



A*STAR's Data Storage Institute Launches Next Generation 5mm Hybrid Hard Disk Drive

SINGAPORE, 1 November 2012: The “A-Drive”, one of the world’s thinnest 5mm hybrid hard drive in a 2.5” form factor, was officially launched by Mr. S. Iswaran, Minister in the Prime Minister’s Office and Second Minister for Home Affairs and Trade & Industry, to commemorate the Data Storage Institute’s (DSI) 20 years of R&D in the area of data storage capabilities.

The “A-Drive” represents the next generation of storage innovation providing capacities of up to 1 TB Hard Disk Drive (HDD) with 32 GB Solid State Drive (SSD). This potentially allows the “A-Drive” to store over 250,000 songs in its 5mm body. The “A-Drive” also addresses limitations of the popular, yet expensive, flash-based SSD, as well as the conventional HDD for the consumer and business industry.

DSI’s “A-Drive” is set to change the consumer and enterprise landscape, targeted specifically for tablets, ultrabooks, and future data centres. With its slim form factor, the “A-Drive” could fit into tablet devices, greatly expanding its storage space while extending battery life by up to 30%. The “A-Drive” will be a cheaper alternative to the SSDs currently used in ultrabooks, offering the same instant-on capability but with larger storage capacity. In addition, the “A-Drive” can be extended for enterprise storage applications, reducing power consumption by up to 50%, resulting in greener and more efficient data centres with better optimisation of the already limited rack space.

“Today, our year-long vision of creating a 5mm thin hybrid hard drive in 2.5” form factor with increased storage capacity and reduced power consumption at a lower cost for manufacturers has become a reality,” said Dr. Pantelis Alexopoulos, Executive Director of DSI. “We have managed to fit an amazing amount of innovation and advanced technology into a thinner, cheaper, and faster design, and we think the consumer and enterprise impact will be significant.”

One of the main challenges in reducing the thickness of current 7mm hard disk drives by almost 30% without compromising on its performance and stability is its spindle motor design. To achieve a reduction in size, DSI researchers developed a proprietary axial field motor which runs smoother, quieter, more efficiently, lowering power consumption by up to 70% yet at a fraction of the cost of SSDs. The motor’s design has been patented, along with 30 other unique designs for the “A-Drive”. In addition, DSI has collaborated with multinational corporations and



local companies, such as Seiko Instruments, Miyoshi, and Unisteel, to develop key components for the “A-Drive”.

“Our capabilities today have been the result of two decades of collaboration with industry partners around the world. This has enabled DSI to develop groundbreaking solutions like the ‘A-Drive’. We look forward to future partnerships as we continue our drive towards new innovations that will shape the data storage landscape,” said Dr. Alexopoulos.

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

The Agency for Science, Technology and Research (A*STAR) is Singapore's lead public sector agency that fosters world-class scientific research and talent to drive economic growth and transform Singapore into a vibrant knowledge-based and innovation driven economy.

In line with its mission-oriented mandate, A*STAR spearheads research and development in fields that are essential to growing Singapore's manufacturing sector and catalysing new growth industries.

A*STAR supports these economic clusters by providing intellectual, human and industrial capital to its partners in industry.

Please visit 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.



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