

ASI Technology Summit Q4 2021

Toshiba Hard Drives – 40 Plus Years of Innovation, Quality, and Reliability

0:04

Well, good afternoon, everybody. This is ASI, and I want to welcome you all to Day three of the ASI Q four Technology summit. Today is a really big day for us. For ASI we are officially announcing a new partnership with Toshiba.

0:23

and ASI is now a fully authorized distributor for Toshiba, hard drives.

0:29

So this is really a great addition for us to add product line.

0:36

Storage continues to be one of the bigger segments of the business side at ASI and hard drives are still within that product category.

0:46

The biggest piece of that storage business, So as we continue to look out at the market and the different segments, is server, mass, surveillance, and really, these kind of very key verticals that continue to drive growth for hard drives.

1:03

These are important to segments for, for ASI and for you, our resellers.

1:07

So we're really, really excited and pleased to be able to introduce Toshiba and make that product line available to you guys our customers, for their full line of hard drive products. So I know Dave Chomping at the bit to get to you guys and give you the presentation and tell you more about.

1:28

Because Toshiba now introduce Dave in just a second. But I do have a couple of housekeeping things that I wanted to go over really quick.

1:36

First, for questions like normal, please do submit your questions through the question chat box, and we'll be sure to get those asked to David.

1:45

So as we're going through the presentation, just go ahead and send in your questions for us.

1:50

And David, from yesterday, we had some prizes to give away. And I want to announce the winners of those prizes now. So, yesterday, we gave away as part of the micron presentation we gave away, or we are giving away an iPad.

2:06

In addition to that, because we've ran over on our presentation yesterday, and I asked you guys to hang with us, and stay with us for awhile, we're gonna give away some additional \$50 gift cards.

2:19

So we're gonna give away 10, \$50 gift cards, and the iPad, So I'm going to announce the winners of those right now.

2:27

So I get to do the cool part and announce the winner, so for the \$50 gift cards is Lou deluca, our Kersee, David Bacon May Lue, David model Shannon Wallah, Marques, Dewy, Sammi Wong, Quang Woo and Jackie, so congratulations to all of you. You have a \$50 gift card, and I'll e-mail you after the event is all over to make that connection to get you those, those prizes.

2:59

And then for the iPad, winter we have one of our customers from up North up into Canada is Albert Long. So congratulations, Albert and I'll reach out to you through e-mail to make arrangements for you to get your iPad.

3:15

So for today, I'll before we start the Toshiba Presentation, I just want to remind you all that we are giving away today, Toshiba, 50 inch TV.

3:25

So stay with us through the session today. And you'll automatically be entered into the raffle drawing for a chance to win that TD. And we'll announce the winner of the TV tomorrow during our Supermicro session, which will be the last session of the week's event.

3:41

So with that, I do want to go ahead and hand everything off to David. Again, vacation listed right at the beginning. This is a big announcement for ASI. We're announcing and kicking off our official partnership with Toshiba as an authorized distributor. And we're really excited to be adding them to our product line.

4:03

Being able to deliver these products to you.

4:05

I think you're going to find that Toshiba a highly reliable product and they fit into a lot of the vertical markets that you guys are currently engaged in.

4:15

So with that, I'm going to turn everything over to Dave. So Dave, I'll take it away.

4:22

Right. OK, thank you Kent.

4:24

So I'm Dave ..., the Director of Sales for Toshiba Hard Drives.

4:29

I've been with Toshiba for many, many years. I started in 19 95.

4:35

So some of you I probably know out there and so feel free to drop me an e-mail if you have any questions about Toshiba, or would you like to say hello?

4:44

feel free to text or call me OK.

4:57

Let's see I'm having a hard time getting the screen to move. Here we go, OK, do it with my mouse.

5:08

OK so I'm going to do a quick overview on to Shiva Corporation and then talk specifically about the hard drive market according to Toshiba, how we see the marketplace for hard drives.

5:22

And then I'll go through a Roadmap update, and talk about our specific products, OK, so, this is one of the slides, I always kind of enjoy looking at, you know, for those of you who have good, then, dealing with storage, You know, for a number of years.

5:40

You probably remember many of these companies that we're a one-time, hard drive manufacturers, guys like Rhode Island, Seagate, and the Japanese companies, Mitsubishi and NAC.

5:54

So over all this time, dating back to the sixties and because Toshiba first began in 1967

6:03

But others consolidation and companies exiting the business.

6:08

And now we end up with three guys remaining in the Hard Drive Space, Toshiba, Seagate in Western Digital.

6:16

And so, you know, Toshiba has got 50 years in the business, we're deeply committed to it.

6:22

And it's a very significant part of Toshiba's corporate portfolio.

6:35

OK, so if we look at no Toshiba Corporation Headquarters in Tokyo, we have 128,000 employees.

6:44

The hard drive portion of our business accounts for about 20% Toshiba corporations gross revenue, which is 30 billion.

6:54

So Toshiba makes a lot of different things, semiconductor products, air conditioners, elevators, energy products, printers, industrial systems for railroad's, artificial intelligence.

7:08

It all adds up to about \$30 billion.

7:11

But this does not include Toshiba is 40% state and kiosks.

7:18

Who is the SSD company that uses Toshiba NAND to build solid state drives.

7:25

So that's a big chunk of revenue and profit.

7:28

Toshiba owns 40% of so that's not included in this \$30 billion.

7:34

So just to clarify, I represent Toshiba hard drives, got SSD.

7:39

The SSD is a standalone company called I have no involved in that.

7:51

OK, so really quickly, I worked for T C Toshiba America Electronic Corporation.

7:58

It's a US.

7:59

corporation that's set up to manage the sales and marketing of Toshiba hard drives in the Americas.

8:06

Our vice president in San Jose is Kyle Yamamoto, and he I also work in San Jose at our headquarters.

8:16

Then Bill will let is our senior sales director.

8:21

And I report to Bill Bill Lives in Austin, Texas.

8:24

And then ... is our Vice president of technical support.

8:27

These in San Jose, you gotta logistics guiding Gary gear that works in our Irvine office.

8:33

Then Torsten Schmid is our VP of Research and Development, and he works in San Jose.

8:39

And so the Toshiba amerika electronic components portion of Toshiba's worldwide revenue, it's 45%.

8:50

So this is this is HP and Dell, an Amazon Web Services and Google. Know all these companies that by literally millions of our high capacity helium enterprise trucks.

9:05

So Toshiba has a big team to support ASI.

9:09

We, we are behind ASI 100% and looking at ASI to become a very key distributor for Toshiba.

9:17

We have two salespeople, myself included assigned to support ASI.

9:22

We have three people supporting pricing and supply.

9:26

We have two people to help to manage all the orders ASI's placing.

9:31

We have a dedicated tech support engineer in San Jose, and get dedicated RMA person.

9:41

So Toshiba's primary factory is in the Philippines.

9:48

All of our enterprise drives are built in the Philippines as well as our 2.5 inch quiet tries.

9:55

We also have a factory in China that builds our desktop drives, as well as our low capacity surveillance drives.

10:05

We have a tariff and twice the tariff was put in place by our previous President and right out of the gate to achieve as factory in China was DJing with a 25% tariff.

10:17

So, what that means is, we really can't sell desktop drives or low capacity surveillance tribes in the United States.

10:26

We still ship a lot of those drives into Latin America, I'm responsible for that territory, as well as Canada.

10:32

But, for the US because of that tariff.

10:35

No, It's basically a showstopper.

10:37

25% is too much of a no an adder two to be absorbed.

10:44

So, I just wanted to make everybody aware of that.

10:47

And, again, for all of our enterprise class drives, which is the most important segment for Toshiba, it's a hardware vendor.

10:54

There's no tariff there, although the Philippines.

10:59

All right, I want to talk a little bit about the hardware market and what's going on this.

11:05

This view shows, and this is for the whole market, this is not Toshiba's specifically, but if you look at the next three years, the total number of hard drives being manufactured is definitely declining.

11:21

Most of this decline is on 2.5 inch notebook drives, as well as this segment, which is desktop drives.

11:28

If you look at enterprise class drives, you know, especially 3.5 inch enterprise, this segment, we're shipping more and more volume.

11:40

And here, if you look at total number of extra bytes or terabytes, if you want to look at it that way, those numbers are increasing dramatically.

11:49

That's just because we're moving from 18 terabyte to 20 to 22 terabyte to 24 terabyte.

11:56

So that's what's really what's driving the, the increase in total exabytes that will be shipped in the next three years.

12:04

And then if you look at from a revenue point of view, again, this is the overall Harddrive industry.

12:11

Calendar Year 21, it's been very good for the industry. We had a nice bump up from 20 20.

12:16

It'll be pretty flat in 20 22 and then increasing more in 20 23 and 24.

12:23

So it's a very stable industry, it's a very mature industry.

12:27

Toshiba is deeply committed to this space. We've been in it for 50 years.

12:32

And we will remain in it, know, for as long as it's harddrive remains viable technology, which we feel is, you know, at least another 20 years.

12:46

OK, I'm just going to touch on this one briefly.

12:49

This shows what's happening as far as the capacity mix.

12:55

You can see that today, Q four, the industry is shipping a lot of 18 terabyte.

13:03

That'll continue into Q one next year, Then it will start start falling off in Q two to be replaced with 20 terabyte.

13:13

So we definitely see this dynamic.

13:16

Wait with each quarter, As new higher capacity, enterprise class drives are released, 18, 20, 22, 24, that we will continue to see this shift. This is really driven by, you know, the guys, like Amazon and Google.

13:33

Well, this unquenchable thirst for more and more storage for their data centers.

13:39

Also notable is eight terabyte hidden below.

13:43

This is Enterprise Drives again, will remain fairly consistent moving out into the future.

13:53

OK, so what is good about Toshiba? Why is to achieve a viable choice for a hard drive?

14:02

First, we've been into business since the very beginning over 50 years.

14:06

We're deeply committed to this space.

14:09

Today we're shipping one terabyte to 18 terabyte and enterprise class drives.

14:14

We'll have our 20 terabyte early next year.

14:19

And when you look at no. So from a roadmap point of view, are extremely competitive.

14:25

You look at our quality, we're very proud of it.

14:29

We, but we deal with these big customers that I've mentioned before.

14:34

They do no, very thorough, total cost of ownership equations for all their hard drive venter's. This is really based on annual failure rate.

14:47

So to achieve that has consistently been rated at the top in the last three years on our helium class drives, or failure rates, than the lowest.

14:56

And so, you know, we've we've got excellent scorecards from these big companies.

15:01

And No we we will put our quality up against anybody Interspace.

15:10

The other thing is on time delivery, if we have a forecast, we have a deep commitment to supporting the distribution channel.

15:17

We will always make the product available for distribution as long as it's forecast.

15:23

Then supply chain resiliency We do have two primary factories, Philippines and China.

15:29

We're going to actually be adding enterprise class drives production to our China facility but that will only be to support Asia.

15:36

But that just means there's more from the Philippines available for the US.

15:44

OK so I'm going to talk about four segments of hard drives that Shiva has 2.5 inch client.

15:51

This is the legacy notebook, hard drives, 3.5 inch client, which includes desktop drives and surveillance roads, and then mission critical, enterprise hard drives.

16:03

These are 2.5 inch, 10 TACE astros'.

16:08

Then the most important category, the 3.5 inch near line drives, began these the July 24th seven rated drives all with five year warranty.

16:17

No four.

16:18

You know, our biggest demand there is the data center and in server space.

16:24

So you can see on the Notebook tros, we have about one third of market share and we're looking to keep that consistent.

16:32

On the desktop swash surveillance market, we have 14% market share and a lot of water that is due to, we have not added production capacity for desktop drives since the demand is shrinking.

16:49

But we look at with some new surveillance models to increase our market share in this segment.

16:56

The 2.5 inch drives it's only Toshiba and Seagate.

17:01

WD exited that space.

17:02

About two years ago I think they thought it was going to die, it has not died, it stayed, very consistent.

17:10

And so Seagate, to see, they get to split the business here.

17:14

Then the most critical sub segment, the Nearline enterprise drives.

17:20

We have a current share of 13%.

17:23

And it's funny, because our volume has been growing, you know, very fast.

17:28

But the overall demand for the market for these near line drives has been growing fast as well, so it's been hard for us to gain share.

17:38

We are shipping more and more of these drives, and we have big investments happening in our helium lines, which is 12 terabyte and above.

17:47

So we can achieve more production capacity, which will allow us to get 20 percent and beyond.

17:56

So if you look at two Xi was total share of the hard drive market today, it's 23%.

18:03

With Seagate and WD splitting, the remainder, they both have 35 to 40% roughly.

18:12

two she was ultimate goal by 2023 is to reach 30%, so more or less.

18:19

We have an equitable amount of share, compared to our competitors.

18:26

Alright. So we had a fabulous Q two.

18:30

We set records for total exabytes shipped.

18:34

Total number of nearline are drug ship two point eight million in Q two.

18:40

One point nine million of that was our helium drives, 12 terabyte and above.

18:45

Revenue grew no faster than the market, or profit grew faster than the market.

18:51

So, we had a real bonanza in Q two and No word.

18:57

That basically provides us a launching pad for even more growth.

19:09

Whoops.

19:12

OK, so if you look at Toshiba's helium Throbs specifically, we were first to market on 14 terabytes in 2017.

19:23

We deliver the world's first nine disks 14 terabyte drive 2019 we released 16 terabyte, this year we released 18.

19:35

ASI currently has stock on this product and then next year we'll have 20 then later in 20 22 will release 22 terabyte drives and then in 20 23 we will have 24 terabyte.

19:54

OK, so, this slide talks about, know, this, this notion that SSD will put our drives out of business.

20:02

You know, we've we've heard this being chatted about for the last, you know, probably eight years.

20:10

Basically, it's not going to happen.

20:13

There's still a huge delta between cost per gigabyte with SSG technology compared to hard drive technology.

20:23

You know, especially when we talk about the larger capacity drives, SSD, you know, there's, there's no way to compete with hard drive cost.

20:33

Find the low capacity drives like, for instance, a one terabyte, 2.5 inch drive, which we go into a notebook, yes, SSG is encroaching on that space.

20:44

No, so select the one terabyte level.

20:47

No, they can they can be somewhat cost effective.

20:51

But once you start getting into larger capacities, SSG cannot provide anything near an effective cost.

21:03

OK, I'm going to talk specifically now about Toshiba product lineup.

21:09

We have our MD series. This is 6 8 and 10 terabytes surveillance tropes.

21:15

They're made in the Philippines. So there's no tariff issue with those.

21:20

We'd love to address any opportunities for 6, 8, and 10 terabyte surveillance drives.

21:26

I'll talk more about these in a later roadmap.

21:29

Then we have our desktop series, which also includes our 1, two, and three terabyte.

21:37

Surveillance thrives.

21:38

These are the ones that are made in China. So, we really can't do much with these in the US.

21:44

We have a full lineup of now strobos.

21:46

We have a full lineup of air and helium enterprise drive's ranging from 1 to 18 terabyte.

21:55

We have a full lineup of the 2.5 inch mission critical drives.

22:00

These are the 10 K 2.5 inch SAS drives.

22:05

Again, here's our desktop drives made in China then these ... or a notebook drives made in the Philippines.

22:12

I mean although this business has been declining and will continue to decline still a very viable business through to Shiva and there's still quite a bit of volume opportunity in this class of product.

22:28

OK, so this gives a view of our air drives when did 10 terabyte and then, or helium drives, today, 12 to 18 terabytes.

22:40

So you can see the product families NGO for is a legacy hardware platform.

22:45

It goes up to four terabyte.

22:47

Then we get these MTO six and ...

22:49

Air Drives, only up to 10 terabyte, Then NGO, 7 to 14 terabyte drive.

22:56

NGO 8, 16 terabyte and our latest NGO nine is an 18 terabyte.

23:06

OK, and this busy slide shows, the reason the reason I'm presenting this is just to show where to Achieve is going in the future.

23:18

So in 2022, we will have our first 12 terabyte drive.

23:25

And then, moving forward, 20 or 20 terabytes for it, rather than moving forward, 22, then in 20 24, 24 terabyte.

23:35

So, we're deeply committed to developing these new technologies and bringing them to the marketplace.

23:42

And no.

23:43

I mean, it's a critical thing for us to be a player in the hard drive space.

23:49

You have to. You have to execute here.

23:52

And, you know, it's funny, because hard drives are such an old-school, legacy, mature business.

23:58

People tend to forget the incredible technology that goes into building these high capacity drives and they can then reliable July 24th, 7, 5 years.

24:09

It's it's really incredible engineering feats, you know, not only by Toshiba, but by our competitors to make these tropes work.

24:18

And so we're deeply committed to delivering these higher capacity products as we move forward.

24:27

OK, so this is a little easier on the eyes. This shows our our airdrops up to 10 terabytes.

24:37

And here, you see, we have Sasse and Sarah.

24:45

And basically, these the Family Names NGO for M G O six,

24:53

And then this slide shows our helium drives ranging from 12 terabyte.

25:00

Here, here we show ARR, uh, 20 terabyte being released next year, again in Sass, as well as Sarah.

25:11

They all use the same hardware platform. It's just the interface is different.

25:18

OK, and this road map shows our knouse versions.

25:22

Now, the announced versions from Toshiba have a three year warranty instead of a five year warranty.

25:29

And some of the specs are slightly less robust, completely compared to our peer near line drives.

25:37

These drives are all based on the Nearline hardware platforms.

25:42

So they're basically, you are now, now, strikes are basically near line drives, just with lesser warranty.

25:49

So if you're interested in this product, you know, we'd be happy to support you. They are less expensive, that are narrower interests.

25:57

OK, I'm not going to spend any time really here.

25:59

This is it Shows end device and product transitions.

26:03

So if you're using Toshiba drives, and you need to have a view of what is our current 14 terabyte going end of life and what's its replacement, all that information is here.

26:17

OK, and this slide shows our 2.5 inch 10 K RPM as well as 15 K RPM.

26:24

I want to comment 15 R 15 K RPM drives.

26:30

We're still building on that it's extremely nitze. Most of this business has been encroached upon by SST.

26:37

10 K drives are there's still a very viable business for those.

26:42

Um.

26:45

Are ale, 15, SC family, is what's current, is 14, SC is end of life.

26:51

And so if you have any demand for 2.5 inch 10 TACE asteroids, we'd be happy to support you.

26:59

This is a legacy product for the shiva.

27:01

We've been in this business for probably 20 years.

27:09

OK two sheba surveillance drives, so I mentioned we have 6, 8 and 10 terabytes surveillance drives. These are made in the Philippines so there's no tariff issue.

27:20

This finished 7200 RPM.

27:23

They're extremely robust.

27:25

They are actually based on our Nearline hardware platform.

27:30

And so if you'd like to take a look at Toshiba 610 terabytes surveillance, we'd be happy to provide samples.

27:37

And in specifications, in any anything else you need.

27:41

These are also priced very aggressively verse, for instance, and WD Perkins breath.

27:49

Now, here we show our 500 gig, 2 six terabyte low spin drives, these drive's spin at either 1400 or 5700.

28:02

Unfortunately, these are all made in China, so because of the tariff, we can't really offer easily US.

28:11

OK, moving right along to she has 2.5 inch notebook harddrive roadmap.

28:18

So what we're shipping today is a one terabyte drive.

28:21

It's seven mm high. Spends it 5400 RPM.

28:26

This is our most popular model by far.

28:29

We also offer a two terabyte version which is 9.5 mm high.

28:34

It's got two disks in it and then we have a four terabyte version which is 15 mm high with four disks.

28:44

And so this is again a legacy space for to shiva.

28:48

We were building these drives for 10 years before Seagate or Western Digital ever built this class of hard drives.

28:56

Originally, it was three Japanese Harddrive companies.

29:00

Shiva, Fujitsu, and a touchy, building this class of product.

29:04

Then when the Notebook business began and boom back in 2006, WD and Seagate finally entered the space.

29:19

OK, this shows our legacy desktop, harddrive roadmap these drives to Seba actually acquired from Hitachi.

29:29

It's part of some negotiations surrounding WTH acquisition of Hitachi.

29:37

And so, we ended up with acquiring Hitachi suggests Top Tries.

29:43

We're still making these, it's a legacy design.

29:45

But, again, unfortunately, they're all made in China.

29:48

We can't ship them into the US because of the tariff.

29:52

We're hoping sometime in the not so distant future that tariff will be lifted, Then we'll be happy to offer these in the United States.

30:02

Hey, folks, that is about it for my presentation.

30:06

The only other thing I wanted to mention is we have For our enterprise class drives, we have options where you can buy your drives is a self encrypting drives or with the sanitized instant erase feature.

30:20

And so these are available on all of our enterprise class trades.

30:25

We try to manage it as a special order thing, Then the rest of the slides are just a whole bunch of spec comparisons.

30:35

OK, so that's it for my slides, folks.

30:39

Kent, do we want to open it up for questions?

30:43

Yeah, absolutely. So, if you guys have any questions, go ahead and type them into the, to the question box, and we'll be able to get those asked to David. So, David, a couple of things.

30:56

one of the things that really kinda jumped out at me during the presentation was, your, your note, about 98% delivery, consistency, and I think, for me, that's true. That's really important.

31:11

There is a word and distribution that we hear a lot called D commit, and it causes a lot of problems when the manufacturer, the commit A product, and then we have to go face the customer and tell them that, hey, are your products not going to ship?

31:27

Because it's been de committed? Or something that happened with the allocation.

31:30

So, I think, for everybody, kinda on, on the line now, that 98% accuracy or commitment from Toshiba that when they, when they make a commitment that they're going to deliver to a forecast. That they meet the delivery schedule.

31:46

I think that's really important, especially in today's day and age.

31:51

So, I just wanted to kind of highlighting point that out, because that's something that we're all dealing with all the time.

31:57

So I thought that was a really relevant irrelevant point, following kinda on top of that, Dave, I know like the data center, guys, in the large companies that you deal with, they do a lot of evaluation of their vendors.

32:13

They evaluate them on delivery, accuracy, timeliness of delivery, quality of the product.

32:22

Can you share a little bit about what kind of there response has been about two shiva drives, especially related to quality of, of your product?

32:32

Well, sure.

32:33

So we're, you know, we're talking about the world's biggest customers for hard drives and, you know, these guys spend hundreds of millions of dollars on a hard drive.

32:46

The acquisitions churn a calendar year, and those those spends will increasingly leap forward.

32:53

And so, um, they know, I mentioned before that they gave Toshiba the top scores for total cost of ownership, which is really an equation that is based primarily around annual failure rate.

33:10

They, these companies, view Toshiba is frankly the highest quality bar drive that they can buy.

33:18

And so, you know, again, these are companies that their demand is so massive. They need three vendors. They they buy Seagate they by western digital and they go to Shiva.

33:28

But they've used to achieve a very favorably as far as quality and performance as well.

33:34

And the performance you have to have competitive performance.

33:38

two, to get qualified.

33:40

And so so we do.

33:43

You know, it's it's, I'm not going to say, we outperformed WD or or Seagate. And I don't really think WD or Seagate could say they outperform Toshiba.

33:53

But we all meet the benchmark for qualification that's demanded.

33:58

Buy, not only HP and Dell, but but Amazon, and Google, and Facebook, and then many other data center customers.

34:10

Great.

34:11

So, I'm sorry. Let me look through here. I do have a couple of questions about availability.

34:17

So, maybe you can kind of help fill in some of the gaps on this, specifically, asking about availability on the larger capacity drives, like 16 terabyte and 18 terabyte.

34:29

Helium based MG derives what that's kind of the availability picture look like for those, the the helium drives.

34:38

Um, first sada, we basically have excellent availability.

34:45

There's no, there's no restraint on those on the soft drives.

34:51

Availability is slightly less because we sell more SATA than SaaS.

34:56

Um, for instance, if you wanted to Sass, try it in four K, that one, this is going to be less available than assess Drive and five while the.

35:07

yes, we've got a lot of different flavors, but the most popular drive we sell is a set of 512 E drive.

35:16

And so on that, you know, on the 12th through the 18 terabyte, those drives are typically in our warehouse in Fullerton or and ASIS Warehouse. I think you guys have stock on those today as well.

35:33

So Dave, some of the other drive manufacturers have drive utilities that come with their drives.

35:41

Does Toshiba have anything like that?

35:44

Do you have any utilities that come with the drives for measuring performance or live for tuning or any of that kind of stuff?

35:53

Not not specifically.

35:55

That's, we have those tools available that we can provide to customers, you know, on an as needed basis.

36:06

So that's something they would, they would download or they would work through ASI to connect with you to try to get those or how how would they go about getting?

36:15

Yeah ...

36:16

this if a customer an easy utility know they can contact me directly or go through ASL and we would support it.

36:27

Great.

36:29

So here's a question I'm not really familiar with with this because I'm not as familiar about the technology inside of the drive. So I'm just going to try to ask this question as it's typed in And hopefully I can do it justice.

36:45

And we can get it answered but are there any double arm modules like seagate Mach two.

36:55

Yeah, so you're talking about dual actuator.

36:59

And so Lee we do have a dual actuator drive and development right now.

37:09

It's it's something that we have not yet announced a release date.

37:15

We we've made a lot of progress on the technology.

37:19

No but those roads are we we feel. I mean, I've got another slide.

37:26

I can share where we're anticipating demand for that class of product.

37:32

It's a real high-end nitch I think seagate's been leading the charge, um, and No toshiba's kind of holding back and waiting to see the market developed If and when the market does develop, we will have a product ready.

37:49

But we're we decided not to take a leading position on that, because it's it's it's it's a very niche, he expensive product.

38:05

What about hybrid drives? Are you guys doing anything in the area of hybrid?

38:13

We were used to build a 2.5 inch notebook drive that was a hybrid drive.

38:20

We discontinued it due to lack of demand.

38:24

You know, basically.

38:24

I think, you know, what's happened is no customers can, can either use a SSD or hard drive no, but trying to try to build a hybrid drive which would sit in between.

38:38

It didn't end up being a viable marketplace for us.

38:44

I believe that's true for the hard drive industry. In general.

38:49

Great.

38:50

So I kinda got a follow up question regarding the utilities and maybe I didn't ask the question properly. So I want to I want to try to restate the question more specifically for what the customer is asking.

39:04

They were asking on the utility side for something more like a smart utility that checks for failing drives and a check for bad sectors.

39:14

Is that something that Toshiba offers?

39:18

Um, ARR, our engineer's use a few different programs for that.

39:26

And, you know, a few different utilities.

39:30

No, I think no weekend.

39:32

We can definitely share those utilities or an as needed basis.

39:37

Yeah.

39:39

So in terms of capacity, I know you did show some slides that showed the capacity going out into 2023.

39:48

I mean, beyond that, are we seeing larger capacities and new technologies coming to hard drives that are going to, they're going to help extend beyond what you showed on your roadmap?

40:03

Yeah, I mean, I don't I don't think 24 terabyte is the end of the road.

40:07

I think there's, there's all sorts of work happening, um, in the hard drive industry all sorts of development work, too.

40:16

Go to 26 terabyte and beyond.

40:20

And so, no.

40:24

At a certain point.

40:26

Logically, thing, no.

40:28

You hit the end of the row and you can't get any higher than 30 terabyte.

40:33

But, you know, there's constantly improvements being made in aerial density, how much data you can fit on a single disk.

40:42

And so, as long as those No, those improvements can be made, you know, hard drives can just continue to get larger and larger.

40:54

And looking at the technology of the drives, you know, what's what's the benefit of, say, a helium Helium Ciel drive over traditional aer drive?

41:07

Well, there's, there's two answers to that, first, to be able to achieve capacity points of 12 terabyte and above helium's critical because, because since it's lighter, you can, you can place the disks more closely to each other.

41:26

Um, that tolerances can be minimized with with helium. So so it allows the larger harddrive to be built.

41:34

No drive's with more disks.

41:37

I mentioned earlier we would Shiva was the first to lease a nine disk drive. Without helium it never would have worked.

41:48

So, there's there's that angle.

41:50

The other angle is helium, again, because it's lighter.

41:54

That hard drives draw less power to operate.

41:58

So, it's, if you compare the power draw, uh, an air drive to a helium drive the helium, there was much more energy efficient.

42:07

So, when you're in a data center with literally thousands of drives, spinning, no, you're your energy bill is a critical component.

42:14

So, so, no big data center, guys Don't Don't use air dries, they use primarily helium.

42:30

OK, OK, well, I think questions are starting to kinda wind down. There is one more question that I did want to ask.

42:40

We didn't talk a lot about warranty on the drives or if we did we kinda, I kind of missed it but maybe you can talk a little bit about the warranty and our Toshiba handles the RMA process for Drives.

42:54

Yeah, sure.

42:55

So all of toshiba's, Nearline have a five year warranty and then are now strives to have a three year warranty and then R our notebooks rise up to three year warranty and then our desktop class has a two year warranty surveillances three year.

43:16

So we offer return for credit for the entire length of the warranty.

43:22

We will credit that the dollar amount that it costs to buy a new drive, that's comparable.

43:30

So literally, if you buy an 18 terabyte drive from us and four years later it fails, you can return it and get the full thing and get the full credit amount to allow you to buy a brand-new 18 terabyte drive.

43:47

We, we almost do exclusively return for credit, we we only do a minimal amount of return for replacement.

44:01

And so, you know, if a customer has a failed drive, we, we say, hey, Will, you'll get a credit just by a brand-new one and your warranty starts all over again?

44:17

Great.

44:19

OK, well, you know, it looks like, we've kind of exhausted most of the questions, which is great. I want to thank everybody for sending those in.

44:29

I'm gonna go ahead and kind of wrap things up here really quick.

44:33

I do want to thank Dave for doing the presentation today and introducing all of us to toshiba's line of products.

44:42

I know we saw a lot of growth in the market segments around the enterprise drives, which are a perfect fit for you.

44:51

Know the ASI customer base so we're really looking forward to being able to offer these drives and talk to you guys about the types of projects you have going on.

45:01

And look for opportunities for us to partner on toshiba's. So, reach out to your sales team.

45:08

Feel free to contact me, you all have my e-mail, so have any questions, Please go ahead and send those along.

45:16

To me, I'd be happy to help answer a couple of things really quick.

45:21

We will send out a follow up e-mail, I'll get the slide.

45:26

The slides from David will be able to provide those to you afterwards.

45:30

We did record this session, so we'll be required to be providing the recording so that you can share it with other people within your company.

45:38

Another thing we have is one of our product managers created a really nice a cross-reference sheet between Toshiba Drives and the other competitors drives in the market.

45:51

So, I'm gonna go ahead and include that one I send out the information to you guys so that you can have it It gives a really nice comparison between you know I'm looking for this WD surveillance driver or Mass Driver Enterprise Drive.

46:08

And it's a nice comparison chart that shows you what is the shiva equivalent for that drive. Kinda help transition. Make transitions really easy. So I do want to provide that, They did a really nice job putting it together.

46:21

Those things are never easy to create. So I do want to get that out to you guys. I'll send that out later today. So look for that in your inbox.

46:30

Um, other than that, again, tomorrow we have our final day of the ASI Technology Summit. We'll have supermicro on tomorrow.

46:40

I think tomorrow we're giving away a couple of beats headphones during the presentation tomorrow. So be sure to join us tomorrow. We'll announce the winners for that, and we'll wrap everything up tomorrow.

46:52

For today's prizes. We'll announce the winner of that at the beginning of tomorrow's session.

46:58

So without further ado, Dave, was there anything you wanted to say in closing before we let everybody go for the rest of their day?

47:07

Yeah, Just that.

47:09

Yes, If you have any specific questions about Toshiba, I'm always happy to talk to customers direct.

47:17

You know, even though I'm I'm Director of Sales, I'm still a salesman and I work with customers. You know, day in and day out.

47:28

And so my e-mail address is dave dot cell, S a L L E at toshiba dot com.

47:35

It's a sheba, a long, long time.

47:37

Aye.

47:39

Aye.

47:40

I know Toshiba Hard Drive as well as I should after 25 years. So please feel free free to reach out to me anytime.

47:50

Great.

47:51

So with that, we'll go ahead and wrap things up and give everybody back the rest of your day today. Thank you very much for joining us.

48:00

We really appreciate you guys being a part of our event and for joining us today. And we look forward to seeing everybody back tomorrow.

48:08

So, thanks again, everyone. And we will talk to you soon.

48:13

Yeah.

Transcripts are automatically generated.