**AI image analysis tool enables insight creation without AI expertise**

**Deep learning cell segmentation algorithm incorporated into Aivia 11 update**

**28 July 2022, Wetzlar, Germany –­** Leica Microsystems, a leader in microscopy and scientific instrumentation, has released a new version of its AI-powered image analysis solution, Aivia. The new Aivia 11 features a new deep learning-based cell segmentation algorithm that offers advanced insight creation capabilities for all levels of users. Aivia 11 is based on the innovative [Cellpose](https://www.nature.com/articles/s41592-020-01018-x) deep learning segmentation algorithm, which offers several pretrained models for the precise detection of cells from a wide range of image types.

“The key purpose of Aivia is to empower researchers to focus on insights and discovery through radically simplified image segmentation and analysis,” says Luciano Lucas, Director Data and Analysis Life Science at Leica Microsystems. “With the integration of Cellpose’s core technology for object segmentation and CytoMAP’s spatial biology tool charts, Aivia 11 expands its range of solutions thus empowering its users to simplify and accelerate their work.”

“Automated cellular segmentation of microscopy images is a critical task for many researchers, and one that typically requires definitions to be set manually to help the system recognize the difference between cellular areas and borders,” says Won Yung Choi, Product Manager for Leica Aivia. “Users can now harness the power of deep learning-based cell segmentation by using Aivia 11’s intuitive AI tools to bypass time-consuming parameter optimization process and rapidly produce robust and reproducible segmentation results.”

[Cellpose 2.0](https://www.nature.com/articles/s41592-020-01018-x) is now wholly integrated into Aivia’s image analysis recipe with improved 3D handling capabilities to support 3D datasets from within Aivia’s intuitive user interface. This robust 3D segmentation offers improved processing speeds and higher accuracy compared to the publicly available version.

Aivia 11 has several additional new features to cut down the time needed for image analysis and limits human error, allowing scientists to get to insights and publication faster, including a new batch analysis workflow for multi-well plate data and other multi-image data, as well as the ability to export analyzed data into [CytoMAP](https://www.sciencedirect.com/science/article/pii/S221112472030423X), for advanced spatial biology charting and data aggregation options.

Aivia 11 is optionally available with a new version of AiviaWeb, which offers all the image analysis capabilities of Aivia 11 directly from the browser of any internet-connected device. The new version of AiviaWeb now features secure, permanent cloud-based storage with automatic archiving, ensuring users can utilize the power of the latest version of Aivia from anywhere regardless of the operating system and without the need to invest in powerful workstations.

Aivia subscribers get immediate access to Aivia 11 as part of their subscription plan. More information about Aivia’s subscription plans can be found here: <https://www2.leica-microsystems.com/AIVIA11>

**Image caption**

Intestine organoid with nuclei (DAPI, blue), plasma membrane (green), and smFISH probe (magenta) labeling imaged with a THUNDER 3D tissue imager system and analyzed with Aivia’s new integrated Cellpose and 3D Cell Analysis recipe.

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**About Leica Microsystems**

Leica Microsystems develops and manufactures microscopes and scientific instruments for the analysis of microstructures and nanostructures. Ever since the company started as a family business in the nineteenth century, its instruments have been widely recognized for their optical precision and innovative technology. It is one of the market leaders in compound and stereo microscopy, digital microscopy, confocal laser scanning microscopy with related imaging systems, electron microscopy sample preparation, and surgical microscopes.

Leica Microsystems has six major plants and product development sites around the world. The company is represented in over 100 countries, has sales and service organizations in 20 countries, and an international network of distribution partners. Its headquarters are located in Wetzlar, Germany.