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Singapore inks S\$120m wafer research tie-up with chipmaker GlobalFoundries

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ANNABETH LEOW ✉ leowhma@sph.com.sg 🐦 [@AnnabethLeowBT](https://twitter.com/AnnabethLeowBT)

SINGAPORE research and education institutions have tied up with chipmaker GlobalFoundries to develop new technology for storing more digital data in less physical space.

GlobalFoundries, Nanyang Technological University (NTU) and the National Research Foundation (NRF) jointly pledged S\$120 million in cash and in kind on Monday to look into memory solutions that can store data for a long time without needing a power supply.

The three parties did not disclose the breakdown for the investment in the four-year project, but some of the funding comes out of the advanced manufacturing and engineering arm of the national S\$19 billion Research, Innovation and Enterprise 2020 master plan. Meanwhile, GlobalFoundries said it has invested more than S\$4 billion in Singapore over the last decade.

Under the tie-up, university researchers and their GlobalFoundries counterparts are working on a kind of memory technology that can support applications in the Internet of Things, including electric vehicles and consumer uses such as smartphones and wearables. The projects include circuit design for newer devices, with prototypes to be tested on the NTU campus.

Ang Kay Chai, senior vice-president and general manager of GlobalFoundries Singapore, said that the partnership aims "to enable the commercialisation of this technology so new investments and more good jobs can be created for the people in Singapore".

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The project will bring together about 70 researchers from NTU and GlobalFoundries, including at least 16 postgraduate trainees under the Economic Development Board's Industrial Postgraduate Programme to develop critical R&D skills through industrial attachments.

As an agreement was signed to cement the year-old collaboration, Deputy Prime Minister Heng Swee Keat called the partnership "a win for Singapore and our people".

"Your partnership strengthens Singapore's position as an innovation-driven economy, and will allow us to continue creating new and exciting career opportunities for our people," said Mr Heng, who is also Minister for Finance and chairman of the NRF.

Meanwhile, under new president Subra Suresh, who took office in 2018, NTU has embarked on a "smart campus" drive with industry partners like Alibaba, HP and Rolls Royce, for research on technologies such as artificial intelligence, advanced manufacturing and robotics. It partnered telco M1 last week to develop a smart vehicle testbed based on 5G wireless technology.

This latest semiconductor research deal follows the Singapore-MIT Alliance for Research and Technology's new type of chip for light-emitting diode displays and 5G communications, which can be made with existing eight-inch manufacturing tools and was unveiled last month.

GlobalFoundries, which is owned by Abu Dhabi state investor Mubadala, was formed in 2009 through the merger of Advanced Micro Devices' manufacturing assets in Germany and New York, and Singapore's Chartered Semiconductor Manufacturing.

In Singapore, the group's regional headquarters in Woodlands houses eight-inch and 12-inch wafer operations, as well as research and development and design facilities.

GlobalFoundries sold its eight-inch wafer fab in Tampines to Taiwan's Vanguard International Semiconductor Corp for US\$236 million in January, with chief executive Tom Caulfield saying at the time that the move to streamline its global manufacturing footprint would let its Singapore operations focus on "technologies where we have clear differentiation".