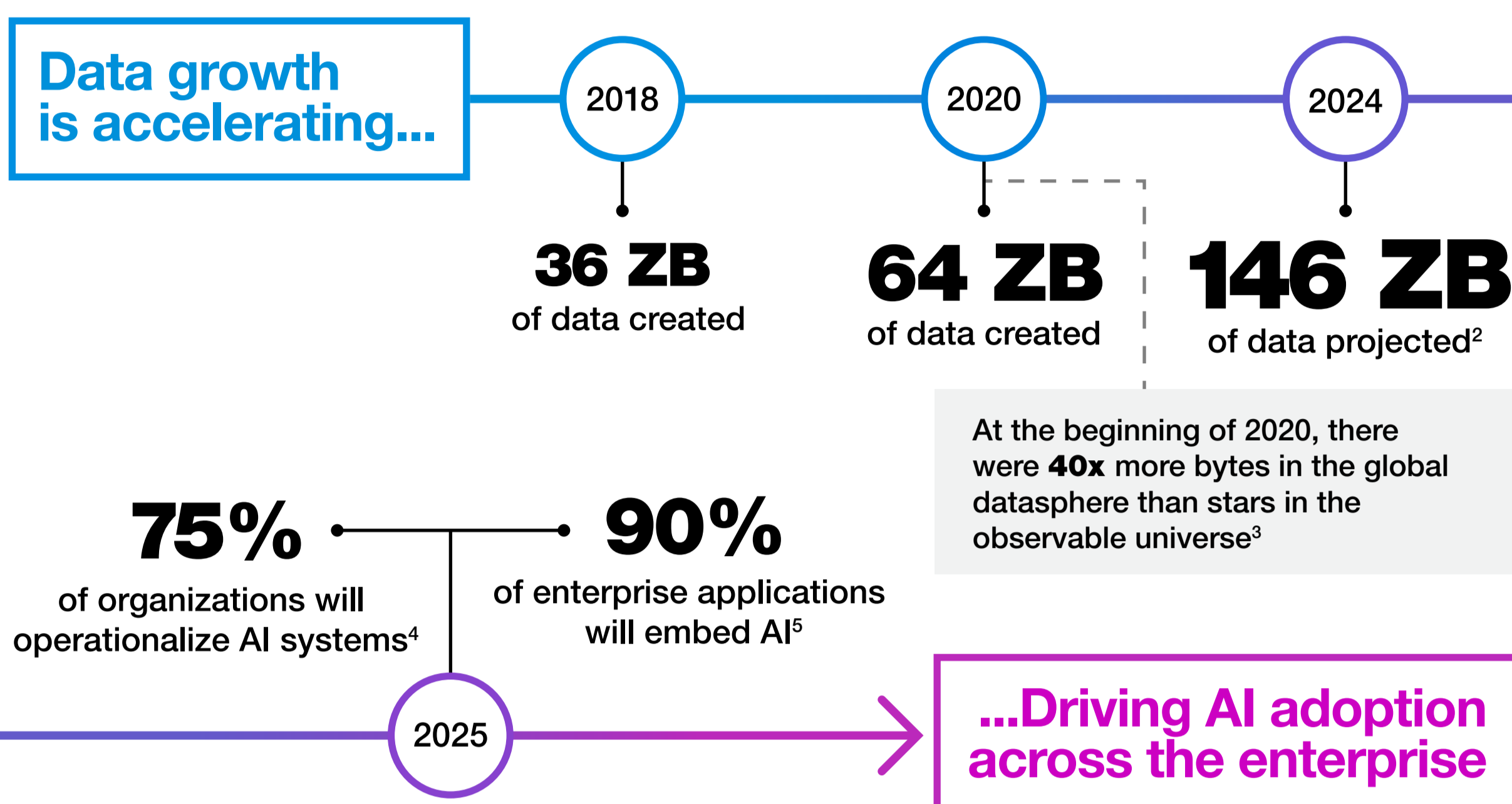# MICRON

HBM2E
The Leader in High Bandwidth

Modern data centers are using artificial intelligence (AI) and high-performance computing (HPC) environments to solve today's most pressing challenges. But for AI and HPC to operate at their peak, each must be fed massive amounts of data — quickly, efficiently and continuously.

High Bandwidth Memory (HBM) offers ultra-wide bandwidth and scalable density[1] with low power consumption to do just that. At the forefront is HBM2E, the fastest memory on the planet and the flagship of Micron's complete Ultra-Bandwidth Solutions portfolio.

AI transforms data into actionable intelligence
Driving the need for High Bandwidth Memory

Data growth is accelerating...

2018
36 ZB of data created

2020
64 ZB of data created

2024
146 ZB of data projected[2]

At the beginning of 2020, there were **40x** more bytes in the global datasphere than stars in the observable universe[3]

75% of organizations will operationalize AI systems[4]

90% of enterprise applications will embed AI[5]

2025

...Driving AI adoption across the enterprise

Why is HBM2E better?
Because it's closer.[6]

Closer is faster
Saving millimeters may not sound like a lot, but to data at nanoscale, it is.

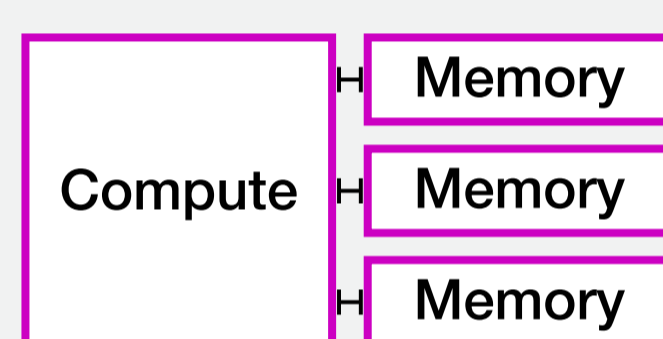cm | H | Not to scale
0 ... 1

Closer means more bandwidth
It uses a wide (1,024 bits) multichannel I/O for maximum bandwidth and capacity.

1,024 bit multichannel I/O

Closer is cooler
Less power consumption, thanks to the memory's close physical placement next to the compute.

Compute → Memory / Memory / Memory

How does HBM2E performance stack up?[7]

8x greater package density compared to GDDR6
HBM2E ●●●●●●●● 16GB
GDDR6 ●● 2GB

7x more package bandwidth than GDDR6
HBM2E ■■■■■■■
GDDR6 ■

87.5% smaller footprint than GDDR6*
HBM2E ▬
GDDR6 ▬▬▬▬▬▬▬▬
*for estimated peak workloads in super compute bandwidth scenarios

Micron HBM2E   Micron HBM2E   Micron HBM2E

Why Micron for High Bandwidth Memory
The industry's most complete high performance memory portfolio

1 and only company in the world to offer a complete portfolio of Ultra-Bandwidth Solutions

20+ years of innovation in stacked DRAM technology

40+ years of memory manufacturing expertise and leadership

1000+ patents in memory stacking and advanced packaging solutions

When performance is everything, choose the memory that outperforms all.

Learn more: micron.com/hbm2e

Sources

[1] Table at https://www.micron.com/products/ultra-bandwidth-solutions
https://www.micron.com/products/ultra-bandwidth-solutions/gddr6x
https://www.micron.com/products/ultra-bandwidth-solutions/hbm2e

[2] IDC, "Global DataSphere 2021," https://www.idc.com/getdoc.jsp?containerId=IDC_P38353

[3] SeedScientific, "How Much Data Is Created Every Day?,"
https://www.visualcapitalist.com/how-much-data-is-generated-each-day

[4] Gartner, "Top 10 Data and Analytics Technology Trends for 2020,"
https://www.gartner.com/en/newsroom/press-releases/2020-06-22-gartner-identifies-top-10
-data-and-analytics-technolo

[5] IDC, "IDC FutureScape: Worldwide IT Industry 2020 Predictions,"
https://www.idc.com/research/viewtoc.jsp?containerId=US45599219

[6] Micron HBM2E: Performance Is Everything - YouTube

[7] http://www.micron.com/products/ultra-bandwidth-solutions. Comparisons in table based on JEDEC standards and product definitions.

MICRON
Intelligence Accelerated