

FUJIFILM ACHIEVES HIGH CAPACITY STORAGE MEDIA MILESTONE WITH ADVANCED PROTOTYPE TAPE

Fujifilm demonstrates a new tape areal density record of 123 billion bits per square inch

VALHALLA, N.Y., April 9, 2015 – [FUJIFILM Recording Media U.S.A., Inc.](#), a subsidiary of FUJIFILM Corporation, the leading global manufacturer of data storage media, today announced that in conjunction with IBM, a new record in areal data density of 123 billion bits per square inch on linear magnetic particulate tape has been achieved. For the fourth time in less than 10 years, Fujifilm and IBM have accomplished record breaking storage capacities on tape; today announcing the highest capacity storage media ever achieved, including HDD, BD or solid memory NAND flash technologies. This breakthrough in data density equates to a single tape cartridge capable of storing up to 220 terabytes of uncompressed data. 220 terabytes is more than 88 times the storage capacity of the current LTO Ultrium 6 tape. A tape of this size can provide enough storage to preserve the human genome of 220 people on a single cartridge.

“With high performance computing and cloud storage services on the rise, this data density achievement is significant,” said Peter Faulhaber, president, FUJIFILM Recording Media USA, Inc. “Fujifilm and IBM are leading the technological development of advanced tape innovation that meets the market’s growing data requirements and delivers tape as the medium of choice for archival storage.”

This record breaking demonstration was achieved using an advanced prototype tape incorporating NANOCUBIC technology developed by Fujifilm, with advanced tape-drive technologies developed by IBM.

To learn more about Fujifilm and IBM’s collaboration, go to:

<https://youtu.be/bF07LZeCVhk>

Fujifilm Technology Enhancements

Fujifilm’s NANOCUBIC technology is enhanced to increase recording density by decreasing the magnetic particle size that is essential for high recording density. Fujifilm’s original BaFe synthesis method increases the uniformity of BaFe particle size and decreases 25% of the

switching field distribution (SFD), which is an important magnetic parameter for high density recording. The lower SFD leads to a high quality signal output due to the uniform magnetic property of each recorded bit. To ensure the stability of the ultra-fine BaFe particles, Fujifilm improved the magnetic coercivity, yielding an archival life of over 30 years.

A highly controlled dispersion process and newly developed chemical compound allows the BaFe particles to separate and disperse more uniformly and increases the perpendicular oriented ratio. Perpendicular orientation technology with BaFe produces a high signal to noise ratio and better frequency response. Enhanced NANO coating technology with a very smooth non-magnetic layer controls the tape surface roughness, providing a smooth magnetic layer for higher signal output. Fujifilm's advanced servo writing technology decreases high frequency vibration of the servo tracks and enables a higher track density due to more precisely placed servo tracks.

IBM Technology Enhancements

- A set of advanced servo control technologies that enable more accurate head positioning and increased track density.
- An enhanced write field head technology that enables the use of much finer barium ferrite particles.
- Innovative signal-processing algorithms for the data channel that enable reliable operation with an ultra-narrow 90nm wide giant magnetoresistive (GMR) reader.

Fujifilm will continue to lead the development of large capacity data storage media with BaFe technology to provide a cost-effective archival solution to preserve digital data.

More information about the future of big data storage can be found at www.FujifilmUSA.com/storage.

About Fujifilm

FUJIFILM Recording Media U.S.A., Inc. is the US-based manufacturing, marketing and sales operations of professional broadcast video and data tape recording media for FUJIFILM Corporation. The company provides broadcast and data center customers and industry partners with a wide range of unique data center accessories, value-added services and archival solutions, including Dternity. Based on a history of thin-film engineering and magnetic particle science such as Fujifilm NANOCUBIC technology, Fujifilm creates breakthrough data storage products. In 2013, Fujifilm surpassed the 100 million milestone for the number of LTO Ultrium data cartridges manufactured and sold since introduction, establishing the company's

leadership and success as the leading global manufacturer of mid-range and enterprise data tape. For more information on Fujifilm Recording Media products, customers can call [800-488-3854](tel:800-488-3854) or go to www.fujifilmusa.com/tape_data_storage. To receive news and information direct from Fujifilm via RSS, subscribe free at www.fujifilmusa.com/rss.

FUJIFILM Holdings Corporation, Tokyo, Japan brings continuous innovation and leading-edge products to a broad spectrum of industries, including: healthcare, with medical systems, pharmaceuticals and cosmetics; graphic systems; highly functional materials, such as flat panel display materials; optical devices, such as broadcast and cinema lenses; digital imaging; and document products. These are based on a vast portfolio of chemical, mechanical, optical, electronic, software and production technologies. In the year ended March 31, 2014, the company had global revenues of \$23.9 billion, at an exchange rate of 102 yen to the dollar. Fujifilm is committed to environmental stewardship and good corporate citizenship. For more information, please visit: www.fujifilmholdings.com.

###

All product and company names herein may be trademarks of their registered owners.

CONTACTS:

Matthew Schmidt
Fujifilm
(914) 789-8529
mschmidt@fujifilm.com

Chris Sciacca
IBM Research (Europe)
+41 44 724 8443
cia@zurich.ibm.com