What is the Market for Emerging Memories in 2030?

We have a lot of requests to predict the Emerging Memory Market in 2025 and 2030. We provide an estimate and the reason why most other forecasts are way off.

At Flash Memory Summit, we presented details on Bits and Revenue for Optane 3D Xpoint in 2025. This presentation is available at our website www.mkwventures.com along with NAND Costs and other presentations.

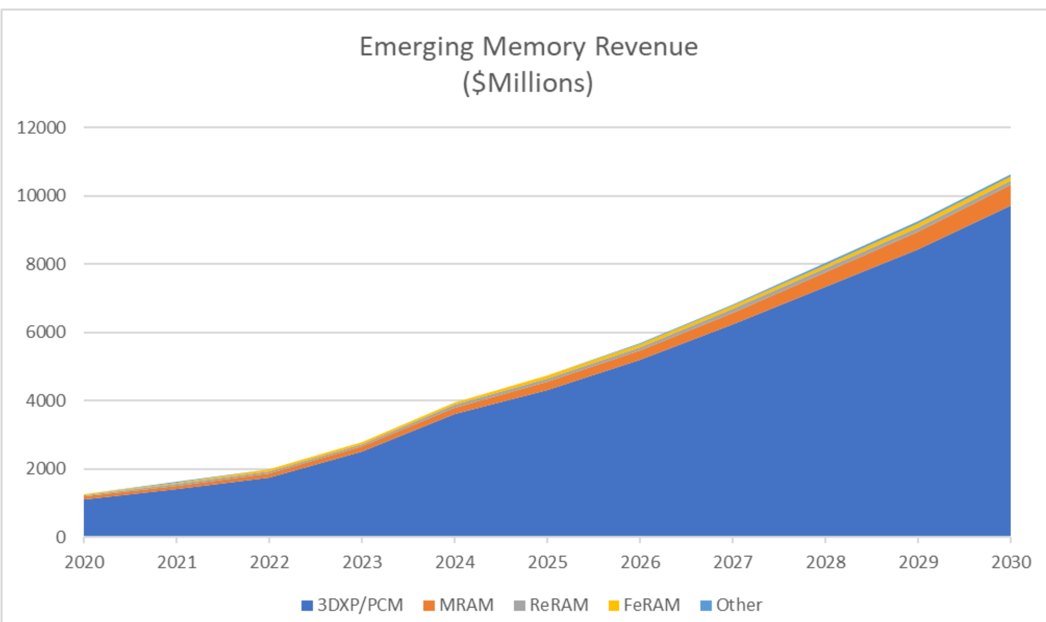
But that wasnt good enough! People wanted a summary of ALL emerging technologies and data through 2030. When people make predictions, I like to say "did you predict this year? or last year? or next year correctly? if you can't predict the past... give up on 2030.

Emerging Memory as we define it is 3D Xpoint+ MRAM + ReRAM + Fe RAM + others. It is does not include NAND, DRAM, NOR, SRAM, EEPROM, etc.

This is for stand alone memory only. Not embedded/SOC

Summary (Call us for more details and how you can monitor our progress)

Year	Optane/3D XPoint	MRAM	All New Memories (includes low density)
2020	1.1B	80M	1.25B
2025	4.3B	250M	4.75B
2030	9.7B	610M	10.7B



The emerging Memory Market will grow to $10.7B in 2030. 90% of that is PCM/Optane

Why is MKW Ventures number different from other estimates???

1) Other estimates use CAGR. It turns out memory and storage revenue is not very "compound" ... it actually grows more linear than exponential after first couple years. This is why SSD and NAND sales are half of what people predicted back in 2013. BITS grow CAGR... Revenue does not due to cost and ASP reduction.... and the fact that customer can't print money.

2) Even for existing "new" technologies, they are not growing that fast. MRAM revenue is growing 10% per year right now... during a huge breakthrough period. We predict huge revenue increase for Optane simply because Intel is investing Billions in it and is driving new bus connections for it. Without Intel ... divide the numbers by 5-10

3) New technologies are expected by others to take off quickly. If ReRAM or FeRAM take off. it will be in 4-5 years and it will not replace other markets. Optane is 5 years after production introduction and Micron sales are less than $10M per year other than Intel. It take a long time ... AFTER we agree the technology works

No technology or product has had 35% revenue CAGR for 10-15 years.... Obviously it won't happen with Emerging Memories either.

I have details by technology and checkpoint to monitor... and details on why PCM/Optane will grow. Call for more info

Mark Webb

www.mkwventures.com

Mark@mkwventures.com

505-681-7614