



Mobileye Global Inc. (MBLY) Q2 2023 Earnings Call Transcript

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Body

Mobileye Global Inc. (MBLY)

Q2 2023 Results Conference Call

July 27, 2023 08:00 AM ET

Company Participants

Dan Galves - Chief Communications Officer

Amnon Shashua - President and Chief Executive Officer

Moran Shemesh Rojansky - Acting Chief Financial Officer

Conference Call Participants

Aaron Rakers - Wells Fargo

Chris McNally - Evercore

Joshua Buchalter - TD Cowen

Mark Delaney - Goldman Sachs

Shreyas Patil - Wolfe Research

George Gianarikas - Canaccord Genuity

Itay Michaeli - Citi

Ananda Baruah - Loop Capital Markets

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Ben Levy - Barclay

Adam Jonas - Morgan Stanley

Presentation

Operator

Greetings and welcome to the Mobileye Second Quarter 2023 Earnings Call. At this time, all participants are in a listen-only mode. A brief question-and-answer session will follow the formal presentation. [Operator Instructions] As a reminder, this conference is being recorded.

It is not my pleasure to introduce your host, Dan Galves, Chief Communications Officer. Please, you may begin.

Dan Galves

Hello, and welcome to Mobileye's second quarter 2023 earnings conference call for the periods ending July 1, 2023. Please note that, today's discussion contains forward-looking statements based on the business environment as we currently see it. Such statements involve risks and uncertainties.

Please refer to the accompanying press release, which includes additional information on the specific factors that could cause actual results to differ materially. Additionally, on this call, we will refer to both GAAP and non-GAAP figures. A reconciliation of GAAP to non-GAAP financial measures is provided in our posted earnings release.

Joining us on the call today are Prof. Amnon Shashua, Mobileye's CEO and President; and Moran Shemesh Rojansky, Mobileye's Acting CFO.

Thanks. And now I will turn the call over to Amnon.

Amnon Shashua

Hello, everyone, and thanks for joining our earnings call. On the revenue side, the quarter was in-line to better than our expectation. Customers were very cautious in the first half of 2023, which led to below normal growth but we have seen the production schedule solidify for the second half of the year, where we expect to grow 16% year-over-year on much higher volumes than the first half.

Profitability was better-than-expected with adjusted operating margin of 31%, up four points versus Q1. At the midpoint of our updated guidance, adjusted operating margin for 2023 is 29.5%, nearly three points higher than our original guidance back in January.

The good news on the cost side is a combination of macro factors, negotiation and customers on engineering, reimbursement, and results of a continual refinement of our spending plans in order to heighten efficiency and optimize returns.

Importantly, despite the lower base of operating expenses in 2023, we still see OpEx growth rates in future years moderating to more normal levels compared to 2022 and the 30% growth we originally planned for 2023. This should support good operating leverage over time.

Turning to business development for our advanced product portfolio, we continue to move more and more OEMs towards the design win phase. We can now count nine large established OEM prospects and what we consider advanced stages for products like SuperVision and Chauffeur.

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In most cases, we are not competing against anyone. The process is about physical testing to convince the OEM of the performance and the design domain of the system, establishing what role the OEM will have in customizing the

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system and often negotiating the bundling of different products like SuperVision and Chauffeur across various brands, legal segments and launch date.

Beyond our history of execution and our ability to prove the capability in physical testing across long distances, multiple road types and conditions, what appeals to the OEM is that our product portfolio is scalable, cost efficient, engineering, design efficient, and are above all displaying, leading and cutting edge performance.

In terms of scalability, the core technologies of computer vision and extremely efficient IQ processing platform boosted by remapping forms the baseline for solutions that are relevant across all vehicle price points and the wide range of feature sets from eyes on, hands on, all the way to eyes off, hands off, and drive off.

Our work with Volkswagen Group is a good example. Since 2018, all new vehicles across the group have used Mobileye provided ADAS, and this relationship exists well into the 2030s. Beginning in 2021 REM mapping functionality was added to the NED platform, leading to a relatively low cost way to provide class leading lane centering capability among many other functions, and providing an early opportunity for the OEM to generate recurring subscription revenue. The success of this product, which we call cloud enhanced ADAS led to a recent design link to Cascade REM across most of the entire group over time.

Next, we have the SuperVision design win with Porsche. Porsche shares common platforms with other premium brands of the Volkswagen Group. While not formalized yet, we expect SuperVision to be adopted by the other premium brands to increase economies of scale. In fact, Audi and Bentley executives are already on record expressing excitement to bring SuperVision to their product.

An additional benefit of SuperVision to our OEM customers is that it creates a bridge to our consumer level eyes of the solution culture for. The surround computer vision, REM, and IQ based domain controller on SuperVision is also the baseline for Chauffeur.

The difference in the systems is the additional secondary perception system made up of LiDARs and radar, which result in significant increase in the meantime between failure, which is obviously key to enabling eyes of.

In other words, full driver disengagement under a broad set of conditions and road types. This also forms a baseline for our mobilize drive mobility as a service solution. On this front, there has been recent news on our delivery of multiple self-driving systems, which have been integrated into Volkswagen's ID Buzz for testing by Volkswagen commercial vehicles in both the U.S. and Europe.

The fact that Volkswagen has recently demonstrated these vehicles with analysts and media after only several months of us working together is a testament to how evolved this technology already is.

The ability to provide efficient and high probability products across all vehicle price points for both consumer owned and mobility-as-a-service solutions all based on the same proven core technology is a huge selling point to OEM.

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As is the increased flexibility of our technology, we provide tools to OEMs to both secure the system and also develop and deploy their own software in order to differentiate and to enable true ownership of the systems.

For example, with the Porsche SuperVision program, our software team is providing about 600 tuneable parameters that Porsche engineers can adjust to create a unique customer experience. As an enabler for tuning, we have designed a formal high level tuning language which we call driving policy behavior shaping that allows one to describe the desired driving policy as this one write code on top of our driving policy operating system.

Then we have EyeQ Kit on top of that to offer them bespoke software integration within the mobilize stack as well as the potential to deploy non mobilize functions such as automated parking or driving monitoring on the EyeQ, saving the cost of additional EyeQ.

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Final topic before turning it over to Moran is the continued rollout of the software to ZEEKR vehicles on the road. As you all know, the full SuperVision capability is being delivered to ZEEKR vehicles over time to over the air updates.

Mapping is key to this. The complexity of mapping in China means that data collection must be done through Chinese partners and as a result data collection started much later in China than North America and Europe. The map coverage in China is behind those other regions, but it is quickly built.

All ZEEKR vehicles have had a very sophisticated highway assist system for many months now, but until recently the full point to point navigate on pilot functionality was only available to a fairly small number of beta users.

We are very pleased that ZEEKR recently significantly broadened the number of users with Highway Navigate on Pilot and we expect a full rollout to all users within weeks. Initial feedback has been very good.

ZEEKR system is performing much better than other NOT systems in terms of ability to complete maneuvers without takeover in many difficult situations like construction areas, highway margin and heavy traffic and performing lane changes within site curves.

Influencers and media have also heightened highlighted the strength of the system versus competitors focusing on the **assertive** human-like performance of the car. Several calling it the most efficient and capable navigate on pilot that ever experienced.

Any negative feedback has been around some difficulty in the map, which will be rapidly built out over the following months. The eyes-on hands-free market is much more developed in China than other regions and it is a significant proof point to other OEM customers that ZEEKR's system is outperforming.

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This supports the feedback we have gotten from other OEMs that have performed benchmark tests of their own in a test environment, but proof points from actual production vehicles driven by non-engineers is obviously much more powerful.

I now turn it over to Moran to go over the technical to go over the financial results and guidance in more detail.

Moran Shemesh Rojansky

Thank you, Amnon, and thanks for joining the call everyone. Before I begin, please be aware that all my comments on profitability will refer to non-GAAP measurements. The primary exclusion of in Mobileye non-GAAP numbers is a monetization of intangible assets, which is mainly related to indoor acquisition of Mobileye in 2017. We also exclude stock-based compensation.

Starting with Q2, overall revenue was down about 1% year-over-year. This core EyeQ revenue also down 1% year-over-year and higher ASP did not fully offset a modest volume decline. We do believe the destocking of inventory at our Q1 customers impacted the growth rate in both Q1 and more sharply in Q2.

Looking ahead to the second half, our guidance implies that we will be back to meaningfully outperforming industry production volumes. SuperVision shipments were 10,000 units in the quarter. This was exactly as expected.

As we noted on the April earnings call, Q1 shipments of 25,000 were significantly higher than end market volumes. The intent in Q2 was to fully reduce debt inventory build from Q1. The strong recovery in weaker end market volumes and our intentionally low shipments accomplished this goal.

Gross margins were in-line with our expectations. On a sequential basis, EyeQ margin was stable. The approximate one point increase in Q2 as compared to Q1 was simply due to SuperVision revenue being a smaller mix of overall revenue.

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Operating expenses were lower than we expected, and this led to strong adjusted operating margin of 31%, up about four points versus Q1. The following three areas, accounting for the majority of the lower-than-expected cost in the quarter are; number one, on the payroll side, depreciation of the Israeli shekel led to payroll savings in U.S. dollar terms. The FX rate was approximately 4% favorable to what we had forecast for the quarter.

Number two, the move into our new Jerusalem campus was delayed from May until the fall of 2023. The higher facility expenses from the new campus will now begin later in the year than we expected.

Number three, we also experienced lower costs for our efforts around mobility-as-a-service. We are constantly reviewing our activities to ensure that our product rollouts be as efficient as possible. In the case of mobility-as-a-service, we have the exercise plan to certify an EyeQ 5 based Neovasc fleet of vehicles for our customers in the near-term.

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The cost simply weren't justified relative to the volume that were possible on the Neovasc platform. The benefits of the new Neovasc fleet, however, still exists in terms of continued testing and validation of the software.

In terms of scaling production volume from the Mobileye drive self driving system, our go-to-market strategy is focused on integration, of the system into purpose built vehicles from vehicle builders, including Scheffler, Holland and Volkswagen commercial vehicles.

We expect these vehicle platforms to begin serial production in 2025, which also coincides with volume production of our EyeQ six base compute platform and our software defined imagining riders, each important for scaling the mobility-as-a-service business.

In terms of cash flow, we continue to rebuild our strategic inventory of EyeQ chips, which have been largely consumed over the course of 2021 and 2022 during the supply chain crisis. Our ability to satisfy demand during recent years partially by consuming our inventory buffer was a big positive.

Rebuilding of the inventory is a very important activity, so that we will be prepared in case of any potential disruption in the future. Capital expenditure in the quarter were consistent with our view that CapEx should be roughly similar this year versus 2022.

Turning to the guidance. Revenue is tracking in-line with our prior guidance, which we are reaffirming today, both for the core EyeQ business and SuperVision. On EyeQ, schedules have become more solid over the last couple of months, and customer requests to move volume around have largely seen.

Customer orders support a steep ramp of expected volume in the second half, with Q3 up over 10% versus Q2 and Q4 up more than 20% versus Q3 levels. On SuperVision, weaker end market volumes recovered strongly in Q2, which both reduced the inventory built in Q1 and solidified the volume trajectory for the second half.

We continue to expect full-year shipment consistent with our prior guidance, Q4 will be higher than Q3. Given the new vehicle launches and the ZEEKR 001 entry into Europe. Gross margin for individual product lines are stable.

We expect SuperVision revenue makes to be higher in Q3 and Q4 versus Q2, which will drive some reduction in overall growth margin versus Q3 level. On the adjusted operating income side, the positive updates to our guidance is related to lower than expected operating expenses.

Year-over-year growth of OpEx is now expected to be around 22% to 23% versus our prior indication of 30% growth. Nearly half of the reduction already occurred in Q2. The rest of the reduction is primarily coming from the following two areas.

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Number one, to varying degrees. The areas of lower cost in Q2 like payroll facilities and mobility as a service are generating some saving in the second half of the year as well. Number two, non-recurring engineering reimbursements in the second half of the year are now expected to be higher than we had originally forecasted. In terms of tax rate, we continue to expect an effective tax rate in between the 12% and 13% range for the year.

Before we start the Q&A session, I would like to thank Anat Heller for being an amazing mentor to me and for her continued support as an advisor to the finance team and management. I would also like to thank our entire finance team for the professional and tirelessly work since we have become a public company.

Thank you. And we will now take your questions.

Dan Galves

So we are ready to start the Q&A session.

Question-and-Answer Session

Operator

We will now conduct a question-and-answer session. [Operator Instructions]

Dan Galves

Thanks everybody. It is Dan and just in the interest of time, please limit yourself to one question and one follow-up please. Thank you.

Operator

Thank you. And our first question comes from Aaron Rakers with Wells Fargo.

Aaron Rakers

I do have one question and one quick follow-up. So, I think in the prepared remarks you had started with a comment that you now have nine estimated OEMs engaged in terms of Chauffeur and SuperVision. I think last quarter you talked about having six large OEMs kind of deployed looking out in the 2024 timeframe. So I'm just curious, can you walk us through how is that a change, how things have changed in terms of your pipeline of design wins on SuperVision?

Amnon Shashua

We noted in the press release that our serious engagements on SuperVision and Chauffeur have expanded versus the beginning of the year in terms of the number of OEMs. Now, I'm defining serious engagement as where OEM engineers are fully aligned with Mobileye that Mobileye the right path forward in terms of technology, performance and cost, where we already are in production executing an official product program or in a funded physical concept phase.

Currently this list of OEMs represents about 30% of global volume. This is very encouraging because the vast majority of the rest of the industry remains very open to us. So for these OEM engagements we are not competing with another company or technology, but there are other complexities in the decision making process that have nothing to do with competitive landscape.

Things like go-to-market and consumer pricing strategies, how to best align the product into the portfolio launch plan, defining roles within the program, what to do with the internal development assets.

So real level two plus what we call eyes on hands off, and the path to eyes off as well is a new potentially gigantic automotive term. With strategic implications and complexities that make the decision making process more complex than a simple ADAS care program.

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So working in our favor is increased in competitive pressure as Tesla and the China startups, including ZEEKR, pushed the envelope on hands-free technology. We have noted an increase in seriousness within the OEMs over the past one, two years, and have seen some OEMs that appear to be far away from us on advanced technology move rapidly to align behind our approach. This is all very positive for us as a technology and then cost leader. We still see high likelihood of significant design wins announcements in the second half.

Aaron Rakers

That is very helpful and very interesting. And then I guess on the other front, I'm just curious as we think about ZEEKR 001, 009, you've got pollster four, I guess it sounds like the inventory dynamic and the issues that ZEEKR has kind of normalize himself out. So, as we look forward, I guess I'm trying to understand is, what are you embedding as far as the ZEEKR volumes for the full-year? Reiterating the full-year guide, or what I'm trying to gauge is how do we think about the potential upside if these volumes continue to improve? Just, updated views on just ZEEKR and what you've seen as a setup into the back half of the year?

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Amnon Shashua

I think 2023 is very solid in terms of our corrected guidance that we did the last quarter. Regarding 2024, look, we provided a long-term outlook for SuperVision volumes at CES early January. And we will make annual updates, but we are not going to update this on an ad hoc basis.

But in order to provide some more color everything is on track with new SuperVision customers, that we talked about in general. We closed the Porsche design win and the expansion of the SuperVision platform to other Volkswagen group brands. And that is proceeding as planned. The pipeline of OEMs is advanced. The discussion of SuperVision, it has grown versus where it was in January.

And in terms of 2024, the number of vehicle models with SuperVision systems, that has not changed. We expect to have five vehicles in production by Q1 of 2024 compared to one at the beginning of this year. Two of those vehicles are sold outside of China.

The one thing that has changed is that our 300K unit outlook for next year assume that ZEEKR 001 would sustain its Q4 2022 demand pace in China. That was the best data point available in January.

The pace in Q2 of this year for that specific vehicle was about 60,000 units lower than the Q4 2022 pace on an annualized basis. So that is consistent with what we assumed in our guidance update last quarter, but that gap is a risk to the 2024 forecast we provided January. Now I will point out that - there has already been a significant adjustment in expectations for about half of our covering analysts, while projecting volume within 220,000 range for 2024.

Aaron Rakers

Thank you very much.

Operator

Our next question comes from Chris McNally with Evercore. Please go ahead.

Chris McNally

Hey, team. Two road map questions, if I may. So first on the SuperVision rollout. And Amnon, I appreciate the 2024 update, I think that is been clear. My question is really around maybe, as we think about 2025. And it is more not asking about a target, but more, are you starting to get the visibility on some of these larger, more sequential programs on whether they could launch in 2025 or 2026? Or is it just too early at this point? The OEMs themselves

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are still trying to determine launch timing mode. When is that sort of typical goal, no go where you would sort of have an idea whether 2025 programs would be significant?

Amnon Shashua

We will probably more confident in the 2026 forecast than 2024. The business will be much more diverse in 2026 with Porsche and likely several other automakers being added. As well as significant volume outside China with deeper and other - related brands like Polestar. This will reduce the reliance on just a few vehicles and one region like we have now and would lead to less fluctuation in volumes.

Now on the high probability potential wins that we included in our 2026 forecast still look very good in terms of booking design wins and launching over course of 2025 and early 2026. But we feel very confident in the overall trajectory of the SuperVision business line in terms of big inflection point in volumes around the 2026 timeframe.

We also see the potential our SuperVision platform to spread to more models within OEM customers, as automakers get more bullish on the potential profit making opportunities. Now this could positively impact our mid-term projection. So I think we are very confident on 2026. Things look brighter than they looked back in January.

Chris McNally

Okay. That is great. And then the quick follow-up, always a sort of a delicate one. But regarding the more aggressive talk of **full self driving** licensing over the last six months. Amnon, maybe just even very generally, you could talk about the recent tone of your customer conversations with respect to **full self driving** specifically, either good or bad? I mean, it could honestly make some OEMs move faster to compete with their offering or maybe some OEM discussions could slow down if they just want to take a free look, and engage **Tesla**. So any you know, it is just such a relevant topic. Anything that you can add on that tone, if it is had any effect on the conversations that you are having directly.

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Amnon Shashua

I think that **Tesla** has mentioned the several times in the past about licensing their SSD. So it is not really a new concept. It is not new to have competitive noise in the market. No. And I would say that, we have lots of respect to what **Tesla** had accomplished with FSD. In fact, we see the rapid development of the significant positive for us that pushes the market to move faster to implement advanced solutions like SuperVision.

Now specific question of **Tesla** working with OEMs, I think there is one argument that really clarifies the matter. I would put it as performance versus cost of the system. If you look at SuperVision, it is an FSD like category, 11 cameras, and the radar or few radars. SuperVision is also REM, the high definition mapping. In addition to what FSD can offer.

Today, we have 120,000 SuperVision enabled vehicles in China, more than 1000 beta testers. And the response in terms of a comparative analysis is very, very good. It is on power superior to FSD that is measured by the rate of intervention and ability to handle complex maneuvers. REM is a stronger differentiation. But now let's look at the cost, the price of a SuperVision subsystem, including the cameras and radars. The ECU software or REM is approximately somewhere in the \$2,500 range.

Now, if **Tesla** matches that system price, then OEMs will be able to offer SuperVision or FSD at less than half the price that FSD is offered to **Tesla** car owners. Now, this would immediately cannibalize **Tesla** strategy appears to be reduce gross margins on the vehicle and rely almost solidly on the value of the FSD for creating the growth.

Now, I would also mention and this bodes well with our OEM customers. Now there are 400,000 FSDs on the road since 2019, and Mobileye has already 120,000. And in approximately two years, we will surpass the 1 million bar, and from there we will grow much faster. There are also important differences with respect to access of data.

Something that Tesla's very often highlights as an advantage, and that is another key advantage that OEMs recognize.

So for example, at their Margin Investor day, Tesla noted they had a video cache of 30 petabytes, and we are intending to grow to 200 petabytes. Our video database is 400 petabytes. Not to mention all the data that we collect for the program, the high definition mapping, we collected almost nine billion miles of this type of data in 2022 alone, Tesla talks about 300 million miles of driven to date.

So I think overall, when you look at what Tesla has accomplished, it is a very, very big positive for us. We believe that SuperVision is a much more optimal solution for our customers, both in terms of cost and performance and customization basis. And all of Tesla's accomplishments actually create a very positive momentum to have other OEMs wanting to have this type of, this category of solution in their own cars.

Chris McNally

I appreciate the details.

Amnon Shashua

Thanks Chris.

Operator

Our next question comes from Joshua Buchalter with TD Cowen.

Joshua Buchalter

I appreciate the color that you gave on, how you are thinking about SuperVision in 2024, in particular on the lowered 001 production numbers. I was curious compared to the original expectations, how you are thinking about, I guess the other four that should be meaningfully in the 24 numbers. Has there been any more, I guess, incremental handicapping to how you are thinking about those vehicles given, those are new vehicles that haven't really launched yet with the new technology, or are your expectations for those similar to what they were six to nine months ago?

Dan Galves

So we feel good about the other models. The ZEEKR 001 for example, is performing exactly to the expectations that ZEEKR provided to us and that we baked into the forecast. There is another vehicle launching right now, and then Polestar 4 looks to be on track to launch. So yes, we are feeling good about the expectations and in 2023 as well.

Like relative to the revisions that we made last quarter, the ZEEKR 001, the ZEEKR 009 are performing exactly as we expected. And with some minimal volumes from the additional launches in the back half, we should be able to comfortably get into our guidance for that product.

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So we feel good about kind of how the performance is going in 2023 and everything looks solid for 2024, except for that gap that we identified versus where we originally expected back in January.

Joshua Buchalter

And then congrats on the VW win for the more fully autonomous vehicle. I was hoping you could help us understand any guardrails you can give on timing and scope of this project. When should we expect this to contribute to initial EV revenues and is this planned for, the press release read like commercial vehicles, but is this planned and do you see a roadmap for the Chauffeur type technology moving into more consumer types of vehicles? Thank you.

Amnon Shashua

The only reason that we mentioned the ID bus is because Volkswagen in their own PR as they mentioned, the Austin, vehicles, they shipped to Austin with our technology for test and also in Germany.

It is still ongoing, all the formalities of actual design win for this, but there are already more than 30 vehicles already in testing phase at the VW. And hopefully this will mature into an official design win hopefully this year.

Joshua Buchalter

Thank you.

Operator

Our next question comes from Mark Delaney with Goldman Sachs.

Mark Delaney

So you can provide more details on your latest outlook on the AV opportunity with Mobileye drive. I think you mentioned in the prepared remarks not putting less emphasis on upfitting new vehicles and it making more sense to ramp on purpose-built vehicles in the 2025 timeframe. Could you share a bit more on what change that led you to have that view and your confidence on purpose-built platforms being ready in 2025?

Dan Galves

Sorry, Mark, you broke up a little bit. Just repeat the question.

Amnon Shashua

Mark, sorry, can you repeat the question? You broke up a little bit.

Mark Delaney

Yes, of course, Dan. Yes. Sorry about that. Hopefully you can hear me a little bit better now. I was hoping for some updated and added details on your AV plan with Mobileye drive. I believe if I heard correctly, you are now putting less emphasis on upfitting new vehicles? And you mentioned, and making more sense to ramp up AV on purpose built vehicles in the 2025 timeframe. So assuming for a bit more color on what's changed and led you to have that new strategy and what your confidence is in having those purpose-built vehicles already in the 2025 timeframe?

Amnon Shashua

Yes, I will take that. So back at the CES, we mentioned that we are working with the platform builders. We mentioned the Scheffler, we mentioned the [Bentler] (ph) with their auto company hold on. And we mentioned also a third company who by now they made their own press releases which is Volkswagen Commercial Vehicles on the ID buzz. We are working also with another personal car maker called the P3 I think we announced that a while ago with the Mobileye's 64.

So the focus is on collaborating with or partnering with platform builders rather than having our own big and homologating our own vehicle and then performing the entire chain of owning vehicles, operating vehicles, customer facing applications. We do that through a way of partnerships.

So that is the new focus that we announced back at the CS, and then everything is on-track, including what you saw in the press in a few weeks ago by Volkswagen on actual testing of ID buses equipped with our technology.

Mark Delaney

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Okay. That is helpful. Thanks. And I was hoping you could also share a little bit more of an update on the progress you are making in developing your own Radar and LiDAR sensors answers, as I believe they could be helpful in supporting your opportunity with both the Chauffeur offering as well as Mobileye drive? Thank you.

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Amnon Shashua

So the imaging radars, we are on-track for end of 2024 SOP. We are already been interacting and gauging with a Tier 1 partner to work together on offering the radar to the market. And it is on-track for end of 2024. The FMCW LiDAR is on-track for second generation LiDARs around 2027, 2028 timeframe, where we feel that first generation autonomous vehicles would be served with time of flight, the LiDARs, and second generation with the FMCW.

Dan Galves

Thank you Mark. We will take the next question please, Priscilla.

Operator

Our next question comes from Shreyas Patil with Wolfe Research. Please go ahead.

Shreyas Patil

Hey, thanks so much for taking my question. Maybe first just thinking about the how to think about the revenue or potential margin upside that you could see from ZEEKR as they are now unlocking some of these more advanced features? And is that something that we would be seeing more into 2024, potentially or could we see some of that even in the back half of this year?

Amnon Shashua

I think that potential we will see in 2024 because the NOP feature powered by REM is for the first six months is going to be offered for free to all the ZEEKR customers, and then we will start seeing revenue based on a certain traction, we will see revenue. And so that should kick in 2024. So we are talking about 100 of dollars per vehicle potential in 2024.

Shreyas Patil

Okay. Understood. And then I'm not sure if this is relevant. So feel free to dismiss, if I'm off base on this. But does the current political situation in Israel have any implications for you from a business perspective?

Amnon Shashua

It is creating the distress. It is creating a personal distress, and I think also most of Mobileye, not all of Mobileye employees are kind of experiencing this kind of distress. But now when you look at the Mobileye employees, are all professionals. We haven't seen any effect on efficiency and productivity in the past few months. We are not manufacturing anything in Israel. Israel is not the source of revenue for Mobileye. So we don't see any material impact for the political upheaval that is going on in Israel.

Shreyas Patil

And just maybe just a quick modeling one, just how do you think about the benefit of the engineering reimbursements that you mentioned in the second half? And what's driving that increase? Is it from the drive business or is it also from SuperVision or the base ADAS?

Moran Shemesh Rojansky

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Yes. So it is basically coming from base ADAS. So we have an, in our programs, we have NRE reimbursement. That is for most of our programs, and sometimes these are things we cannot expect at the beginning of the year, so we might get additional benefits on these reimbursement. But it mainly relates to ADAS reimbursement for this year for 2023.

Amnon Shashua

Yes. And I think that there was one smaller item related to Mobileye drive that we are expecting now as well.

Operator

Our next question comes from George Gianarikas with Canaccord Genuity. Please go ahead.

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George Gianarikas

So you characterized a couple times in the script about not seeing, competition in many of the discussions you are having with OEMs. I'm wondering if you just kind of take a step back and help us understand your view of the competitive landscape, not relative to Tesla, FSD, but more to some of the other internal OEM efforts and some of the point solutions in the marketplace, and how you see the market evolving over the next 12, 24, 36-months? Thank you.

Amnon Shashua

Think what we are talking about, competitive landscape of the category of the SuperVision and going upwards to lined up. The competition comes from, the majority of the competition comes from in-house, the development of the OEM.

And we have seen in the past, kind of here or so some form of awakening of OEMs that went through this process of building an in-house solution for a SuperVision like type of a product or even trying to do an eyes of a product.

They tend to be somewhere between four to six times more expensive than our solution. And performance wise, we don't see advantage. And they also come to the conclusion that it'll, it may satisfy a very, very slim piece of their business in terms of very high-end models and keep a big gap in terms of the medium segment vehicles.

And this brings OEMs back to us to talk about the SuperVision. We have a large number of serious engagements with OEM that in the past were very bullish on talking only about in-house development. And we are now around the table talking with them about the SuperVision products and beyond the SuperVision.

So that is the majority of the competitive landscape. It is not the likes of NVIDIA and Qualcomm. They are offering the tools for in-house development of OEMs. So the competitors are the OEMs themselves and as I said before, we see a certain wave of awakening from that attempt.

Dan Galves

And George, just to follow-up with one point. What we said specifically was that OEMs that represent about 30% of global volume were in these serious engagements where essentially these OEMs have aligned behind our approach and are telling us there is not, that there is, we have no competition there. The rest of the industry is still in this, so I don't want to make the comment that we don't have any competition, like Amnon said, it is mostly coming from internal efforts, but with these 30%, that was what the comment was really reflecting.

George Gianarikas

And just as a follow-up, you talked about this awakening. Is there one particular element of what you bring to the table that is causing that? Is it the REM mapping our assess? Is there anything that you can point to that is more important than the other component pieces? Thanks.

Amnon Shashua

I will point you to kind of the competitive landscape in China, for example. You have X bank, you have Lee Auto, you have Neo, they have products on the road. And we look at their products. They have many more sensors than a SuperVision, all of them have the front facing LiDARs, some of them have multiple front facing radars.

They have much more compute, sometimes somewhere between 10 to 20 times more compute than we have very, very expensive products. And when we start doing benchmarking we are superior in terms of the performance in almost every aspect. And this gets exposed to other OEMs. Once we started putting vehicles on the road with our technology where people can test, OEMs can test.

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Now also the public can start testing. The difference is becoming visible and it is all about cost versus performance. Even if they have the same performance as the SuperVision, but they cost four times more, then it is not competitive. So I think this is becoming visible now that things are really in production.

Dan Galves

I think that that is exactly right. That fact of being in production, being able to demo the systems over thousands of miles because the REM maps are now existing across U.S. and Europe. It is the actual cost of the system because it is in production, it is no longer a projected cost. It is really an actual cost. And then it is this pressure from other automakers moving fast like Tesla and some of the Chinese OEMs that Amnon referred to as well. These are all kind of areas where we think is driving this awakening.

Operator

Our next question comes from Itay Michaeli with Citi.

Itay Michaeli

Just the first question, going back to the engagements with the nine large automakers. Can you talk about just the reception, thus far in the EyeQ Kit as well as the driving policy behavior model? And then secondly, roughly when do you expect these automakers to make their sourcing decisions? Is it partially this year or next year, or maybe mostly this year?

Amnon Shashua

We believe that the sourcing decisions will take a number of months. So somewhere this year, beginning of next year, first quarter next year, this is kind of the timeframe that we are seeing. In terms of working together EyeQ Kit and the behavior shaping language that we have built, where, as we move forward, we are adding more and more capabilities for allowing OEM to really have hands on onto our system.

We are gradually creating this as a platform. Now, the behavior shaping language is really something very powerful. It allows the OEM to write actual codes kind of XML files that describe in great details a lot of aspects of the driving policy that they wish to have, and it is all running on top of our driving policy. So you can't get it.

So you have a very powerful driving policy that when you test, you are simply amazed how good it is. And now you can shape it to your own needs. It is like writing code on top of an operating system.

So we don't need to write the operating system in order to innovate and write code on top of it. So this is - as we move forward, we are adding more and more innovations that allow OEMs to have serious hands on top of our platform. And this has a very, very good reception.

Itay Michaeli

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That is very helpful. As a quick follow-up, I was hoping you could touch upon the second generation of the REM maps. I think you are developing or maybe launching in terms of what that does to the journey from eyes-on to eyes-off and maybe when you expect that to roll out.

Amnon Shashua

The REM maps is a continuous development. It is not that there is a first generation or second generation. Our focus now with expansion in China, and also activating the REM maps in Europe and U.S. But China is the first priority because this is where the production vehicles are now being deployed. And we are adding more and more automation to the REM maps.

This is necessary in China because in order to comply with the Chinese regulations, foreign entity cannot even view the data. So it makes us more efficient and much, much better in order to comply with those regulations. So this is our first priority.

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And then as we move forward to the Porsche program and additional programs that will come to the 2025, 2026, Also, a Polestar coming out outside of China later in 2024, the priority will start shifting towards Europe and the U.S. to make the REM maps there productized for deployment.

Itay Michaeli

That is very helpful. Thank you.

Operator

Our next question comes from Ananda Baruah with Loop Capital Markets. Please go ahead.

Ananda Baruah

Hey. Thanks, guys. Appreciate you taking the question. Two quick ones. Is there any way to provide context about how we should anticipate the interplay between the mix that you talked about, kind of heading into 2024 and the various OpEx dynamics? You mentioned some cost savings. You also mentioned some cost coming on. How those things play together, the gross margin, OpEx dynamic, as we head into 2024? And then I have a quick follow-up after that. Thanks.

Amnon Shashua

Okay. So I will pass the cost saving and all of that to Moran, our acting CFO.

Moran Shemesh Rojansky

Yes. So yes, as for the office growth, so what we said in the past that, 2022 and 2023 will be higher than our historical levels. So in terms of percentage road of operating expenses. And we believe that the 2024 will be returning to our historical levels of between 15% and 20%. So 2022 was almost 35% growth.

And our regional expectation for 2023 was around 30%. Despite the good news on 2023 OpEx, we still believe that 2024 will be close to 20% growth than 30%. So the op growth would be the fact that, we are the base is decreasing. We are still not going to increase the expectation for 2024.

Ananda Baruah

And then the quick follow-up is, you had actually mentioned, I believe, this might be more of a clarification that Tier 1 OEM inventory destocking has had some impact in demand, and you had talked about a timeframe over which it will normalize. Can you just clarify the timeframe that you expect that to normalize? And that is it for me. Thanks.

Dan Galves

Are you talking about, you are talking about SuperVision inventory or IQ?

Amnon Shashua

No, I think IQ.

Ananda Baruah

Yes, the IQ.

Moran Shemesh Rojansky

So, yes. Actually, we have seen that the second quarter and also the first quarter the fluctuation between the quarters was pretty big. And we see the second half is much more robust than the first half. So this is, we think it is as a result of our customers coming into the beginning of the year with higher levels of inventory, maybe resulting from increasing, the price increase at the beginning of 2023.

Now, we see schedule stabilizing in terms of IQ. So if for the beginning of the year, we had requests for shift of volumes from Q2 to Q3 or Q3 to Q4. We are no longer seeing that. So it is pretty stabilized.

We think that the last two years have been very bumpy in terms of the supply chain crisis and production volumes. But of course it is not the same situation as we entered this year. And that is why we see the volume increase and inventory issue we think played a role more in the first half of the year.

Amnon Shashua

I think I will add a bit in terms of there are two types of inventory, right. Inventory that our customers have piled up in terms of IQs and that is being and that, as Amnon said, it has stabilized, right. We don't see any request to push volumes from quarter-to-quarter.

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Then there is our own inventory that we build six months ahead of IQ chips just to make sure that if another crisis knocks on our door we will be prepared. And that inventory has been completed and that affected kind of cost, because we had to buy more EyeQ Kit than we normally have in order to build our inventory. And that I think we have completed or it is going to be completed till the end of the year.

Moran Shemesh Rojansky

Yes. Till the end of the year.

Operator

Our next question comes from Ben Levy with Barclay. Please go ahead.

Dan Levy

First, a clarification on some of the volume commentary that you received as far as it relates to sequential improvements. Maybe you could just clarify again, just what the cadence of volume should be over the next couple of quarters as far as it relates to SuperVision? Thank you.

Amnon Shashua

Thanks, Dan. Yes, just to clarify what we said in the prepared remarks. We were referring to EyeQ volumes being up more than 10% versus Q2 levels, and then Q4 levels being more than 25% above Q3.

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We should also see some average selling price increases because of SuperVision becoming a bigger part of the mix, and that was really not part of the comment about the volume. So they just really wanted to kind of support that volume expectations, volume orders from our customers have been very solid and point to much higher volumes in the second half of the year.

Dan Levy

And then wanted to just follow-up on the conversation specifically on Chauffeur. So it sounds like AMAS there is maybe more of a focus on dedicated platforms, less retrofitting, more partnership, etc. Chauffeur, maybe you can give us some sense. I know that was part of the engagement conversation that you mentioned, but you know, how significant is your spend on Chauffeur right now? What is the interest in Chauffeur are your customers seeing this as sort of an evolution of SuperVision so it is very aligned with the SuperVision spend, or is this a separate stream and it is something that maybe the timing is getting pushed out a bit more and that is playing into the OpEx commentary?

Amnon Shashua

It is very aligned with the SuperVision. I think of it as kind of an incremental addition to SuperVision. SuperVision is mostly camera based. There are some radar it as an option. For example, in the ZEEKR 001 there is a front facing radar. In the Porsche program, there is also surround the radars.

And when you go to eyes off the Chauffeur, you are adding some ladder as well in order to create more redundancy and create a bit more compute. Instead of two EyeQ 6 that we have in the Porsche program, it is a three EyeQ 6. So it is really, it is really incremental.

The heavy lifting is not so much on the development, it is on the validation, because you need to prove that you are multifold times better than human statistics, crash statistics and that creates an effort of validation this is something that we are working together with the OEMs.

We are creating hardware in the loop farms of thousands of ECUs for each program. For example, for the S662 [ph], for the CH663, for the DR64, each one has a hardware in the loop farm of many, many thousands of ECUs in order to run two thousands of hours of data for per night.

And this is ongoing and part of our budget, part of our OpEx growth. It is not something that we did not anticipate or would come as a surprise. In terms of the OEM traction, we are in serious engagement with a number of OEMs, I believe that at least two of them will be able to close this loop.

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Dan Levy

Great. Thank you.

Operator

Our next question comes from Adam Jonas with Morgan Stanley. Please go ahead.

Adam Jonas

Hi. Thanks everybody. Amnon, what are your thoughts on the advantages or disadvantages of using custom silicon versus GPUs such as an NVIDIA A100 for SuperVision training. Curious what mobilized strategy is regarding custom versus GPU and is there any effort to move towards a custom system in a vertically integrated way the way some of your competitors are?

Amnon Shashua

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Our system is vertically integrated. We have an EyeQ chip, but instead of GPUs, we have our own accelerator families. We have five different families of the accelerators, and that would make our chip very efficient.

If you look at the SuperVision two EyeQ chips now on 001. On paper, the total tops is 30, something compared to that one tenth of the tops on paper of the competing solution, and you don't see any advantage in terms of performance for the competing system. So we have highly efficient solutions.

And the advantage of a highly efficient solution is cost, power consumption, size of the ECU, whether you need to - have you need to call it. Power is very important when you are talking about a vehicle.

So our approach, which is not a general purpose chip like the A100, it is really customized to the type of, you know, workloads that we need in order to power both computer vision and driving - has great advantages of efficiency.

Adam Jonas

Thanks. I will leave it there. I will hold a follow-up. Thanks.

Dan Galves

Thank you so much. And thanks everyone for joining the earnings call. We will talk to you next quarter. Thank you.

Operator

This concludes today's conference call. You may disconnect your lines at the time. Thank you for your participation, and have a great day.

Load-Date: July 28, 2023