

Q2 2023 Mobileye Global Inc Earnings Call - Final

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Presentation

DAN GALVES, CHIEF COMMUNICATIONS OFFICER, MOBILEYE GLOBAL INC: Hello, everyone, and welcome to Mobileye's Second Quarter 2023 Earnings Conference Call for the period 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 Professor Amnon Shashua, Mobileye's CEO and President; and Moran Shemesh Rojansky, Mobileye's acting CFO.

Thanks, and now I'll turn the call over to Amnon.

AMNON SHASHUA, PRESIDENT, CHIEF EXECUTIVE OFFICER, DIRECTOR, MOBILEYE GLOBAL INC: 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 4 points versus Q1. At the midpoint of our updated guidance, adjusted operating margin for 2023 is 29.5%, nearly 3 points higher than our original guidance back in January. The good news on the cost side is a combination of macro factors, negotiations with customers on engineering reimbursement and result of a continued 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 9 large established OEM prospects in what we consider advanced stages for products like SuperVision and Chauffeur. 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 system and often negotiating the bundling of different products like SuperVision and Chauffeur across various brands, vehicle 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 and design efficient and above all displaying leading and cutting-edge performance.

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

Our work with Volkswagen Group is a good example. Since 2018, all new vehicles across the group have used Mobileye provided data, and this relationship exists well into the 2030. Beginning in 2021, REM mapping functionality was added to the MEB 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 win 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 the provision 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-off solution called Chauffeur.

The surround computer vision REM and EyeQ based domain controller on supervision is also the baseline for Chauffeur. The difference in the systems is the addition of secondary perception system made up of LiDAR and RADAR, which results in significant increase in the meantime between failure, which is obviously key to enabling the eyes-off. In other words, full driver disengagement under a broad set of conditions and road type. This also forms the baseline for our Mobileye 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 from both consumerowned and Mobility as a Service solutions, all based on the same proven core technology, is a huge selling point to OEMs. As is the increased flexibility of our technology, we provide tools to OEMs to both tune the system and also develop and deploy their own software in order to differentiate and to enable true ownership of their systems. For example, with the Porsche supervision program, our software team is providing about 600 tunable 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 Safety that allows one to describe the desired driving policy as if one writes code on top of our driving policy operating system. Then we have EyeQ kits on top of that, to offer them bespokes called software integration within the Mobileye's stack as well as the potential to deploy nonmobilized functions such as automated parking, on driving monitoring on the EyeQ, saving the cost of additional ECUs.

Final topic before turning it over to Moran, is the continued rollout of software to Zeekr vehicles on the road. As you all know, the full supervision capability is being delivered to Zeekr vehicles over time through over-the-air updates. Nothing is key to this. The complexities 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's quickly building.

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 significantly broadened the number of users with highway Navigate on Pilot, and we expect the full rollout to all users within week. Initial feedback has been very good.

Zeekr system is performing much better than other MLP systems in terms of ability to complete maneuvers without takeover in many difficult situations like construction areas, highway merges in heavy traffic and performing lane changes within tight curves. Influencers and media have also heightened -- highlighted the strength of the system versus competitors, focusing on the <u>assertive</u> 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 dead spots 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's a significant proof point to other OEM customers that Zeekr's system is outperforming. This supports the feedback we have gotten from other OEMs that have performed benchmark tests of their own in a test environment but proof point 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 -- go over the financial results and guidance in more detail.

MORAN ROJANSKY, ACTING CHIEF FINANCIAL OFFICER, MOBILEYE GLOBAL INC: 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 Mobileye non-GAAP numbers is amortization of intangible assets which is mainly related to Intel's acquisition of Mobileye in 2017. We also exclude stock-based compensation.

Starting with Q2. Overall revenue was down about 1% year-over-year with core EyeQ revenue also down 1% year-over-year as higher ASPs would not fully offset a modest volume decline. We do believe that destocking of inventory at our Tier 1 customer 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 Zeekr 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 1 point increase in Q2 as compared to Q1 was simply due to SuperVision revenue being a smaller mix of overall revenue. Operating expenses were lower than we expected, and this led to strong adjusted operating margin of 31%, up about 4 points versus Q1. Following 3 areas accounting for the majority of the lower-than-expected costs in the quarter are; #1 on the payroll side, depreciation of the Israeli Scheckel 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 companies 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 rollout is as efficient as possible. In the case of Mobility as a Service, we have the emphasized plan to certify an EyeQ5-based NIO fleet of vehicles for our customers in the near term.

The costs simply weren't justified relative to the volumes that were possible on the NIO-based platform. The benefit of the NIO-based fleet, however, still exists in terms of continued testing and validation of the software.

In terms of scaling production volumes 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 Schaeffler, Holon

and Volkswagen Commercial Vehicles. We expect these vehicle platforms to begin serial production in 2025, which also coincides with volume production of EyeQ6-based compute platform and our software-defined imaging radar. It's 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 had 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 disruptions 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 strictly 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 seized. 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, Zeekr 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 shipments 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 mix to be higher in Q3 and Q4 versus Q2, which will drive some reduction in overall gross margin versus Q2 levels.

On the adjusted operating income side, the positive update 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 2 areas.

Number one, to varying degree, the areas of lower cost in Q2, like payroll, facilities and Mobility as a Service are generating some savings in the second half of the year as well.

Number two, nonrecurring 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'd like to thank Anat Heller for being an amazing mentor to me and for her continued support as an adviser to the finance team and management. I'd also like to thank our entire finance team for the professional and tireless work since we become a public company.

Thank you, and we will now take your questions.

DAN GALVES: Priscilla, we're ready to start the Q&A session.

Questions and Answers

OPERATOR: We will now be conducting question-and-answer session. (Operator Instructions)

DAN GALVES: It's Dan. And just in the interest of time, please limit yourself to one question and one follow-up, please.

OPERATOR: And our first question comes from Aaron Rakers with Wells Fargo.

AARON RAKERS, MD OF IT HARDWARE & NETWORKING EQUIPMENT AND SENIOR EQUITY ANALYST, WELLS FARGO SECURITIES, LLC, RESEARCH DIVISION: 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 9 estimated OEMs engaged in

terms of Chauffeur and SuperVision. I think last quarter, you talked about having 6 large OEMs kind of deployed looking out in the 2024 time frame. 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 from SuperVision?

AMNON SHASHUA: I'll take this question. 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. I'm defining serious engagement where OEM engineers are fully aligned with Mobileye, that Mobileye is 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 will Level 2+, 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 program. So working in our favor is increase in competitive pressure as <u>Tesla</u> and the China startups, including Zeekr, push the envelope on hands-free technology. We have noted an increase in seriousness within the OEMs over the past 1, 2 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 cost leader. We still see high likelihood of significant design wins announcements in the second half.

AARON RAKERS: That's 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 Polestar 4, I guess it sounds like the inventory dynamic and the issues that Zeekr kind of normalize themselves out. So as we look forward, I guess, I'm trying to understand 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 get is just 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 the setup into the back half of the year?

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'll make annual updates, but we're not going to update this on an ad hoc basis. In order to provide some more color, everything is on track with new SuperVision customers, that we talked about in January. We closed the Porsche design win and the expansion of the SuperVision platform to other Volkswagen Group brand, and that's proceeding as planned.

The pipeline of OEMs in advanced discussions with 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 5 vehicles in production by Q1 of 2024 compared to 1 at the beginning of this year. Two of those vehicles are sold outside of China.

The one thing that has changed is that our 300,000 unit outlook for next year assumes that Zeekr 001 would sustain its Q4 2022 demand space 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's consistent with what we assumed in our guidance update last quarter, but that gap is a risk to the 2024 forecast we provided in January.

I'd point out that there has already been a significant adjustment and expectations for about half of our covering analysts who are projecting volume in 220,000 range for 2024.

OPERATOR: Our next question comes from Chris McNally with Evercore.

CHRISTOPHER MCNALLY, SENIOR MD, EVERCORE ISI INSTITUTIONAL EQUITIES, RESEARCH DIVISION: Two road map questions, if I may. So first on the SuperVision rollout, and Amnon, I appreciate the '24 update, I think that's been clear. My question is really around maybe as we think about '25 and it's more not asking about a target, but more, are you starting to get the visibility on some of these larger, more consequential programs on whether they could launch in '25 or '26 or is it just too early at this point, the OEMs themselves are still trying to determine launch timing mode. When is that sort of typical go -- no-go where you would sort of have an idea whether '25 programs would be significant?

AMNON SHASHUA: We are 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 Zeekr and other Geely-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 the 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 time frame. We also see the potential for SuperVision platform to spread to more models within OEM customers as automakers get more bullish on the potential of profit-making opportunities. Now, this could positively impact our midterm projections. So I think we're very confident on 2026. Things look brighter than they looked back in January.

CHRISTOPHER MCNALLY: And then a quick follow-up, always sort of a delicate one. But regarding the more aggressive talk of *full self-driving* licensing over the last 6 months and 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 -- it's just such a relevant topic, anything that you can add on that tone, if it's had any effect on the conversations that you're having directly.

AMNON SHASHUA: I think that <u>Tesla</u> has mentioned several times in the past about licensing their FSD. So it's not really a new concept. It's not new to have competitive noise in the market. No. And I would say that we have a lot of respect to what <u>Tesla</u> has accomplished with FSD. In fact, we see the rapid development as a significant positive for us as that pushes the market to move faster to implement advanced solutions like supervision.

Now, specific question of <u>Tesla</u> working with OEMs, I think there's one argument that really clarifies the matter. I would put it as performance versus cost of the system. If you look at SuperVision, it's an FSD light category, 11 cameras and the radar, a few radars. SuperVision has 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 1,000 beta testers and the response in terms of comparative analysis is very, very good. It's on par or superior to FSD that's 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, REM, is approximately somewhere in the \$2,500 range. Now if <u>Tesla</u> 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 <u>Tesla</u> car owners. Now this would immediately cannibalize <u>Tesla</u> whose strategy appears to be to reduce gross margins on the vehicle and rely almost solidly on the value of the FSD for creating 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 2 years will surpass the 1 million bar and from there, we'll grow much faster. There are also important differences with respect to access of data, something that *Tesla* very often highlights as an advantage. And that's another key advantage that OEMs recognize.

So for example, at their March Investor Day, <u>Tesla</u> noted they had a video cache of 30 petabytes and we're intending to grow to 200 petabytes. Our video database is 400 petabytes, not to mention all the data that we collect for REM, the high-definition mapping. We collected almost 9 billion miles of this type of data in 2022 alone. <u>Tesla</u> talks about 300 million miles of driven to date.

So I think overall, when you look at what <u>Tesla</u> has accomplished, it's 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 <u>Tesla</u>'s accomplishments actually creates a very positive momentum to have other OEMs wanting to have this type of -- this category of solution in their own cars.

OPERATOR: Our next question comes from Joshua Buchalter with TD Cowen.

JOSHUA BUCHALTER, VP, TD COWEN, RESEARCH DIVISION: I appreciate the color that you gave on the --how you're thinking about SuperVision in 2024, in particular on the lowered 001 production numbers. I was curious compared to the original expectations, how you're thinking about, I guess, the other 4 that should be meaningfully in the '24 numbers. Has there been any more, I guess, incremental handicapping to how you're 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 6 to 9 months ago?

DAN GALVES: It's Dan. I'll take this one. So we feel good about the other models, right? The Zeekr 009, for example, is performing exactly to the expectations that Zeekr provided to us and that we baked into the forecast. There's another vehicle launching right now and then Polestar4 looks to be on track to launch. So yes, we're feeling good about the expectations and in 2023 as well, like relative to the revisions that we made last quarter, the Zeekr 001, 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.

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? Is this planned for -- the press release had read like commercial vehicles, but is this planned and you see a road map for the Chauffeur type technology moving into more consumer types of vehicles?

AMNON SHASHUA: The only reason that we mentioned the ID.Buzz is because Volkswagen and their own TR as they mentioned, the Austin -- vehicles they shipped to Austin with our technology, for test and also in Germany. It's still ongoing all the formalities of actual design wins for this, but there are already more than 30 vehicles already in testing phase at VW and hopefully, this would mature into an official design win hopefully this year.

OPERATOR: Our next question comes from Mark Delaney with Goldman Sachs.

MARK DELANEY, EQUITY ANALYST, GOLDMAN SACHS GROUP, INC., RESEARCH DIVISION: So maybe you could provide more details on your latest outlook on the EV opportunity with Mobileye Drive. I think you mentioned in the prepared remarks, now putting less emphasis on updating NIO vehicles and it making more sense to ramp on purpose-built vehicles in the 2025 time frame. Could you share a bit more on what changed that led you to have that view and your confidence on purpose-built platforms being ready in 2025?

AMNON SHASHUA: Sorry, Mark, you broke up a little bit. Can you just repeat the question?

DAN GALVES: Mark, sorry. Can you repeat the question? You broke up a little bit.

MARK DELANEY: Yes, of course, yes. Sorry about that. So hopefully, you can hear me a little bit better now. I was hoping for some updated and added details on your EV plan with Mobileye drive. I believe if I heard correctly, you're now putting less emphasis on upfitting NIO vehicles. And you mentioned making more sense to ramp AVs and purpose-built vehicles in the 2025 time frame. So I was hoping 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 time frame?

AMNON SHASHUA: I'll take that. So back at the CES, we mentioned that we are working with the platform builders. We mentioned Schaeffler. We mentioned Benteler -- with their daughter company, Benteler -- with their daughter

company, Holon, 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 carmaker called P3. I think we announced that a while ago with the Mobileye Drive 64. So the focus is on collaborating with or partnering with platform builders rather than having our own vehicle and homologating our own vehicles and then performing the entire chain of owning vehicles, operating vehicles, customer-facing applications. We do that through partnerships.

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

MARK DELANEY: And I was hoping you could also share a little bit more of an update on the progress you're making in developing your own RADAR and Lidar sensors as I believe they could be helpful in supporting your opportunity with both the Chauffeur offering as well as Mobileye Drive.

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

OPERATOR: Our next question comes from Shreyas Patil with Wolfe Research.

SHREYAS PATIL, RESEARCH ANALYST, WOLFE RESEARCH, LLC: Maybe just first, just thinking about the --how to think about the revenue or potential margin upside that you could see from Zeekr as they're 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'll see in 2024 because the NOP features powered by REM is -- for the first 6 months is going to be offered for free to all the Zeekr customers, and then we'll start seeing revenue based on a certain traction, we will see revenue. And so that should kick in 2024. So we're talking about hundreds 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 discuss -- dismiss it 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: Well, it's creating distress. It's creating a personal distress, and I think also most of Mobileye's, not all of Mobileye employees are kind of experiencing this kind of distress. But when you look at the Mobileye employees, they're are all professionals. We haven't seen any effect on efficiency and productivity in the past few months. We're not manufacturing anything in Israel. Israel is not a source of revenue for Mobileye. So we don't see any material impact of 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 ROJANSKY: Yes, so it's basically coming from base ADAS. So we have -- in our programs, we have NRE reimbursement for most of our programs. And sometimes we don't think we cannot expect at the beginning of the year. So we might get additional benefits on these reimbursements, but it mainly relates to ADAS, ADAS reimbursement for this year for 2023.

AMNON SHASHUA: And I think that there was one smaller item related to Mobileye Drive that we're expecting now as well.

OPERATOR: Our next question comes from George Gianarikas with Canaccord Genuity.

GEORGE GIANARIKAS, ANALYST, CANACCORD GENUITY CORP., RESEARCH DIVISION: So you characterized a couple of times in the script about not seeing competition in many of the discussions you're having with OEMs. So I am wondering if you could just kind of take a step back and help us understand your view of the competitive landscape, not relative to <u>Tesla</u> 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?

AMNON SHASHUA: Talking about the competitive landscape of the category of the SuperVision and going upwards to eyes-off, the competition comes from -- the majority of the competition comes from in-house development of the OEMs. And we have seen in the past kind of year 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 product or even trying to do an eyes-off product.

They tend to be somewhere between 4x to 6x more expensive than our solution and performance-wise, we don't see advantage. And they also come to the conclusion that it will -- 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 OEMs 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's the majority of the competitive landscape. It's 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. We're in these serious engagements where essentially, these OEMs have aligned behind our approach and are telling us there's not -- that we have no competition there. The rest of the industry is still in the -- so I don't want to make the comment that we don't have any competition. Like Amnon said it's 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's causing that? Is it the REM mapping, RSS? Is there anything that you can point to that's more important than the other component pieces?

AMNON SHASHUA: I'll point you to kind of the competitive landscape in China, for example. You have XPeng, you have Lee Auto, you have the NIO, 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 LiDARs. They have much more compute, sometimes somewhere between 10x to 20x more compute than we have -- very, very expensive products.

And when we start doing benchmarking, we are superior in terms of 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, now also the public can start testing. The difference is becoming visible and it's all about cost versus performance, right? Even if they have the same performance as the SuperVision, but they cost 4x more than it's not competitive. So I think this is becoming visible now that things are really in production.

DAN GALVES: I think that's exactly right. It's 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's the actual cost of the system. Because it's in production, it's no longer a projected cost. It's really an actual cost and then it's this pressure from other automakers moving fast, like <u>Tesla</u> and some of the Chinese OEMs that Amnon has 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, DIRECTOR & GLOBAL HEAD OF AUTOS SECTOR, CITIGROUP INC., RESEARCH DIVISION: Just a first question going back to the engagement with the 9 large automakers. One, can you talk about just the

reception thus far in the EyeQ kit as well as 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 time frame that we are seeing. In terms of working together, EyeQ kits and the behavior shaping language that we have built, as we move forward, we're adding more and more capabilities for allowing OEMs to really have hands-on onto our system.

We're gradually creating this as a platform. Now the behavior shaping language, it's really something very powerful. It allows the OEM to write actual code kind of XML files, that describe in great details lots of aspects of the driving policy that they wish to have, and it's all running on top of our driving policy.

So you can't -- 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's 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 innovation that allow OEMs to have serious hands on top of our platform. And this has a very, very good reception.

ITAY MICHAELI: As a quick follow-up, I was hoping you could touch upon the second generation of the REM maps. I think you're 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: REM maps is a continuous development. It's not that there is a first generation or second generation. Our focus now is expansion in China. And also activating the REM maps in Europe and in the 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 the Chinese regulations, the 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.

And as we move forward to the Porsche program and additional programs that will come in the 25, 26, also 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.

OPERATOR: Our next question comes from Ananda Baruah with Loop Capital Markets.

ANANDA BARUAH, MD, LOOP CAPITAL MARKETS LLC, RESEARCH DIVISION: 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 costs coming on. How those things play together in the gross margin OpEx dynamic as we head into 2024? And then I have a quick follow-up after that.

AMNON SHASHUA: So I'll pass the cost savings and all of that to Moran, our acting CFO.

MORAN ROJANSKY: So yes, as for the OpEx growth. So what we've said in the past, that 2022 and 2023 will be higher than our historical levels. So in terms of percentage rolled out of operating expenses, and we believe that in 2024, we 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 OpEx growth would be -- the fact that we are -- the base is decreasing, we're 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. The Tier 1 OEM inventory destocking has had some impact in demand. And you had talked about a time frame over which it will normalize. Can you just clarify the time frame that you expect that to normalize?

AMNON SHASHUA: Are you talking about SuperVision inventory or EyeQ?

DAN GALVES: No, I think the EyeQ.

ANANDA BARUAH: Yes, the EyeQ. That's right.

AMNON SHASHUA: Yes, you're talking about the SuperVision inventory, got it. Okay, sorry.

MORAN ROJANSKY: So yes, actually, we've seen that for 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's 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 schedules stabilizing in terms of EyeQ. So if at the beginning of the year, we had requests for shift of volumes from Q2 to Q3 or Q3 to Q4. We are no longer saying that. So it's pretty stabilized. We think that the last 2 years have been very bumpy in terms of the supply chain prices and production volumes. But of course, it's not the same situation as we enter this year. And that's 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'll add a bit. In terms of -- there are 2 types of inventory, right? Inventory that our customers have piled up in terms of EyeQs and that is being -- and that as Moran said, has stabilized. We don't see any requests to push volumes from quarter to quarter. Then there's our own inventory that we built 6 months ahead of EyeQ 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 chips than we normally have in order to protect our inventory. And that I think, we have completed or it's going to be completed until the end of the year.

MORAN ROJANSKY: Yes, it's at the end of the year.

OPERATOR: Our next question comes from Dan Levy with Barclays.

DAN LEVY, SENIOR ANALYST, BARCLAYS BANK PLC, RESEARCH DIVISION: 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.

AMNON SHASHUA: 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. 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 volumes. 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 I wanted to just follow up on the conversation specifically on Chauffeur. So it sounds like (inaudible) maybe more of a focus on dedicated platforms, less retrofitting, more partnership, et cetera. Chauffeur, maybe you can give us some sense. I know that was part of the engagement conversation that you mentioned. But 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's very aligned with the SuperVision spend? Or is this a separate stream and it's something that maybe the timing is getting pushed out a bit more and that's playing into the OpEx commentary.

AMNON SHASHUA: It's very aligned with SuperVision. You can think of it as kind of an incremental addition to SuperVision. SuperVision is mostly camera-based. There are some radars as an option. For example, in the Zeekr 001, there is a front-facing radar. In the Porsche program, there's also a surround radar. And when you go to eyesoff, the Chauffeur, you're adding some LiDAR as well, not to create more redundancy and a bit more compute. Instead of two EyeQ 6 that we have in the -- in the Porsche program, it's three EyeQ 6.

So it's really -- it's really incremental. The heavy lifting is not so much on the development, it's 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're working together with the OEMs. We are creating hardware in the loop farms of thousands of ECUs for each program. For example, for the SV62, for the CH63, for the DR64, each one has the Hardware-in-the-Loop farm of many, many thousands of ECUs in order run through thousands of hours of data per night.

And this is ongoing and part of our budget, part of our OpEx growth. It's not something that we did not anticipate or would come as a surprise. In terms of the OEM traction, we are in serious engagements with a number of OEMs. I believe that at least 2 of them we will be able to close this year.

DAN GALVES: Priscilla, we can only take one more question.

OPERATOR: Our next question comes from Adam Jonas with Morgan Stanley.

ADAM JONAS, MD, MORGAN STANLEY, RESEARCH DIVISION: Amnon, what are your thoughts on the advantages or disadvantages of using custom silicon versus GPU such as an NVIDIA A100 for vision neural net training. Curious what Mobileye's 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: Our system is perfectly integrated. We have an EyeQ chip. But instead of GPUs, we have our own accelerator families. We have 5 different families of accelerators and that's what makes our chip very efficient. If you look at the SuperVision, the two EyeQ5 chips now on Zeekr 001, on paper, the total TOPS is the 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 systems.

So we have highly efficient solution. And the advantage of a highly efficient solution is of course, power consumption. Size of the ECU, whether you need to -- how you need cool it. Power is very important when you're talking about an electric vehicle. So our approach, which is not a general-purpose chip like the A100, it's really customized to the type of workloads that we need in order to power both computer vision and driving policy has great advantages of efficiency.

DAN GALVES: Thanks, everyone, for joining the earnings call. We will talk to you next quarter. Thank you.

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