Synopsys' TCAD Sentaurus Enables Development of Kodak's New Image Sensor Products

Advanced 3D Simulation Capabilities Support Design of Next-Generation Image Sensor Pixels

MOUNTAIN VIEW, Calif., June 18 /PRNewswire-FirstCall/ -- Synopsys, Inc. (NASDAQ: SNPS), a world leader in software and IP for semiconductor design and manufacturing, today announced that Kodak, a world leader in image sensor technology, has adopted Synopsys' TCAD Sentaurus™ simulation software to support its research and development of new image sensor products.

The electronic "eyes" that convert light into electrical signals in digital cameras and other imaging devices, image sensors are made up of many individual picture elements, or pixels. The trend toward higher resolution and improved light sensitivity requires increasingly complex and smaller pixel designs, inspiring a new generation of products with higher-quality images and functionality and prompting the need for advanced simulation tools to support product development.

The TCAD Sentaurus product family comprises 2D and 3D process and device simulation tools used for exploring and optimizing semiconductor technologies. Sentaurus includes a full-wave electromagnetic solver to handle the diffraction and polarization of light in modern pixels.

"Kodak's focus is on designing highly advanced image sensors with ultra-low-light performance, high-speed video and manufacturability. The TCAD Sentaurus tools from Synopsys are an important part of our ability to do just that," said Herb Erhardt, manager of Kodak's CMOS Image Sensor business, within the company's Image Sensor Solutions group.

"As in many other microelectronics areas, image sensor design has become highly complex, requiring advanced physics-based simulation tools to understand the propagation of light through light-absorbing elements (pixels) and its interaction with the electronics within the device," said Terry Ma, vice president, TCAD R&D at Synopsys. "Deployment of Sentaurus at an industry-leading company like Kodak is an important affirmation of our capability in coupling optical and electrical simulation to economically characterize and optimize the design of image sensors."

Kodak's Image Sensor Solutions group (ISS), a leader in the development of high-performance image sensors for the past three decades, is building some of the highest resolution and widest dynamic range sensors currently available on the market, and enabling state-of-the-art digital imaging cameras for a variety of customers. Kodak has relied on the use of precision process, device, and optical simulation tools to assist in the development of its image sensor products.

About Synopsys TCAD

Technology CAD (TCAD) refers to the use of computer simulation to model semiconductor processing and device operation. TCAD provides insight into the fundamental physical phenomena that ultimately impact performance and yield.

About Synopsys

Synopsys, Inc. (NASDAQ: SNPS) is a world leader in electronic design automation (EDA), supplying the global electronics market with the software, intellectual property (IP) and services used in semiconductor design and manufacturing. Synopsys' comprehensive, integrated portfolio of implementation, verification, IP, manufacturing and field-programmable gate array (FPGA) solutions helps address the key challenges designers and manufacturers face today, such as power and yield management, system-to-silicon verification and time-to-results. These technology-leading solutions help give Synopsys customers a competitive edge in bringing the best products to market quickly while reducing costs and schedule risk. Synopsys is headquartered in Mountain View, California, and has more than 60 offices located throughout North America, Europe, Japan, Asia and India. Visit Synopsys online at https://www.synopsys.com/.

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