



Future Tape Technology

Presented by:

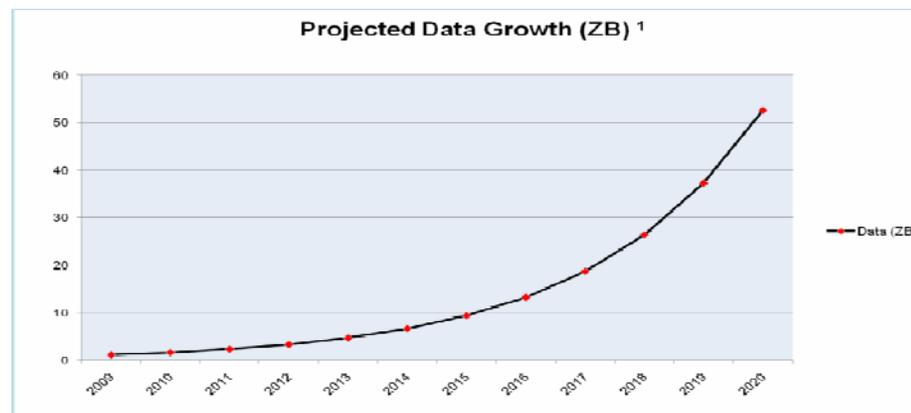
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Future for Tape

- **Traditional Use for Tape:** *Backup, DR, Compliance, Archive*
- **Today/Future:** *Active file archive, low cost NAS storage for easy access to big data, cloud, HPC and other IT operations*
- **Tape Advantages** *include lowest cost, superior reliability, high speed, ease of use and highly scaleable capacity...*



Future for Tape

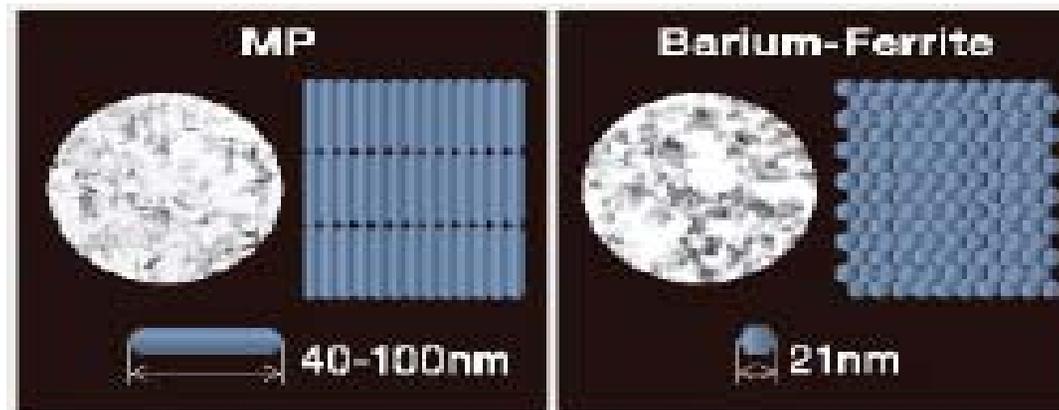
- *With Fujifilm's advanced coating and particle technologies, many **capacity** breakthroughs were and continue to be achieved ...*



Barium Ferrite

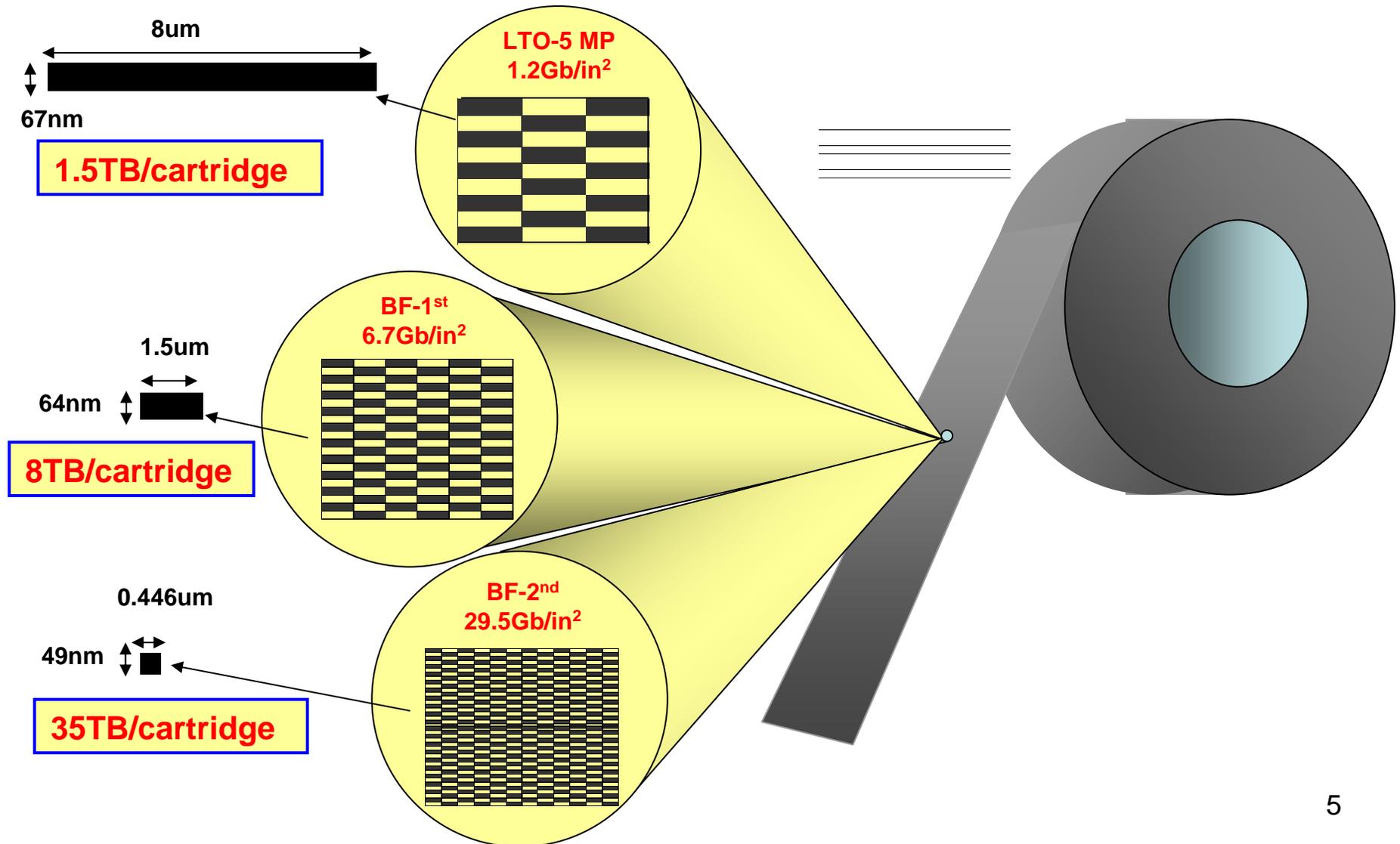
Technology to Support Current and Future Systems

Barium-Ferrite (BaFe) Particles feature Stable Magnetic Power

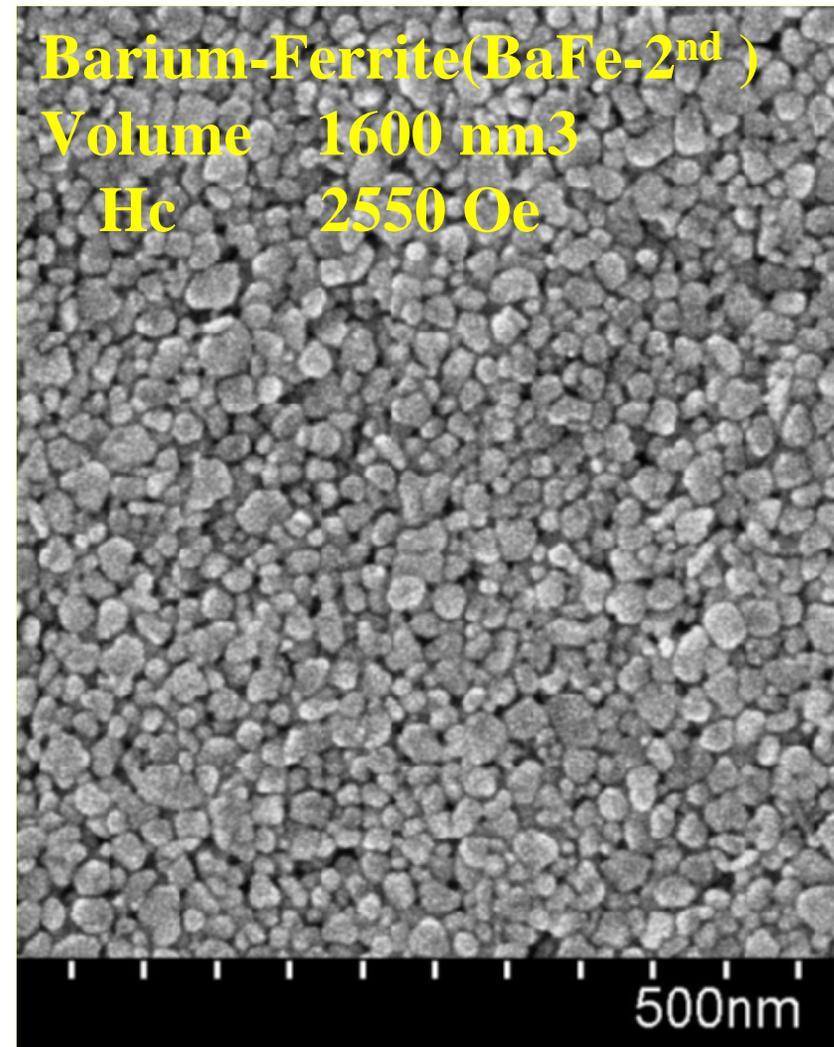
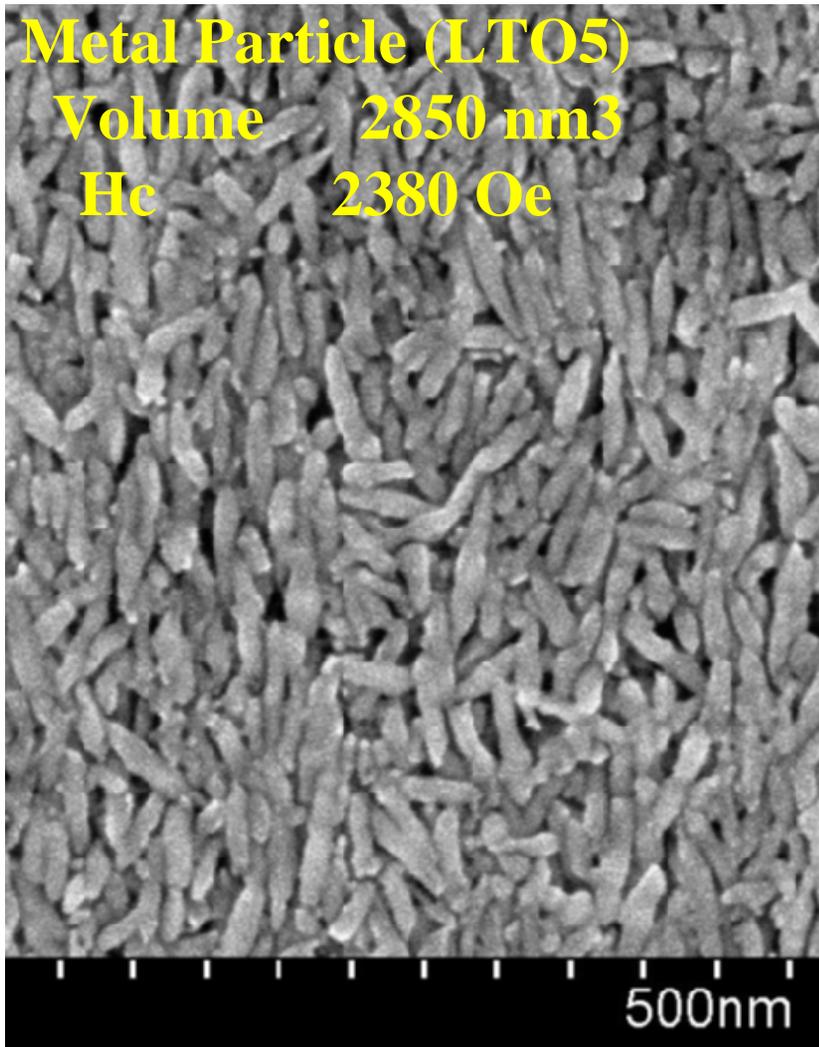


- ▶ High density recording requires small magnetic particles
- ▶ Traditional MP is influenced from outside magnetic interference when its size becomes too small
- ▶ **BaFe** particle has more resistance to outside magnetic interference and can maintain its magnetic power

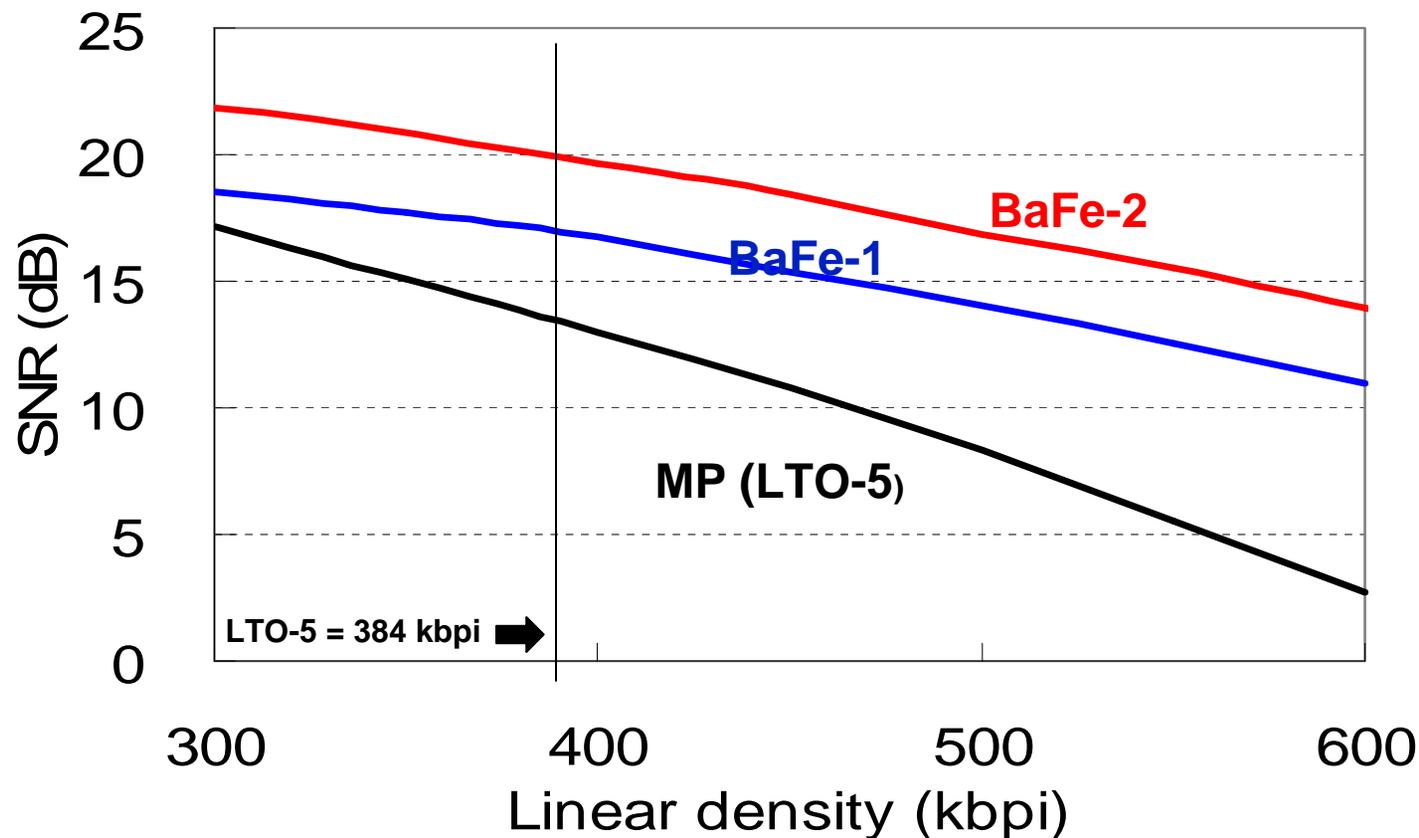
Bit Size and Capacity from MP to Barium Ferrite G1, G2



MP and BaFe Surface Comparison



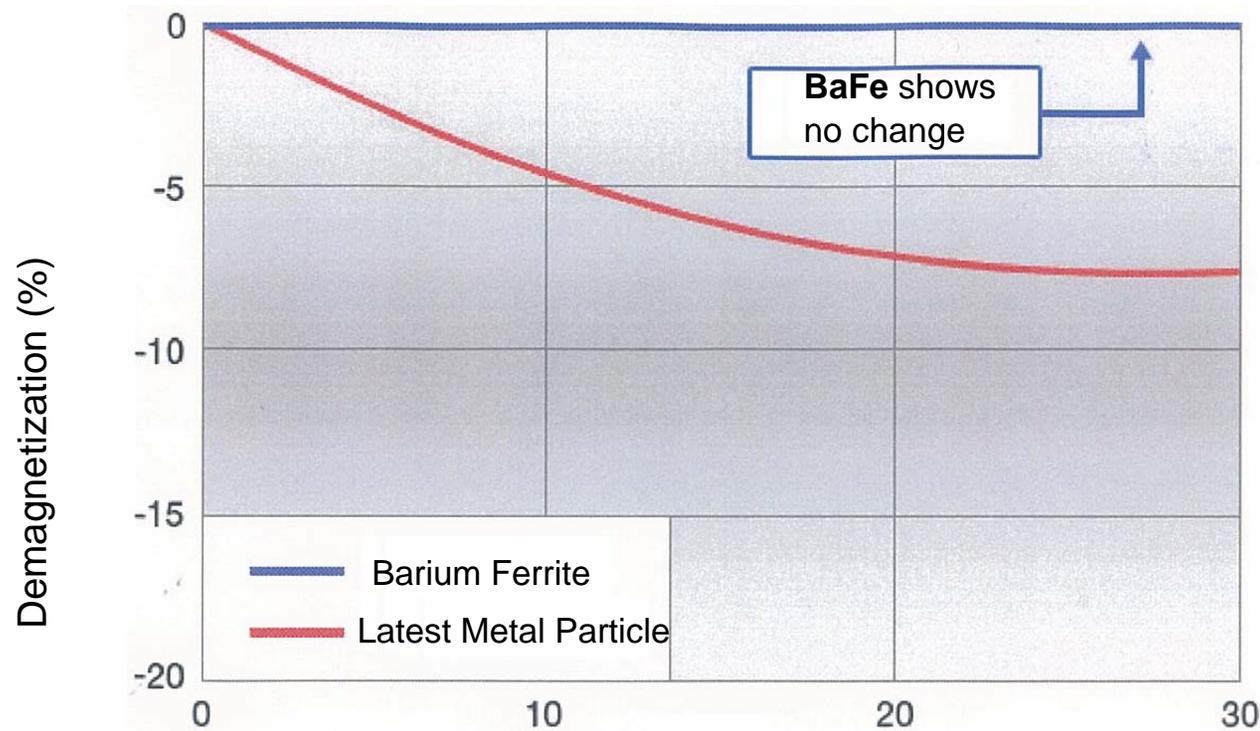
High Output Supports High Density Recording



- ▶ Output (SNR) of **BaFe** particle tape is far better than that of metal particle tape. Higher SNR at higher linear density equals higher capacity.

Superior Archival Stability of Barium Ferrite

- ▶ In FUJIFILM'S experiments, **BaFe** withstands realistic storage environment simulations and proves its reliability over more than a **30 year** time period.
- ▶ Current MP shows slight degradation in magnetic signal over 30 years, although not detrimental to read/write.



Estimated Years (accelerated life test as measured by FUJIFILM evaluation method)

Summary

1. The capacity of tape systems are expected to double every 2 to 3 years
2. BaFe media exhibits excellent performance and long term archival stability
3. BaFe - 1st Generation technology covers the new Enterprise formats and future LTO formats
4. BaFe - 2nd Generation will cover future Enterprise and LTO formats



Barium Ferrite

Technology Ready for the Future!

Today's tape has up to 3,584 tracks on $\frac{1}{2}$ inch tape which would be equivalent to 33 tracks on a single strand of human hair!

