

News Release

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EMD Electronics Announces Investment of EUR 20 million to Expand its R&D and Manufacturing Site in Shizuoka, Japan

- New investment to further accelerate innovation in leading-edge semiconductor and display materials for next-generation electronics
- Enhanced production, quality control and metrology capabilities to foster industry collaboration

Darmstadt, Germany, April 15, 2021 – EMD Electronics, a business of Merck KGaA, Darmstadt, Germany, today announced an investment of EUR 20 million to expand research and development and manufacturing capabilities at its site in Shizuoka, Japan. As part of this plan, new infrastructure will be built to advance and accelerate innovations in the electronic materials space. The investment is scheduled to be completed by January 2022.

"Shizuoka is one of our key technology hubs in Japan focused on advanced material developments for the semiconductor and display industries. With the booming digital economy and greater focus on devices, servers and equipment, we see an increase in collaboration activities with our customers and research partners to develop new innovations," said Anand Nambiar, Head of Semiconductor Materials at EMD Electronics. "Our enhanced capabilities in R&D, production, quality control and metrology will enable us to support our customers in accelerating their processes from material discovery, development to manufacturing. We are actively recruiting talent in Asia, Europe and the United States to support this journey."

With its expanded capabilities, the Shizuoka site will focus on optimizing new





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material discovery, device integration, application testing, sampling, quality control, and manufacturing for the semiconductor and display industries. To support the growing demand of the electronic materials market, next-generation materials, including semiconductor materials such as patterning materials, dielectrics, metal hard masks, Hybrid-SOD, novel EUV Rinse solutions, and Directed Self-Assembly materials (DSA), as well as display materials such as dielectrics, photoresist materials and quantum dot pixel color converters (QDPCC), will be developed and manufactured. The local Shizuoka team will work closely with the Company's research and development centers in China, Korea, Taiwan, and the United States to explore new solutions for advancing digital living.

Digital adoption has been accelerated by Covid-19. The need for faster and more reliable data processing, storage and bandwidth is increasing the demand for semiconductor materials. To enable rapid advancements in device innovation and ensure speed to market, EMD Electronics is committed to investing in its capabilities globally and partnering with the industry. The Company also plans to make significant investments in research and supply capabilities in order to meet the growing industry demand for integrated circuits.

New facility opened on January 5, 2021

As part of these investments, a new facility with a surface area of 6,000 m2 was completed in January. The two-story building is one of the largest scale facilities in the western part of the Shizuoka prefecture in Kakegawa City, Japan. It offers office space for 230 employees.

Since its founding in 1984, the Shizuoka site has been a leading innovator in the development of patterning materials such as photoresists, vapor-deposited materials, core resists, BARC siloxanes, polysilazane thin-films and photoresists for displays, contributing significantly to the global Semiconductor Materials business of EMD Electronics.

Combined business to accelerate innovation in the electronics industry

In many technologies that will accompany our digital life in the future, further innovations are only possible through materials research enabling the development of increasingly powerful computer chips or even new computing architectures, which



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are needed to bring artificial intelligence and machine learning to the next level. EMD Electronics offers integrated solutions across multiple wafer process steps and dimensions to enable these developments. The Company's expertise extends beyond materials and includes delivery tools, equipment, containers, and services. Additionally, the integration of Versum Materials, Inc. and Intermolecular, Inc., coupled with unique processes and R&D capabilities, allows EMD Materials to accelerate the development of game-changing innovations in the electronic materials space.

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About the Electronics business of Merck KGaA, Darmstadt, Germany

The Electronics business of Merck KGaA, Darmstadt, Germany, operates as EMD Electronics in the United States and Canada. EMD Electronics' portfolio covers a broad range of products and solutions, including high-tech materials and solutions for the semiconductor industry as well as liquid crystals and OLED materials for displays and effect pigments for coatings and cosmetics. Today, EMD Electronics has approximately 2,000 employees around the country with regional offices in Tempe (AZ) and Philadelphia (PA).

Merck KGaA, Darmstadt, Germany, a leading science and technology company, operates across healthcare, life science and electronics. Around 58,000 employees work to make a positive difference to millions of people's lives every day by creating more joyful and sustainable ways to live. From advancing gene editing technologies and discovering unique ways to treat the most challenging diseases to enabling the intelligence of devices − the company is everywhere. In 2020, Merck KGaA, Darmstadt, Germany, generated sales of € 17.5 billion in 66 countries.

The company holds the global rights to the name and trademark "Merck" internationally. The only exceptions are the United States and Canada, where the business sectors of Merck KGaA, Darmstadt, Germany operate as EMD Serono in healthcare, MilliporeSigma in life science, and EMD Electronics. Since its founding in 1668, scientific exploration and responsible entrepreneurship have been key to the company's technological and scientific advances. To this day, the founding family remains the majority owner of the publicly listed company.