Increased capabilities in lab will support increased research and training opportunities in photonics

Rochester Institute of Technology recently installed a MIRTEC MV-3 OMNI automated optical inspection (AOI) machine in its Center for Electronics Manufacturing and Assembly (CEMA). The equipment enables researchers and manufacturers to better inspect transistors that must be methodically aligned on printed circuit boards used in electronic devices such as smart phones, game consoles and computer systems.

“Automated optical inspection equipment can determine the precise placement of thousands of small parts and ensure they are properly attached during the manufacturing process where many devices are being produced in assembly,” said Martin Anselm, director of CEMA.

“You are not just placing one of these transistors, you are putting on hundreds. And in a 24-hour period, if you are producing many cell phones, you are putting down tens of thousands of these little parts that no human eye can really see all that well,” said Anselm, who also is a faculty-researcher in RIT’s College of Engineering Technology. “The CEMA lab is helping to enable these newer technologies because we are studying the manufacturing process of these highly advanced designs.”

Current electronics assembly requires automated optical inspections rather than slower, manual inspections to identify parts and validate proper attachments.

“We have three main categories of users in the CEMA lab – students, faculty, corporate partners. The center and corporate partners such as MIRTEC want students to have exposure to the latest equipment in the industry. They want researchers to have the ability to research advanced manufacturing topics, and they want industry partners to be able to have access to this equipment for R&D.”

Brian D’Amico, President of MIRTEC’s North American Sales and Service Division agreed, “We are very pleased to partner with RIT. This is of the most advanced manufacturing facilities of any university in the world providing equipment, capabilities and technical expertise to help manufacturers improve process yields and productivity.”

RIT and MIRTEC also have formed a research partnership that allows MIRTEC to use the lab for demonstrations purposes and refer customers to CEMA for inspection services. Students in RIT’s manufacturing and mechanical engineering technology department will gain experience with the state-of-the-art 3D Inspection Equipment.
CEMA was established in 1995 and provides workforce training, development, prototype testing and research for the electronics manufacturing and packaging industry. The MIRTEC equipment, valued at $145,000, will further RIT’s overall contributions to AIM Photonics, specifically in the areas of next-generation electronics devices and packaging.

For more information, contact Michelle Cometa at 585-475-4954, michelle.cometa@rit.edu or on Twitter: @MichelleCometa.

About RIT:

Rochester Institute of Technology is home to leading creators, entrepreneurs, innovators and researchers. Founded in 1829, RIT enrolls about 19,000 students in more than 200 career-oriented and professional programs, making it among the largest private universities in the U.S.

The university is internationally recognized and ranked for academic leadership in business, computing, engineering, imaging science, liberal arts, sustainability, and fine and applied arts. RIT also offers unparalleled support services for deaf and hard-of-hearing students. The cooperative education program is one of the oldest and largest in the nation. Global partnerships include campuses in China, Croatia, Dubai and Kosovo.

For news, photos and videos, go to www.rit.edu/news. To follow RIT on social media, go to www.rit.edu/socialmedia.

About MIRTEC:

MIRTEC has earned a solid reputation as one of the most progressive and dynamic suppliers of Inspection Equipment to the Electronics Manufacturing Industry. For more information about MIRTEC’s Technologically Advanced 3D Inspection Systems, please visit: www.mirtec.com