
# 7 MEMORY NEWS AND A FAREWELL

MEMPHIS
WE KNOW MEMORY

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# MEMPHIS MEMORY ESSENTIALS

**Everything you need to know about the semiconductor memory industry, from legacy technologies to latest innovations.**

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## 7 Memory News and a Farewell

The Semiconductor Supply Chain is gaining top-level attention. Following the events during the pandemic and the current tense relationships with China, the leaders of the G7 states have announced plans to establish a group dedicated to semiconductor supply chains. With the chips acts across the globe, this move is another indication that governments acknowledge the importance of the semiconductor industry.

At the same time, efforts continue to reduce the environmental impact of the manufacturing industry as a whole. And while regulation is still very much in flux, we receive more and more questions about PFAs and their use in memory components. Since the EU committees met in mid-June to discuss further details of the plans for its regulation, we thought now was a good time to raise this topic and start informing about it.

However, on a day-to-day basis, the plans of the big three memory manufacturers to discontinue DDR3 components have a more immediate impact on the industry. Although the technology might seem old - considering that GDDR7 components are planned to go into mass production later this year – they are still widely used in a variety of applications.

As we also hear about DDR4 components being discontinued in 2025 it's high time to look at alternatives and sort out options. With 18 memory manufacturers in our linecard, we are sure to find an adequate alternative for your design and don't miss our 5 tips on how to navigate discontinuations in our industry.

We are ending this month's newsletter with a bit of a sad story. While we celebrate the 56th anniversary of DRAM, we had to say goodbye to its inventor, Robert Dennard just a few weeks back. But still, we wanted to honor his contribution to our world.

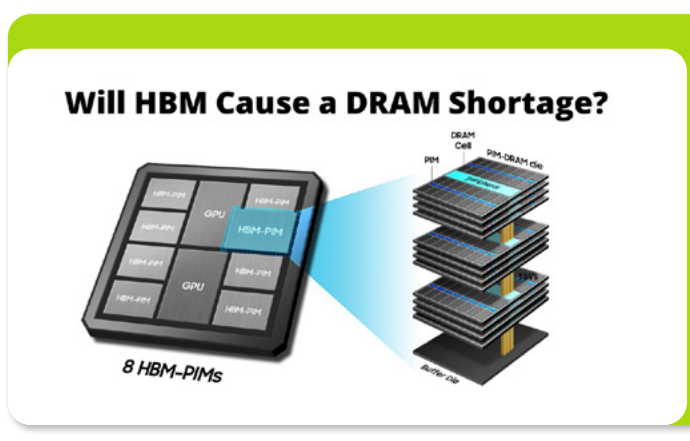
Enjoy the read and reach out if you have any questions.


### G7 to launch a semiconductor supply chain group

The G7 – which comprises the US, Canada, Germany, France, Italy, Britain, and Japan –is working on a formal plan to deal with future disruption to the semiconductor supply chain, according to Bloomberg.

This action came in response to the disruption caused by the pandemic and other unforeseen global events. The world was caught short by the recent problems, which caused dramatic disruption to the consumer electronics and automotive markets in particular.

The Register has more details here.




### HBM Might Cause DRAM Shortage

The boom in high bandwidth memory (HBM) has the potential to cause a DRAM supply shortage unless more manufacturing lines are built quickly.

TrendForce is warning about the „potential crowding out effects on HBM capacity" as demand for the memory is expected to grow 200 percent this year and to double again in 2025.

Although Samsung, Micron, and SK hynix all are either building new or transitioning old factories, the exact timelines for the new factories will depend on 2024 profits.

Read more here.


### DDR3 Discontinuation Drives Prices

Samsung and SK hynix will stop supplying DDR3 memory by the end of this year. This is in response to the growing demand for AI-optimized HBM3 memory and both companies are focusing on more lucrative markets.

DDR3 is still used today in a variety of applications that don't require bleeding-edge memory. Furthermore, TrendForce expects that edge computing devices will continue to adopt DDR3. With supply significantly decreasing while demand remaining strong, DDR3 prices are expected to continue their upward trend. Reach out if you need alternatives!

Read more here.


### 5 Tips for Navigating Discontinuations

After the wild swings between shortage and oversupply, you might be tempted to lean back and relax. And while it is true that both prices and supply of semiconductors and memory components have been stable, semiconductor obsolescence is as certain as death and taxes. So here are 5 tips from our President, Marco Mezger, on how to handle discontinuations and prepare for the inevitable.

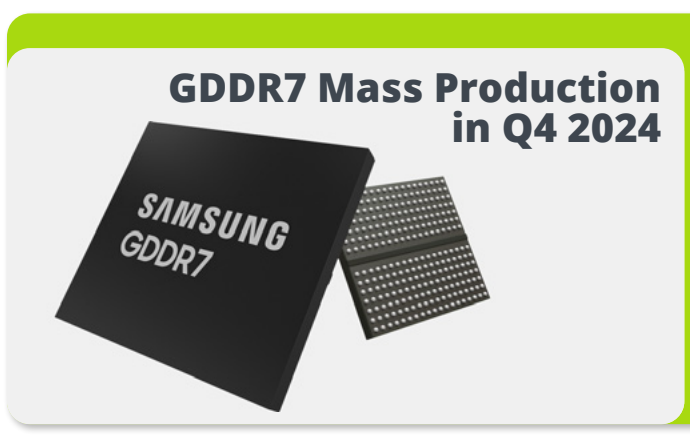
If they succeed, this new quantum memory might help build the networks of tomorrow.

Read them here.


### Are you affected by PFAS regulations?

Per- and polyfluoroalkyl substances (PFAS) are a large class of about 10.000 synthetic chemicals which have been detected as environmental pollutants with negative effects on human health. Hence, efforts are increasing to reduce the use of PFAS. While the EU is still formulating its regulation, some states in the US have already banned PFAS which puts companies across the globe under pressure to get clarity on their use of PFAS.

Read more here.

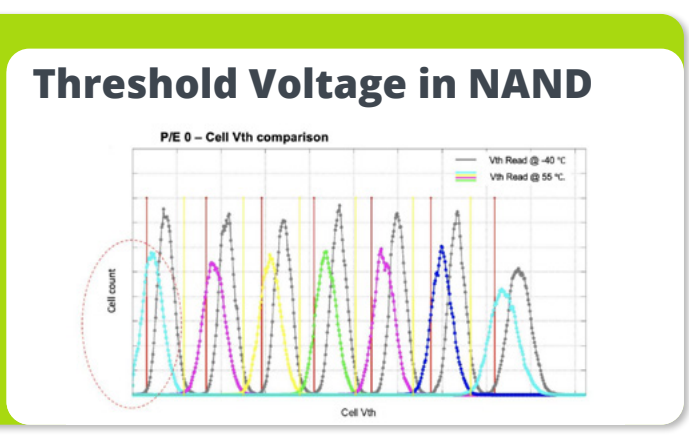



### Mass Production of GDDR7 in Q4 2024

Only 4 months after JEDEC published the GDDR7 standard, SK hynix announced plans to begin mass production of its GDDR7 chips in the fourth quarter of 2024.

In the meantime, Micron also announced the launch of its GDDR7 in June. It is currently being sampled and is expected to go into mass production in 2024. Samsung is also already sampling GDDR7 memory with the aim of launching it in 2024.

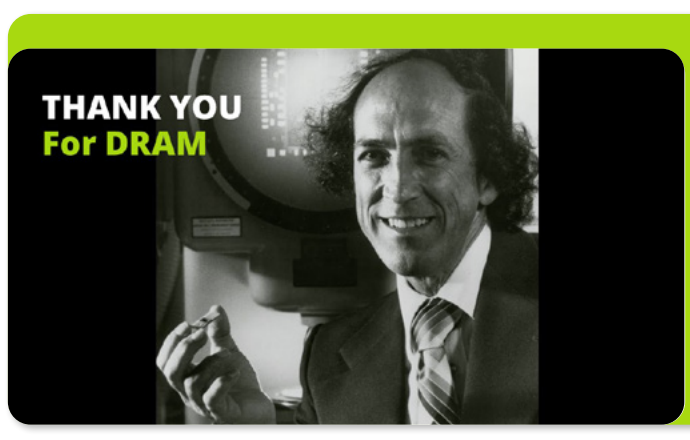
Read more here.




### The Role of Threshold Voltage in NAND

It's a struggle when data corruption occurs in NAND Flash due to temperature changes. The cross-temperature effect and shifts in Threshold Voltage (Vth) during Program/Erase cycles are major challenges, leading to errors beyond correction capabilities. To mitigate the issue of increased error bits during data sensing due to Vth shifts, recent NAND Flash designs incorporate read-level configurations. In this white paper, Intelligent Memory explains why this effect matters in industrial NAND devices and how memory manufacturers address them.

Read the white paper here.




### Tribute to the Inventor of DRAM

In June 1968 Robert Dennard was granted a patent for his groundbreaking DRAM cell design idea, featuring a single transistor and a single capacitor. This innovative approach, though commonplace now, revolutionized the industry back in the sixties. He passed away only recently, but we still celebrate his legacy and the impact of his invention. Marking this anniversary, EE journal has put together an excellent overview of his achievements here.

### How do you like our monthly newsletter?

Let us know how we are doing and what topics you would like to read more about.

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