Global HBM 3 Market Predicted to Achieve Significant Growth, Reaching $388 Million by 2030 at a CAGR of 31%

DALLAS, TEXAS, USA, June 13, 2024 /EINPresswire.com/ -- Key contents of the Global HBM 3 Market report include

- Market size & Forecast segmented by Geography, DRAM Stack, and Application
- Technology trends, Impact of regulations, and Constraints
- Average B2B Price by Geography and Pricing forecast
- Competitive landscape and market share of leading vendors

> Despite competition from HBM2E, LPDDR, and DRAM, no other memory matches HBM3's bandwidth, capacity, and efficiency for HPC, AI, and data processing, driving its market growth."
>
> *Abhishek Kishor*

As industries worldwide continue to see explosive growth in generative artificial intelligence (AI) and Machine Learning (ML) applications as well as an increase in the number of Data Centers, the global market for HBM3 is set to experience substantial growth. According to the latest market study by Mobility Foresights, the "Global HBM3 2024-2030" is expected to grow from $58 Million in 2023 to $388 Million by 2030, at a compound annual growth rate (CAGR) of 31%.

Market Overview:

The global demand for HBM3 is expected to experience significant growth in the coming years, driven by the increasing demand for high-performance computing and AI applications, also due to the demand for cloud computing which has increased the number of data centers across the globe.

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KEY FINDINGS
South Korea and Taiwan are expected to have high production and demand as well as it is being used as a component in the making of GPUs, Servers and supercomputers.

The top 3 players in the HBM 3 market are SK Hynix, Samsung & Micron Currently, SK Hynix and Samsung are the only supplier that mass produces HBM3 products thus increasing their share in

the HBM space

Mercedes-Benz was the first automotive manufacturer worldwide to secure internationally valid system approval for conditionally automated driving (SAE Level 3). Making HBM3 potential for future application

HBM3 has better specifications than GDDR and LPDDR, the only constraint is the price which can justified by the drop in price compared to other options (GDDR &LPDDR) which are already available at chipper prices.

HBM3 is faster than incumbent memory chip technologies, uses less power and takes up less space. It is becoming particularly popular for resource-intensive applications such as high-performance computing (HPC) and artificial intelligence (AI)

HBM3 offers several enhancements over HBM2E, most notably the doubling of bandwidth from HBM2E at 3.6 Gbps up to 6.4Gbps for HBM3, or 819 GBps of bandwidth per device. In addition to increasing capacity and speed, the improvements in energy efficiency are noteworthy. With HBM3, the core voltage is 1.1V, compared to HBM2E's 1.2V core voltage. HBM3 also reduces the I/O signaling to 400mV versus 1.2V for HBM2E.

HBM3 comprises a stack of multiple DRAM devices across several independent interfaces. As per JEDEC, in HBM3, each DRAM stack can support up to 16 channels compared to 8 channels in HBM. Which will be the key factor in the upcoming future

HBM3 can support complex scientific simulations, such as weather forecasting, computational fluid dynamics, or particle physics simulations, by providing fast memory access for large datasets. HBM3 can accelerate molecular dynamics simulations used in drug discovery and material science research, facilitating faster analysis and modeling of complex molecular systems.

HBM3 can handle the high-bandwidth data generated by various sensors in autonomous vehicles, such as LiDAR, radar, and cameras, enabling real-time object detection, environment perception, and decision-making. Making automobile a key application in the upcoming future hence driving market for HBM3

Key Growth Drivers:

HBM3 is faster than incumbent memory chip technologies, uses less power and takes up less space. It is becoming particularly popular for resource-intensive applications such as high-performance computing (HPC) and artificial intelligence (AI)

HBM3 offers several improvements over the HBM2E standard. Some were expected (bandwidth bump), some unexpected (RAS improvements, updated clocking methodology). All told the new

standard offers users a significant improvement to HBM memory for the next generation of SoCs.

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HBM3 MARKET TRENDS

Chip Technology Companies Foray into Market :- Companies such as Synopsys & Rambus have developed silicon-proven HBM3 sub-systems, controllers, and physical interfaces. These sub-systems support up to 1TB/s bandwidth per stack and support up to 16 DRAM stack

Stack DRAM chips up to 16 die high:- HBM3 comprises a stack of multiple DRAM devices across several independent interfaces. As per JEDEC, in HBM3, each DRAM stack can support up to 16 channels compared to 8 channels in HBM. Which will be the key factor in the upcoming future

Reduced channel and pseudo channel size :- It makes for a better-performing system to have smaller channels, which is what we've seen happen with HBM. From HBM2e to HBM3, they dropped the channel and pseudo channel size very specifically to address the kind of need from the market

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Regional Insights:
The US and Asia-Pacific region, led by China, remains the largest market for HBM3, driven by a large number of data centers and highly intensive AI/ML applications which is the current driving applications for HBM3. However, Europe will also have a significant impact on the HBM3 market mainly due to upcoming data centers in the region

Future Outlook:
Despite the high cost, the market is poised for growth, mainly due to HMB's impressive bandwidth and capacity, HBM3 is expected to become a mainstream memory solution for HPC and AI systems, enabling faster data processing and more efficient training of large neural networks. Leading GPU manufacturers, such as AMD and NVIDIA, are adopting HBM3 for their next-generation GPUs like we have seen in NVIDIA H100 80GB SXM5 Tensor Core GPU, targeting high-end gaming, professional visualization, and AI workloads.

COMPANY PROFILES
SK Hynix
Samsung
Micron Technolgy

Reasons to Purchase:

Strategic Decision Support: This report offers valuable data on market forecasts, sector trends, and micro and macro details to support strategic decisions.
Competitive Strategy Development: Insights into market share and positioning of key market players aid in developing competitive strategies and positioning one's own business effectively.

Risk Evaluation: Understanding market drivers, restraints, and dynamics helps in assessing potential risks and developing risk mitigation strategies.
Market Entry and Expansion: Detailed analysis of segmented market growth, geographic trends, and regulatory frameworks assists businesses in planning market entry and expansion strategies.

Optimal Investment Planning: The report guides stakeholders in identifying regions and sectors ripe for investment, helping optimize investment strategies.

Regulatory Impact Analysis: Provides a detailed understanding of the regulatory landscape and upcoming changes, which are crucial for compliance and strategic planning.

The report provides insight into current and future potential applications, which help the stakeholder to collaborate with certain players across industries

About Mobility Foresights:
We are a Market Research firm specialized in mobility domain(s). Our zone of research entails Automotive, Semiconductor, Chemical and Materials,Aerospace, marine, locomotive, logistics, and construction & agricultural equipment. We deal in syndicated research, custom research and consumer research for all the aforementioned domains.

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