



## Barclays Global Technology Conference Transcript Wednesday, December 6, 2023 (8:05 AM – 8:35 AM PT)

Tom O'Malley: Good morning, everyone. I'm Tom O'Malley, semi and semi cap analyst here at Barclay's. I just want to welcome everyone to the Barclay's Tech Conference here. First on the day, Western Digital. We've got David Goeckeler, CEO, Wissam Jabre, CFO. Thank you both so much for being here.

David Goeckeler: Great to be here. Thanks for having us.

Tom O'Malley: I think the way that I would like to start is just you've had this period of a strategic review. You guys have been mum for some time about what went on during that process. Could you just one, talk about what was assessed? Two, why things ended like they did, and just any additional comments since you announced the split of the 2 businesses?

David Goeckeler: Sure, I'd be happy to do that, but --

Tom O'Malley: Before we start, disclosures, yes.

Wissam Jabre: And my safe harbor --

Tom O'Malley: You have some very important disclosures for us, yes.

Wissam Jabre: As advised by my legal team. We will be making forward-looking statements based on current assumptions and expectations and I ask you to refer to our most recent annual report on Form 10K and other filings with the SEC for more information on risks and uncertainties that could cause actual results to differ materially. We will also be making reference to non-GAAP financials and a reconciliation of our GAAP and non-GAAP results can be found on our website. Thank you.

Tom O'Malley: Perfect. All right, the strategic review.

David Goeckeler: Yes. Very thorough process. Very detailed process. It was great to go through it. A lot of people participated. I will say that all the details inside of it are still under NDA, but I'll give you some more color around it.

We've been driving an enormous amount of improvement in both of our franchises over the last several years. Just in the execution of them, the way we're organized internally. We focused on our balance sheet. We've cleaned up some longstanding problems that were kind of overhangs on the business and I think got ourselves in a very good position to really figure out how can we unlock the value of these franchises. Because we think they're very, very valuable franchises.

I think quite frankly, the downturn showed that. Both portfolios, I'm sure we'll get into a little bit more, both businesses are performing best in class. And in the NAND business significantly so. In the HDD business, we've opened up a profitability gap with our peer companies there as well.

When we looked at all the different options that we had, what we were able to execute given the environment we're in, we decided that separating the businesses was the best alternative for realizing value. And there's a number of things behind that. One, the execution of that plan is completely within our control. There's no regulatory approval required or any of that. Two, it unlocks value in what we think are tremendous franchises. Three, like I said, we've done a lot of work to restructure the businesses and get them in great shape and get them ready to stand alone on their own. And then we've got a recovering market in both businesses. When you put all that together, we thought it was the right time to make this move on the portfolio and we're very happy to get it announced and onto the execution.

Tom O'Malley:

Great. Let's just start on the Flash side. Could you just start by walking us through end demand in your key end markets? Client, consumer, cloud. And then talk maybe a little bit about the inventory positions in each of those markets. I think that would be a good place to start there.

David Goeckeler:

Sure. First of all, I'll say the bottom is behind us in NAND and the recovery is on. I think the question at this point is just how fast. We'll get into that, what the dynamics of that are, but if you look at our markets, again, I think one of the big strategic advantages of our NAND business and why did we perform so well in the downturn and continue to perform so well is just the diversity of our portfolio. The number of end markets that we can access.

I'll start with consumer. That was kind of the first-in, first-out. Consumer market is back to what we would say just regular normal behavior. Inventory levels look fine across all the different channels and all the different retailers we deal with. We have hundreds of thousands of points of presence for our portfolio around the world, so it's a very big, diverse business. We're in a seasonally strong quarter so we feel very good about that market. Inside that, we have a lot of great brands, a lot of work we've done on that over the last several years. They're all performing well. SanDisk, SanDisk Professional, our Black brand on gaming. Just very, very -- that business is performing as expected, so kind of past the downturn and kind of leading us out of it quite frankly.

The PC client market, again, back to what we would think normal behavior, the way that customers are buying. You've seen customers in the last quarter return to more normal inventory positions. A lot of that has been people have talked about that as strategic buys, things like that. But really for us, it's just kind of returning back to carrying a typical amount of inventory to run my business. We came through a very deep downturn where a lot of our customers went into that with too much inventory. They corrected quickly, they waited to see the

return, the business come back, and we're back to that now. That business we feel good about, where that adds record exabyte shipments.

And then in cloud, in the NAND business we're still in an inventory digestion phase. That business has not really come back yet. I think that's been one of the surprising things of the downturn in the NAND business. I think going into the downturn, everybody thought enterprise SSD is the business you have to be in, it's the most important business in NAND. And it certainly is a great business. We have great products there. But it is the business that suffered the most in the downturn. And still, we're waiting for that to return to normal and we think there's still some inventory to work through there over the next couple of quarters.

HDD, you didn't ask about HDD, but we're starting to see the datacenter market in HDD start to normalize.

Tom O'Malley: Great. Just diving in just a little bit there on the NAND side, in terms of the cloud recovery, do you have an expectation for a timeline? You said a couple of quarters, but is that when inventory gets to a better position? Or do you think that you start seeing order patterns get a bit better?

David Goeckeler: I think we'll start to see ordering patterns. From the information we have, it's still a little early, but as we move through '24, we expect things to get better overall.

Tom O'Malley: 2 of the 3 end markets seem good, the third is a couple of quarters away. But that obviously plays into the ASP side. If you look historically when you look at a recovery, you get high single digit sequentials for only a couple of quarters in terms of the recovery and when pricing moves off of that recovery. If you look today, some peers are talking about 20%+ ASP increases. How realistic is that? How long do you think a pricing recovery can sustain in this example just given how bad this downturn was?

David Goeckeler: Look, I don't think there's a playbook for the recovery. When we look at this business, when we look at it from the inside, when we talk to our sales teams and directions we're giving everybody, we had a downturn that was pretty unprecedented. I think going back and trying to map other recoveries on top of this is really not the right way to look at it.

From peak to trough, we had pricing down over 50%, 50% to 60%. And that peak was kind of a midcycle number in the industry. If you're down 50%, you need to double to get back to where you are. I think we need to see pricing, depending on the market, because every market went down different amounts, but we need to see pricing come back 50% to 100% before you're going to see capital flow back into this industry.

How fast is that going to happen? We don't know. I mean it could happen very quickly depending on how the market is. Bit supply is significantly under bit

demand. We've seen an acceleration of shipments over the last couple of quarters which is obviously what you're going to see in the beginning of a recovery. I don't think we have a playbook on that. How possible is it to see numbers that are bigger than in the past? I think it's very possible. Is it going to happen? I think we're going to see over the next couple of quarters.

Tom O'Malley: I think it's a perfect time to jump in just to the supply/demand conversation. What do you think bit demand looks like into next year? What do you think the industry will need to do to match that on the supply side? Are you fully intending to match that? I think some have talked about potentially a time period where digestion needs to take place. How long do you think you need to be below industry demand in terms of getting the market back to supply?

David Goeckeler: We, in our last quarter, we upped our demand for this quarter. We look at calendar year '23, we were in the high single digits. We're now mid double-digit range, like low to mid double digit on demand side given the significant acceleration in shipments in the last couple of quarters. Supply, fab out supply we see as negative single digits in calendar year '23. Calendar year '24, we see demand high teens. We see fab out supply still mid-single digit kind of number.

I think -- I'll speak for us. I think when everybody looks at what's happened in the downturn, there's an enormous amount of capital invested in this industry. The industry has lost an enormous amount of money in this downturn. I think we're going to look at this very, very carefully about when we put capital back in this business to meet the bit demand. It's going to have to be more than this is just what we project. We're going to have to see these -- we're going to have to see the recovery come back. We're going to have to understand what that looks like.

Obviously, what we talked about earlier, enterprise SSD in the cloud market coming back into NAND, it's a big market, it's an important market. We have to see how that develops over the next several quarters. Then I think the industry is going to work very, very hard to get supplied amount balance correct and not get ahead, not get ahead of the game like we were going into this downturn.

Tom O'Malley: With that gap of production and demand, what does that mean from a utilization perspective? At what point do you start to increase utilization? What are the metrics that you're looking at that would make you get more aggressive? And then could you make any comments on what you think about CapEx in the Flash business for next year?

Wissam Jabre: Yes. On utilization, as you know, in January we announced a 30% reduction in supply in wafer inputs. And since then, we've been managing our utilization in a very dynamic way. We look at the demand of our products, we look at what inventory is doing, and of course, we are focused on preserving cash. These are really the key things we look at as we look to continuously, dynamically manage our utilization.

Where we are today, it looks like we'll continue basically the same process. As we see demand for our products improve, that will influence the decision on what we do from the wafer input.

Tom O'Malley: How do you see the introduction of BiCS8 impacting the CapEx side over the next couple of years? And then what's the timeline that that represents a more substantial portion of your bits?

Wissam Jabre: On the CapEx, which was also part of your previous question, on the CapEx in fiscal '23 we did reduce our CapEx by more than 30% relative to the previous year. In this fiscal year, we are reducing our cash CapEx spend significantly by probably 50% or more. And as we see the recovery let's say taking hold, then we will be adjusting.

But with respect to BiCS8, BiCS8 will probably be -- it's basically our next big node after BiCS6 and from a cash CapEx or a CapEx perspective, I would expect it to start, again, if the recovery takes hold and we see the profitability, then we should see CapEx for BiCS8 at some point in the second half of fiscal '25.

Tom O'Malley: Got it. We've walked through all the moving pieces. But spinning out on the other side you have this positive gross margin guide in the December quarter. If you look at other memory players, they seem actually a little bit behind of the curve that you guys are on. Could you maybe dive in and explain why you're seeing the acceleration in gross margin that you are? Is that just related to the JV? Or how have you been able to come up the curve a little bit faster during this recovery?

David Goeckeler: Yes. It's the result of a lot of hard work over the last 3 or 4 years. Some changes we made and then a lot of hard over decades with the JV. Let me decompose it a little bit. In the NAND market, just big picture, there's 2 things you've got to get right. You've got to get your fundamental technology correct and you've got to get it in the right position and you've got to get the right count of CapEx to build that technology. That's the BiCS roadmap.

That's a place where we invest jointly with Kioxia. It's one R&D team. Basically, we punch above our weight. We're the largest. We have the largest investment, from a bit share point of view, we're able to invest like the largest player in the market. That's gives us a very, very good base technology position if you look at the BiCS roadmap. If you look at CapEx per output of bit, we're consistently over the last 5 years 1/3 lower than the industry average. We've got a very good technology base to build on top of that's very capital efficient and very high-quality product.

The other side of that, work we've been doing over the last 3 years, is you've got to figure out what portfolio -- I'm going to take these wafers out of the fab, I'm going to sell them to somebody. You can -- there's lots of choices you can make. You can just sell the wafers. You can sell components. You can build controllers and sell SSDs. We put an enormous amount of work into what is the right

portfolio to get the best outcome? And we're able to -- the consumer portfolio that you said earlier is the real gem of the whole portfolio. Better through cycle margin than any other part of the portfolio. Again, we have tremendous brands there, a lot of work on those brands over the last 3 years, so that's a great place for us to mix into.

Client SSD, we have the second largest client SSD portfolio in the industry. Very, very good position there. We sell into mobile. We have a very good position in gaming. The Black brand, again, both into the consoles and retail directly to the consumer. That -- when I came to the company, the amount of bits we sold into mobile was an easy number to remember. It was 0. And now it's double digits, so that's a big part of the portfolio.

And then we're qualified in Enterprise SSD. That market is very depressed, but we still have the products there. We've done an enormous amount of work that on top of that base technology that's very capital efficient, very high quality, we put a very robust, diverse portfolio. And then we put the agility in the organization to change mix dynamically to get the best outcome. Because every market in NAND is a different size, different growth rate, different profitability, and those change throughout the cycle. You have to constantly be mixing across this and we're able to do that. We put the agility in the organization to be able to do that very, very quickly. And you're seeing the results.

We're leading. We bottomed out in gross margin significant double digits ahead of anybody else in the industry. 10, 20, 30 points ahead. And now we're the first one coming out into positive gross margin territory. Again, this goes back to the strategic review and why we think this business is ready to stand on its own. It's the best NAND business in the industry and we're demonstrating it every quarter with the results we're delivering.

Tom O'Malley: Helpful. Why don't we switch over to the HDD side of the house. You mentioned earlier that you do expect cloud recovery on the HDD side this coming quarter. One, could you just talk about how that trajectory has changed since you talked about the recovery in earnings? And then maybe any color in nearline between the cloud players and others? Is there a different pace of recovery or inventory position is different at either one of those? Just help shape what is happening in nearline right now.

David Goeckeler: Going into this, when cloud went into the downturn, there was just clearly way too much inventory that had been built up. Clearly, there was some buy ahead that was going on when everybody was worried about the supply chain, the pandemic, and all those issues. And then we went into a multi-quarter period where some of the biggest customers in the market just stopped buying. We'd have customers that would buy enormous amount, hundreds of millions of dollars' worth of product, just go to zero. It was all through working off that inventory correction.

We talked about this over the last couple of earnings calls we expected sequential growth as we move throughout '24 as those customers came back into the market and the inventory positions it drives really started to normalize. That process is on. We're not all the way there yet. Again, the bottom of the HDD business is behind us. We expect sequential growth in nearline as we go throughout the fiscal year and the conversation with the customers are very good on what that looks like.

The industry is going more toward the build to order process. We've taken a significant amount of infrastructure out of this business. We were overinvested, again, in this infrastructure especially. We're kind of at the end of this client to cloud transition and now we've got the footprint sized for what we need. Our customers understand that. We're getting more visibility into what their demand looks like. And we have a lot of confidence that the HDD business is going to grow from here and we'll continue to see the margins improve as well.

Tom O'Malley: How about the client and consumer side? I think we haven't touched on those yet for HDD. You mentioned on the last earnings call I think at least consumer was stabilizing. How are those trajectories as we go through the quarter here?

David Goeckeler: They're fine. It's a decreasing part of the business. Consumer, we're in, again, a seasonally strong quarter, so we'll expect consumer to do well. The client business, again, during the pandemic, I think we had a false signal that everything that was a client, everybody wanted a PC at the start of the pandemic. We had this kind of false signal where client SSDs went up. If you draw a trend line from pre-pandemic to now, actually the client HDD penetration in the PC is now below where it was coming, that trend line, coming into the pandemic.

This business is transitioning to cloud. They're still important markets. There's still millions of drives sold into those markets every quarter. But again, we've taken 40% of our capacity out of client and we're getting that sized right to meet that market. But again, like the client SSD market, more predictable past the inventory corrections.

Tom O'Malley: Okay. Just zooming out a little more broadly again, I just want to talk about the broad strategy in your UltraSMR drives. How are you seeing customer interaction at those higher capacity drives when your competitor is moving to HAMR? And are you seeing better traction at the high end? Is that working? Can you see the result of that strategy yet? Or is that still kind of on the come?

David Goeckeler: No, it's working. It's fantastic, quite frankly. I mean if you look at the 26-terabyte drive that we launched 2 quarters ago, last quarter it was nearly half of our exabytes shipped. That tells you that the market at the very high end is moving to SMR. Now, SMR is a technology that's been around for quite some time. It's just never been adopted at the very high end of the market because there's work to do on the host side to adopt it.

And the really key in driving the adoption of that was our introduction of UltraSMR. A traditional SMR technology gives you an extra 10% of capacity on a drive. And it doesn't matter what kind of drive. It can be a CMR drive, a PMR, EPMR, HAMR, it doesn't matter. SMR is a different layer on top of that.

When we introduced UltraSMR a couple of generations ago, now it's plus 20%. When you're deploying a 22-terabyte drive, going to 24-terabyte drive, an extra 20% is quite a bit. The hyperscale vendors started adopting this technology and we've been saying for quite some time that this was going to be the next leg of growth in the datacenter, and that's turning out to be correct. I mean we'll get to HAMR. HAMR will come. But once we get to HAMR, SMR is going to work on top of HAMR just the way it works now. We're very, very happy with the technology and the strategy. And we've got line of sight with our current technology portfolio of EPMR, UltraSMR for many, many more generations of drives that are cost controlled, high yields, and meet our customers' requirements, quick qualifications. We feel like the portfolio is in great shape. And again, this is another thing, showing up every quarter in the numbers. Last 5 quarters we've had outsized profitability versus our peers and that gap is increasing.

Tom O'Malley: You mentioned HAMR and your competitor talks about a million units in the first half of calendar year '24 for HAMR drives. How are you progressing on your roadmap? And how do you see the technological landscape changing? Where are you in your progression in HAMR as well?

David Goeckeler: HAMR is a technology -- I think HAMR, when I was in Japan couple of months ago, I talked to the gentleman that actually wrote the seminal paper on HAMR I think it was 2002. HAMR has been in development literally -- and this is the story of the HDD industry. I mean these drives, the technology in this is incredibly sophisticated and can take decades to bring to market. I think where we're at right now is we're like in that endgame of when does HAMR, the commercialized technology for the datacenter? And it's going to happen sometime over the next several years. Our technology is at -- we've been working on it for several decades. When we need to bring it into the portfolio, we'll fold it in as a technology.

But as I said earlier, we have EPMR. This is I think something that maybe we haven't talked enough about. We went to EPMR, energy assist on PMR several generations ago. We've now shipped over 600 exabytes of EPMR technology into the market. It's really this EPMR plus UltraSMR is giving us this roadmap that it gives us the flexibility to bring HAMR into the portfolio when we can get the yields, when we can produce it at scale.

Look, let's look at the nearline market. The nearline market, the depressed number in calendar year '23 is somewhere about 40 million drives. The year before that it was 60 million drives. When you talk about a million drives, you're talking about a very, very small percent of this market. And we have a strategy where we can satisfy the entire market at these very high-capacity points with

technology that has already been commercialized, can be produced at scale in a very const controlled way. And that's why we're getting the increased profitability across our portfolio. When HAMR can be produced as a part of that portfolio, we'll fold it in if we get the right economics.

Tom O'Malley: Helpful. I think we have time for one more here, but just you've already talked about most of those end markets on the HDD side actually getting a bit better. Some of the smaller legacy businesses obviously working through periods of downturn still. But can we talk about what it means for utilization in the second half of the fiscal year? Can you give us an update on how that's trending? And then on the HDD side, just given those utilization changes, when do you think you can get back to what you've stated is kind of a normal margin profile of that above 30% range?

Wissam Jabre: Maybe I'll start with the second part of the question. When we normalize, for instance when you look at the September quarter and we normalize for the -- or adjust out the utilization charges, our margin was pretty close to around 30%. Similar to the Flash side, we manage also our utilization on the hard drive side to basically match the supply of our products with where we see the demand. Over the next couple of quarters, we'll continue to see underutilization, but I would expect it to be slightly lower than what we're seeing now as the demand continues to sort of improve. I expect eventually utilization will be phased out. But for the rest of the fiscal year '24, I still expect to see some underutilization charges.

Tom O'Malley: Very helpful. I think that's all we have in terms of time. Thank you both so much for being here. Have a lovely rest of the week.

David Goeckeler: Thank you. Thank you very much. Appreciate it.