

**Transcript of  
MicroVision, Inc. (NASDAQ:MVIS)  
First Quarter 2022 Earnings Call  
April 27, 2022**

**Company Participants**

Sumit Sharma – Chief Executive Officer  
Anubhav Verma - Chief Financial Officer  
Drew Markham – General Counsel

**Operator**

Good day, everyone, and welcome to the MicroVision First Quarter 2022 Financial and Operating Results Conference Call. Please note that this event is being recorded. At this time, all participants will be listen-in mode. [Operator Instructions]

Again, please note that this event is being recorded. I would now like to turn the conference over to Drew Markham. Please go ahead.

**Drew G. Markham, MicroVision, Inc. - VP of People Operations, Secretary & General Counsel**

Thank you, Anthony. I'm pleased to be joined today by our CEO, Sumit Sharma; and our CFO, Anubhav Verma. Following their prepared remarks, we will open the call to questions.

Please note that some of the information you'll hear in today's discussion will include forward-looking statements, including, but not limited to, statements regarding our product development, testing and performance, comparisons to our competitors, market opportunity, potential product sales, and future demand, business and strategic opportunities, customer and partner engagement, projections of future operations and financial results, availability of funds, as well as statements containing words like potential, believe, expects, plans, and other similar expressions.

These statements are not guarantees of future performance. Actual results could differ materially from the future results implied or expressed in the forward-looking statements.

We encourage you to review our SEC filings, including our most recently filed annual report on Form 10-K and quarterly reports on Form 10-Q. These filings describe risk factors that could cause our actual results to differ materially from those implied or expressed in our forward-looking statements.

All forward-looking statements are made as of the date of this call, and except as required by law, we undertake no obligation to update this information. In addition, we will present certain financial measures on this call that will be considered non-GAAP under the SEC's Regulation G.

For reconciliations of each non-GAAP financial measure to the most directly comparable GAAP financial measure, as well as for all the financial data presented on this call, please refer to the information included in our press release and in our Form 8-K dated and submitted to the SEC today, both of which can be found on our corporate website at [ir.microvision.com](http://ir.microvision.com) under the SEC Filings tab. This conference call will be available for audio replay on the Investor Relations section of our website at [www.microvision.com](http://www.microvision.com).

Now, I would like to turn the call over to Sumit Sharma. Sumit?

[Sumit Sharma, MicroVision, Inc. - CEO & Director](#)

Thank you, Drew, and good afternoon, everyone. I'm excited to provide you with an update on our recent quarter, along with a look ahead to the back half of 2022. I'm thrilled to talk about our performance from the last quarter on our execution, momentum, and leadership role in solutions for highway pilot systems.

The progress we have made over the past three months has laid important foundations, which set us up for continued progress towards our 2022 goals and beyond.

First, we are executing on the go-to-market strategy outlined in January and remain on track. We remain committed to partnering with OEMs and securing directed buy agreements with their Tier 1s to provide the technology that will enable their ADAS systems which unlocks new highway safety features.

We understand that OEMs are under pressure to deliver new-generation safety and driving experiences that will help them differentiate their products in the market that's being disrupted by consumer expectations for safety and autopilot features.

Our integrated hardware and software solution will allow them to deliver advanced highway pilot safety features. MicroVision would retain the lidar hardware and edge perception software ownership while allowing them to retain control over the driving experience to differentiate their brand. We are getting aligned with their evaluation schedules.

Our lidar sensor hardware is built entirely on technology and materials that OEMs and Tier 1 suppliers already know, understand and trust, making it easy to incorporate into their supply chain and with predictable cost to start serious production with auto grade quality of our opto-electronic products.

Our business model is built on partnering with OEMs and supporting them as lidar-based ADAS solutions are deployed across their fleets. With our demo vehicles in U.S. and Germany ready by end of June, we expect to start strategic sales in the back half of the year.

Second, we're building momentum. The last few months have included some important milestones in our go-to-market plan. We completed as planned, an important round of track testing in March in Detroit, Michigan.

Over the course of several days, we simulated several real-life driving scenarios at highway speeds. This is an important step towards commercializing our solution as it starts to demonstrate to OEMs the superior capabilities and benefits of the MicroVision hardware and software. Through these tests, our engineering team was able to gather important ground truth data that will help us refine our software solution for the respective OEM audiences.

In the future, we expect to demonstrate our demo vehicles operating in full drive by wire mode and to autonomously maneuver such high-speed driving scenarios. This is a big milestone for our team, and I'm very proud of their achievements. During this phase of testing, we continue to develop new software features that showcase our product to be at the next level beyond our competition.

With our solution, we can detect wet road surfaces that could lead to hydroplaning conditions at full frame rate. Developing new features like this that enable detection of changing road conditions at high speeds, will help develop better and safer ADAS systems. This is well beyond slower sensor fusion classification software our competitors are talking about. This is next-level feature set that none of our competitors have shown.

The important thing to take away from this track testing is that delivering lidar data suited to high-speed highway driving scenarios is fundamentally different than city driving conditions. We understand better than most that success at highway scenarios means seeing further ahead at high resolution, painting a clearer picture of what is and isn't drivable and enabling faster reaction times.

Through this testing, we are demonstrating to OEMs that our solution is best suited to their needs that have we surpassed their already high standards, and we are in a class of our own compared to our competitors. With this momentum, we expect sample sales to start in the second half of this year, and our path to OEM acceptance remains on track.

Last, we are positioned to take a leadership role in this space. Over the last three months, we have been investing time and energy into how we communicate our value to OEMs. We have been confident for a long time that we have the right combination of hardware, software and business model that will enable automakers to develop next-generation ADAS features. MicroVision will remain committed to enabling OEM success and paving the way for new high-speed highway ADAS experiences. That is our focus.

Looking ahead at the balance of 2022, I couldn't be more thrilled. The recent track testing of our solution is just one in a series of important milestones that will bring us closer to securing OEM partnerships. We will be completing additional testing in June time frame that puts our solution to additional highway speed, and highway driving scenarios.

We have existing plans for our product and form factors that will allow us to deliver on OEM needs for flexibility. We will continue to work towards guiding and shaping new standards for what lidar-based ADAS solutions will need to deliver to enable the next wave of highway safety experiences.

Before I hand the call over to Anubhav, to go over the results and projections in more detail, I want to close by reiterating that MicroVision is continuing to innovate every day. We're executing on our go-to-market strategy. We're building momentum on securing OEM partnerships, learning and evolving the way we communicate our differentiated value to OEMs and other stakeholders that are committed to improving highway driving safety just as we are.

Thank you. Now over to Anubhav.

[Anubhav Verma, MicroVision, Inc. - VP, CFO & Treasurer](#)

Thanks, Sumit. As Sumit discussed earlier, we're really excited about the ongoing track testing of our integrated lidar solution with perception software. Our goal was to demonstrate the density and low latency of our ultra-high resolution point cloud by simulating scenarios that drivers face on highways every day.

We retrofitted a new 2022 Jeep Cherokee with our latest MicroVision lidar system, including our dynamic lidar sensor and a short to medium range sensor. The lidar data captured from these sensors was fused with additional data captured from radar sensors mounted on the front bumper of the test vehicle. For the purpose of these tests, the lidar point cloud showing what parts of the road are drivable and non-drivable appear on a laptop in the backseat of the test vehicle.

But ultimately, it's this ultra-high resolution point cloud data along with the raw lidar and radar data feeds that would be fused together in our custom ASIC and passed along to the ADAS, allowing OEMs to create faster and more accurate safety features, along with their unique driving experience.

Now in this financial performance discussion, I would like to discuss two things. Topic number one, let me recap what we believe the key attributes of the business model can be once the medium and longer-term series production bound targets with the OEMs are achieved. Topic number two, the Q1 2022 financial results and progress against the milestones.

Let's recap topic number one, key attributes of the business. The chart on Slide 5 represents the number of projected cars to be manufactured between now and 2030 that will include the L2 Plus and L3 capabilities.

Assuming L2 Plus vehicles will require at least one integrated lidar with perception software and L3 vehicles to have two of those, we estimate that the cumulative revenue opportunity for lidar sensors is \$80 billion through 2030 using this assumption and an average selling price of \$800.

To estimate the cumulative revenue profile for MicroVision through 2030, we used an estimate of \$500 as the ASP. Using this number and the number of cars to be produced through 2030, we believe the revenue opportunity for MicroVision could be cumulatively between \$2 billion to \$4 billion with a corresponding EBITDA profile of \$1 billion to \$2 billion once we're able to secure the series production partnerships with the Tier 1 and OEM for our sensor units to be included in their fleets. We estimate that the market share of MicroVision can start from 15% and a gradual rise to 40% depending on the adoption by the number of OEMs.

Our go-to-market strategy is to pursue OEMs and then strike series production partnerships with the existing Tier 1s as only they have the experience to supply auto-grade quality opto-electronic devices to OEMs. The revenue from Tier 1s attributable to MicroVision will primarily come from two revenue streams, with the hardware contributing 25% of the total revenue and the remaining 75% of the revenue to be coming from the software.

We do believe that these cumulative revenues and EBITDA estimates have two big potential upsides. Number one, the average ASP can potentially be higher than \$500, especially in the initial years. Second, if we add to this, the lidar sensors just needed for L2 vehicles on top of L2+ and L3 the market size increases considerably.

Please note that while these are not forecasts, I hope these assumptions help you understand why we are really excited about the future. We're working to transform MicroVision's core technology to make it the most prolific and advanced lidar solution out there in the market and believe that our lidar sensor protection hardware and software outperforms the competition on the following three parameters. Number one, built-in cost advantages; number two, highway pilot capabilities with dynamic view lidar product at low latency and high resolution at range, and number three, proprietary software on custom ASIC powered by edge computing to provide free space clusters versus obstacles.

Now moving on to topic number two. Let's discuss the current quarterly performance update and update on the milestones. We recognized \$350,000 in royalty revenue from Microsoft in the first quarter of 2022. As a reminder, this revenue is attributable to the contract executed in April 2017 with Microsoft for using our technology in their AR display product.

Please note that no cash was received for this revenue in 2022 as we received an upfront payment of \$10 million at the contract signing in 2017. As of March 31, 2022, we have an unapplied \$4.915 million left on the contract liability.

As previously stated in our year-end results, we expect to recognize \$2.5 million revenue for the entire year 2022 against this contract liability with Microsoft. We expect the revenue to be higher in the remainder of this year. In addition, we also plan to sell some lidar sensors for strategic sales to OEMs and Tier 1s during the second half of this year. At the moment, we do not expect significant revenue from the direct sale of these lidar sensors.

In terms of expenses, R&D expenses totaled \$7.6 million compared to \$4.5 million last year. The increase was primarily driven by higher salary and benefits due to increased headcount, inflation-based salary adjustments for non-executive employees in the U.S., non-cash stock-based composition, and higher non-direct labor-based expenses.

SG&A expenses totaled \$5.9 million in the first quarter this year as compared to \$2.2 million last year. The increase was primarily due to higher non-cash stock-based compensation expense, higher professional services and consulting costs and increased headcount and payroll expenses. We continue to invest to accelerate our business development efforts and marketing efforts. As we march towards achieving the milestones we laid out for 2022, we expect there may be new stock-based performance awards to incentivize our employees, an important component as we invest in our talent pipeline and motivate our employees to share the upside and the growth of the company.

Cash used in operating activities for the first quarter in 2022 was \$10.9 million. This cash burn includes approximately \$1.5 million of one-time non-recurring payments that impacted working capital. CapEx in this quarter was \$0.9 million, which was primarily driven by one-time investments required in retrofitting of the cars with our integrated lidar for track testing.

We finished the quarter with a liquidity of \$103 million, including investment securities. As interest rates have ticked up in the year-to-date period, we have added short-dated one-year treasury bills to capture some yield from the market, and hence, our investment securities have gone up from \$33 million at the end of December to \$47.6 million at the end of March. From an outlook perspective, we expect 2022 cash burn to be moderately higher than 2021, as we scale the business and invest in the growth of the company.

As a company, we have always sought to be very disciplined about using cash to execute our strategic objectives. Based on the current 2022 outlook and our current liquidity, we're well-positioned as compared to our peers whose burn rate ranges 3 to 5x our cash burn.

Now let me give you an update on our ATM facility. The company remains very strategic and focused on shareholder value creation. In 2021, the ATM program was mainly used in the first half when the company raised \$68 million of net proceeds issuing 4 million shares, taking advantage of the strong equity markets back then and strengthening the balance sheet.

During the second half of 2021, as well as the first quarter of 2022, there were no sales of shares executed under the ATM program as the broader lidar equity markets, including most

of our peers experienced overall weakness in stock prices. We expect to use this ATM facility as a flexible tool to fund our growth plans as and when needed.

Now as we conclude our prepared remarks, let me summarize the themes from this business update call for all our investors. Number one, we're confident in our technology and looking forward to complete additional testing in highway test track settings that are happening this quarter.

Second, we're excited about the business model that we're working towards. The strategic partnership that we are looking to execute could help us build a \$1 billion to \$2 billion cumulative EBITDA business through 2030 in the future with a high growth profile. And number three, our current liquidity position and 2022 cash burn outlook positions us well with regard to our peers.

With this, I would like to open the line for questions.

### [Question And Answer](#)

#### [Operator](#)

Thank you, Anubhav. At this time, we are conducting a question-and-answer session. [Operator Instructions] Our first question is from Andres Sheppard of Cantor Fitzgerald. You may now go ahead.

[Andres Juan Sheppard-Slinger, Cantor Fitzgerald & Co., Research Division - Research Analyst](#)

Hey, guys. Good afternoon, and congrats on the quarter. Can you hear me okay?

[Sumit Sharma, MicroVision, Inc. - CEO & Director](#)

Yes, Andres. Thank you.

[Andres Juan Sheppard-Slinger, Cantor Fitzgerald & Co., Research Division - Research Analyst](#)

Wonderful. Thank you. A few questions from my end. I wanted to go back to the feedback that you've provided in the past from your meetings with OEMs in Germany. And particularly, I was hoping if you can maybe give us some clarity on what were the one or two biggest selling points that resonated most with them? Was it MicroVision's long history and experience with lidar? Is it the predictable cost structure? Is it the proprietary software on the custom ASIC? I'm just wondering what stood out to them the most in your opinion.

[Sumit Sharma, MicroVision, Inc. - CEO & Director](#)

I'll give you my impression, because I was present for most of those meetings. I think if you take a step back, what they specifically, was exciting is a piece of technology that has pedigree. There's a history to it. It's been deployed in other fields. And there is history on reliability, history on successful partnerships. The overall size of the technology and what the cost structures may look like, right? That's very compelling.

And then if you think about it also delivers all the main feature set that they need, like range, resolution at the range, velocity, and of course, the perception software they're looking for implemented in ASIC. So all those things combined, there's a very compelling case.

The pedigree being a foundational one, a technology that's does not fly by the pants, a company that did not exist a couple of years ago. We have 20 years of history. We have history working with sophisticated OEMs globally and delivering product and having delivered product that went into production. So, that always gets a lot of compliments and a lot of respect.

[Andres Juan Sheppard-Slinger, Cantor Fitzgerald & Co., Research Division - Research Analyst](#)

Got it. That's very helpful. And maybe to expand a little bit about the ATM program, right? So, you mentioned you have \$140 million currently available. And this kind of gives you -- and you talked about this a little flexibility, and is a differentiator to your peers in the same industry. Can you give us a sense -- it hasn't been used since June of last year? Can you give us any sense on kind of how you expect to use it going forward, either this year or next year?

[Anubhav Verma, MicroVision, Inc. - VP, CFO & Treasurer](#)

Yes. So thank you, Andres. So yes, the \$140 million facility, we used about \$68 million of it last year, so about half of it is remaining. And we kind of see this facility as a flexible tool, which obviously gives us the firepower to access if and when needed, which positions us well with respect to some of our competition, which went through SPAC.

So the way we expect to use this facility is as when needed, because right now, I think our cash balance and liquidity levels are well -- are very sufficient to handle all our investment requirements, and we will only plan to use this facility as and when needed permitted by the market. So -- and that's the reason why we didn't use this facility in the second half of last year and even this quarter, because we saw weakness in the overall equity markets, because I think our goal is to make sure we drive shareholder value and use this facility very judiciously to fund our growth plans.

[Andres Juan Sheppard-Slinger, Cantor Fitzgerald & Co., Research Division - Research Analyst](#)

Thanks, Anubhav. That's super helpful as well. Maybe one on strategy. So, obviously, the TAM, the total addressable market for the automobile industry is quite massive, particularly as the adoption of electric vehicles continue and particularly as we move up in the levels of



autonomy. But I'm wondering, is there any consideration into also potentially targeting other non-automobile verticals. This is something that some of your peers have alluded to. And again, I understand that the automobile is the primary market. But I'm just wondering any thoughts about maybe expanding into some of these other verticals?

[Sumit Sharma, MicroVision, Inc. - CEO & Director](#)

I think what we have said in the past and it's still consistent. We have our strategic sales that we're focused on as a go-to-market strategy. Direct sales, which is what you're talking about more general seeding the market with our sensors for different applications, from drones to deliveries, to smart cities. I think certainly, once our hardware is available, that's going to be made available out there. But if you take a look at like other people that are actually doing those kinds of sales right now, they're already getting a lot of pressure from cheaper, low cost from the Chinese market and the margins are not that lucrative, right?

So it's the kind of -- like the first thing to focus on as a company right now with all our resources, all the expansions we're talking about, is to make sure we secure the first footprint in ADAS, establish ourselves and establish our product line. But once the hardware is available, of course, we intend to make those samples available, to explore different market segments. I have looked at this pretty deeply, by the way.

So I can tell you like those other segments are not as big as anywhere near as big as what this market segment is. They're dominated by a handful of companies. Some of them are in Germany. They have been dominating them for more than a decade, as you know. And they're low quality compared to what we're providing, right? So we're providing specs that are orders of magnitude more than what the next competitor is providing in that space with simpler applications. But certainly, at some point, we are a lidar company with perception software. If there are opportunities for us to expand into different segments, and there's a compelling reason to create value for that for our shareholders, of course, we're going to do that.

[Andres Juan Sheppard-Slinger, Cantor Fitzgerald & Co., Research Division - Research Analyst](#)

Thanks. That's very thorough. I appreciate it. Maybe one last one for me is, can you give us a little bit of visibility into supply chain? Obviously, with everything going on, most companies, right, this isn't -- this specific to MicroVision, but there has been supply disruptions as a result of the pandemic. And so I'm just wondering, any visibility that you can give us into that? Is that something that you expect to persist? Is that something that you see improving? And kind of what are some of the things that you're doing to hopefully try to mitigate some of those disruptions?

[Sumit Sharma, MicroVision, Inc. - CEO & Director](#)

I think our supply chain team, our operations team did a really good job, well ahead of our -- with all the supply problems that were coming up, we have secured the materials that we need to meet the objectives that I have discussed for 2022 and 2023. But as far as the detailed question that I think you may be asking, our wafer for the MEMS, we've already tooled those up. The rest, as far as components are like FPGAs and MCUs and other components, we secured adequate supply of the risk material profile.

We've done everything possible to secure our path forward. Of course, the big thing that we're going to focus on shortly in the second half and moving forward beyond that is our custom ASIC. So, as we go further and further along in our maturity in this product and engagement with our customers, the supply chain issues that you're talking about, right, they start because right now, we have strategic sales with a handful of units for the end of the year. And beyond that, also, we expect to expand that next year, but we have been very careful to secure the risk items because we're too small, right? So, we are too small of a volume to get lost in the middle of any kind of supply squeeze that may be happening out there.

[Andres Juan Sheppard-Slinger, Cantor Fitzgerald & Co., Research Division - Research Analyst](#)

Wonderful. Thank you so much, Sumit and Anubhav for answering all my questions. And congrats again on the quarter. I'll pass it on. Thank you.

[Sumit Sharma, MicroVision, Inc. - CEO & Director](#)

Thank you.

[Anubhav Verma, MicroVision, Inc. - VP, CFO & Treasurer](#)

Thank you, Andres.

[Operator](#)

I will now turn this call back over to Anubhav Verma to read questions submitted through the webcast. Thank you.

[Anubhav Verma, MicroVision, Inc. - VP, CFO & Treasurer](#)

Thanks, Anthony. The first question we're getting is, could you provide more color on the roof assembly of the test vehicle in the recently released test track video. Why are there two lidar units, it appears they're mounted on heat sinks. Can you provide more color on that? Also, do these current units represent the final size of the unit, or do you expect them to shrink down further?

Sumit Sharma, MicroVision, Inc. - CEO & Director

So, that's a good question. I think let's go back to the first part of the question, right, why are there two units mounted on there. Think about this demo vehicle as a test platform. Our engineers can put multiple lidars. They can check for interference. They can have a dynamic lidar on what Anubhav described in the specific video. They could have a midrange and a short range. So, you're doing lots of ground truth testing on different versions of the product. You're creating all the data that you need to create.

If you recall, in September last year in the Munich Show, we announced four products, three of them were static view lidars and one was a dynamic view. And the team is working towards just characterizing everything they can to make sure that the things that we say to our customers, what is on the data sheet is what we deliver, that we characterize those things adequately and we understand the CPKs and we understand the variances, we demonstrate to them the maturity of our company with our data set. So, I think, think about it in those terms.

As far as the question about the heat sinks, I think I was a little surprised by that. I think we've talked about this before. Our current product is FPGA-based, which is significantly higher power. And when you're moving at high velocities, it may not be that important to cool it, but the structure that's been created there, we want this demo car to go into hot weather in the summer time, drive at different speeds. So, it's just creating a platform that allows us to do variable testing and not have to worry about the effects of thermal that may come across it.

Now, of course, this FPGA goes away, once we transition to our digital ASIC over the next couple of years. But this is just -- what you see there is just a setup for our current hardware, which is FPGA.

And I think the final question you have is like the size of it. I think when you go to the ASIC the size of the device will get significantly smaller. But we also expect, as we engage with more OEMs, they will have some mounting, some little customized way to mount the device for their testing.

So we expect that, the housing top and bottom to change to accommodate for their needs. And 98%, 99% of everything inside is exactly the same is just whatever they need to accommodate their needs for testing. So what you see there right now is significantly lower than the future, once we go to ASIC.

Anubhav Verma, MicroVision, Inc. - VP, CFO & Treasurer

Thank you, Sumit. And I think I'd just like to add, I think also the reason for two lidar units is also to connect the ground truth data for which our software team is using to further refine and make the algorithm more powerful as well. So that's another reason why we are using two lidar units there.

All right. The second question is, can you clarify was a human driving and controlling the car in the test track footage or was it being driven by the software. Can you please provide comments on the quality of the images on the laptop in the sneak peek as many investors observed and that it appears of a lesser quality than prior images at CES and the website?

[Sumit Sharma, MicroVision, Inc. - CEO & Director](#)

This is a good question. So this is where like the rubber hits the road now, so this is actually good. So if you've heard about it, we've been focused on ADAS. ADAS for level 3 and lower, the driver is always in control.

So the domain controller and the safety system only intervene when there is something catastrophic about to happen, all right. So, what you're seeing there right now is, of course, within ground truth data, and we're showing how with our sensor with the fusion that we're doing, response times can be reduced. So you could have a driver that is safe, but you can make even that driver safer. So think about the testing that you're seeing, its ADAS focused.

In the call today, I also mentioned that in the future, we expect to demonstrate a drive by wire solution, which effectively talks about when eventually companies are starting to look for Level 4, they want to make sure your solution, satisfies their need for current ADAS Level 3, Level 2 plus and so on, but also that same hardware eventually can go to Level 4.

We're definitely going to demonstrate a drive-by-wire solution as well at the appropriate time. But I think it's all good news because it kind of demonstrates that we are still focused on the big market, which is ADAS Level 3 and Level 2 plus and Level 2. And the future market that comes beyond that the same hardware can also support. This is actually very positive for us and of course, also our investors and our customers.

The other question that -- I think there's like too many parts to this question. If I forget one, Anubhav, remind me again. But the question is, well, what's the quality of the point cloud from watching the video doesn't look the same, all right?

So think about -- I think this is an anomaly of when people are seeing pictures and other things from other lidar companies, those are actually in a visualization tool has been like there is multiple points that are left in there beyond what they're saying is that even possible, which is called like super-resolution.

What we're showing there is like live 30 frames per second. So that -- the kind of resolution you're seeing on a vehicle, for example, is pretty impressive. It's extremely impressive and anybody that is in this space will say that's unbelievable amount of resolution we're getting at ranges of like 100-plus meters, going around curves.

The other thing is, when you go to a test track like this, there's no buildings on the side, there's no trees on the side. You have a highway, you have guardrails and most of the time, the lidar is being fired off into open space and things are really, really far away. So, anything that is within the range, shows up and I think the piece of video that you're talking about is kind of an open highway where there was a merging scene happening. It just so happened in that scene, there was nothing around there except the vehicles.

So, I think the number of points we're talking about, the high resolution, resolution range is our key thesis for the product. We've worked extremely hard. The team has worked extremely hard to make sure that we have range and high resolution at range. So, I don't think I have any doubt that the things that we have talked about from a feature set, they're going to be met. Did I miss anything Anubhav? I think I got it all, no?

[Anubhav Verma, MicroVision, Inc. - VP, CFO & Treasurer](#)

I think you got it all. The next question is, what are the main challenges, if any, of putting the lidar behind the windshield, will special windshield materials be required for that?

[Sumit Sharma, MicroVision, Inc. - CEO & Director](#)

Yes, this is an important one. And I have talked to Thomas Luce about this quite a lot. This is really being determined by the OEM and Tier 1, they will decide if they want it in a headlamp, they want it in a grill or they want it behind the windshield. We still believe, and we have a strong reason to believe that, that behind the windshield is where most likely it's going to end up because it's an ideal place for the right sensor with the right resolution to be there.

Now once that happens, the windshield is going to need to be accommodative. Lidar, laser light can go through glass, of course. But most windshields are two pieces of the glass. And of course, as people know, they have a polymer film in the middle and that's blocking. So of course, a special windshield has to be created with its notch cut out. This is not new to us, existing cars that are available, they have a variant of this. So, at the right time, I think OEM will decide where the right location is, but we're agnostic with that. We can go in any location. Our size is small, the power is low. Everything is rated for high temperature. So, we can accommodate in all different places.

But the benefit with our technology, of course, is being MEMS-based that it's very quiet, right? There's no winding of motors and bearing surfaces like some of the other galvo-based systems that are out there. Therefore, we feel confident that we will be inside the cabin, and we would need all the audible noise requirements within the cabin, which is a pretty big thing. So the windshield problem, really you have to work with the OEMs, show them data, show them the benefit of it. And from there, they will decide what makes the most sense for their fleet.

Anubhav Verma, MicroVision, Inc. - VP, CFO & Treasurer

Thanks, Sumit. The next question is some of the other lidar competitors have marketed their solutions as 4D, where instant velocity is the fourth dimension. Can you comment on how MicroVision's lidar solution compares to this?

Sumit Sharma, MicroVision, Inc. - CEO & Director

Yes. I think branding aside, what's very important is you need range, high resolution and you do need velocity, all right? You need all three of them, not just one. So when people have this thing they call instantaneous velocity, it is FMCW-based sensors. They're using Doppler effect, but the resolution does not meet the requirements that OEMs have already set forth. It's not good enough to have one out of the three or two out of three. You have to have all three of those to be a valuable sensor.

So the benefit that we have is we do instantaneous velocity. We look at different frames and once something has been identified, that velocity is being tracked and it is instantaneous. So when things come very quickly into the frame, maybe it takes like several frames to really pinpoint their velocity, right. But after that, we're tracking their velocity consistently, instantaneous also. So our sensor does track velocity. That's actually a big benefit.

The other benefit we have that people forget is we do axial and radial velocity, tangential both whereas sensors that have Doppler effect only, they can only do axial velocity and they can miss a whole component of velocity. So it's not as useful. It is more useful to know two of those big components. I'm knowing if somebody is going sideways, like cutting you off, you need to know that vector and to know the vector, you have to know both the components of the vector. So the way we're doing velocity, I'm very confident. It is the better way. And every time I've presented it every time, our BD team has presented it, right, you just get like this role of eye of satisfaction that somebody understands how velocity has to be done. So I strongly believe we're on the right path. Could we do a better job of marketing, but 4D is just the made-up thing, right? I think for OEMs, it's a spec that they have, and they have been defining it. So we focus our messaging directly to them.

Anubhav Verma, MicroVision, Inc. - VP, CFO & Treasurer

Perfect. Thank you, Sumit. The next question is some of the other lidar competitors are now saying that the sweet spot price point for lidar for mass adoption is in the \$200 to \$300 range. What are your thoughts about that? Let me take that question, actually, Sumit.

So the way we think about this is the ASP is going to be determined by economies of scale. So obviously, it's going to depend upon how many units are going to be needed by the OEM, which ultimately be driven by how much discounts can we get in by the Tier 1, which will be manufacturing it in terms of the wafers, in terms of the components that would be needed to manufacture or put this unit together. So at this point, the number obviously remains to be

unpredictable at this point. But we believe, based on several conversations that the number would be higher in the beginning. But as the adoption ticks up and as the products become commoditized, then this number will come down. But at this point, we believe that our estimates are based on, obviously, a \$500 per unit range. And at this point, we -- in fact, we believe that there's going to be a potential upside because we believe that number can be slightly higher than this in the beginning. And then ultimately, it will taper off as the volume picks up and as there are economies of scale to manufacture those units in large numbers.

The next question is one of the major competitors recently stated that they are the only lidar hardware provider certified on the NVIDIA Hyperion platform. They also portrayed that there would be the sole and only lidar hardware provider certified on this platform and part of the reference design. Is it your understanding of how NVIDIA is approaching the market, which is to only have a single lidar hardware provider as part of their Hyperion platform?

[Sumit Sharma, MicroVision, Inc. - CEO & Director](#)

Yeah, I can answer. That was -- with all the confidence in the world that is not true. I think beyond that, I'm not really sure how to answer this, because I don't think that's -- I think at the moment, they may have said that, that press release may have happened, they may have been true, but that is not going to be the case in the future.

[Anubhav Verma, MicroVision, Inc. - VP, CFO & Treasurer](#)

Okay. I think the next question that we're getting is MicroVision has a low cash burn relative to others in the sector. Can you describe a bit about why that is the case? Let me take that question. Go ahead, Sumit.

[Sumit Sharma, MicroVision, Inc. - CEO & Director](#)

No. Please go ahead. Please go ahead.

[Anubhav Verma, MicroVision, Inc. - VP, CFO & Treasurer](#)

I was going to say, yes. Look, I think the way we are focused on solving this problem is we're focused on the L2 plus and L3 business at this point. Look, I think we all know there is going to be autonomous driving at some point, but that is several years out at this point in time. So any investment that's needed for L4 and L5 will have to -- in our strategy, we'll have to come after we capture the immediately monetizable revenue opportunity that exists for L2 plus and L3.

And I think that's one of the reasons why our cash burn is actually much lower than some of the other peers as well. And obviously, I think it's the quality of the engineers and the ability, the -- I think Sumit mentioned about this is the pedigree, right? We have two decades of experience and over 430 patents in this field. So obviously, we do not need to even acquire

hardware companies only as some of the other peers have been doing to even have that capability.

So I think that sort of goes on to prove that we already have the team, we already have the resources and the know-how to not only make this product best in the market and also refine the specific features in the software, which makes the solution, the hardware even more powerful and more valuable to the OEMs.

[Sumit Sharma, MicroVision, Inc. - CEO & Director](#)

Yes. I think I'd like to add a couple of more comments to it, right. I think at base level, MicroVision is a company, it's got a long history. And it had some lean years and two years ago, it was pretty tough. So I think like we just have a very good culture about spending money on things that are going to yield return. We are funded by a public market by investors. So we have respect for the money. And we do not shy away from growth and innovation.

Like I mentioned, we continue to find new software features. We add them. If any of our engineers come up with an idea that is going to yield us an advantage, we fund it. So we fund things. We're not on the acute side of it. But having a \$150 million OpEx, cash burn, these are astronomical numbers for companies that only have less than three years or four years to five years of history. We have two decades we're building on. So that's one of the biggest benefits we're always going to have.

[Anubhav Verma, MicroVision, Inc. - VP, CFO & Treasurer](#)

Thank you, Sumit. I guess it looks like we are out of time. Sumit, do you have any closing remarks?

[Sumit Sharma, MicroVision, Inc. - CEO & Director](#)

No, I just want to thank everybody for joining and paying close attention to the company. I am very excited. I'm very thrilled for what comes ahead.

[Operator](#)

Thank you. This concludes today's conference. All parties may disconnect and have a great day.