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**Hitachi Partners A\*STAR to improve storage of  
genomic sequencing data**

**Singapore, April 28, 2011** --- Hitachi Asia Ltd. and the Agency for Science, Technology and Research (A\*STAR) Data Storage Institute (DSI) recently entered into a strategic partnership to research a new generation storage system for genome sequencing data.

Genome sequencing data is usually stored electronically and requires a large storage capacity plus a large amount of computing power to manipulate the data. Hence, this research collaboration between the two organisations is focused on meeting the high performance and low storage cost demands in storing, accessing, and managing large genome data bases.

Genome sequencing provides useful clinical information and insights to the association of specific genomic variants with diseases, thus allowing early intervention by health care professional with predictive and personalised medicine. Modern genome sequencing has transited from a primarily observational and qualitative discipline to a quantitative, data-intensive, computer-intensive and predictive science. The haploid human genome is estimated to be about 3 billion base pairs long, with each base pair requiring 2 bits of storage, thus this equates to about 725 MB of data of uncompressed data. Although this may not seem very large at first, however, for the idea of personal genomics to become a reality, genotyping and analysis needs to come at a low enough cost in order for the public at large to benefit from it.

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With the advent of full genome sequencing, the massively parallel genome sequencing approaches used in existing platforms have advanced and increased sequencing output by a magnitude of ten since 2005, and this throughput is expected to double annually, making this research collaboration extremely timely.

The development of such a system also represents an applied research approach by solving real world data problems faced by organizations. Test bedding can be done more easily, with fellow/local A\*STAR research Institute, Genome Institute of Singapore (GIS) targeted as a potential end-user of such a system. This would enable Hitachi and DSI to work out the issues faced by users of such a system under real working conditions.

“Hitachi Asia is excited about this opportunity of collaborating with DSI to further advance the scalability and functionality of our data storage system in the area of genomic science.” said Mr Makoto Nagashima, Managing Director of Hitachi Asia Ltd.

“Efficient data storage is a key enabler to help solve real world problems such as the management and storing of the immense generation of data coming from genome sequencing. DSI is very pleased to be a part of these efforts and the implications of this research could potentially have a huge impact on medical industry and how we view health care in the future,” said Dr. Pantelis Alexopoulos, Executive Director, DSI.

#### **About Hitachi Asia Ltd.**

Hitachi Asia Ltd., a subsidiary of Hitachi, Ltd., established in Singapore in 1989, operates across seven Asian countries (India, Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam). Business includes information systems, power and industrial systems, digital media systems, and international procurement. For more information about Hitachi Asia, please visit the website at <http://www.hitachi.com.sg>

#### **About Hitachi Asia R&D Center**

Hitachi Asia R&D Center is a division of Hitachi Asia Ltd., which is in charge of the research and development activities in collaboration with Hitachi's R&D Laboratories in Japan and the Singaporean research institutes. The research fields of the R&D centre currently include networked storage, mechatronics, water treatment, and bio science.

### **About Data Storage Institute**

The Data Storage Institute (DSI) is a member of the Agency for Science, Technology and Research (A\*STAR). Established in 1992 as the Magnetism 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. DSI is a member of the non-profit Information Storage Industry Consortium (INSIC) of USA. For more information, please visit <http://www.dsi.astar.edu.sg>

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

The Agency for Science, Technology and Research (A\*STAR) is the lead agency for fostering world-class scientific research and talent for a vibrant knowledge-based and innovation-driven Singapore. A\*STAR oversees 14 biomedical sciences and physical sciences and engineering research institutes, and six consortia & centres, 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).

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