

TMTB: JPM TMT Conf Key quotes (SNDK, MU, AMAT)

TMTB: 摩根大通 TMT 会议核心引言 (SNDK、MU、AMAT)



TMT BREAKOUT
MAY 21, 2026 · PAID

Listen

SNDK

David Goeckeler, Chairman & CEO, and Luis Visoso, EVP & CFO, Sandisk

David Goeckeler, 董事长兼首席执行官, 以及 Luis Visoso, 执行副总裁兼首席财务官, Sandisk

#1 — New Business Model: Transforming NAND from Cyclical to Predictable

#1 — 新商业模式: 将 NAND 从周期性转变为可预测性

Goeckeler: "One of the most interesting things going on in the business right now is it gives us an opportunity to change the business model. This is a business that's been a very transactional business in the past. That's led to a lot of dynamics, a volatile

17



t to change those practices with

our customers.

Goeckeler: "目前业务中最有趣的进展之一是, 它为我们提供了改变商业模式的机会。过去, 这是一个非常依赖交易的业务。这导致了許多动态变化, 使业务具有波动性。但我们现在正处于一个可以开始与客户一起改变这些惯例的节点。

Everybody's a winner in that process.

在这个过程中, 每个人都是赢家。"

"

"We're trying to do really three things. Number one, get a fair return for our product — last quarter we drove 78.4% gross margin, we guided for slightly higher.

“我们正致力于实现三个目标。第一，让我们的产品获得公平的回报——上季度我们的毛利率达到了78.4%，而我们的指引目标还要略高一些。

Number two, get rid of the cyclical, or at least dampen it — we're strengthening our balance sheet, building cash reserves, putting contracts in place where when that moment happens, there's a financial benefit to us. And number three, grow — mid- to high-teens growth.

第二，消除周期性，或者至少是减弱它的影响——我们正在强化资产负债表，建立现金储备，并签署相关合同，以便在周期波动发生时，能为我们带来财务上的收益。第三，增长——实现15%到19%左右的中高双位数增长。

The issue is, depending on how fast you grow it, the other two get all out of whack. So it's how do you balance these three things? And that's what we're doing with these new business models.

问题在于，取决于你增长的速度有多快，另外两个目标可能会失去平衡。所以，如何平衡这三者？这就是我们通过这些新商业模式正在做的事情。

”

#2 — Undersupplied Through End of 2027

#2 — 供应短缺将持续至2027年底

Goeckeler: "We still have this same level of conviction. We see this market undersupplied for a long period of time. At that point, we said through the end of '26 — because frankly, that's the visibility we had. At that point it was February of '25. Through the end of '26 was a long time away in this market.

Goeckeler: “我们依然持有同样程度的信念。我们认为这个市场在很长一段时间内都将处于供应不足的状态。当时，我们说这种情况会持续到26年底——坦率地说，是因为那是我们当时能看到的预见期。那时是25年2月，到26年底在当时的市场环境下已经是很长一段时间了。

And I think we can say through the end of '27, we have that same level of conviction now.

而我认为现在我们可以说，到 27 年底，我们依然持有同样程度的信念。

”

“It was only February of last year where we got on stage and said the market’s going to grow mid to high teens, and pricing is going to inflect up in the second half. Everybody told us we were wrong. They gave our company a \$7 billion valuation. That was only a little over a year ago. And now it’s like, ‘Well, you should grow faster.

“就在去年 2 月，我们站在台上说市场将增长 15% 到 19% (mid to high teens)，且价格将在下半年回升。当时所有人都说我们错了，给公司的估值只有 70 亿美元。那才是一年多以前的事。而现在，大家又在说：‘好吧，你们应该增长得更快。’

‘ Hey, look, we have a model, and we believe that mid to high teens bit growth is sustainable over time.

嘿，听着，我们有一套模型，并且我们相信 15% 到 19% 的位元增长率 (bit growth) 在长期内是可持续的。”

”

#3 — Data Center Business: 200%+ Sequential Growth, 25% of Mix

#3 — 数据中心业务：环比增长 200% 以上，占比达 25%

Goeckeler: “This quarter, we saw over 200% sequential growth in our data center business, 25% of our mix. We still expect that to grow going forward. I think we’re getting a really, really solid balanced portfolio across the board at this point.”

Goeckeler: “本季度，我们看到数据中心业务实现了超过 200% 的环比增长，占我们业务组合的 25%。我们预计未来这一数字仍将持续增长。我认为目前我们在各个领域都拥有了非常、非常稳健且平衡的产品组合。”

“We’ve been very focused on our data center business. The team has built a great portfolio in consumer, that team then built a great portfolio in client, now that team has built a great portfolio in enterprise. We’ve got exactly the right products at exactly

the right time. Market is exploding, a lot of demand from data center.

“我们一直非常专注于数据中心业务。团队在消费级领域打造了出色的产品组合，随后在客户端领域也取得了同样的成就，现在该团队又在企业级领域构建了卓越的产品组合。我们在最准确的时机拥有了最正确的产品。市场正在爆发，来自数据中心的需求非常旺盛。”

We've built clean sheet architectures — new class of enterprise SSD — right at the moment when that market is pulling on those products.

我们构建了全新的架构——新一代企业级 SSD——恰好赶上了市场对这些产品需求激增的时刻。”

”

#4 — NBM Contract Mechanics: Floor-Ceiling Pricing, Financial Guarantees

#4 — NBM 合同机制：底价-顶价定价模式、财务担保

Visoso: “Most cases, our customers are approaching us. The single first thing they say is, ‘How can you ensure there will be supply?’ It’s not price. It’s first of all, can you guarantee supply? The conversations start with, how many years of commitment are you willing to make? Some are more comfortable committing to three years, some to five.”

Visoso: “在大多数情况下，都是客户主动找上我们。他们说的第一件事就是：‘你们如何确保供应？’重点不在于价格。首先是，你们能保证供应吗？对话通常从‘你们愿意做出多少年的承诺’开始。有些客户更倾向于承诺三年，有些则是五年。”

“We define prices — in the shorter term mostly fixed. As you go out into the future, there are variable components. Think about mostly a floor and ceiling concept in which the floor is attractive for us and the ceiling would be even more attractive.

“我们定义价格——短期内大多是固定价格。随着时间推移，未来会出现浮动部分。可以想象成一种底价和顶价的概念，其中底价对我们有利，而顶价则对我们更有利。”

We don't know in which direction prices will be in five years — one of us is going to be

unhappy if we fix the price.

“我们不知道五年后的价格走向——如果我们现在固定价格，到那时我们双方总有一方会感到不满。”

”

“The last component — if the customer for some reason walks away, there is a financial guarantee where we are in a very good position. We’ve been negotiating financial instruments where if they walk away, the funds flow through us. The funds are either with us or with a third-party financial institution. The criteria has been predetermined.

“最后一个组成部分是——如果客户出于某种原因退出，我们拥有一项财务担保，使我们处于非常有利的位置。我们一直在协商财务工具，如果他们退出，资金将流向我们。这些资金要么在我们手中，要么在第三方金融机构。标准已经预先设定。

Think about it as a prenup — set at the beginning, no lawsuits, no discussions, just a very simple procedure.

把它想象成一份婚前协议——在开始时就设定好，没有诉讼，没有争论，只是一个非常简单的程序。

”

#5 — \$42 Billion in Lifetime Contracted Value, Over a Third of FY27 Bits Covered

#5 — 420 亿美元的终身合同价值，已覆盖 2027 财年超过三分之一的位元出货量

Visoso: “We’re in active negotiations with additional customers and we’re in conversations across different end markets.”

Visoso: “我们正与其他客户进行积极谈判，并正在与不同终端市场的客户进行对话。”

“An important feature we want is to bet with strategic and winning customers. We define that by customers that are growing faster than the bits that we’re producing — faster than the mid-teens. Therefore, they will be taking a higher percentage of our

business.”

“我们希望拥有的一个重要特征是与具有战略眼光且能赢到最后的客户合作。我们对此的定义是：那些增长速度超过我们产出增长速度（即超过 15% 左右）的客户。因此，他们将在我们的业务中占据更高的比例。”

Goeckeler: “Clearly, the amount of our supply that’s left available for this quarterly negotiation is going to go down. And that’s a good thing. What we really want is a major part of the portfolio where we understand the economics years into the future.”

Goeckeler: “显然，我们可用于季度谈判的供应量将会下降。这是一件好事。我们真正想要的是投资组合中的主要部分，其经济效益在未来数年内都是清晰可控的。”

#6 — NAND's Scalability Advantage: R&D-Driven Growth, Not Just Greenfield

#6 — NAND 的可扩展性优势：研发驱动的增长，而非仅仅依靠新建产能

Goeckeler: “In the NAND business, we have this huge advantage in that our technology is extraordinarily scalable. We can deliver enormous amounts of incremental supply through R&D and productivity gains. It’s not just adding more capacity all the time.”

Goeckeler: “在 NAND 业务中，我们拥有巨大的优势，即我们的技术具有极强的可扩展性。我们可以通过研发和生产率的提升来提供大量的增量供应。这不仅仅是不断增加产能那么简单。”

“We have an enormous amount of R&D productivity in the tank. We know what the BiCS8 roadmap is going to be years into the future. We can increase productivity. We can drive more bits. We don’t need to build a whole bunch of greenfield because we get the productivity through R&D.

“我们在研发生产力方面拥有巨大的潜力。我们已经明确了未来数年 BiCS8 的路线图。我们可以提高生产力，可以驱动更多的位增长 (bits)。我们不需要建设大量的新厂房，因为我们通过研发就能获得生产力。

And a consequence of those additional supply is they are at a lower cost.

而这些额外供应带来的结果是，它们的成本更低。

”

“It’s an amazing thing for the financial model of this franchise. It’s incredible.”

“这对于该业务部门的财务模型来说是件了不起的事情。简直不可思议。”

#7 — Business Model Shift: From Cost-Managed to Value-Recognized

#7 — 商业模式转变：从成本管理转向价值认可

Goeckeler: *“When we launched the company, I just said, I’m going to stop talking about cost downs. Every earnings call — what’s your cost down this quarter? I’ve never seen an industry where people tell you what their costs are. The business was managed from the cost side — ‘Oh, if we drive our costs down, the economics will work.*

Goeckeler: “公司成立之初，我就说过，我不再谈论降低成本了。每次财报电话会议都会被问到——你们这季度的成本降了多少？我从未见过哪个行业的人会主动告诉你他们的成本是多少。过去这项业务是从成本端管理的——‘噢，只要我们把成本降下来，经济效益就会好起来。’

‘We’re just going to stop talking about that.

我们打算不再谈论那个了。

”

“Now we’re getting to a different way of running the business — the intrinsic value of the technology being recognized, supply discipline, matching supply to attractive demand. Not just, ‘Hey, we can drive the cost down, we should supply more into the market.’ Turns out that was never really true.

“现在我们正转向一种不同的经营方式——让技术的内在价值得到认可，保持供应纪律，使供应与有吸引力的需求相匹配。而不仅仅是，‘嘿，我们可以降低成本，所以我们应该向市场供应更多。’事实证明，那套逻辑从来就不是真的。

Maybe it was true in the 2D era, but never really true in the 3D era.

也许在 2D 时代是真的，但在 3D 时代从未真正成立过。”

”

#8 — Portfolio Diversity: Consumer, Edge, Data Center All Retained

#8 — 投资组合多样性：消费级、边缘侧、数据中心业务均予保留

Goeckeler: “We think long-term value creation in this franchise — diversity is a big part of it. So we’re not going to exit any markets to favor other markets. We want customers across our whole portfolio. Across these agreements, our desire would be to have different timeframes because you don’t want everything ending at the same time.

Goeckeler: “我们认为这一特许经营权的长期价值创造——多样性是其中的重要组成部分。因此，我们不会为了偏袒某些市场而退出其他市场。我们希望客户遍布我们的整个投资组合。在这些协议中，我们希望拥有不同的时间周期，因为你不希望所有协议都在同一时间到期。

You want diversity, portfolio theory. You want different end markets because that keeps the engine running inside the company.

你需要多样性，即投资组合理论。你需要不同的终端市场，因为这能保持公司内部引擎的持续运转。

”

“There are a set of customers that are not ready to opt in to this model. That’s fine. We have stunning customers. All of our customers are incredible companies. If they’re not ready for this model, that’s fine. We’re still going to have a percentage of our business that we engage in the typical way.”

“有一部分客户还没准备好加入这种模式。这没关系。我们拥有出色的客户。我们所有的客户都是了不起的公司。如果他们还没准备好接受这种模式，那也没关系。我们仍将保留一部分业务，以传统方式与他们进行接触。”

#9 — Enterprise SSD: Consumer → Client → Enterprise Expertise Accumulation

#9 — 企业级 SSD：从消费级到客户端，再到企业级的技术积淀

Goeckeler: “Why the progress on enterprise SSD all of a sudden? I look at a couple of very big arcs of Sandisk. Sandisk was a great consumer business. The WD era was really about the client — the SSD was displacing the HDD, you knew the customers, the use case, the requirements.

Goeckeler: “为什么企业级 SSD 突然取得了进展？我回顾了 Sandisk 发展的几个重大阶段。Sandisk 曾是一家出色的消费级业务公司。到了 WD（西部数据）时代，重点转向了客户端——SSD 正在取代 HDD，你了解客户、使用场景和需求。

Then towards the end of that era, new management came in with more of an enterprise background. All that technology expertise that had done this incredible controller work in consumer and then in client — that team was moved on to enterprise over the last three to four years.

随后在那段时期的末尾，拥有更多企业级背景的新管理层加入了。过去三到四年里，那支在消费级和客户端领域完成过出色控制器研发工作的技术团队，被调往了企业级业务。

You run that process for three to four years with focus of people that understand how to be in these markets, and you end up with great products.

让理解如何立足这些市场的人员专注投入这个过程三到四年，你最终就能获得伟大的产品。”

”

“It’s an accumulating thing. Now we’ve got first of all great underlying NAND technology — that’s the JV story with Kioxia, that’s the foundation. We just signed another contract for 234. The wafer comes out of the fab — what are you going to do with it? Now we have this unbelievable team.”

“这是一个不断积累的过程。首先，我们拥有卓越的底层 NAND 技术——这就是与 Kioxia 合资的故事，它是基石。我们刚刚又签署了一份关于 234 层的合同。当晶圆从晶圆厂生产出来后——你打算用它做什么？现在我们拥有了这支令人难以置信的团队。”

#10 — Aligning Investment Horizon with Customer Business Model

#10 — 使投资周期与客户业务模式保持一致

Goeckeler: *"In the NAND industry, what I would argue is that these business models have not been very well aligned. Luis and I constantly are making decisions on investing on like a 10-year time horizon. When you build a fab, you need to get a return from it for a very long time.*

Goeckeler: “在 NAND 行业，我认为这些业务模式一直没有很好地匹配。Luis 和我经常需要做出跨越 10 年周期的投资决策。当你建造一座晶圆厂时，你需要从长远的角度获得回报。”

The market has traditionally been a market where the economics are determined on a quarterly basis — a lot of volatility. And that leads to there's always somebody who feels like they're not getting what they deserve in that equation.

传统上，这个市场的经济效益是按季度决定的——波动性很大。这导致在这种博弈中，总有人觉得他们没有得到应有的回报。”

”

"They want to buy NAND and it turns out we want to produce NAND. That's a great marriage, and the issue is how do we get the business model in place that allows us both to do that and both to be happy. I think we have a very willing partner going down that path with us — they're pulling us down that path."

“他们想买 NAND，而我们正好想生产 NAND。这是一段美满的姻缘，问题在于我们如何建立起一种商业模式，让双方都能达成所愿并感到满意。我认为我们有一个非常积极的合作伙伴正与我们共同朝着这个方向迈进——甚至是他们在拉着我们往前走。”

MU

Manish Bhatia, Executive Vice President, Global Operations, Micron Technology

Manish Bhatia, 美光科技 (Micron Technology) 全球运营执行副总裁

#1 — Supply Tightness Extended: “Well Beyond Calendar Year 2026”

#1 — 供应紧张局势延长：“远超 2026 日历年”

Bhatia: “Our financial outlook has strengthened since our last earnings call. We’re on track for another substantial record free cash flow in fiscal Q3. Our balance sheet has never been stronger — underscored by upgrades from all three credit rating agencies this year.

Bhatia: “自上次财报电话会议以来，我们的财务前景进一步增强。我们有望在第三财季再次创下自由现金流的历史新高。我们的资产负债表从未如此强劲——今年三大信用评级机构的集体上调也证明了这一点。”

Demand continues to outpace our ability and the industry’s ability to supply due to persistent structural factors, and so we expect tightness for HBM, DRAM, and NAND to continue well beyond calendar year 2026.

由于持续的结构因素，需求继续超过我们以及整个行业的供应能力，因此我们预计 HBM、DRAM 和 NAND 的紧缺状态将持续到 2026 日历年以后。

”

“We’re all working very, very hard. We work that closely with all of our suppliers. But we don’t see supply being able to catch up to demand for the foreseeable future.”

“我们都在非常、非常努力地工作。我们与所有供应商都保持着紧密的合作。但在可预见的未来，我们认为供应无法赶上需求。”

#2 — Structural Supply Constraints: Diminishing Node Productivity + HBM Trade Ratio

#2 — 结构性供应限制：制程节点生产率下降 + HBM 转换率

Bhatia: “What I really mean on the supply side is that technology transitions for both DRAM and NAND are delivering less and less productivity — less bit growth improvement per technology node than nodes of the past. On top of that, for DRAM,

we have the structural shift towards HBM.

Bhatia: “我在供应方面真正的意思是，DRAM 和 NAND 的技术转型所带来的生产率提升越来越少——每个技术节点带来的位元增长 (bit growth) 改善低于过去的节点。最重要的是，对于 DRAM 而言，我们正面临向 HBM 的结构转变。”

In order to deliver the high performance of HBM, we have a trade ratio where HBM die sizes are larger — it takes more than 3x as many wafers to deliver the same number of bits. And that trade ratio continues to grow as you go from HBM3E to HBM4 to HBM4E.

为了实现 HBM 的高性能，我们面临着一个折衷比例，即 HBM 的晶圆尺寸更大——产出相同数量的比特位需要消耗 3 倍以上的晶圆。而且，随着从 HBM3E 向 HBM4 和 HBM4E 演进，这一折衷比例还会继续增长。

”

“That all leads to needing more greenfield wafer capacity in DRAM. Greenfield capacity needs more clean room space because you’re putting in full lines rather than incremental equipment. And that takes more time.”

“这一切都导致 DRAM 需要更多的绿地 (greenfield) 晶圆产能。绿地产能需要更多的无尘室空间，因为你需要部署整条生产线，而不仅仅是增加设备。这需要更长的时间。”

#3 — Memory as Strategic Asset: Intelligence Equals Memory

#3 — 存储作为战略资产：智能等同于存储

Bhatia: “The AI world is transitioning from just human interactions to human-to-agentic interactions and even machine-to-machine interactions. Those agentic workloads are driving inference, and inference is becoming a bigger and bigger part of the demand workloads for our customers.”

Bhatia: “AI 世界正在从单纯的人机交互向人与智能体 (agentic) 交互，甚至机器与机器之间的交互转变。这些智能体工作负载正在驱动推理需求，而推理在客户的需求负载中所占的比重正变得越来越大。”

“Memory is continuing to become an even more strategic asset, adding even more value as memory can be equated with intelligence. Higher performance memory, higher reliability memory, higher capacity memory — all of those help add to the accuracy of intelligence.

“内存正持续成为一项更具战略意义的资产，随着内存与智能划上等号，其价值也在不断提升。更高性能、更高可靠性、更高容量的内存——所有这些都助于提高智能的准确性。

That’s true on the high-bandwidth memory side, it’s true on the traditional DRAM side, and it’s also true on the NAND side where context windows are getting longer and NAND flash is a key part of improving the accuracy of the results of the models.

这一点在 HBM（高带宽内存）领域如此，在传统 DRAM 领域如此，在 NAND 领域同样如此。随着上下文窗口变得越来越长，NAND 闪存已成为提高模型结果准确性的关键组成部分。

”

“There’s never been a better time to be in the memory industry and there’s never been a better time to be at Micron.”

“现在是投身内存行业最好的时代，也是加入 Micron（美光）最好的时代。”

#4 — HBM4 Ramping 2x Faster Than HBM3E, Yields Improving Faster

#4 — HBM4 的产能爬坡速度比 HBM3E 快 2 倍，良率提升速度也更快

Bhatia: “Our HBM4 production ramp has actually ramped twice as fast as HBM3E 12-high did last year, which was a ramp we were very, very pleased with. We’re going at twice that rate in terms of production output.

Bhatia: “我们的 HBM4 产能爬坡速度实际上比去年的 HBM3E 12 层（12-high）快了两倍，而我们对去年的爬坡速度已经感到非常、非常满意了。就产量而言，我们正以两倍的速度推进。

And our yield is also improving faster — even though it’s a more complex product, we said we expected the HBM4 yield to come up faster based on the learnings from HBM3E 12-high, and we’ve realized that as well.

而且我们的良率提升也更快——尽管这是一款更复杂的产品，但我们曾表示，基于从 HBM3E 12 层中汲取的经验，预计 HBM4 的良率提升会更快，而我们也确实实现了这一点。

”

“We’re just excited about our HBM4 product. It’s on our beta platform, which has been a really strong workhorse for us. It has an in-house optimized base die that together is giving us what we think is an excellent product.”

“我们对 HBM4 产品感到非常兴奋。它基于我们的 beta 平台，该平台一直是我们的强力支柱。它拥有内部优化的基础底片 (base die)，共同为我们打造出了这款我们认为非常出色的产品。”

#5 — Massive Fab Buildout Across Five Sites Globally

#5 — 全球五个基地的巨大晶圆厂扩建计划

Bhatia: *“We made the acquisition of the Tongluo site earlier this year. That transaction closed ahead of schedule. We’re making excellent progress towards converting that fab from logic output towards leading-edge DRAM — production in the second half of calendar ‘27.*

Bhatia: “我们在今年早些时候完成了对铜锣厂区的收购。该交易提前完成。我们正朝着将该晶圆厂从逻辑芯片产线转换为领先的 DRAM 产线迈进，进展非常顺利——预计将于 2027 日历年下半年投产。

We also announced we’re building a twin fab immediately next to it, starting construction this summer. That site will become a larger leading-edge memory site — only 20 minutes from our existing Taichung operation, so it’s going to be run like a mega cluster.

我们还宣布将在其紧邻位置建造一座孪生晶圆厂，并于今年夏天开工建设。该厂区将成为一个更大规模的前沿存储芯片基地——距离我们现有的台中厂区仅 20 分钟路程，因此它将以大型集群 (mega cluster) 模式运营。

”

"Idaho 1 is making good progress — we pulled in our target date for wafer output from second half of 2027 into mid-2027. Idaho 2 construction is underway — ground preparation happening right now, wafers out late in calendar year 2028.

“爱达荷州 1 号厂 (Idaho 1) 进展顺利——我们将晶圆产出的目标日期从 2027 年下半年提前到了 2027 年年中。爱达荷州 2 号厂 (Idaho 2) 的建设正在进行中——目前正在进行场地平整，预计 2028 日历年年底产出晶圆。”

We broke ground earlier this year in New York — actually ahead of schedule, expect to pour concrete later this year. Really good progress in Singapore on our high-bandwidth memory facility — we expect production impact from that in calendar year '27. We broke ground on a new NAND fab in Singapore as well.

“我们今年早些时候在纽约州破土动工——实际上提前于原计划，预计今年晚些时候开始浇筑混凝土。我们在新加坡的高带宽内存 (HBM) 设施进展非常顺利——预计将在 2027 日历年产生产能贡献。此外，我们还在新加坡开工建设了一座新的 NAND 晶圆厂。”

”

#6 — 1-Gamma DRAM: Highest Volume Node in Micron History, EUV Success

#6 — 1-gamma DRAM: 美光历史上产量最高的节点，EUV 取得成功

Bhatia: "We're absolutely on track — both our 1-gamma DRAM and our Gen9 NAND will cross over in terms of bit output by middle of this year. Both are ramping very well. Both, in terms of yields, ramped faster than prior nodes.

Bhatia: “我们完全处于正轨——我们的 1-gamma DRAM 和 Gen9 NAND 的位元产出都将在今年年中实现跨越。两者的产能爬坡都非常顺利。就良率而言，两者的爬坡速度都快于之前的节点。”

It's not because those technologies somehow got simpler — it's because of the tremendous engineering work, the collaboration between technology and manufacturing, and our use of AI, which we've been doing for more than 10 years.

这并不是因为技术变得简单了——而是因为巨大的工程努力、技术与制造部门之间的协作，以及我们对 AI 的应用，而我们从事 AI 应用已经超过 10 年了。

”

“We expect 1-gamma to become the highest volume DRAM node on a total wafer-out volume basis that we’ve ever had of any node in our history. We are very pleased with our EUV progress on 1-gamma — it’s the first node which we introduced EUV. We expect to increase our deployment of EUV in 1-delta and future generations.

“我们预计 1-gamma 将成为美光历史上总晶圆产出量最高的 DRAM 节点。我们对 1-gamma 的 EUV 进展非常满意——这是我们引入 EUV 的第一个节点。我们预计将在 1-delta 及未来的世代中增加 EUV 的部署。”

We’ve recently concluded a multi-year EUV supply agreement with ASML that supports our technology and capacity plans over multiple generations.

我们最近与 ASML 达成了一项多年期 EUV 供应协议，该协议将支持我们跨越多个世代的技术和产能规划。

”

#7 — Strategic Customer Agreements (SCAs): Meaningful Progress Beyond First Deal

#7 — 战略客户协议 (SCAs): 在首笔交易之外取得实质性进展

Bhatia: “At our last earnings call, we talked about having secured our first strategic customer agreement — a five-year agreement with a large customer. We’ve made meaningful progress on SCAs with other customers who are very interested in having that kind of strategic relationship with Micron.”

Bhatia: “在上次财报电话会议上，我们谈到已经达成了首个战略客户协议——即与一家大客户签署的五年期协议。目前，我们在与其他客户的 SCAs 方面也取得了实质性进展，这些客户非常有兴趣与 Micron 建立这种战略合作关系。”

“One of the things that SCAs really enable us to do is improve our planning. I just outlined all these different capacity expansions that are going to take multiple years to build out and equip.

“SCAs 真正能让我们做到的事情之一就是改善规划。我刚才概述了所有这些不同的产能扩张计划，而这些计划都需要数年来建设和配置设备。”

Having these longer-term agreements with specific terms helps us align the capacity we're putting in place — both greenfield clean room space and how we're equipping the fabs — to better align supply and demand out in the future.

签署这些具有特定条款的长期协议，有助于我们将正在建设的产能——包括新建的无尘室空间以及晶圆厂的设备配置——与未来的供需情况进行更好的匹配。

”

“We are making meaningful progress on SCAs and we'll have more comments in the future on this.”

“我们在可扩展计算架构（SCA）方面正取得实质性进展，未来我们将对此有更多说明。”

#8 — HBM4E: Ramping Calendar '27, JEDEC-Based First, TSMC Logic Die

#8 — HBM4E：2027 年量产，首款基于 JEDEC 标准，采用 TSMC 逻辑显存

Bhatia: “HBM4E development is well underway, and we expect it to ramp in calendar '27. The first product that'll ramp is going to be a JEDEC standard part. We're working with customers on customization, but the first product will be JEDEC. It will have our 1-gamma DRAM, which by then will be a terrific node for the high performance that HBM4E will provide.

Bhatia： “HBM4E 的开发工作正在顺利进行，我们预计它将在 2027 日历年开始量产。首款量产产品将是符合 JEDEC 标准的部件。我们正与客户就定制化进行合作，但首款产品将遵循 JEDEC 标准。它将采用我们的 1-gamma DRAM，届时该节点将为 HBM4E 提供卓越的高性能表现。”

We're using TSMC for the logic die as well.

我们也在逻辑芯片上使用 TSMC。

”

"I think the potential for customization is the same, sort of the next instantiation of even more value being able to be provided. As we think about the path that can take, we think our customers would be willing to pay for that."

"我认为定制化的潜力是一样的，这可以说是提供更多价值的下一个阶段。考虑到这条路径的发展，我们认为客户会愿意为此付费。"

#9 — Data Center SSD Share: 5% → 15%, Context Windows Growing 30x/Year

#9 — 数据中心 SSD 份额：5% → 15%，上下文窗口每年增长 30 倍

Bhatia: "It has been a deliberate part of our strategy over a decade to enhance our own internal ASIC capabilities, our own internal firmware development. Not just targeting me-too products, but leadership — like PCIe Gen6 to be lead-qualified on NVIDIA's STX platform."

Bhatia: "十多年来，加强我们内部的 ASIC 能力和固件开发一直是我们的战略中刻意为之的一部分。我们不仅针对跟风产品，更追求领先地位——例如让 PCIe Gen6 在 NVIDIA 的 STX 平台上获得领先认证。"

Going from 5% to 10% to mid-teens share really shows our track record of deliberate strategy, strong engineering execution, coupled with a strong technology roadmap.

份额从 5% 增长到 10% 再到 15% 左右，充分展示了我们深思熟虑的战略、强大的工程执行力以及坚实的技术路线图。

"

"The agentic AI paradigm shift — the importance of the key value cache is all about extending the context window. The context window has grown 30x a year. Context window growing is about accuracy, and accuracy is about value. So NAND is not just about storing more data — it's also about improving the value and the learning rate."

"代理式 AI (Agentic AI) 的范式转移——键值缓存 (KV Cache) 的重要性完全在于扩展上下文窗口。上下文窗口每年增长 30 倍。上下文窗口的增长关乎准确性，而准确性关乎价值。因此，NAND 不仅仅是为了存储更多数据，它还关乎提升价值和 Learning Rate。"

That's becoming a more important part of the AI technology stack.

这正成为 AI 技术栈中日益重要的组成部分。

”

#10 — Co-Defining Architectures, No Longer Sitting Behind JEDEC Specs

#10 — 共同定义架构，不再受限于 JEDEC 规范

Bhatia: “By Micron having moved to leadership now — four generations in DRAM, three generations in NAND with leadership — that's enabled us to be helping define those architectures with our customers. We're not just sitting behind a JEDEC spec on every single one of these.

Bhatia: “由于美光目前已取得领先地位——在 DRAM 领域领先四代，在 NAND 领域领先三代——这使我们能够与客户共同定义这些架构。我们不再仅仅是跟在每一个 JEDEC 规范后面。

We're now defining, working with all these different customers on their workloads, helping them think through what can optimize their tokenomics, what can optimize their end applications, as they see AI unfolding — whether that's in training or in inferencing.

我们现在正与所有这些不同的客户就其工作负载进行定义和合作，帮助他们思考在 AI 发展过程中（无论是训练还是推理），什么可以优化他们的代币经济学（tokenomics），什么可以优化他们的终端应用。

”

AMAT

Tim Deane, Senior Vice President, Applied Global Services (AGS)

Tim Deane, 应用全球服务部 (AGS) 高级副总裁

1. WFE Outlook & Multi-Year Visibility — 8+ Quarters of Backlog,

'27/'28 Strength

1. WFE 展望与多年期可见性 —— 8 个季度以上的积压订单，27/28 年的强劲势头

"There's not fundamentally a pull-in from '27 into '26. There's a lot of brick-and-mortar being built out, greenfield facilities — a pipeline of projects coming online. To the extent customers can accelerate them, they obviously want to."

“从根本上来讲，并没有出现从 2027 年提前到 2026 年的需求。目前有大量的实体设施正在建设中，即绿地项目（全新设施）——有一系列项目即将上线。只要客户能够加速这些进程，他们显然是希望这样做的。”

"On the eight-quarter visibility — those of us around post-COVID, there was an awful lot of learning during that ramp. This time it's more of an expected ramp because we know with AI and the agentic components of AI now coming online, there's huge demand across leading logic, DRAM, HBM, and advanced packaging. Those are the primary drivers."

“关于八个季度的可见性——我们这些经历过疫情后时期的人，在那段增长期学到了很多教训。这一次更像是一种预期内的增长，因为我们知道，随着 AI 以及 AI 代理组件的上线，先进制程逻辑芯片、DRAM、HBM 和先进封装领域都存在巨大需求。这些是主要的驱动因素。”

It's in our mutual best interest to collaborate as closely as possible — bringing up these factories is extremely complicated. I'm hiring people across the globe to do installs."

“尽可能紧密地合作符合我们的共同利益——投产这些工厂极其复杂。我正在全球范围内招聘人员进行设备安装。”

”

2. WFE Mix Shift — 80% of Incremental Spend in AI-Levered Segments

2. WFE 结构变化 —— 80% 的增量支出集中在 AI 相关领域

"For this year, about 80% of the incremental wafer fab equipment spending is in

advanced foundry-logic, DRAM, and advanced packaging — driven by AI demand. ICAPS is still a very important market, and we're incrementally positive compared to three to six months ago — kind of flat to up, both China and non-China.

“今年，约 80% 的晶圆厂设备新增支出集中在先进代工逻辑、DRAM 和先进封装领域——这主要受 AI 需求驱动。ICAPS 仍然是一个非常重要的市场，与三到六个月前相比，我们的态度更加积极——无论是中国还是非中国市场，基本持平或略有增长。

But the bulk of the spend is going to be in those three focused areas where Applied is number one in advanced foundry-logic, number one in DRAM in a lot of areas, and also for advanced packaging.

但大部分支出将集中在这三个重点领域，而 Applied 在先进代工逻辑领域排名第一，在 DRAM 的许多领域排名第一，在先进封装领域也同样位居首位。

”

3. Sources of Incremental Upside — Greenfield Plus “Factory Creativity”

3. 额外增长的来源——新建厂房加上“工厂创意”

“There's at least one case where a customer procured a completed shell from another customer and is going to put a product into that as quickly as they can.

“至少有一个案例是，一家客户从另一家客户手中购买了一个已完工的厂房外壳 (shell)，并打算尽快将产品投入其中进行生产。

The other areas are primarily fab changes — if customers see pinch points in production, maybe an older generation tool with lower throughput limiting factory output, they're coming to us saying, 'We're going to remove this platform and replace it with a higher productivity platform.

其他领域主要是晶圆厂的变更——如果客户在生产中发现了瓶颈，比如吞吐量较低的老一代设备限制了工厂产出，他们会来找我们说：“我们要移除这个平台，换成生产效率更高的平台。”

”

“There’s a case where a 200mm factory was being shut down and repurposed into a packaging factory — packaging has gotten intense pressure and demand in end-markets. We see another example where an older generation 2D NAND factory is being converted to a DRAM factory.

“有一个案例是，一家 200mm 晶圆厂被关闭并改造成封装厂——封装在终端市场面临着巨大的压力和需求。我们还看到另一个例子，一家老一代的 2D NAND 工厂正在被改造成 DRAM 工厂。”

Customers are trying to get more good die out, and that creativity is leading to these incremental upsides.

客户正试图产出更多合格芯片（good die），这种创造力带来了这些增量收益。

”

4. 100+ Project Pipeline — Greenfield-Biased in Logic/DRAM/Packaging

4. 100 多个项目储备——逻辑/DRAM/封装领域偏向新建项目（Greenfield）

“100 projects is a lot — and Brice mentioned 10 or more that have come fairly recently. The biggest part of the greenfield capacity coming online is actually in advanced logic and DRAM because there’s just not enough physical capacity today. There’s so much silicon needed for these advanced technologies that it’s being driven by greenfield.

“100 个项目确实很多——Brice 提到其中有 10 个或更多是最近才出现的。目前上线的新建产能（greenfield capacity）中，占比最大的实际上是先进逻辑和 DRAM，因为现有的物理产能已经严重不足。这些先进技术对硅片的需求量巨大，正推动着新建产能的增长。

Advanced packaging is in the same boat — we’re moving front-end type processes into the back end, which requires more physical space.

先进封装也面临同样的情况——我们正在将前端类型的工艺引入后端，这需要更大的物理空间。

”

5. EPIC Platform — Broadcom Just Joined; R&D Cycle Compressing from 10 Years to 5

5. EPIC 平台——Broadcom 刚刚加入；研发周期从 10 年缩短至 5 年

"We've announced Samsung, Micron, Hynix, TSMC last week. Advantest is joining as a partner. We have universities — RPI, ASU, Stanford — and just this morning we announced Broadcom is joining the EPIC platform, specifically interested in advanced packaging. These processes are so complicated, it takes an ecosystem to bring them to market.

“我们上周宣布了三星、美光、海力士和台积电的加入。爱德万测试 (Advantest) 也作为合作伙伴加入其中。我们还有多所大学——伦斯勒理工学院 (RPI)、亚利桑那州立大学 (ASU)、斯坦福大学——就在今天早上，我们宣布 Broadcom 加入了 EPIC 平台，他们对先进封装特别感兴趣。这些工艺极其复杂，需要一个生态系统才能将其推向市场。

Our goal is to take what was a 10-year development pipeline and ultimately cut it in half by bringing everybody into the same facility — innovators, customers, customers' customers, industry partners — to fundamentally change the way development is done.

我们的目标是将原本长达 10 年的研发周期缩短一半，通过将所有人——创新者、客户、客户的客户、行业合作伙伴——汇聚在同一个设施中，从根本上改变研发方式。

”

"From a service perspective, this is the best thing ever. Historically when we've done development with customers, it's been a demo in our facilities — a couple of wafers or chiplets.

“从服务角度来看，这是有史以来最棒的事情。过去我们与客户进行开发时，通常只是在我们设施内进行演示——仅涉及几个晶圆或小芯片 (chiplets) 。”

Now we'll have our service folks developing a fingerprint on these brand new tools, so when the customer puts it into their R&D facility, we can fingerprint it immediately and bring it up faster.

“现在，我们的服务人员将在这些全新的工具上开发‘指纹’（fingerprint），这样当客户将其投入研发设施时，我们可以立即进行指纹识别并更快地启动运行。”

”

6. DRAM Roadmap & Share Gain — 6F², 4F², 3D DRAM All Move Toward Applied's Sweet Spot

6. DRAM 路线图与市场份额提升 —— 6F²、4F²、3D DRAM 均向 Applied 的优势领域演进

“With 6F squared, there's a lot of runway. The roadmap for 6F squared is right into the sweet spot for Applied's portfolio.”

“凭借 6F² 技术，我们拥有广阔的发展空间。6F² 的路线图正处于 Applied 产品组合的最佳切入点。”

There's going to be more advanced wiring, and transistor formation is moving to the advanced style that moved into foundry-logic a few years ago — so we're able to take that knowledge, experience, productivity and cost-down benefits and move them into DRAM over the next couple of years.

接下来将会有更先进的布线，且晶体管形成正转向几年前在代工逻辑（foundry-logic）领域采用的先进样式——因此，我们能够将这些知识、经验、生产力以及降本优势，在未来几年内引入到 DRAM 领域。

”

“When we talk about 4F squared and 3D DRAM, the materials engineering intensity going forward is also moving into the Applied space — and this is one of the fundamental reasons we created the EPIC platform.”

“当我们谈论 4F² 和 3D DRAM 时，未来的材料工程强度也将向 Applied 的擅长领域转移——这也是我们创建 EPIC 平台的根本原因之一。”

7. NAND Conversion Economics — HBM Wafer Delivers 40–50x the

Bits, 4x More at QLC

7. NAND 转换经济效益 —— HBM 晶圆提供的位元数 (Bits) 是 QLC 的 40-50 倍，且高出 4 倍”

“NAND is different. You get so much leverage on a NAND wafer whenever you upgrade. Wafer starts have dropped a little over the last couple of years as customers converted from one technology to the next — wafer starts drop, but the bits go up significantly.”

“NAND 则不同。每当你进行技术升级时，NAND 晶圆都能获得巨大的杠杆效应。在过去几年中，随着客户从一种技术转向下一种技术，晶圆投片量略有下降——虽然投片量减少了，但位元产量 (bits) 却大幅增加。”

“A typical HBM wafer versus a NAND wafer — you’re getting between 40 and 50x the bits on an apples-to-apples comparison to SLC NAND. If you go to quad level, you’re quadrupling that. There’s a huge amount of capacity, and it’s very efficient for customers to do that as conversion.”

“将典型的 HBM 晶圆与 NAND 晶圆进行对比——在与 SLC NAND 的同类比较中，你获得的位元数是前者的 40 到 50 倍。如果你转向四层单元 (QLC)，这个数字还会再翻四倍。这里存在巨大的产能空间，对客户而言，通过这种转换来实现增产是非常高效的。”

There will be some greenfield NAND over time, which we’re excited about — but we just see the leverage in the other three spots for greenfield.

“随着时间的推移，未来会出现一些绿地投资 (greenfield) 的 NAND 产能，我们对此感到兴奋——但我们认为在另外三个领域，绿地投资的杠杆效应更为显著。”

”

8. Advanced Packaging — #1 in HBM and 3D; Front-End/Back-End Convergence Creates New Service TAM

8. 先进封装 —— HBM 和 3D 领域排名第一；前道/后道工艺融合创造了新的服务市场 (TAM)

"We're number one in packaging in HBM, and we've got a great position in 3D — the two fastest-growing portions of the packaging market. As those tools go into factories, it creates a new opportunity on service. Historically front-end and back-end tools didn't have a lot of overlap.

"我们在 HBM 封装领域排名第一，并且在 3D 封装领域也占据了极佳的市场地位——这是封装市场中增长最快的两个部分。随着这些设备进入工厂，也为服务业务创造了新的机遇。从历史上看，前道和后道设备之间并没有太多的重叠。

With heterogeneous integration, we're seeing front-end requirements and complexity moving to the back end. Customers are looking for support from Applied on the service side because we've got the understanding of how those tools need to be maintained in an HBM environment.

随着异构集成的出现，我们看到前道工艺的要求和复杂性正在向后道转移。客户在服务方面正寻求 Applied 的支持，因为我们深谙在 HBM 环境下这些设备应如何维护。

We're in very early stages — it creates an incremental opportunity in service, on top of the equipment opportunity.

我们目前仍处于非常早期的阶段——除了设备销售机遇外，这还为服务业务创造了增量机会。

"

9. AGS Growth Raised — From Low-Double Digits to Mid-Teens CAGR, Above That Near-Term

9. AGS 增长预期上调——从低双位数上调至中双位数复合年增长率 (CAGR)，短期内增速将高于此水平"

"The contract business continues to grow, and it's growing faster in managed and performance — exactly what we want because that's where we provide the most value. Average contract length is about 2.9 years, sweet spot is 2.5 to three years. We're right where we want to be."

"合约业务持续增长，且在管理和绩效服务方面的增速更快——这正是我们所希望的，因为那是我们提供价值最高的地方。平均合约期限约为 2.9 年，理想区间是 2.5 到 3 年。我们正处于理想的状态。"

“The next component is on-demand — spare parts and contracted labor. That’s tied to factory utilization. Factory utilization is high, on-demand parts are going up — that’s driven things up a bit more in the near-term.”

“下一个组成部分是按需服务——包括备件和合同工。这与工厂利用率挂钩。工厂利用率很高，按需备件的需求正在上升——这在短期内进一步推高了业绩。”

“The third component, which we don’t talk about much, is our software franchise — manufacturing execution system, smart factory, SIM system. Applied is actually the largest supplier of factory-level software. That’s a space with a lot of opportunity going forward, particularly with agentic AI.

“第三个组成部分是我们不常谈论的软件业务——包括制造执行系统（MES）、智能工厂和SIM系统。Applied 实际上是最大的工厂级软件供应商。这是一个未来充满机遇的领域，特别是在代理式人工智能（Agentic AI）方面。”

We see strength in all three, and that’s why Gary mentioned in the near term we can be above that mid double-digit for the year.

“我们看到这三个板块都表现强劲，这就是为什么 Gary 提到，在短期内，我们全年的增长率可以高于 15% 左右（mid double-digit）的水平。”

”

10. Service Intensity Rising — IMS, AIX, and Tight Process Windows Drive Customers Up the Value Chain

10. 服务强度不断提升 —— IMS、AIX 和严苛的工艺窗口驱动客户向价值链上游迁移

“Service intensity is higher on IMS platforms. If you had a seven-, eight-, nine-chamber Endura that was all PVD, there’s a lot of commonality in parts. If now you have ALD, anneal, CVD, and PVD, those are unique capabilities — it causes us to prepare differently to support those tools.”

“IMS 平台的服务强度更高。如果你拥有一台包含七、八、九个腔室且全部为 PVD 的 Endura 平台，其零件具有很高的通用性。但如果你现在拥有的是集成了 ALD、退火、CVD 和 PVD 的平台，这些都是独特的功能——这促使我们必须以不同的方式进行准备，以支持这些工具。”

“As we aggregate AIX, IMS support, cobots and other capabilities, customers are moving up the value chain — more into managed, more into performance services because they’re getting more value.”

“随着我们将 AIX、IMS 支持、协作机器人（cobots）及其他功能整合在一起，客户正向价值链上游迁移——更多地转向托管服务和性能服务，因为他们从中获得了更高的价值。”

“Process windows on these advanced nodes are really small. We want to move corrective maintenance to preventive using predictive models — that lets us schedule downtime when WIP is moving optimally through the factory. Output is king and good die out are king — if you’re not centered in the process window, your edge die go out sooner.

“这些先进节点的工艺窗口非常狭窄。我们希望利用预测模型将纠正性维护转变为预防性维护——这让我们能够在晶圆（WIP）以最佳状态流经工厂时安排停机时间。产出至上，良率（good die out）至上——如果你没有处于工艺窗口的中心，边缘芯片会更早出现失效。”

That’s where we’re seeing a lot of the pull currently, particularly in the contract business.

这就是我们目前看到大量需求拉动的地方，特别是在合同业务方面。

”

11. AGS Margin Trajectory — 29% Op Margin Today, Path to Low-30s Long-Term

11. AGS 利润率轨迹 —— 目前营业利润率为 29%，长期目标为 30% 出头

“Top-line growth is all about value creation — more good die out, higher factory output. Customers are willing to do more service work with us, which requires deep