

## NEWS RELEASE

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### **A\*STAR's Data Storage Institute and Taiwan's National Tsing Hua University Seal Collaboration Agreement on Flexible Cable for Thin Drives**

**SINGAPORE, 8 May 2012:** Singapore's Data Storage Institute (DSI), a research institute of the Agency for Science, Technology and Research (A\*STAR), has signed a collaboration agreement with Taiwan's National Tsing Hua University (NTHU) to pursue research on flexible cable which will be assembled into the world's first 5mm hybrid hard disk drive (HDD), targeted to launch at the end of the year.

Hard disk drive manufacturers are constantly trying to push the limits of areal density to enable more information to be recorded on the device. In turn, this drives up the track density which places pressure on the track mis-registration (TMR). Adjustments have to be made on the TMR as read and write errors affect the accuracy of the data stored. If TMR becomes too large, stored data may be unreadable or cause data on subsequent tracks to be erased. Besides meeting the demand for high areal density, manufacturers also need to develop HDDs that are lightweight, thin, energy-efficient and robust for consumer usage.

As part of the agreement, both research partners will jointly develop a method to study the non-linear dynamic behaviours of flexible cable, quantify its effects on the TMR, as well as to integrate software codes developed from the project into DSI's HDD mechanical platform for system testing and evaluation. The objective of the research is to develop a unique flexible cable design for HDD which is able to achieve extreme high track density.



“DSI is constantly trying to refine key hard disk drive components that can be incorporated into the iconic thin hybrid drive which is in the making. This agreement underscores DSI’s commitment to developing high-value performance technologies suited for commercialisation and mass production. We have garnered strong support from our industry partners and our collaboration with NTHU aims to further enhance the synergy between DSI and overseas universities with specialities in data storage,” said Dr Pantelis Alexopoulos, DSI’s Executive Director.

“Ranked one of the top hundred engineering schools in the world, NTHU’s College of Engineering is devoted to cultivating future engineering leaders for the society equipped with solid scientific and technical background, well-versed in technology, humanity, social commitment and international view. Integrative approach in multidisciplinary research has allowed our faculty to conduct engineering research and produce results that are globally recognised. Leveraging on DSI’s calibrated HDD platform, NTHU’s experts in the field of high performance flexible cable analysis and characterisation are able to validate their theoretical and engineering research success. We strongly believe that the newly-designed flexible cable will prove to be superior and a powerful addition to DSI’s HDD,” said Prof Nyan-Hwa Daniel Tai, NTHU College of Engineering’s Acting Dean.

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### **About the Agency for Science, Technology and Research (A\*STAR)**

A\*STAR is the lead agency for fostering world-class scientific research and talent for a vibrant knowledge-based and innovative-driven Singapore. A\*STAR oversees 14 biomedical sciences, and physical sciences and engineering research institutes, and seven consortia & centres, which are located in Biopolis and Fusionopolis, as well as their immediate vicinity.

A\*STAR supports Singapore's key economic clusters by providing intellectual, human and industrial capital to its partners in industry. It also supports extramural research in the universities, hospitals, research centres, and with other local and international partners.

For more information about A\*STAR, please visit [www.a-star.edu.sg](http://www.a-star.edu.sg).

### **About the Data Storage Institute (DSI)**

The Data Storage Institute (DSI) is a member of the Agency for Science, Technology and Research (A\*STAR). Established in 1992 as the Magnetics Technology Centre (MTC), it was renamed Data Storage Institute in 1996. The research institute's vision is to be a vital node in a global community of knowledge generation and innovation, nurturing research talents and capabilities for world-class R&D in next generation storage technologies.

For more information about DSI, please visit [www.dsi.a-star.edu.sg](http://www.dsi.a-star.edu.sg).

## **About the National Tsing Hua University (NTHU)**

National Tsing Hua University has a long and proud history. First established as the Tsing Hua Academy at Tsing Hua Garden in Beijing in 1911, the Academy was renamed as National Tsing Hua University in 1928 as its curricula expanded to that of a full-fledged university. In 1956, National Tsing Hua University (NTHU) was reinstalled on its current campus in Hsinchu, Taiwan. Since its reinstallation, NTHU has developed from an institute focusing on Nuclear Science and Technology to that of a comprehensive research university offering degree programs ranging from baccalaureate to doctorate in science, technology, engineering, humanities and social sciences, as well as management. NTHU has been consistently ranked as one of the premier universities in Taiwan and is widely recognized as the best incubator for future leaders in industries as well as academics. NTHU is a member of the Association of East Asia Research Universities (AEARU.)

For more information about NTHU, please visit [www.nthu.edu.tw](http://www.nthu.edu.tw)

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**Executive Director of DSI, Dr Pantelis Alexopoulos (left) with Acting Dean of NTHU, College of Engineering, Prof Nyan-Hwa Daniel Tai (right), after signing the research collaboration agreement.**

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