

**TOSHIBA CORPORATION**  
Corporate Communications Office  
1-1-1 Shibaura, Minato-ku, Tokyo 105-8001, Japan  
URL: <http://www.toshiba.co.jp/about/press/index.htm>

Press contact  
Tel: +81-3-3457-2105  
Fax: +81-3-5444-9202

FOR IMMEDIATE RELEASE

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**Toshiba establishes new HDD technology centers  
for future generation high density recordings**

*Strengthen advanced cutting edge technologies and manufacturing technologies*

TOKYO—Toshiba Corporation (TOKYO: 6502) today announced that it will establish two new technology development centers for hard disk drives (HDD). The “HDD Advanced Technology Center” will seek to accelerate development of higher density technology and the “HDD Manufacturing Technology Center” will develop enhanced manufacturing capabilities. Both will open on July 16th. Toshiba will cooperate in the development work with TDK Corporation, which manufactures magnetic heads, and Showa Denko K.K., a disk media manufacturer.

In 2004, Toshiba led the industry in introducing perpendicular magnetic recording technology (PMR), now the dominant technology for high areal density HDD, and in doing so realized significant advances in hard disk drive capacity. However the physical limit of PMR is widely recognized at around 1.6Gbit/mm<sup>2</sup> (1Tbit/in<sup>2</sup>) and densities beyond that will require further technology breakthroughs.

Toshiba, in cooperation with TDK and Showa Denko, is establishing an HDD Advanced Technology Center to focus on innovation in future generations of higher capacity HDD by investigating promising technologies, including energy-assisted technologies and bit pattern technology.

By establishing a complementary manufacturing technology development center at the same time, Toshiba, in cooperation with TDK, expects to develop stable manufacturing methods for future cutting-edge HDDs and to achieve the very earliest launch of differentiated products.

Toshiba secures its position as a global leader in data storage by developing new generations of high density HDDs and by promoting optimized storage solutions in a changing industry environment drawing on its capabilities in HDD, Solid State Drive (SSD) and NAND flash memories including memory cards.

**Outline of HDD technology centers**

Names: HDD Advanced Technology Center  
HDD Manufacturing Technology Center

Established: July 16, 2011

Locations: HDD Advanced Technology Center: Toshiba's Ome Operations -  
Storage Products  
HDD Manufacturing Technology Center: Toshiba's Ome Operations -  
Storage Products

General Manager: HDD Advanced Technology Center: Kotaro Yamamoto  
HDD Manufacturing Technology Center: Tsutomu Tanaka

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