

FUJIFILM Corporate Update

———— FUJIFILM Recording Media U.S.A., Inc. ————

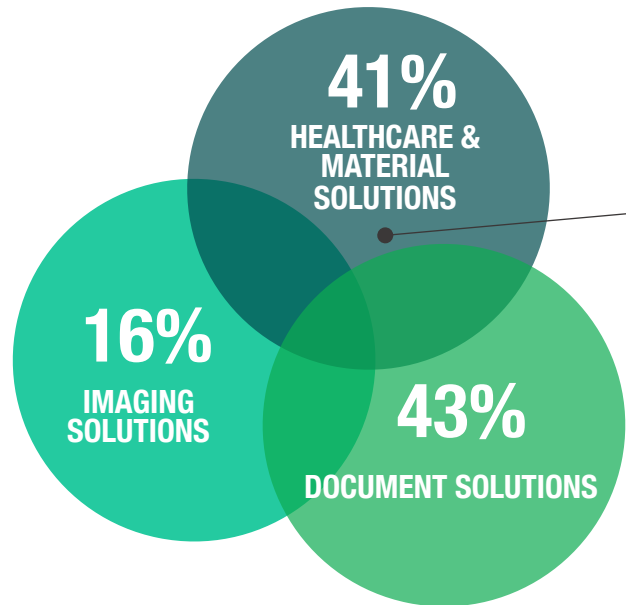
Peter Faulhaber, President & CEO



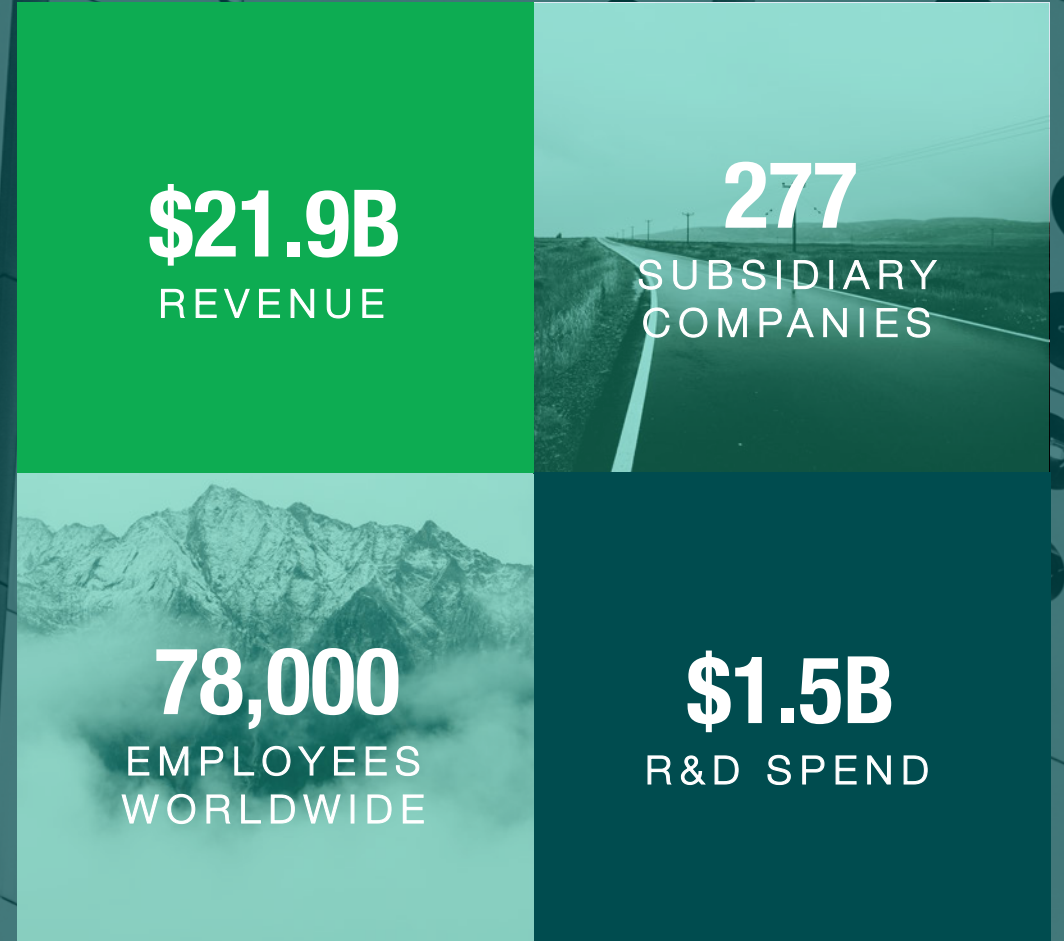
FUJIFILM
Value from Innovation

FUJIFILM Corporate Overview

World's #1 manufacturer of LTO media



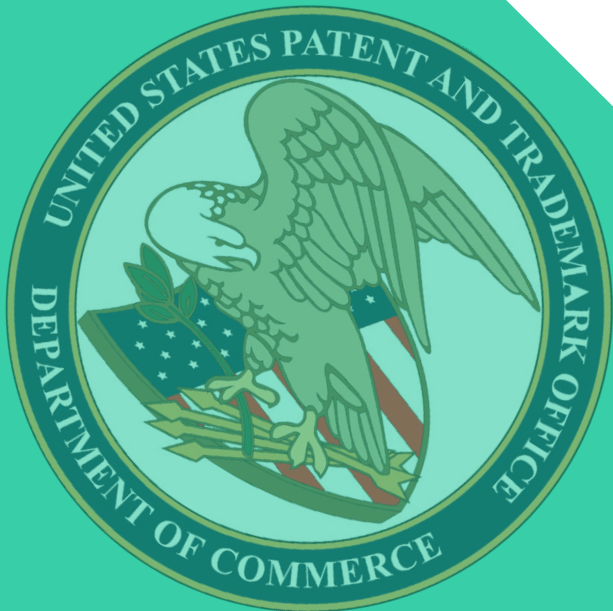
FUJIFILM
RECORDING MEDIA



TOP 50



**FUJIFILM Ranked 50th out of 1,000
Companies for the most patents
awarded in 2018!**



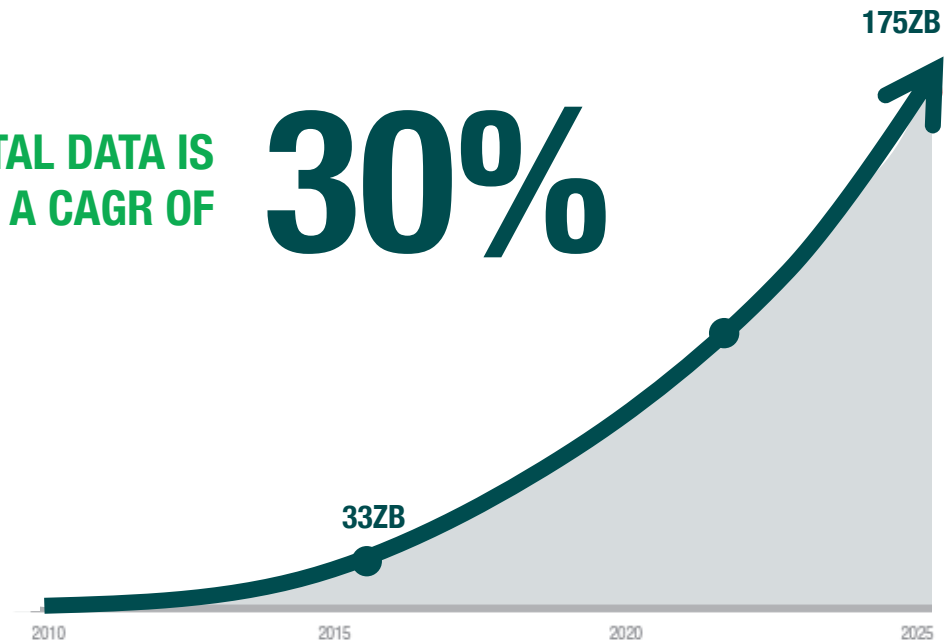
As the world turns let's look at changes in the storage market...



Dramatic Change in Expected Total Data Volume

THE AMOUNT OF DIGITAL DATA IS
INCREASING AT A CAGR OF

30%

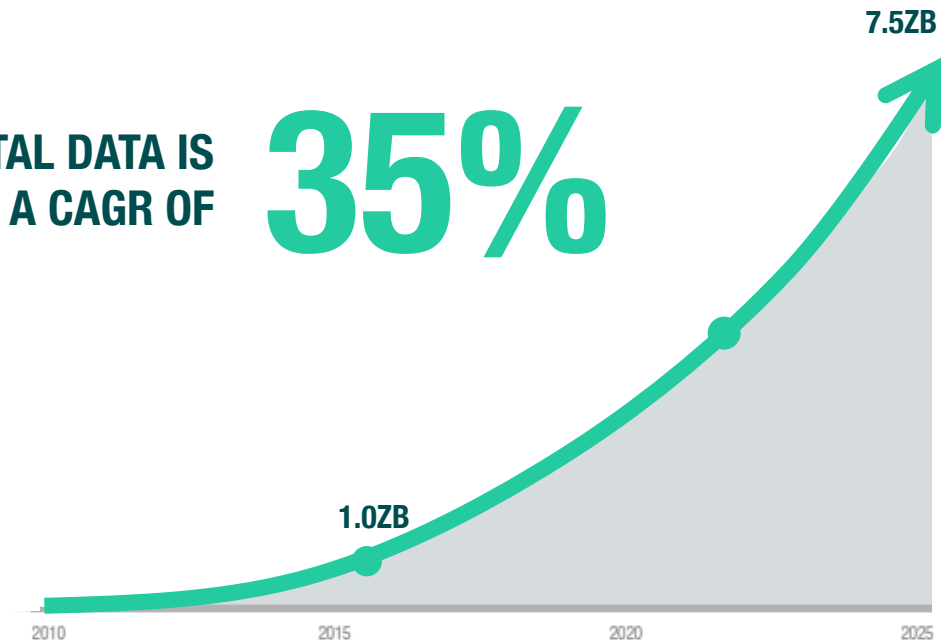


Source: IDC, Data Age 2025

Dramatic Change in Persistent Data Volume To Be Stored

THE AMOUNT OF DIGITAL DATA IS INCREASING AT A CAGR OF

35%



Source: IDC, Data Age 2025

Some Say...

ORGANIZATIONS MANAGED ON
AVERAGE 9.70PB IN 2018,
UP 569% FROM 2016 = **159%** CAGR

DELLEMC



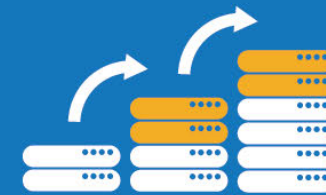
GLOBAL DATA PROTECTION INDEX

The data era is changing how organizations think about, monetize and protect data

The volume of data being managed is growing at a phenomenal rate

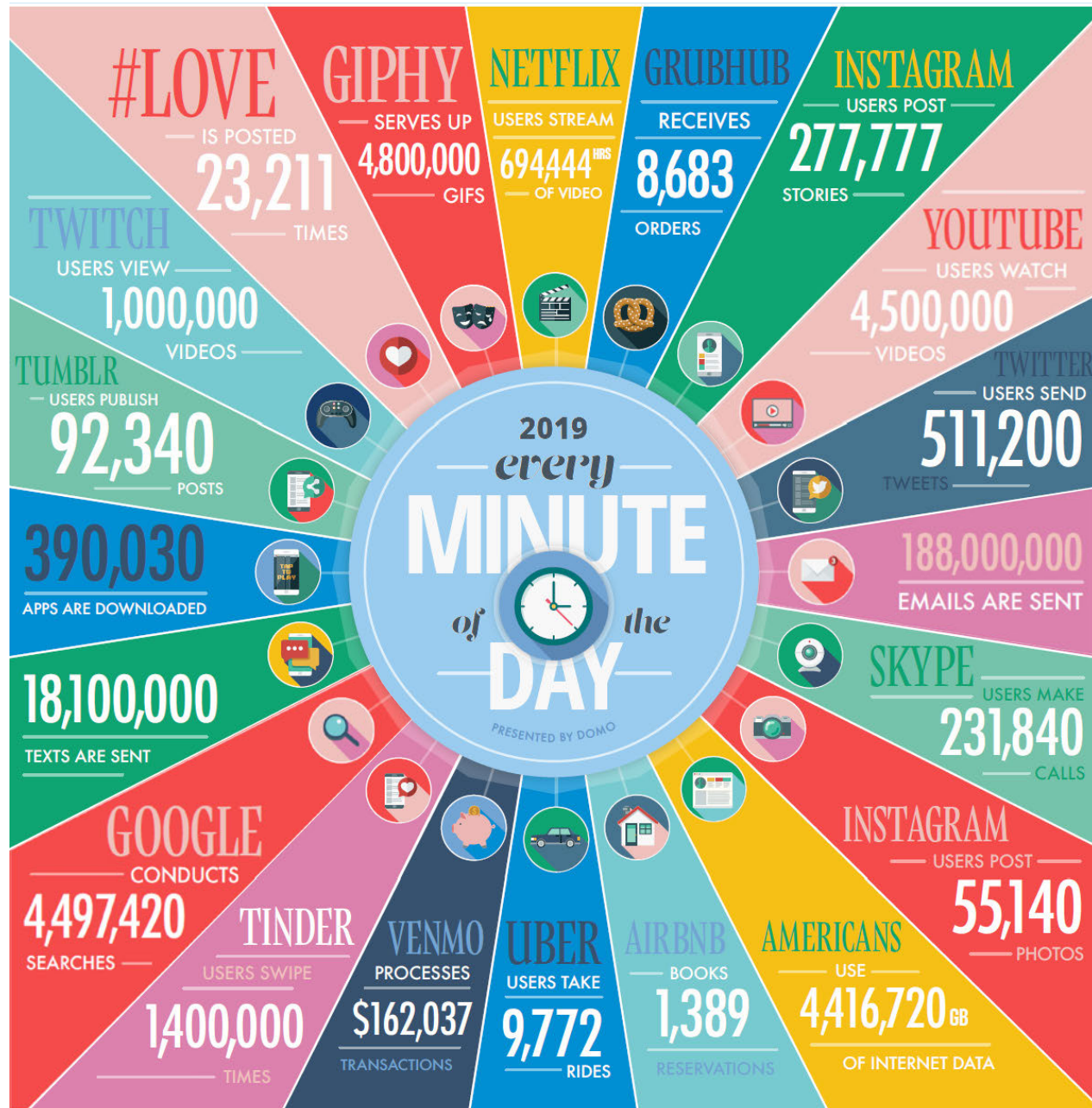
In 2016:

1.45PB



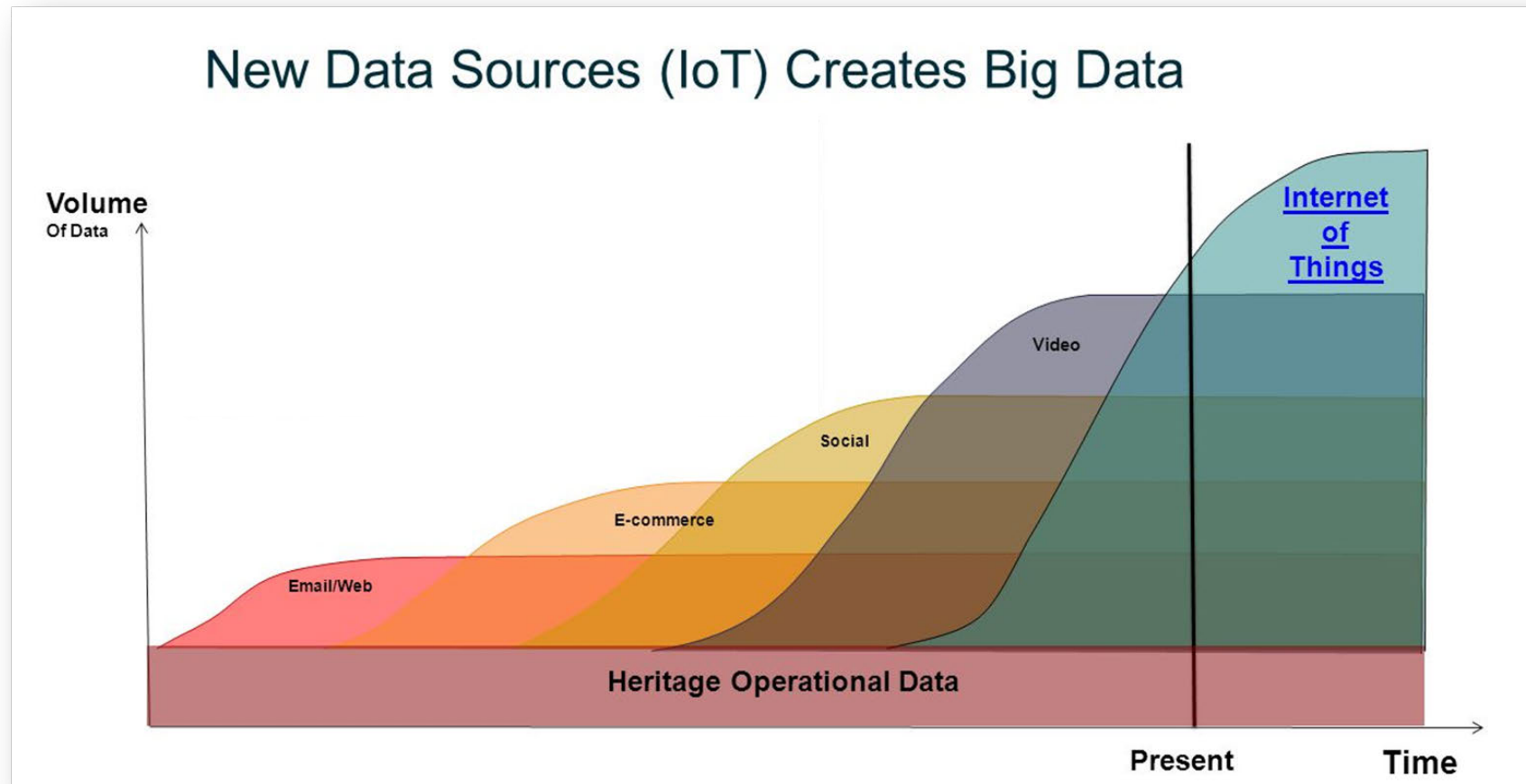
In 2018:

9.70PB



Internet of Things

- 23 billion connected devices in 2018
- 75 billion connected devices by 2025

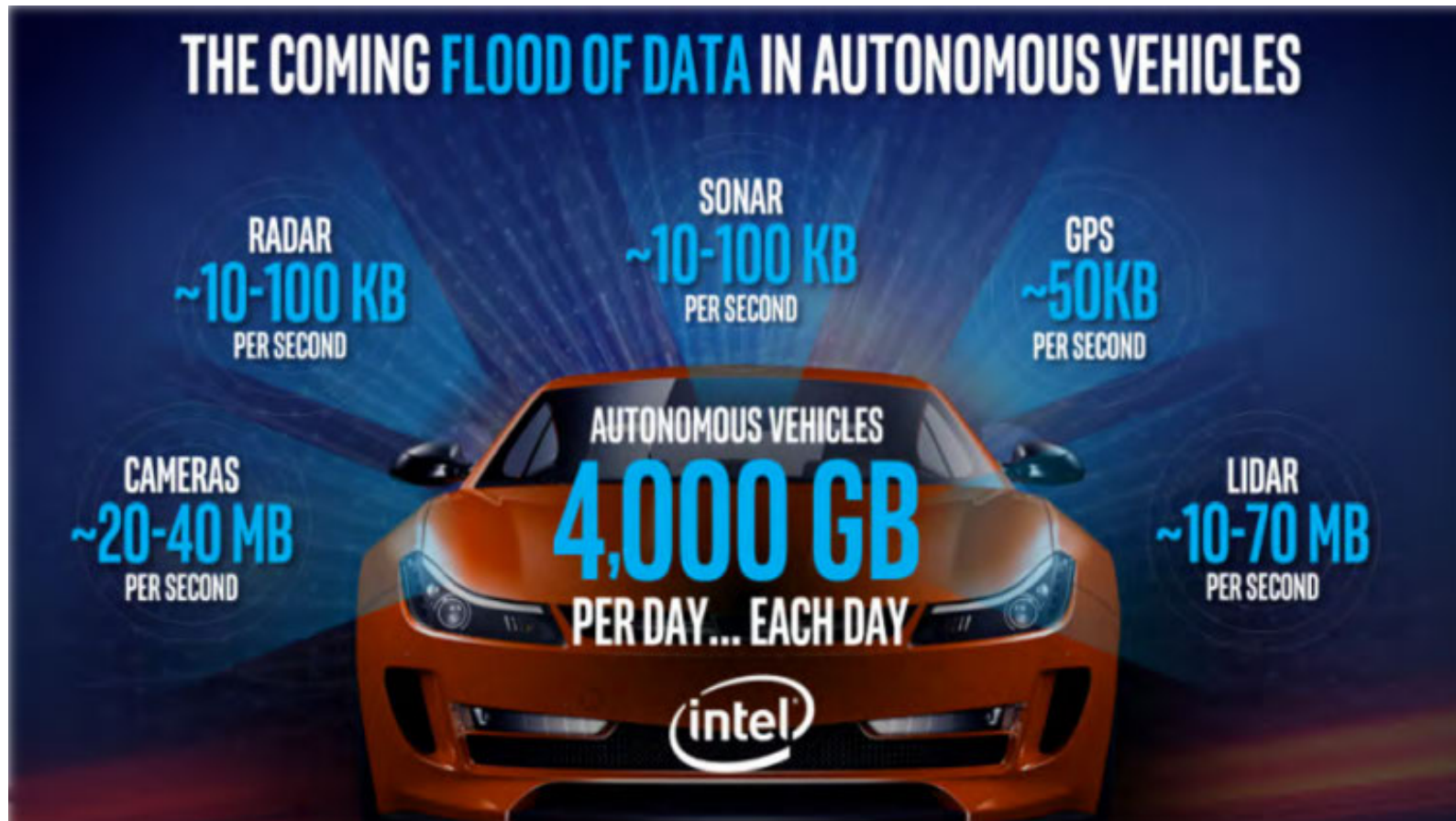


Apple

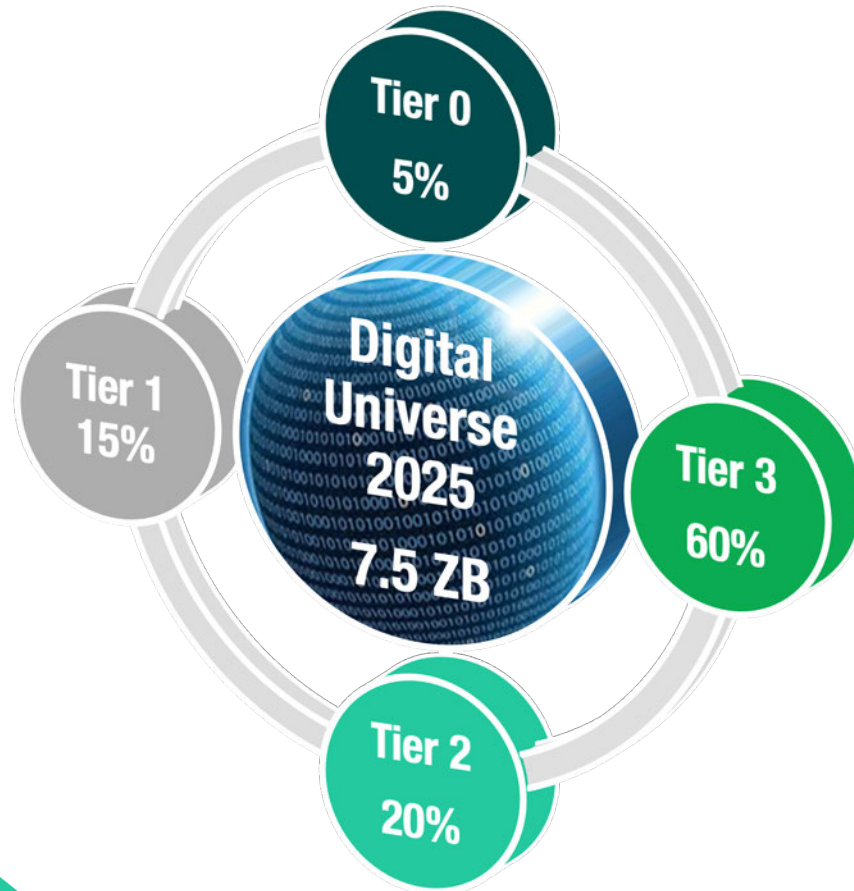
- More than 1.4 billion Apple mobile devices active in market
- iPhone 11 up to 256 GB of storage. Samsung offering 1.0 TB



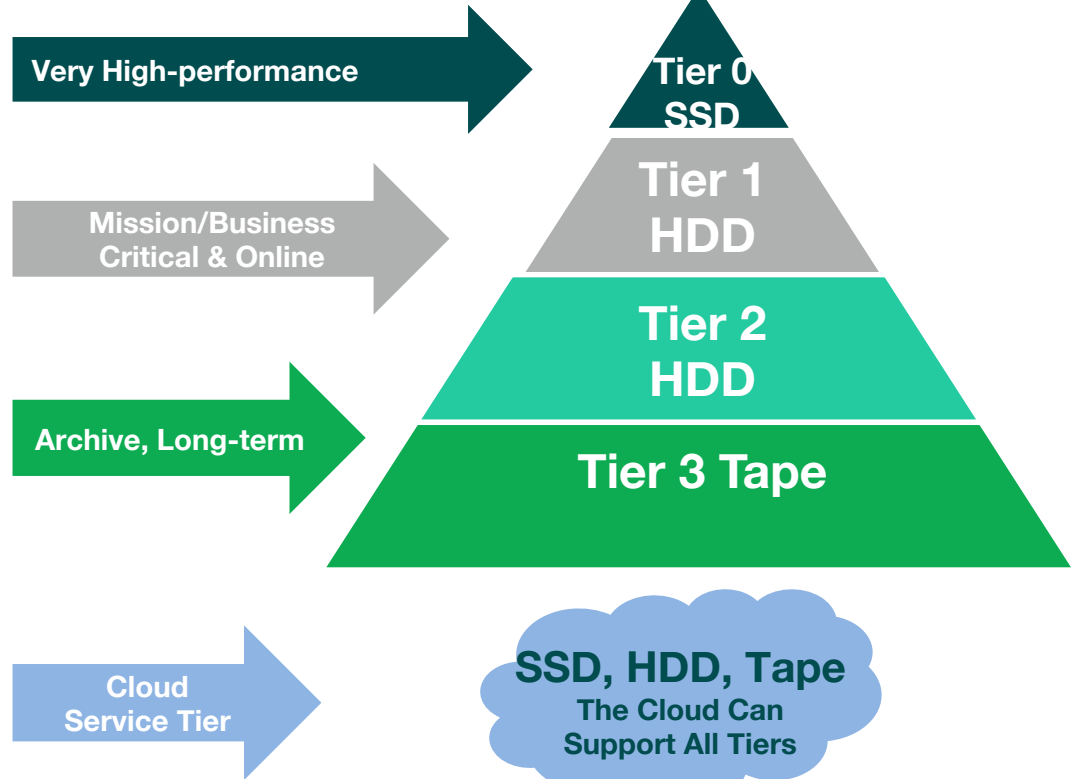
Autonomous Vehicles



Positioning of Data Storage

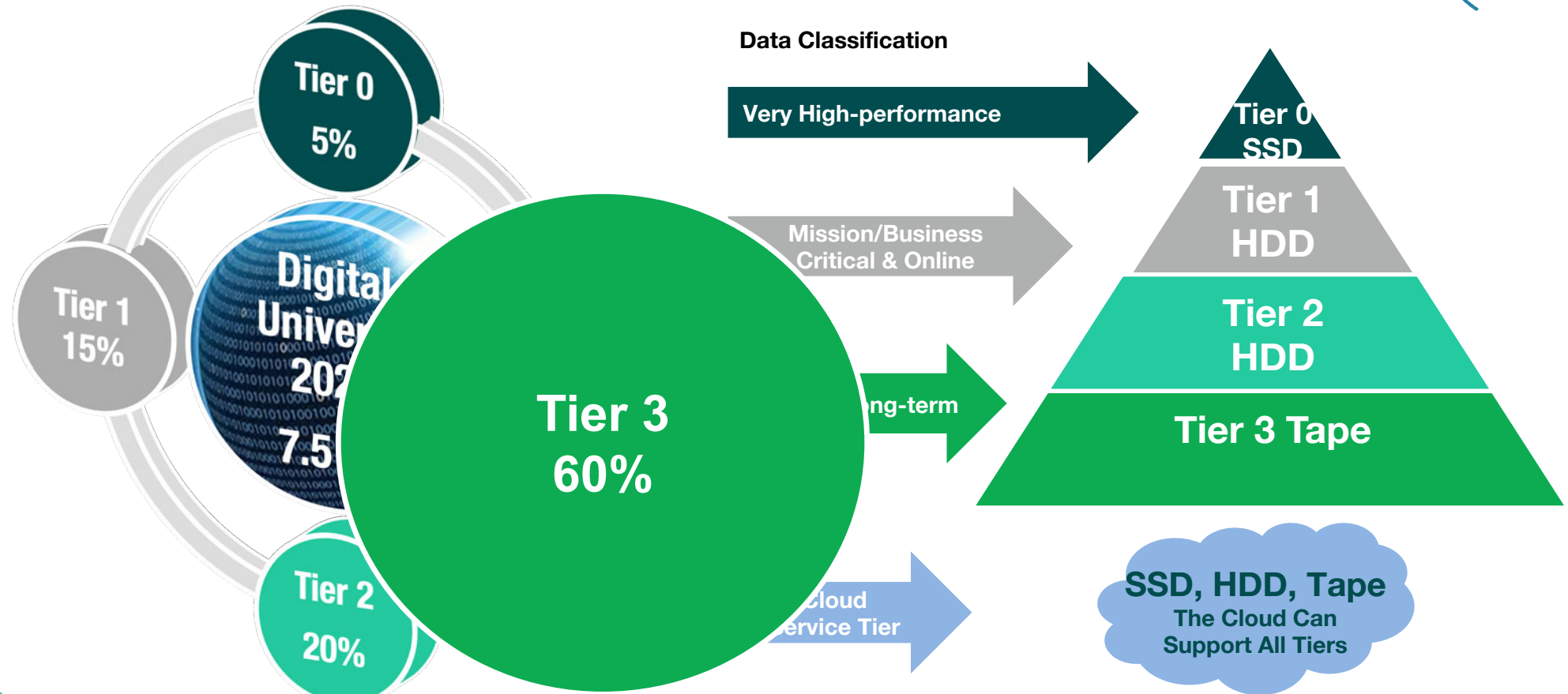


Data Classification



At least 60% of all data is archival!

Positioning of Data Storage



At least 60% of all data is archival!

60% of Data is Archival?

Data Lifecycle

- After, 30, 60 or 90 days, data is rarely accessed again

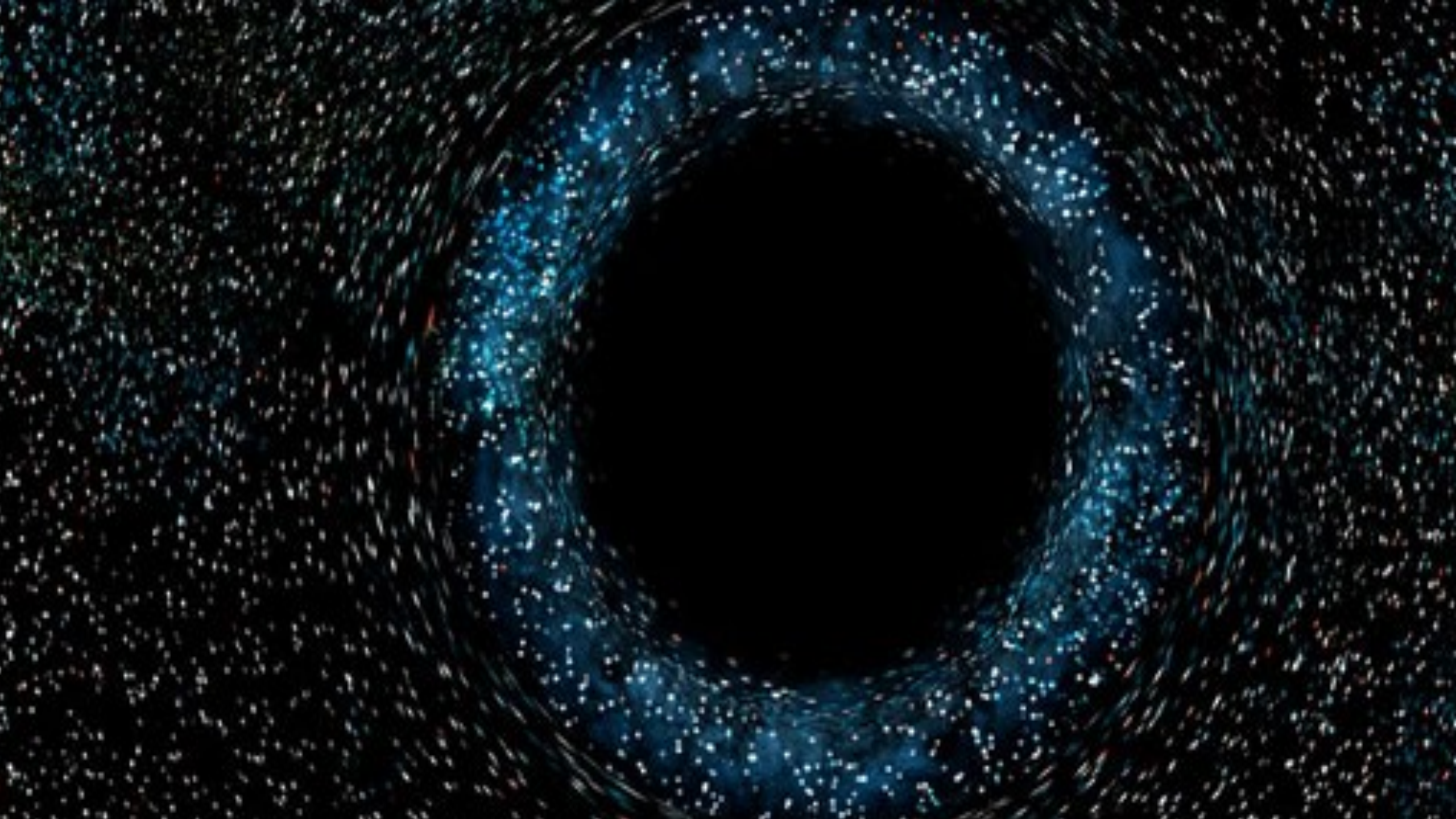
Best Practices

- Move inactive data from expensive to low cost tiers of storage
- It's all about Storage Optimization!

But is this being done?

- Tape capacity shipments currently suggest only 8% of archival data being stored on Tape!





Digital Dark Age

- Computer and data specialists refer to this “**era of lost data**” as the “**digital dark ages.**” or the “**informational black hole.**”
- All that data — **our century’s digital history** — is at risk of never being recoverable.



To Avoid Digital Dark Age, What Do Customers and Society Need?

- Long term data protection and retention
- A reliable, cost effective and secure storage medium
- Ability to scale as data grows
- Future roadmap to enable migration

**TAPE IS THE ANSWER FOR THE FORESEEABLE
FUTURE, NOT HOLOGRAPHIC, OPTICAL,
OR 5D GLASS CRYSTALS?**

As Data Grows, Tape Capacity Grows With It

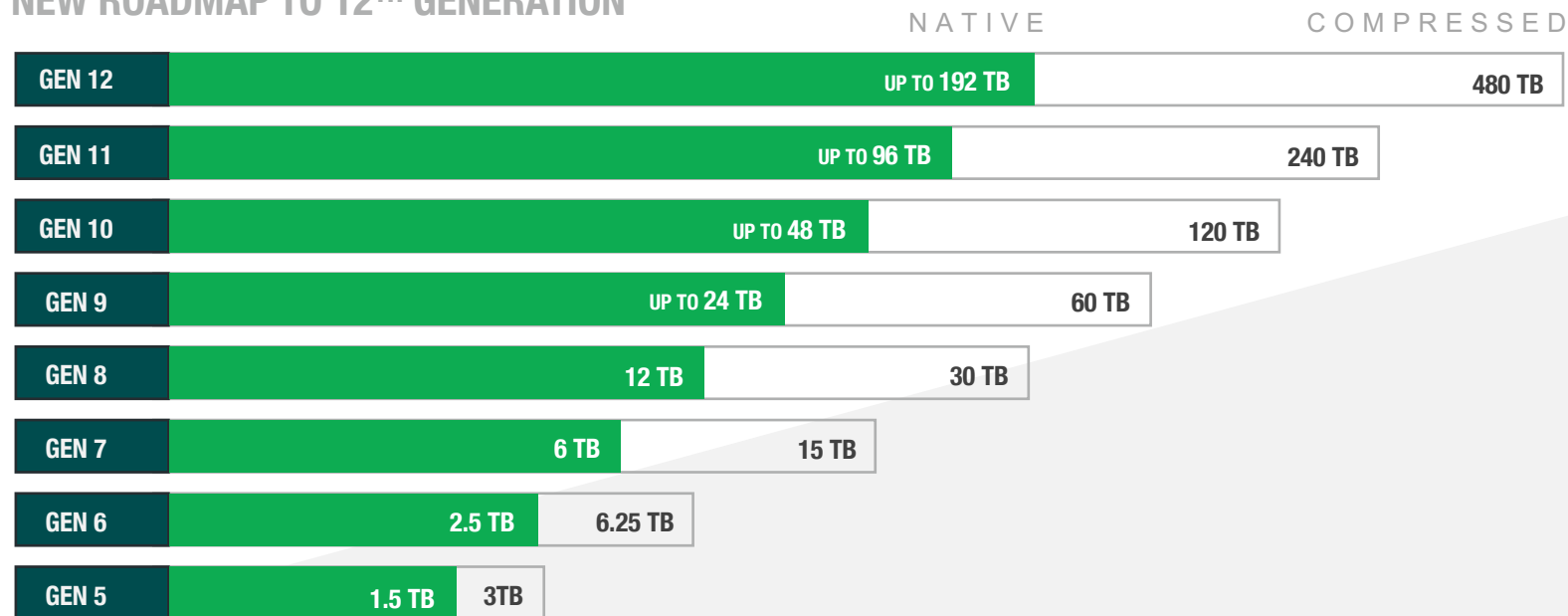
In 2015 FUJIFILM achieved a world record in areal density with Barium Ferrite Technology

220TB ON A SINGLE TAPE CARTRIDGE

FUJIFILM is working with “Strontium Ferrite” which has even better magnetic properties and higher areal density

400TB ON A SINGLE TAPE CARTRIDGE

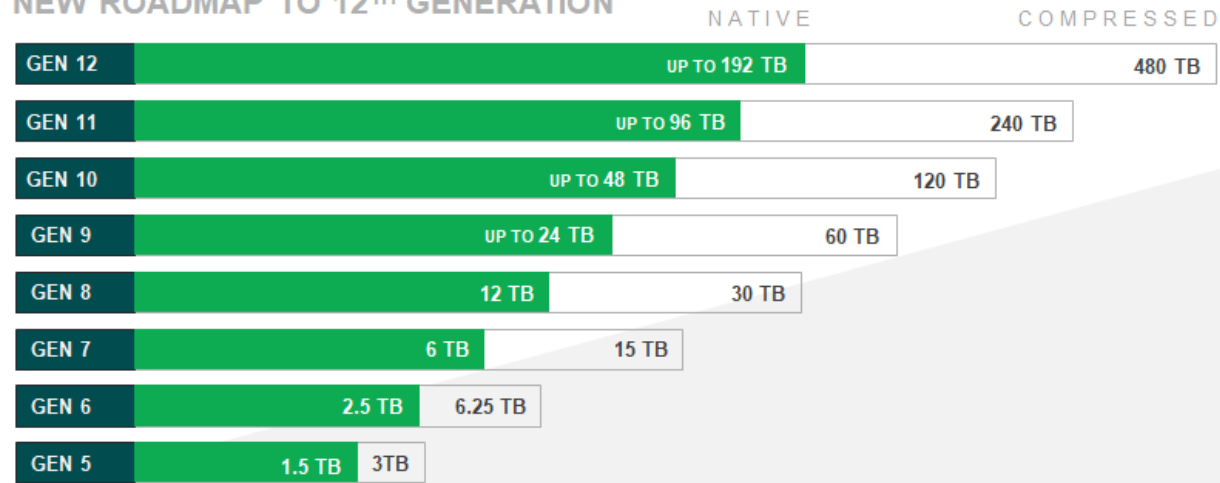
NEW ROADMAP TO 12TH GENERATION



Why Is the Roadmap Important?

- Ability to plan for migration
- Migration is key to prevent digital dark age

NEW ROADMAP TO 12TH GENERATION



To Manage the Exponential Data Growth

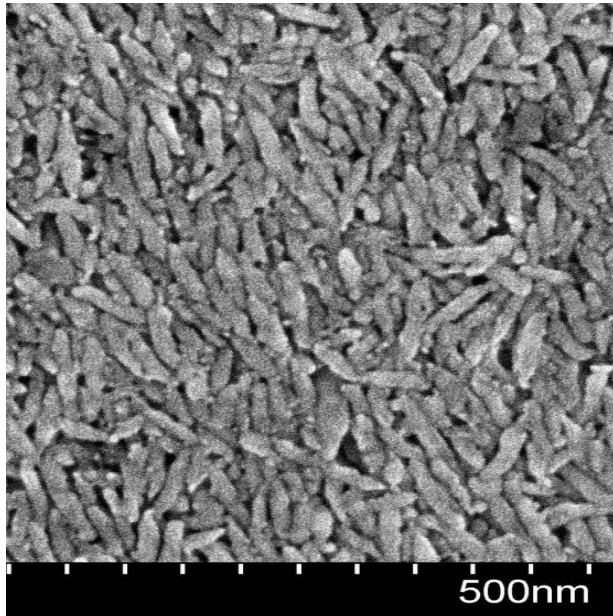
**FUJIFILM is Committed to
Investing in the Future**



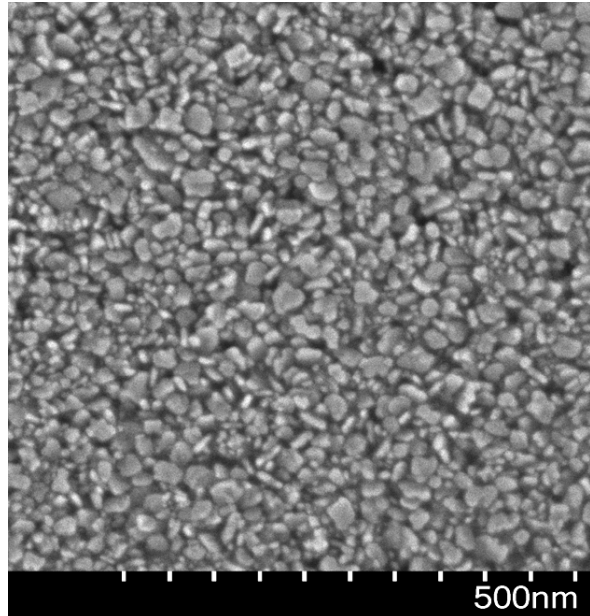
Strontium Ferrite Announced in 2017

- FUJIFILM is working to commercialize a new magnetic particle that can store up to **400 terabytes**, or **33 times** more than LTO-8 capacity
- This new magnetic particle is “**Strontium Ferrite**” (SrFe) and has magnetic properties that are even better than BaFe
- This new particle technology can be applied beyond **LTO-10**
- FUJIFILM has been doing extensive research and development on SrFe since late 2012 and have now completed IP applications

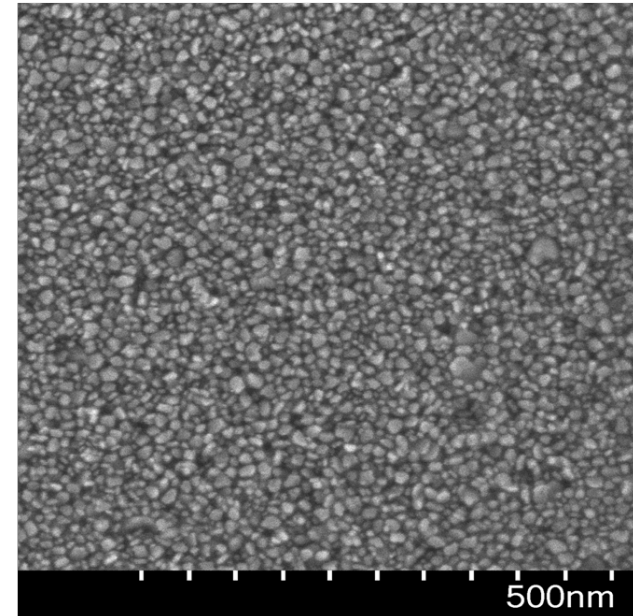
Metal Particle vs. Barium Ferrite vs. Strontium Ferrite



1994
Legacy Metal Particle



2001
BaFe Particle

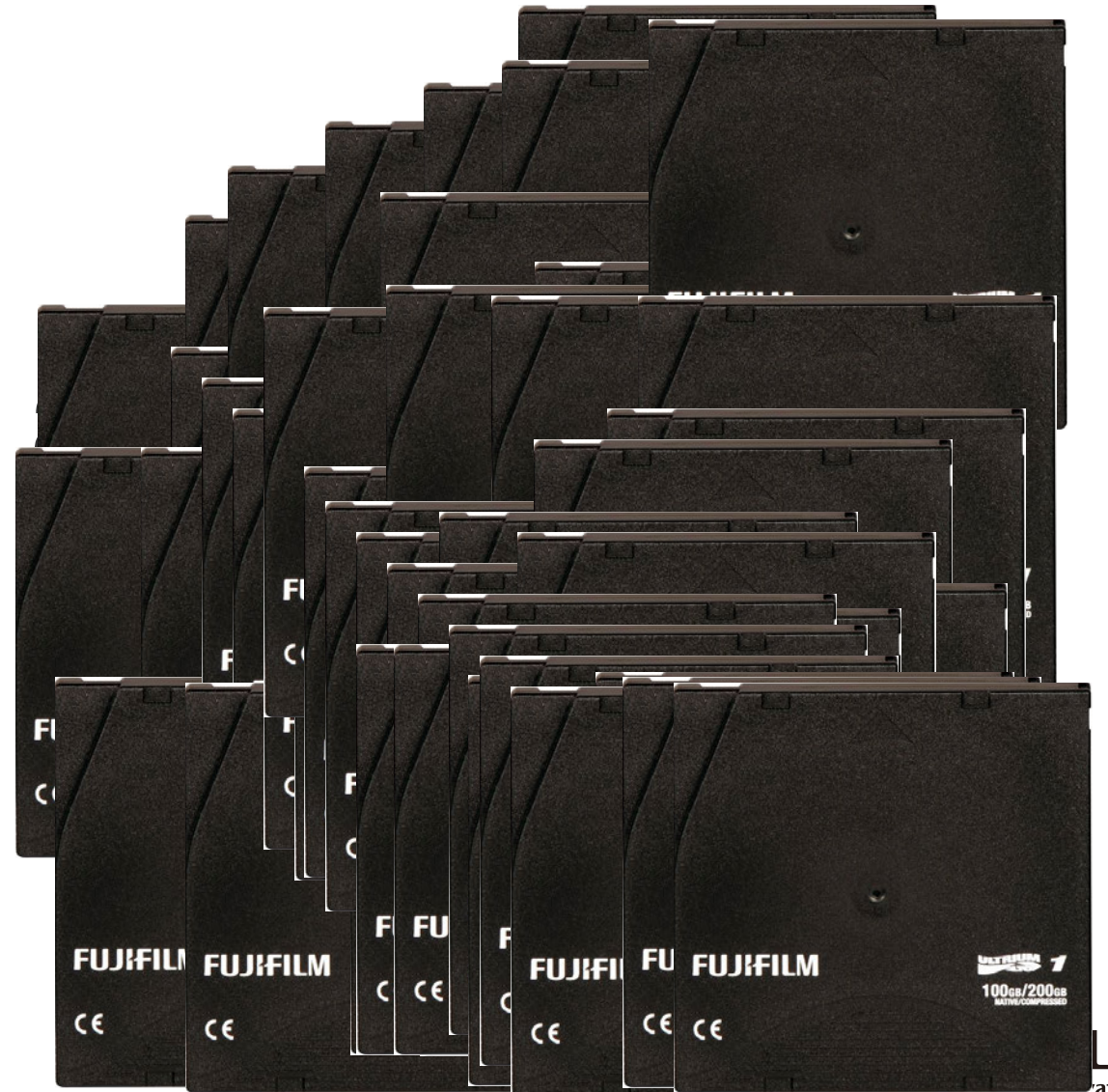


2022
SrFe Particle

If MP was the End of FUJIFILM's R&D...

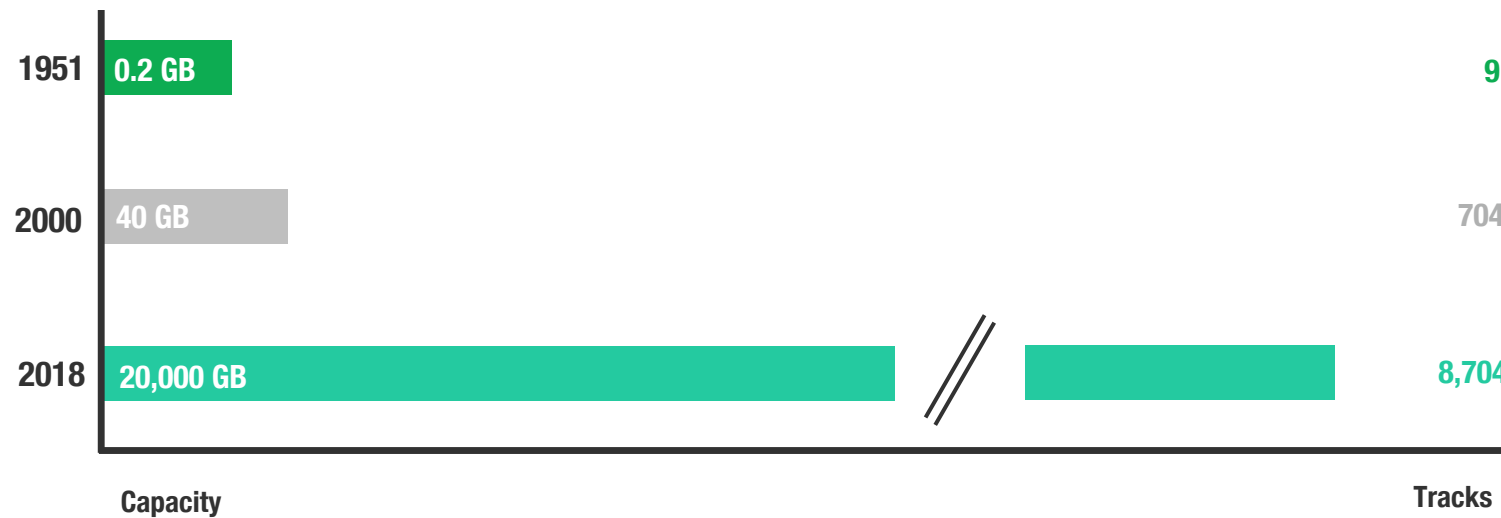


A single 20 TB JE Tape



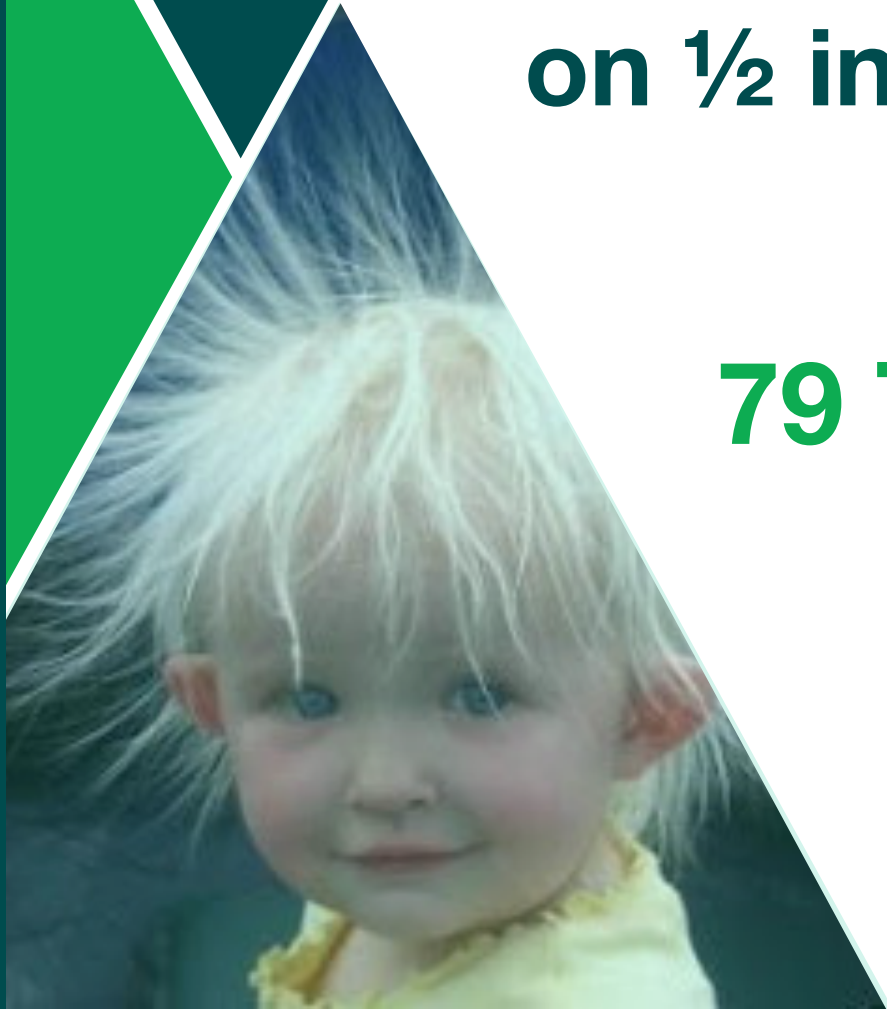
Rapid Growth in Tape Capacity

- First 49 years CAGR grew 11%
- Last 18 years CAGR grew 34%



**Today's tape has 8,704 tracks
on 1/2 inch – equivalent to**

**79 TRACKS ON A SINGLE
STRAND OF HAIR**





**STORAGE
OPTIMIZATION**

Final Thought...

- *We all have a social responsibility to preserve digital content, the sum of our knowledge - for future generations.*
- *We are committed to this mission!*

THANK YOU!



FUJIFILM
Value from Innovation