TSMC Japan 3DIC R&D Center Completes Clean Room Construction in AIST Tsukuba Center

IBARAKI, Japan, Jun. 24, 2022 -- TSMC (TWSE: 2330, NYSE: TSM) today announced that its subsidiary, the TSMC Japan 3DIC R&D Center, has completed construction of its clean room in the Tsukuba Center of the National Institute of Advanced Industrial Science and Technology (AIST). An opening event was held today.

The TSMC Japan 3DIC R&D Center, with its brand-new clean room facility, will pursue research into the next generations of three-dimensional silicon stacking and advanced packaging technologies in materials science. These technologies will enable system-level innovations to increase computing performance and integrate more functionality, opening a new path for driving semiconductor technology forward in addition to the industry's conventional path of shrinking transistor size.

TSMC established its Japan 3DIC R&D Center subsidiary in March 2021 and later began construction on a clean room facility in the Tsukuba Center of AIST. With the completion of the clean room, the TSMC Japan 3DIC R&D Center will support research and development of state-of-the-art 3D IC packaging material in collaboration with Japanese partners, domestic research institutes and universities possessing strengths in semiconductor materials and equipment.

"Beginning with our foundry business model, TSMC has always believed that by focusing on what we do best, each of us in the semiconductor field can maximize our contribution to pushing technology forward," said Dr. C.C. Wei, CEO of TSMC. "The Japan 3DIC R&D Center is a perfect example of this collaboration in action. By bringing TSMC together with Japan's talent, we will empower each other to make breakthroughs together."

"Today's chips have tens of billions of transistors on a single die. With advanced packaging and 3D IC technology, we can put hundreds of billions of transistors in a single package and deliver a new level of computing power," said Dr. Marvin Liao, Vice President of Advanced Packaging Technology and Service, TSMC. "It's exciting to think about all the innovations that will be possible with this level of computing power. Working with our partners in the Japan 3DIC R&D Center, we will develop the technologies that will help make those possibilities into reality."

"We are witnessing an increase in structural demand driven by the megatrends of 5G and high performance computing-related applications, and further technology innovation will be needed to

meet this demand," said Yutaka Emoto, Vice President and Center General Manager of the TSMC Japan 3DIC R&D Center. "Japan has many companies with functional materials and key technologies that are important in the global semiconductor supply chain, and TSMC will continue to work on semiconductor process innovation through joint research and development with them. At the same time, we can serve as a bridge between our partners at the 3DIC R&D Center and the world-class semiconductor companies among TSMC's customers."

About TSMC

TSMC pioneered the pure-play foundry business model when it was founded in 1987, and has been the world's leading dedicated semiconductor foundry ever since. The Company supports a thriving ecosystem of global customers and partners with the industry's leading process technologies and portfolio of design enablement solutions to unleash innovation for the global semiconductor industry. With global operations spanning Asia, Europe, and North America, TSMC serves as a committed corporate citizen around the world.

TSMC deployed 291 distinct process technologies, and manufactured 12,302 products for 535 customers in 2021 by providing broadest range of advanced, specialty and advanced packaging technology services. TSMC is the first foundry to provide 5-nanometer production capabilities, the most advanced semiconductor process technology available in the world. The Company is headquartered in Hsinchu, Taiwan. For more information please visit https://www.tsmc.com.

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