

PRESS RELEASE

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iStix®- A cost-effective scanning solution for microscopy

Erlangen/Düsseldorf, Germany: To generate high resolution panoramas of microscope images, it is often necessary to employ expensive slide scanners. The Fraunhofer Institute for Integrated Circuits IIS has developed iStix®: A scanning solution that combines image processing software and a camera to enable areal scans with your own microscope. iStix® will be presented for the first time at MEDICA in Düsseldorf from November 13 to 16, 2017.

In clinical pathology, medical findings are usually based on microscopy images of tissue sections and other test results. For documentation purposes or a second opinion, a digitized high resolution panoramic image of the examined tissue sample proves extremely valuable. However, often the relevant piece of information consists of individual cells or a morphological region of interest, much smaller than the entire tissue sample. Thus it currently is too time-consuming to scan the entire tissue with a dedicated scanner. With iStix® we offer a scanning solution for pathologists that seamlessly integrates into their microscopes.

Fraunhofer IIS has developed a cost-effective and easy-to-use alternative to digital slide scanners. iStix® is a software solution for generating large-area scans using a manual microscope and a camera. An automated image processing method stitches individual microscopy images together in real time based on the image contents – without the need for a motorized stage. During the stitching process, the images are correctly placed to create a panoramic image, known as a whole-slide dataset. The integrated zoom and annotation functions render iStix® an efficient and simple solution to share data.

High-resolution image data speeds up diagnostics

iStix® generates panoramic images – large-area scans – in real-time, enabling faster diagnostics and an easy way to document findings with a high-resolution overview image. The software is easy to use, extremely versatile and can be integrated into existing applications or pathology and laboratory information systems. iStix® can be easily combined with any microscope that has a camera attached.

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Editorial notes

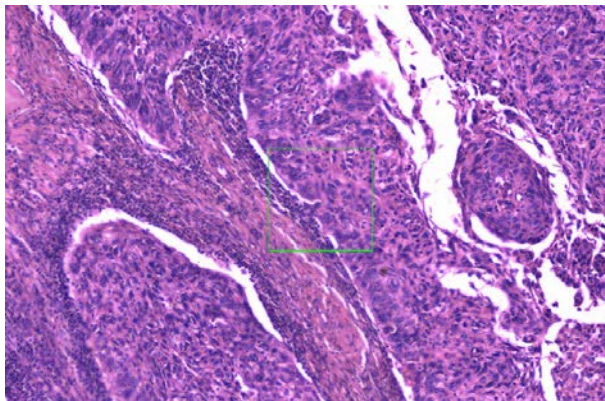
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FRAUNHOFER INSTITUTE FOR INTEGRATED CIRCUITS IIS**Fields of application in clinical diagnostics and materials science**

iStix® can contribute to many different applications like telepathology, documentation systems or training of doctors and biologists. Still other fields are conceivable where high-resolution microscopic images play a crucial role, such as material science, quality assurance and material testing, where stress on newly developed materials need to be examined. Within the scope of a development contract, Fraunhofer IIS offers to implement additional customized functions or modifications, as required. Further developments are conceivable in, for instance, the medical field and for image classification and evaluation.

Partners needed for pilot study

The iStix® software is not yet certified as a medical product. For this purpose, Fraunhofer IIS is currently looking for additional partners to evaluate iStix® within the scope of a pilot study. Possibilities for testing the iStix® technology will be presented at MEDICA in Düsseldorf from November 13 to 16, 2017. In Hall 10, Booth G05, visitors can learn more about integrating the technology.



Virtual slide – generated with a manual microscope and the iStix®-software from Fraunhofer IIS.

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The **Fraunhofer-Gesellschaft** is the leading organization for applied research in Europe. Its research activities are conducted by 69 institutes and research units at locations throughout Germany. The Fraunhofer-Gesellschaft employs a staff of 24,500, who work with an annual research budget totaling more than 2.1 billion euros.

The **Fraunhofer Institute for Integrated Circuits IIS** is one of the world's leading application-oriented research institutions for microelectronic and IT system solutions and services. It ranks first among all Fraunhofer Institutes. With the creation of mp3 and the co-development of AAC, Fraunhofer IIS has reached worldwide recognition. In close cooperation with partners and clients the Institute provides research and development services in the following areas: Audio and Media Technologies, Imaging Systems, Energy Management, IC Design and Design Automation, Communications, Positioning, Medical Technology, Sensor Systems, Safety and Security Technology, Supply Chain Management and Non-destructive Testing. More than 900 employees conduct contract research for industry, the service sector and public authorities. Founded in 1985 in Erlangen, Fraunhofer IIS has now 13 locations in 10 cities: Erlangen (headquarters), Nuremberg, Fürth, Dresden, further in Bamberg, Waischenfeld, Coburg, Würzburg, Ilmenau and Deggendorf. The budget of 150 million euros is mainly financed by projects. 24 percent of the budget is subsidized by federal and state funds.

Detailed information on: www.iis.fraunhofer.de/en