

# New Promising Phase Change Memory Technology

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IBM, Infineon and Macronix announced today a joint research initiative to explore the potential of a new form of computer memory technology called phase-change memory (PCM).

PCM is a novel technology that stores data by changing the state of a special material from an amorphous to a crystalline structure, rather than storing data as an electrical charge. While in its early stages, the technology shows potential for high speed, high density storage of data, while retaining data even when power is turned off. Such attributes could be beneficial in applications ranging from high performance servers to consumer electronics.

The initiative combines IBM's strengths in the research of fundamental materials and physics research, Infineon's competence in the research, development and high volume manufacturing of various memory technologies and product types and Macronix's experience in nonvolatile memory technologies.

"This collaborative effort reinforces IBM's commitment to explore new phenomena for memory applications," said T.C. Chen, vice president of science and technology, IBM Research. "The project will aim to develop the materials for high performance, advanced nonvolatile memory and evaluate these materials in realistic memory chip demonstrations."

"The initiative underlines Infineon's strong momentum in the evaluation and development of interesting emerging memory technologies," said Wilhelm Beinvogl, senior vice president of technology and innovation at

Infineon's memory products group. "With this partnership combining resources from specialists in different areas, Infineon continues its long history of R&D co-operations."

"Macronix has a long history of independent and collaborative R&D on non-volatile memories. This alliance on phase-change memory research continues our never ceasing effort to seek the best technology and the best value for our customers. We believe our collective dedication on PCM will help to not only extend the non-volatile memory roadmap beyond the current floating gate, and the 2bits/cell NBit technologies but also open new market opportunities," said Miin Wu, president and CEO of Macronix International Co.

The research work will be conducted at IBM's TJ Watson Research Center in Yorktown Heights, NY, and the IBM Almaden Research Lab in San Jose, CA. Approximately 20-25 employees from across the three companies will be dedicated to this project.

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