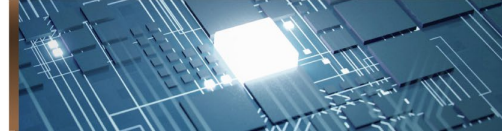


21ST ANNUAL J.P. MORGAN

**Tech/Auto Forum** During the 2023 International CES

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## Cepton, Inc.

*Cepton, Inc. presentation delivered at the 21st Annual Tech/Auto Forum during the 2023 International CES on Thursday, January 05, 2023 at 2:20 PM*

**Interviewer:** Good afternoon, everyone. Thank you for being here. The next session, we're hosting Cepton, and we have the pleasure of hosting Jun Pei, CEO, and Hull Xu, CFO of the company. Thank you for taking the time to be at the conference.

Generally, what I'm starting off with with most of our companies that we're hosting is a recap of the announcements that you've made around CES, given that for every company, it's a big show in terms of meeting customers.

I did see the launch of the Vista-X120 Plus that you announced. Maybe just start with walking us through the performance improvements that you're looking at from that product relative to your products in the portfolio right now and what's the timeline of that making that product available to customers as well.

**Jun Pei:** Thanks for having us here. My name is Jun, Jun Pei, CEO of Cepton Technologies. As some of you may already know that we develop our LIDAR based on the application specifically for ADAS.

This is a focus we established well over six years ago, and we have charged forward with this focus until we captured the very significant design win with the deployment of our LIDAR into the General Motors Ultra Cruise program. We're going to be supplying LIDAR for that.

We're very much focused on the ADAS applications and ADAS industry, a little bit away from the Level 4, Level 5 vehicles, even though we have some exposure there.

The newly released product, X120 Plus, is yet another step in this direction. It's very specifically designed for ADAS applications. With a smaller form factor, it's specifically much thinner. It has just a bit shy of 30mm of height, which makes the integration into vehicles much easier.

Certainly higher density, bigger field of view, all of these are yet again indicating our focus and our dedication to the ADAS industry. This new product, we have samples now and it's coming out for customers to be tested and kick the tire, and hopefully, we'll get into some real program this or

next year.

**Interviewer:** Jun, just to clarify, because we've had other LIDAR companies here on the stage today. When they've talked about their next-generation product, they've talked about maybe cost or bill of materials being a big driver of where their next-generation product goes.

When you are thinking about the Vista-X120, is it better cost performance or is it better performance in terms of the metrics that LIDAR is evaluated on by an OEM in terms of performance, distance, range, etc.? What is the improvement areas that you're looking at.

**Jun:** Like you said, the cost is always, I would want to say, it's almost number one factor for you to capture design win. If your LIDAR costs \$10,000, \$20,000, there's no way you get to anywhere in a car, in an everyday car.

Cepton, how we became where we are today, the cost is a big factor. We have already captured the design win with Ultra Cruise at GM. You can imagine we hit the cost target. With the X120 Plus, the number one improvement I would say is the performance.

That performance is including the form factor, the data rate, and field of view, and some other elements in it at the same cost or potentially with higher level of integration, it could be even lower cost.

Hopefully, that answers your question.

**Interviewer:** Good. Stepping back here, I think one of the bigger concerns that we're hearing from investors is more in relation to how does the overall macro backdrop impact LIDAR companies, including how does it impact pipeline in the near-term.

You engage with a lot of OEM customers on a regular basis. What are you hearing from them? Is it slowing down some of their decision-making process? How are they responding to the macro, or how are you seeing that pipeline build going at this point?

**Jun:** If you asked that question three, four years ago, there are 40, 50 LIDAR companies out there competing for maybe a small handful of programs. Over the past year or two, the whole industry landscape has changed somewhat.

This is my personal assessment how the change become. It's like there are two camps of LIDAR

companies. One camp is that company that already has a design win. The other is they don't.

In this automotive industry, the validation of certain technology is really important. I do continue to see that the companies that already have a design win will continue to have design wins, that you prove yourself, you have invested and you have validated your product. That's the general thought I had or observation I have in the marketplace.

Specifically to us, certainly, the acquisition of the GM Auto Cruise program propelled us to be at the forefront, to be engaged with all the outstanding OEM programs. Practically all top 10 OEMs in the world are engaged with us on their next-generation program. We're embarking on this path to capture with that momentum moving forward.

**Hull Xu:** I'd add a couple of points. Just in the last several months, you see Argo being dissolved by Ford and Volkswagen. L4 is being pushed out, no doubt, but L2 plus ADAS is accelerating. As Jun said, our focus has always been on ADAS.

We've seen the large OEMs putting more resources on ADAS and accelerating their programs. We do expect several of the large OEMs to source LIDAR this year.

In terms of our pipeline, that's consistent with what I said earlier. We primarily focus on the large global top 10 OEMs, and we've seen a pick-up in those activities.

**Interviewer:** Yeah, please.

**Audience Member:** Just to clarify, Cruise, but then you have General Motors' Super Cruise becoming Ultra Cruise. Your program on this for Cruise?

**Hull:** Ultra Cruise. Cruise...

**Audience Member:** [inaudible] Super Cruise.

**Hull:** [inaudible] .

**Jun:** No, no. Please go ahead.

**Hull:** Cruise is a division of GM that's focused on L4 robotaxi, and Super Cruise is an ADAS feature that GM has currently on 22 vehicle models. Ultra Cruise, which we're on...By the way,

Super Cruise does not have LIDAR. Ultra Cruise has LIDAR and that uses a Cepton LIDAR. That is going to replace Super Cruise. Does that make sense?

**Audience Member:** Absolutely. Thank you [inaudible] .

**Interviewer:** Maybe since we're on the GM deal itself, can you talk about how you're thinking about the land and expand opportunity with the customer? What's your current win in terms of how many vehicle models is it on? How are you thinking about similar platforms that you can expand to?

**Hull:** Sure. I'll take that first. That land, expand term definitely is playing out for us. We won the award at the end of 2019 from GM. Not until recently, we are able to talk about it. On paper, we are awarded nine vehicle models that spans multiple brands, also from luxury to mid-level vehicles.

Expanding is coming in the next year. Actually, it's already coming. As I mentioned, Super Cruise is currently on 22 vehicle models, and we expect Ultra Cruise to be on at least 22 vehicle models.

Initially, our contract with GM, our award with GM, goes from 2023 SOP, start of production, to the end of 2027. That timeline, 2027 timeline, has already been extended to several years beyond. That's the expanding factor.

**Interviewer:** Maybe then expanding that discussion a bit, you have one LIDAR per vehicle on the General Motors win. When we talk to the different LIDAR companies, there's obviously a school of thought saying that instead of having high-performance, front-facing LIDAR, you can deliver somewhat of a similar or better performance with lower-resolution LIDAR suite around the vehicle.

Maybe talk to, one, what are you seeing in terms of interest in putting multiple LIDARs on a vehicle from your OEM customers, and also the different architecture approach in saying I don't need a high-resolution LIDAR as a front-facing LIDAR.

I can compensate a lot for the performance by putting surround-view LIDAR around the vehicle at much cheaper prices, because they just don't have the same resolution as the front-facing LIDAR requires.

**Jun:** Maybe I'll just approach the answer -- you can compliment me on this -- from the technical

perspective to start with. In addition to resolution, which is indeed an important factor, the first and foremost performance of LIDAR is actually the range sensitivity. How far can you see?

It doesn't matter how fine, how much resolution you have. You got to be able to see a tire at 150, 200 meters to make it useful. By just having additional short-range LIDARs or low-resolution LIDARs, it doesn't really help you in terms of sensitivity.

You do need a high-performing LIDAR, which is what GM deploys for the Ultra Cruise system. It's high-performing, front-facing LIDAR for obstacle and other detections.

On the other hand, the short-range LIDAR, the high-performance LIDAR that we have get to see only the front, get only have a certain field of view, but then when you navigate at a slow speed through a parking lot with surrounding obstacles and cars, then having surround-views LIDARs is very much desired as well at higher resolution.

Indeed, we do see that interest in the short or near-range LIDAR picking up very intensively in the recent years. Certainly, if you go to our booths, take a look at our short-range LIDAR, Nova. It gives a very nice surround view of the vehicle with multiple-units implementations there.

The interest is definitely there and the future will be there, but just like in the past for camera, you need to make one camera successful first and then a few years later, you start to have multiple cameras surround. Same story will be played as LIDAR.

**Interviewer:** Maybe just to follow up there, currently, what are you seeing from automakers' intent to put multiple LIDARs on a vehicle? Even with the Nova, for example, what's your discussions like with customers? What's the timeline of maybe even the early adoption that you see for Nova?

**Jun:** The Ultra Cruise deployment was our first LIDAR. Practically any LIDAR company with a design win is going to be this next couple of years, this year and next year, and so on. That's the initial kickoff. The success of these LIDAR programs will dictate the timeline for additional implementations of short-range LIDARs.

I certainly cannot describe a very specific timeline, but first, the program needs to be successful and to scale, and then additional things will come in. It's going to be measured in years, not in months.

**Hull:** I'd say it's very much application-dependent. If an OEM wants to maybe just do traffic-jam navigation or stuff that requires 50-meter type of range, then the short-range LIDAR would absolutely be fine.

We've seen most OEMs want to solve the long-range first, so want to solve the highway navigation first, because that's, to them, it's more of a bigger selling point and one that they can actually make some money off of the options.

For OEMs that have already spent several years solving that long-range problem, they are thinking about the surround view. For example, our biggest customer, they are thinking about the next-generation iteration of the ADAS program, so now you've got the front, now they're looking at the sides and the back, especially for applications like trucks.

**Interviewer:** Where I was going with that is if you now start comparing to Mobileye and what they've publicly discussed as their choice of architecture for the sensor suite, they have outlined plans of keeping one LIDAR per car being necessary, but the other LIDARs can be substituted by radars, etc. that they're working on.

Which is to say essentially that most of the surround view can be done by other sensors that might end up being cheaper than the LIDAR.

How do you then compare to that approach? Does that become a headwind when you think about adoption of Nova, or can you hit similar cost points or price points with Nova that you can hit with a camera-based sensor or radar-based sensor?

**Jun:** I think ultimately, the near-range LIDAR will hit the price point of almost camera-like or radar-based sensor, just given the volume, multiple units per vehicle. Once the volume is there, the price range will get very similar.

With the fidelity -- it's a three-dimensional sensor after all -- there's no calculation needed as you have to do it with camera, and there's no guesswork as you have to do with the radar. LIDAR is actually direct measurement of the fine obstacles around you.

We are certainly the strong believer that near-range LIDAR, as well as the far-range LIDAR, has its place in automotive environmental sensing.

**Hull:** I'll say you hit the nail on the head where you talk about cost compared to camera. There

are some inherent limitations of camera. For example, it's very hard for cameras to detect the curb, where it's all gray, but it's very easy for LIDAR.

**Jun:** It's also difficult for radar to detect the curb.

**Hull:** Yeah. In that case, if a short-range LIDAR can be had for under \$100, \$50, \$60 dollars, it may make a lot of sense to integrate that into the vehicle.

**Interviewer:** Maybe let's dig into the size of the current pipeline that you have, particularly the number of OEMs or scale of OEMs that you're currently engaged with. Just a progress report of where those discussions are. One of the questions that we get from investors is engagement beyond GM and what are you seeing there.

**Hull:** We have engagement with all top 10, as we mentioned, but in terms of progress and advancement, we'd say the North America large OEMs are the most advanced in terms of their thinking on ADAS, and timeline-wise, will be the first to award programs. Obviously, GM had already awarded several years back. We do expect North American OEMs to follow suit pretty soon.

After that, we'll see the Japanese OEMs will probably be a year or two behind in terms of awarding LIDAR programs, but all of them have decided, maybe other than Tesla, have decided to use LIDAR in their next platform.

**Interviewer:** Manufacturing or Tier 1 partnerships. Koito is the primary partnership you have on that front. What are your plans to diversifying the partnerships beyond Koito?

**Jun:** You're right. Koito is the front line Tier 1 for us, especially for the Japanese customers, for obvious reasons. We are not exclusive to Koito. We have engagement to all the notable Tier 1s out there. If you look at the automotive supply chain, there's also an interesting observation.

Let's say you have 20, 30 OEMs, the car OEMs out there, and then you look at how many headlamp suppliers to these 20, 30 OEMs, and you start to look at only two or three. There's Koito, ZKW, and maybe a couple more. You get a fewer number in these Tier 1 suppliers.

You look at how many suppliers of LEDs to these Tier 1s making the headlamps for the OEMs. There are only two. It's actually a reverse, the pyramid, that you look at the automotive structure.

There is not too much of a reason to diversify, using your word, of Tier 1s. If you focus on one and get hold of this Tier 1 that's very solid and very reputable that supplies multiple OEMs, you have already a blooming business in that supply chain, even though we're not exclusive to Koito.

**Hull:** I'll add that a lot of it also depends on the OEM. OEMs have their favorite Tier 1s to work with. We have a very good relationship with Koito, but they do not supply to auto OEMs. There are areas where they are strong, Japan and parts of North America, areas where they are not strong.

Right now, the discussion, the technical discussion, is between us and OEMs directly on the performance of the LIDAR. If the OEMs tell us, look, we prefer this Tier 1, see if you can work with them, we absolutely will be working with them.

**Interviewer:** The recent investment from Koito, should we interpret that as more a business partnership, continuing on the relationship that you have already as a Tier 1 and Tier 2, or is this a more long-term shareholder potentially even increasing their shareholding of the company over time?

What's the driver for them to make this recent investment? Is that just a business partnership given the macro backdrop?

**Jun:** The first interpretation of this continued investment in a very significant quantity is yet another vote of confidence in Cepton's LIDAR performance technology, our customer, all of those. It's from a conservative Japanese company that's well over a century old. This having this vote of confidence speaks volumes of Cepton.

Yes, yes, yes to all of your questions. It's a continued partnership and solidify our position in the LIDAR industry, but at the same time, it's also speaking for Koito, that they have been this one-century-old automotive lighting supplier. Now in the new century, they're looking to expand their horizon and capture significant market in the higher tech than just the lighting itself.

Whether they have intention to increase the future shares, let's leave that to the future. I do believe, with this investment, that we do have a much brighter future as compared to others.

**Hull:** Yeah, exactly. Implications for us, obviously, we welcome the capital that's necessary for us to continue to execute the program. Also, Koito now is even more invested and in terms of product development. Especially for the Japanese market, they'll be more involved, and also the



business development for the Japanese market, they'll be more involved.

In addition to capital, we also gain quite a bit resources and commitment business.

**Interviewer:** Yeah, go ahead.

**Audience Member:** Going back to where we are in the cost curve, you're going into commercializations, '23 to '27, program one [inaudible] '23 programs at GM.

Have you shared with us where we are on the cost curve, where we are today on prototypes, where you will be on [inaudible] with GM [inaudible] three years what that cost curve would look like?

**Hull:** Yeah, we shared that ASP in the very beginning. It starts off below \$1,000, no question about it, and eventually [inaudible] its way to about \$500 in terms of unit ASP. For Cepton, we expect gross margin to eventually be somewhere in the low 50s, 50 percent area.

This year, because we're just starting to produce production volume, 2023 is start of SOP. We do expect positive gross margin this year, and then with additional cost reduction efforts that's already underway, we expect that to come down quite a bit to reach our gross margin objectives.

**Audience Member:** I'm not familiar with this story, so apologies if this is a wrong number. Your balance sheet cash [inaudible] gets you to [inaudible] with GM, and then you're going to need to raise capital to ramp up the rate of production [inaudible] ?

**Hull:** Our balance sheet will definitely be able to allow us to execute the GM program in terms of volume production, which is starting this quarter, and more volume next year, and then 2025.

**Interviewer:** Maybe just to follow up and just get into the numbers a bit here, cash on the balance sheet, what's that ending number versus how much are you right now burning on a per quarter basis in terms of cash? How does that give you visibility into how many quarters you can plan?

**Hull:** We haven't disclosed our year-end numbers yet, but we do expect our year-end balance to be around just shy of 40 million. That's before closing the Koito transaction. After the transaction, we expect to be somewhere in the 90-plus range.

**Interviewer:** How much is the cash outflow [inaudible] at this point? How much are you trying to [inaudible] ?

**Hull:** For 2022, our guidance OpEx was between 55 to 65 million a year. I believe that we'll be able to end the year within that range. For 2023, we expect similar amount of OpEx. We are pretty disciplined on cost and spending. If you look at our OpEx compared to some of the other public LIDAR companies, we are significantly below the industry average.

**Interviewer:** Let's quickly move to maybe just grapple with a couple of questions on smart infrastructure. That's one area that you've highlighted that the macro is having an impact on the business. Firstly, for the audience, where do you participate in smart infrastructure more, and what are you seeing as a result of the macro in terms of business activity?

**Hull:** We've always said the smart infrastructure market is a very fragmented market. A lot of it is application-dependent. Where we are seeing some maturity in terms of location is the rail tolling application and some airport application for security and people tracking.

We see those two as becoming mature, and we expect to be able to announce a multimillion-dollar smart infrastructure win very soon.

**Interviewer:** Looking at the areas that you are looking at in smart infrastructure, do you see other adjacent areas to dive into those opportunities? How are you thinking about, because it's a broad market, which are the parts of the market that you really want to focus on?

**Hull:** I'd say, first of all, our primary focus is obviously on automotive. 80-plus percent of our resources are now spent on automotive. The interesting application for smart infra, for example industrial, applications that use the Nova sensor, the near-range sensor, we've seen a lot of interest in that.

Those include warehouse automation, outside landscaping, autonomous machines mowing the lawn, those kind of applications. We've seen a pick-up in those.

**Interviewer:** One thing that I wanted to switch back to on the automotive side is software. The hardware stack, but then how are you thinking more the software stack, and what are the portion of the software stack that you're investing in, and what are the portion of the software stack that you think OEMs are interested in contribution from the Tier 2 and Tier 1 suppliers versus developing in-house.

**Jun:** I'll get started first on that. We started as a hardware LIDAR company, but the ultimate goal for Cepton is becoming a perception company that covers all aspects of how to sense the environment for automobiles.

For us, we have spent quite a bit of resources, starting a couple of years ago, to ramp up our software effort based on our LIDAR platform, and now we have a bigger software team than hardware team, even though people consider us as a LIDAR hardware company.

The relationship between us and the OEMs is always a collaborative effort. The software for perception is not that you hand me a piece of hardware and I'll take care of the rest. It's always which part goes to where, is the most efficient, that consumes the least power.

This is collaborative effort that's also very much dependent on OEMs, whether it's a European OEM, or a North American OEM, or Japanese OEM. They have different capabilities, different preferences. Cepton being as small as we are or as agile as we are, we are very adaptable working with all the OEMs. We do take on a big part in the software effort for perception.

**Hull:** I want to make a quick distinction in software in that there is perception software and there is automotive software. Automotive software is essentially embedded software. Some call it firmware. Firmware, we do. All the Tier 1 does typically, but in our case, we do firmware for our sensors.

Perception software, it depends on OEM. Large OEMs like GM and some others like to keep that capability in-house for them to be able to differentiate. Some smaller OEMs may outsource that to a supplier.

We already have perception software for the smart infrastructure business. We have already started working on that for the automotive side of the application. As soon as an OEM says to us, we would like automotive perception software from you guys, it will be ready.

**Interviewer:** Great. We ran out of time, but thank you for coming to the conference, and thank you to the audience as well.

**Hull:** Right, thank you.

**Jun:** Thank you.

[applause]

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