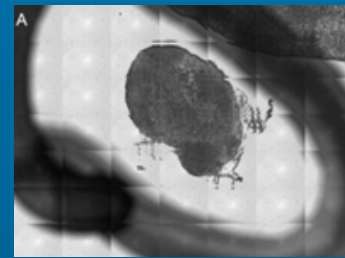
- User generated parameters are learned and used for target analysis.
- As opposed to luminescence threshold analysis (difference in brightness and gradient between objects).
- Takes longer and requires some manual input but is more robust.
- Deep learning is a paid option.
- Improves the analysis for the following types of imaging hurdles.¹

→ Target Market and Their Needs

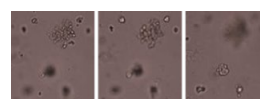
- Labs needing a personal, general use imaging system
- Rapid, whole-well analysis
- Imaging automation
- 3D cell culture



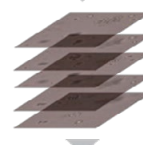
High quality stitching



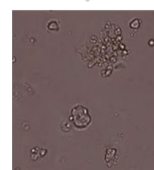
Poor quality stitching



← Multi-scan in Z-axis



← Proprietary algorithm



← Reconstruction and analysis of 3D cultured cells

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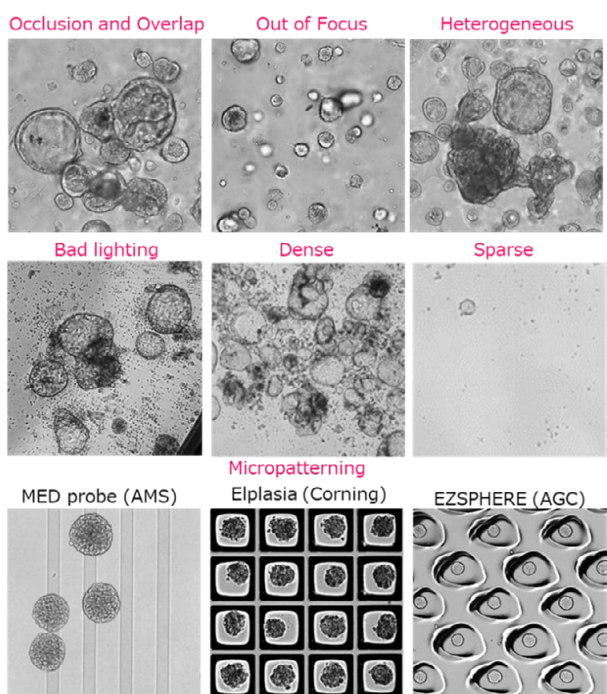
Applications – 3D/2D cell culture imaging:

High throughput and low content imaging

- This means higher speed imaging that is not very high (100x or more) magnification.
- This keeps the NX at a more reasonable price point – especially for the image quality and available features.

Live cell imaging refers to techniques and instruments specifically designed to image cell cultures while they're live and still growing. This can include imagers like the IncuCyte, that are installed and operated within incubators, and imagers like the Cell Metric that use temperature controlled stages for clonal imaging.²

¹Deep Learning Hurdles



→ Target Competitors

- **Celigo** – Nexcelom
- **BioTek Cytation** – Agilent
- ²**IncuCyte** - Sartorius (not a direct competitor as the IncuCyte falls under live-cell imaging)