Transcript

ECARX Holdings Inc. (Nasdaq: ECX)
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Corporate Participants

- Karolis Stravinskas - ECARX - Investor Relations
- Ziyu Shen - ECARX - Co-Founder, Chairman, Chief Executive Officer
- Peter Cirino - ECARX - Chief Operating Officer
- John Marcus - ECARX - President, International
- Martha Carter - Teneo - Head of Teneo Governance Advisory
- Alwin Bakkenes - Volvo Cars - Head of Software Engineering, Volvo Cars
- Ramesh Narasimhan - ECARX Limited - Chief Financial Officer

Conference Call Participants

- Jared Maymon - Berenberg - Analyst
- George Gianarikas - Canaccord - Analyst
- Suji Desilva - ROTH Capital - Analyst
- Navin Gupta - Oppenheimer & Co – Executive Director, Mobility Technology Investment Banking
- Derek Soderberg - Cantor Fitzgerald - Analyst
- Justin Martos - Cantor Fitgerald – TMT Desk Strategist

Presentation

Operator - -

Please make your way to your seats. The Investor Day Presentations will begin shortly. Good morning everyone, and thank you for attending ECARX's Investor Day. Before we begin, please remember to silence your mobile devices. Please welcome Karolis Stravinskas, Investor Relations.

Karolis Stavinskas - ECARX - Investor Relations

Good morning everyone. It's my pleasure to welcome you to ECARX's First Investor Day in New York City, and streaming live online.

We have a great speaker lineup today for both inside the company and from the wider auto industry. Today's event is broken down into seven sections as shown on the screen, with a short 15 minute break planned between sections four and five.

Firstly, Ziyu Shen, co-founder, chairman, and CEO, will kick things off and tell you more about the vision for the business, and how ECARX is positioned to take advantage of industry trends. Next, Peter Cirino, Chief Operating Officer, we'll discuss ECARX's strategy and product roadmap before John Marcus, President of International will take a deeper dive into the product lineup. After the break, Peter will then come back to talk about how ECARX's strategic partnership will move the business forward, before introducing you to some of our OEM customers to hear more from them. To round out the presentation, Ramesh Narasimhan, Chief Financial Officer will take you through the financial model, important milestones, and medium-term outlook.

Following the presentation, the team will come back on stage for Q&A. After that session, we invite you to explore the product demos in the area just to my left, and join us for a light lunch to round out the morning.

Today's presentation can be found online on the results and reports section of the ECARX website, and it's being recorded.

As we get started, please be reminded that today's presentation contains estimates, projections and other forward-looking statements. These statements are subject to certain risks and uncertainties, and other factors that may cause actual results to differ materially. Please review the disclaimers on the screen and relevant disclosures in our SEC filings.

Now, before Ziyu Shen takes to the stage, we'd like to kick off with a short video.

[VIDEO PLAYS]

Operator - -

Please welcome, Ziyu Shen, Chairman and CEO of ECARX.

Ziyu Shen - ECARX - Co-Founder, Chairman, Chief Executive Officer

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Good morning everyone. So, it is my great honor to welcome all of you come to the Investor Day ECARX, our first Investor Day in New York City.

So, I would like to present the first session about our company overview. So my name is Ziyu Shen, I am chairman, co-founder and the CEO of ECARX. Sorry. So, this is our history. Actually before you receive a statement that is computers on wheel. This is a statement I made last December '21 during a speech on NASDAQ. So because are our company main vision that is creating the computer on the car. So that's what why we are doing and why we built a company.

So our history that in 2017, so Eric Li, chairman, Li Shufu, Geely Holding Holding Group chairman and myself, we co-found a company. We do believe the vehicle will be in different product in near future. It is the EV smart car. So that's why vehicle computer system will be extremely important part of the car product. That's why we build a team. We decided to invest a lot of energy on computer system and software. So that's the background why we build a company. To now, we already had very big team, also we built very strong leadership team here.

So this page, everybody already seen that. So we built international background big one leadership team and our business leaders and tech leader here. So we have very strong confidence, we already had a very strong position in China market also. We made the list last December, and we are starting international expansion. And this page that we would like to show to everybody, that's our current status. Two weeks ago we just finished the earning call, and we have very strong confidence to meet all of you guys and market here. So we got very significant achievements in the last year 2022. Actually it's a very tough year for everybody, but we still got very strong position over here.

Over $515 million US revenue we achieved last year. And year to year growing over 30%. And also we already had 1,500 engineers. Most of them tech background and very focused on R&D

and technology. And also the most important, we already had 12 different OEM business, and over 5 million cars, they are using our technology and products right now. Also we started a very strong global expansion two years ago. We built a office in Europe, and also we built a office in Southeast Asia. And we started a global brand like Lotus, Smart and for the further Polestar, Volvo car SOP very soon. And 10 that is global operating centers for worldwide coverage.

So, after team and the company build up. So we very, very concentrate on our core technologies. Because core technologies is very important to make sure we have the robust power plan and future development. As I said before, computer system is very important for future EV product. And EV is currently very strong growing market. So that's why from computer architecture we spend a lot of time to try to vertical integration from SoC (system on chip) and operating system and software stack. In 2018, ECARX built a joint venture with ARM China in China, that company name called SiEngine.

So, SoC, we spent a lot of time for R&D in JV, and we successfully got a 7 nanometer TSMC chipset 2021. And right now we are going forward for further product, the name over there called Antora. That's a very important competitive product we want to provide to the market. And a pre-system a software stack that ECARX is very strong in-house, including the functional safety, hypervisor and also rem tire and a very typical automotive software, and including the cockpit system and ADAS system further.

So we have vertical integration of the platform, and we want to go central computing platform. Because we believe the vehicle will be a computer system, and to make different software to be managed and consolidate our operating system on the top. And end user can get continuously update after day one. So that's very different and differentiate in the market. And the next page, this page, that is three different trends we are working on. The first trend actually, I just introduced. We had technology but for what? The technology for market. We are very lucky. Actually right now everybody is believing EV is the future. So EV is faster and rapid market right now in China, in Europe and the US everywhere. So we are ongoing.

The second one, that's the software defined vehicle, the current second trend. Software defined we are just as I said, computer system provide operating system software and manage different features from software level. And it can let user can keep going, get the update on air of day one. The third one, that is all new platforms required for product development. Because we want to provide the one stop solution to OEM, let OEM very fast to go product development to simplify and accelerate the vehicle integration. So that the trends is very clear.

Also, we do believe we have very strong position in the future 2030. So $470 billion US, that is very important market cap we can achieve, we can go forward. And from software defined vehicle I just introduced, so that is every OEM is working on that. And software on wheel is the future of vehicle. We expand the future capability of the car. So including like ADAS system and also cockpit system, and very complicated body control system. We can make all features together working on the computer system. That's our central computer understanding. These two picture, we very, very want everybody understand legacy and the future.
So, the fist legacy using, this is like tradition E/E-architecture, almost like 100 ECUs on a car. And OEM need a very complicated integration to make a car working well. For example, if you want a climate control feature, you have to approach the tier one to do climate control hardware and

software together, one ECU. And also another control unit maybe for roof window for another tier one. So OEM needs more and more tier one to finish more and more features on that, and very complicated E-architecture to manage a different ECU. So that's a legacy architecture. The problem is, after customer use your car and product at day one, say impossible to get a new feature ongoing, keep update. Because all software and software feature in different ECU and different tier one.

So that is a hardware defined vehicle. And right now the software defined vehicle in future, the architecture, we are providing computer system to the car. And make a very strong SoC processing and to produce a lot of software features on top by our operating system. So the customer can get new features on the air keep update, because of computer system on the web. And OEM can accelerate R&D and they reduce a lot of cost and integration from different stakeholder in worldwide to make product simplified, make R&D simplified. And we can accelerate their part they open from progress. So that is our understanding for E/E-architecture here.

So, this is the summary about our business overview. So we built a team in 2017, and we had very big the R&D investment every year. Also we achieved the 12 OEMs business, and we are under very strong and rapid growing market, EV market. Also we had very strong robust of product roadmap, and we built a very strong differentiation from vertical integration technology stack, including hardware platforms SoC, operating system and software together. So we are offering the best solution to OEM, trying to make OEM simplify product movement, and provide a very strong position in future. So that's the summary of my session here. And the next session, so I would like to invite my COO, Peter Cirino, to introduce more and more about our company's strategy and product. Thank you.

Peter Cirino - ECARX - Chief Operating Officer

Thank you Ziyu, and good morning to everyone. I'd like to add my own welcome to each of you here in the room and online, to ECARX's first Investor Day as a listed company. I'm excited to share further details about our growth strategy, our cutting edge products, and our deep technology partnerships. ECARX has a clear strategy in place that will help us accelerate our growth. We've got solid pathways and solid partnerships for achieving our ambitious objectives. Later today, Ramesh, our CFO, will go into further detail about our financial targets, including our path to double digit revenue growth, adjusted EBITDA profitability, strong free cash flow generation, and disciplined capital allocation.

But first, I will take you through how we'll achieve those goals using our innovative products, and our first rate partnerships. These capabilities empower customers to further personalize their user experience in the software defined vehicles. Foundational to achieving our ambitious objectives is our clear product roadmap, designed to capture our growing share of the $450 billion market that Ziyu mentioned earlier in the deck ECARX's products fall into three key categories that meet the evolving needs of both OEMs and end customers. First, we're meeting an unmet SoC need in the EV market through our Antora 1000 and Antora 1000 pro products.

Secondly, we continue to push the boundaries of the driver experience in ECARX power vehicles with our Makalu product. It is one of the most powerful intelligent cockpit products on the market. And finally, we're powering the evolution of autonomous driving in the software

defined vehicle with our Super Brain Central Computing platform. All of these products are supported by Cloudpeak. It's our multi-pillared software system that's built in part through our collaboration with HaleyTek that you'll learn more about in the session today. John Marcus, the president of our international business, will dive into greater detail about each of these exciting products later in the presentation.

But now I want to provide you with some color as to why these products will allow us to capture significant market share going forward. First, as the EV and intelligent vehicle markets continue to increase, our flagship Antora series is specifically designed to meet growing demand. Antora provides software defined vehicles with increased computing power, and it's built from automotive DNA. The product is certified for functional safety and information security standards. Antora allows OEMs to meet the rapid growth of user demands, and the need in vehicles for multi-device integration.

Second, I want to talk about how customers are demanding connected vehicles that offer immersive and customizable digital experiences. This is exactly what our AMD powered Makalu product provide. It is one of the most powerful intelligent cockpit products on the market. Makalu enables incredible performance and realtime 3D environment rendering and with server level processing performance in the vehicle.

Makalu also supports gaming ecosystems and spatial audio effects. This further immerses drivers and passengers into a very unique and customizable experience inside the vehicle. ECARX has a deep-rooted collaboration with AMD, and we announced recently also with Unreal Engine, both of which contribute to continue to push the limits of what Makalu is capable.

Finally, ADAS technology continues to see increased adoption across the industry, coupled with proliferation of the software defined vehicles. ECARX is offering a solution that have the highest levels of performance and safety in this environment.

Our Super Brain Central Computing platform combines the digital cockpit and the ADAS controller into a single product. This technology allows OEMs to take this step for their ADAS enables cars at a reduced cost without sacrificing safety or security or efficiency.

Collaborations with Luminar, with Zenseact, with JICA Intelligent Vehicle and SiEngine continue to help us bring these products to market and build great systems for our partners and our new international customers.

While our product roadmap continues to underride our strategy to supercharge our growth in the coming years, the roadmap is grounded in a solid foundation that we have built since 2017. Today, we are a trusted partner with 12 automotive OEMs and 21 vehicle brands and eight tier one suppliers.

There are also, as Ziyu mentioned, more than five million vehicles on the road with ECARX technology in them. This number continues to grow as more OEMs recognize our technology and the value that we can bring to them. ECARX is collaborating with our partners to advance what is possible for the software defined vehicle and the electric vehicle.

We see ourselves as the architect of a partner ecosystem driving innovation in the automotive space. We work with category leaders such as AMD, Luminar, Unreal and Visteon, among the others shown on this slide, to deliver innovative and differentiated technology solutions in the vehicle.

We are trusted because we have a solid approach of partnering with our OEM customers at day one of their R&D activities. We create deeply integrated solutions with our customers that take the digital customer experience to the next level.

We know this is a differentiator for us. It's one of the reasons that our customers continue to work so closely with us, and it'll be one of the things that allows us to continue to win the right partnerships with the right OEMs around the globe.

Before I turn it over to John for a more detailed look at some of our new product offerings, I wanted to reiterate what sets ECARX apart from the competition, and why we will continue to capture growing market share.

First and foremost, as we've introduced throughout the presentation, we have a unique vertically integrated product offering that continues to prove themselves in the marketplace. We have an accelerated product roadmap that is already proving itself with multiple OEMs, and as we said, over five million vehicles on the road.

We have deep partnerships with leading technology firms that allow us to create a broad automotive technology ecosystem. This continues to enable us to drive innovation in the industry. We are a leader in the leading market for our technologies and we continue to expand our presence around the globe.

We recently also started our physical expansion in North America and soon will open an engineering center here in the United States as well. Our presence in Asia, in Europe, and North America provides us with global scale and allows us to efficiently and effectively enter new markets and new geographies.

Perhaps the most critical element of our blueprint to success are the dedicated and talented individuals who make up our team at ECARX. Our employees are truly our greatest asset and they constantly push the boundaries of innovation in the automotive technology space.

They are the driving force behind our success. I want to thank our employees for the role they've played in the success of the company over the last five, six years, and challenge them to continue to drive innovation and growth in our business.

We see today as a super exciting time for ECARX. We've got a clear blueprint for transformative success. We're capitalizing on a great industry trend, and we believe strongly that the future for the company is very, very bright.

So with that, I'm pleased to welcome John Marcus to the stage. John leads our international business, but he's going to take some time to take you through more deeply about our product roadmap and our innovative products. So John, welcome to the stage.

John Marcus - ECARX - President, International

Hello, good morning. Thank you, Peter, and thank you everyone who joined us today. So it's an exciting time for ECARX and I'm pleased to be here this morning to discuss our cutting edge products and technologies and how they would fit into our strategy, which Peter has just discussed.

The lights are so coming in my eyes, it wasn't like yesterday! So our long-term plan provides with a clear roadmap for success and a pathway to expand and take advantage of the trends driving the change within our industry. We build on our momentum by focusing our efforts on three key themes, powered by cross domain software foundation that supports all of them.

First, fulfilling the unmet SoC demand in the electric vehicles through products such as the Antora series. Second, pushing the boundaries of the driver experience through the adoption of Makalu. And third is powering the evolution of ADAS through the introduction of Super Brain, which is the future of central computing.

Let me first share a short video before I walk you through each of our products in greater detail.

[VIDEO PLAYS] From ideation to integration, ECARX is developing a suite of exclusive in-car technology solutions that enrich the user experience and drive innovation for smarter mobility.

The future of smart mobility in today's ECARX products, our flagship offering, ECARX Antora series, an integrated cockpit computing platform, specifically designed to increase the overall computing power of a car and meet the increasing system on a chip demand in the EV market. Antora 1000 and Antora 1000 Pro enable groundbreaking data transmission rates while reducing power consumption and supporting rich hardware configurations.

ECARX Cloudpeak, a cross domain system capability foundation built by our global R&D teams in collaboration with HaleyTek, the joint venture by ECARX and Volvo. The systems architecture is built to fully meet the functional safety and information security requirements of vehicles supporting multiple operating systems and the global mobility ecosystem. It meets both national and international safety standards and is compliant with EAL4 security certification.

ECARX Makalu, the most powerful, intelligent cockpit platform ever launched, delivering server level performance, realtime 3D environment rendering, 3D gaming and surrounding spatial audio made to power performance and enrich the user experience.

And ECARX Super Brain, the all all-in-one central computing platform that brings AI performance to its full potential, integrating the cockpit, driving, and vehicle control with our full-stack hardware and software solutions. The Super Brain will enable improvements in the performance and efficiency of the E/E architecture and drive the evolution from intelligent EVs to intelligent mobile devices.

Together, these four products lead the charge in ECARXs efforts to accelerate the transformation of the automotive industry, pioneering the innovation of the vehicle minds.

[VIDEO ENDS]

So I hope you find the video informative. Let me dig a bit deeper into each of these products and the position with us and continued success. Our first category, helping realize our vision in fulfilling the unmet SOC demand in EVs. The electric vehicle industry is growing at an unprecedented rate, and as we all know, the key success in the automotive industry is innovation.

ECARX has recognized the gap in the market and we are uniquely positioned to solve this with our comprehensive SOC solutions for electric vehicles. We will meet this demand through our extensive R&D capabilities and the collaboration with the industry leaders.

Our goal is not only to meet, but also to exceed the OEM expectations. And we are confident that our SOC solutions will play a critical role in the transformation of the automotive industry.

Our flagship product is the Antora series, especially designed to meet the growing demand for the system on ship in the EV markets. Behind me on the screen you will see the tech specifications for this product, but what this means in a simpler term is the Antora provides an incredible amount of computing power, graphic rendering capabilities, allowing for crystal clear images and 3D rendering to occur within the vehicle equipped with Antora.

The Antora series can provide us with a multi-core computing engine with an efficient hardware architecture. The Antora series includes two products, the Antora 1000 and the Antora 1000 Pro, both of which offer a lower power consumption relative to previous generations. This will help speed up the OEM development on time to market, all while reducing our impact on the environment.

The Antora 1000 provides a high developed platform, which the flagship company products are developed. At its core, it increases the overall computing power, allowing for a faster processing speeds, up to 50%, increase in both data transmission rates and bandwidth, as well as an efficient use of resources. It reduces the development cycles by up to 20%, allowing OEMs to introduce new vehicles models at even faster pace.

These features are just the beginning of what Antora has to offer, and we believe it has the potential to transform the driving experience for millions of people around the world. We're happy to say that our customers are already realizing the benefits of powering their vehicles with Antora 1000 today.

In fact, FAW Hongqi, Geely, Lynk&Co vehicles powered by the Antora 1000 will be mass-produced starting in 2023. This is a significant milestone for ECARX, as it represents a major step forward in our efforts to transform the automotive industry. We are confident that demand for other OEMs will remain strong.

Antora 1000s advanced intelligent cockpit hardware configuration will provide Hongqi, Geely, Lynk&Co drivers with a seamless and intuitive experience, enhancing their comfort, convenience, and safety on the road.

Now, moving to Antora 1000 Pro, which offers an even higher computing power platform to support the evolution of an in vehicle experience. By integrating cockpit and parking modules, it

provides the industry with a strong scalability for vehicles with ADAS and remote parking technologies, features that many OEMs are working to implement into their fleet.

With the Antora series, OEMs no longer need to replace the hardware platforms every few years. At the same time, they get an increasing computing power. Of note, Lynk&Co 08 powered by the Antora 1000 Pro will be launched later this year. This will help meet the rapid growth of user demands and meet of a multi-device integration.

Next, I would like to discuss our cutting edge solutions that will redefine the driving experience for users across the globe. With our products, we create an immersive personalized experience. User demand for cutting edge features has never been stronger. And based on our conversations we have with our OEMs, we think this is only the beginning.

This is where Makalu comes in, our next generation immersive intelligent cockpit computing platform. We consider Makalu to be one of the most powerful platforms within the smart cockpit market, and it is powering the transformation shift in how the people experience the time in their vehicle.

ECARX Makalu supports the latest graphic processing of a desktop computing platforms. It offers a real time 3D environment rendering and surrounding spacial audio effects. In other words, it is the foundation of an unprecedented, immersive intelligent experience.

This cutting edge technology creates an interactive experience that keeps the driver informed, engaged and in control at all times and provides passengers with capabilities many thought impossible 10 years ago.

Makalu can support multiple 4K displays, allowing for an unparalleled clarity. Because of this, passengers can enjoy crisp and vivid visuals on their multi screens. In the car at the same time, enhancing in the entertainment and productivity while they are on the go.

Makalu represents a significant step forward in the automotive industry. Drivers and passengers alike will be immersed in a whole new environment within their vehicle. We are excited to continue pushing the boundaries of what is possible in the world of connected cars. And for those in the room, you will be able to experience the demo firsthand in the demo area today.

Next, I will talk about the Super Brain Central Computing platform, our all in one solution that integrates cockpit and autonomous driving with our full stack hardware and software capabilities, bringing the AI performance to its fullest potential.

The Super Brain platform represents a significant breakthrough in the automotive technology, providing drivers with more intuitive and personalized driving experience. This is paving the way for the next generation autonomous vehicles.

There is one box, which is a supercomputing controller that integrates the cockpit and the AD domain controller, one board that brings together SOC, AD SOC, and MCUs, and one computer featuring the centralized IT computing and storage for an integrated cockpit and autonomous driving.

The Super Brain will lead to improvements in performance and efficiency of the architecture, driving the evolution of intelligent EVs. This is done through seamless integration of all the sensors, processing power, and the UX into a single platform.

The Super Brain enables OEMs and our partners in the ecosystem to customize their capabilities to further integrate elements of the intelligent automobile.

We believe that the Super Brain will also allow OEMs to reduce the wiring harness in their entire vehicle by 5%, reduce the software costs by 15%, and that would result in 20% material cost savings when compared to distributed controllers.

This is an answer to the cost efficiency impacting OEMs as they add additional capabilities to their models. This translates into a potential savings of hundreds of dollars per vehicle, a key focus area for OEMs globally.

But ECARX certainly, last but not least, we will speak about ECARX Cloudpeak. This is a cross-platform software capability built by our global R&D teams in the collaboration with HaleyTek, the joint venture between ECARX and Volvo Cars.

This system represents the achievements of our ongoing efforts to push the boundaries of what is possible in the automotive industry. Cloudpeak brings together separate systems and functionalities into one cohesive and seamless system, a task that has been very hard to solve for many years.

Cloudpeak supports multiple operating systems and a global mobility ecosystem that meet the global standards. Cloudpeak's function safety is certified to meet both the national and international standards. Our team has focused to support a wide range of applications including advanced driving assistance, smart city infrastructure, and autonomous vehicles.

Another area worth mentioning is the security, which is one of the areas we have implemented vigorous measures to ensure our platform meets the highest standards of security around the globe, and it is compliant with the EAL4 security certification.

Cloudpeak security features include secure build, communication, and storage to protect against unauthorized access and data breaches. Users should rest assured that when they are in a vehicle supported by Cloudpeak, they are protected within the highest level of security.

Cloudpeak also supports 3D sound technology. This technology provides a more immersive and engaging audio experience for drivers and for passengers as well, enhancing the overall driving experience.

Our platform supports multiple ecosystems to meet the demand in each region, which means the customers across the globe can easily integrate into their existing infrastructure no matter where they are. Cloudpeak is our secret weapon that fully unleashes the performance of all our products.

And with that, this concludes our product strategy section. We will now take a break for 15 minutes and then Peter will come back and talk us through our strategic partnership and to introduce our guest speakers. Thank you.

Operator - -

Welcome back everyone. The second half of our presentation is about to begin. Please welcome back Peter Cirino, Chief Operating Officer for ECARX.

Peter Cirino - ECARX - Chief Operating Officer

Hello again everyone. Welcome back from the break. Hope you had an opportunity to see some of our products in action in the demo section. If you didn't, please take the time later in the day because I think you'll see how fantastic our products are and certainly thank you to John for offering a great in-depth look about our product offering. I think that you've seen today and then John certainly made it clear why our customers continue to collaborate with ECARX and why we're confident in our ability to continue to grow our market share in a really fantastic market. To that point, if you look at our North Star, it's very simply to become one of the world's top automotive tech companies.

We're confident that our product portfolio will enable us to expand with customers across the globe. You look at our history, we began in China in 2017, grew very soon into Southeast Asia with customers there by 2019. By 2021, we had already started our expansion in Europe, built up capabilities in that market and we continue to grow those. And in 2023, we continue to expand our capabilities, expand our customer partnerships, and focus on growth for the company.

We expect this rapid geographic expansion will enable us to service a broader set of customers both inside the China market and continue to allow us to build relationships with some of the world's most technology focused OEMs. Our go-to-market strategy creates multiple opportunities for development and commercialization. As I said earlier, we differentiate ourselves through a day one involvement in partnering with OEMs and this enables us to bring our technology very quickly to market and allow it to mature in the vehicle environment. Before we listen to a special live guest that we have later in the day. I want to share with you a few testimonials that we have for some of our key OEM partners.

[VIDEO PLAYS] (Thomas Ingenlath, CEO, Polestar) Hello everyone. I'm Thomas Ingenlath, the CEO of Polestar. It's wonderful to see the impressive growth ECARX has achieved over the years, all thanks to their dedication to innovation.

(Dirk Adelmann, CEO, smart) Smart and ECARX started working together in 2019, which is one year before we even established Smart Europe here in Stuttgart. This was also the initial development phase of the smart #1 and smart #1 being the very first product of Smart in the new age, so to say after our brand new launch.
(Rajneesh Gaur, Corporate Vice President and General Manager Embedded Solutions Group, AMD) Working with ECARX has been an amazing experience. ECARX has a strong engineering team with a level of expertise that is unparalleled. ECARX truly understands its customers and is flexible in its approach to deliver solutions that exceed expectations. We are proud to be part of this joint team.

(Serino Angellotti, Leader, Digital User Experience, Lotus Tech Innovation Centre) We selected ECARX to develop our intelligent smart cockpits for the outstanding cutting edge technology ECARX offer. And finally, for the capability to run the execution with a high pace, always ahead the project scheduling.

(Dirk Adelmann, CEO, smart) ECARX for us was a partner in the entire development process as well as getting started with Smart as a company. ECARX colleagues are co-located here with us in Stuttgart and that helps a lot on understanding each other and also benefiting from each other.

(Rajneesh Gaur, Corporate Vice President and General Manager Embedded Solutions Group, AMD) Together we hope to bring unique experiences such as Intuitive 3D user interface and high-end gaming to the automotive industry. Their creativity makes ECARX an exciting partner to work with.

(Serino Angellotti, Leader, Digital User Experience, Lotus Tech Innovation Centre) Working with ECARX, we achieve it to create something not existing before, but pioneering an unique digital user experience, our Lotus Hyper OS.

(Thomas Ingenlath, CEO Polestar) We truly appreciate ECARX as one of Polestar's key partners and we are excited for the joint opportunities that lie ahead. On behalf of everyone here at Polestar, we wish ECARX great success and look forward to a bright and collaborative future together.

Peter Cirino - ECARX - Chief Operating Officer

Okay, next to provide all of you with some further insight into the value of a partnership with ECARX and also to give you a firsthand experience of how that partnership can develop with a key customer, I'm absolutely thrilled to welcome to the screen or to the stage or to the screen actually, Alwin Bakkenes. Alwin is the head of software engineering for Volvo cars and we'll have a short fireside chat. Also, I welcome Martha Carter. Martha is the head of Teneo Governance Advisory and the former head of global research at Institutional Shareholder Services. So we'll turn it over to Martha and to Alwin to begin the fireside conversation. Thank you.

Martha Carter - Teneo - Head of Teneo Governance Advisory

Okay, thank you for the introductions. Hey Alwin, good to see you again. How are you?

Alwin Bakkenes - Volvo Cars - Head of Software Engineering, Volvo Cars

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Hey Martha, good to see you. How are you?

Martha Carter - Teneo - Head of Teneo Governance Advisory

Very good, thank you and thanks for joining us today. What we wanted to talk about with the time that we have is talk a little bit about your role and the partnership with ECARX. Then we'll

delve into strategy innovation, very key topics, also the joint venture on HaleyTek and then a couple other questions on supply chain safety before we get to that crystal ball question and take a little bit of a look at the future. So if that sounds like a plan, we'll take it from the top.

So you are head of software engineering at Volvo and with the shift to really software defined vehicles, that's got to be really a fascinating job. Tell us a little bit about your role.

Alwin Bakkenes - Volvo Cars - Head of Software Engineering, Volvo Cars

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Great. Hey Martha, again. Thanks for having me. So first of all, at Volvo Cars our strategic direction is clear. It's all about shaping the future of mobility with the customer in focus and delivering the freedom to move in a personal, sustainable and safe way. And this is very much reflected in our ambition to become a fully electric car maker by 2030 and our continued commitment to reduce our carbon footprint, aiming to be a climate neutral company by 2040.

So what I and my team do to support these goals with our in-house technology stack, that provides a stunning user experience that we build together with Google. A next level safety towards automated driving with partners such as Luminar, providing our lidar and perception from Zenseact, our subsidiary and integrated on the core computing platform that we developed jointly with Nvidia. And, of course, all powered with over-the-air updates to ensure that our cars get better every day.

Martha Carter - Teneo - Head of Teneo Governance Advisory

Okay, now let's focus a little bit on this partnership with ECARX. Tell us about that and your thoughts in general on ECARX.

Alwin Bakkenes - Volvo Cars - Head of Software Engineering, Volvo Cars

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Sure. So our partnership with ECARX goes back many years. As you may know, we pioneered the development of the Google Android automotive platform in automotive. We were the first OEM to launch it with Google Automotive Services, also referred to as GAS in the XC40 Recharge and the Polestar 2. So GAS gives our customers an always connected experience with access to the best services in the industry, such as Google Maps, Google Assistant and the Play Store.

Together with ECARX, we started the joint venture called HaleyTek to commercialize that Android based infotainment platform and we leveraged that platform to deliver stunning experiences to our customers, but also other brands in the Geely group on top of which ECARX also has the ability and works actively with car makers outside of our group leveraging the same software platform. And this, of course, helps us to share the investment on the platform and also make it better.

Martha Carter - Teneo - Head of Teneo Governance Advisory

Okay. So the environment you live in is very fast-paced. You have to be very agile, very innovative. How is the strategy at Volvo evolving to accomplish that?

Alwin Bakkenes - Volvo Cars - Head of Software Engineering, Volvo Cars

As we embarked on our journey to shape the future of mobility and really as I said before, deliver the freedom to move in a safe, personal and sustainable way, we recognize that new technologies and in particular computing and software are going to be key to master that. So we have an ambition as part of our strategy to lead in new technologies and that's why we're investing in-house software development. That's why we've invested in the development of key new technologies together with technology partners and that's also why we've announced for example, the new core computing architecture that's in the upcoming EX90.

We also recognize that the customer experience, the user experience in the vehicle, but also in mobile, another medium, is key, which is why we're investing in building this software platform with HaleyTek, so through HaleyTek with ECARX. And also for example, why we've recently announced opening up a software hub in Poland to build a larger competence base for our in-house software development. And our strategy is evolving towards the future of mobility that's powered by computing and software really.

Martha Carter - Teneo - Head of Teneo Governance Advisory

So you're talking about software development, software platforms, integration, it sounds like you're talking about a computer. What do you think about this concept of the car now being really a computer on wheels?

Alwin Bakkenes - Volvo Cars - Head of Software Engineering, Volvo Cars

Yeah, I think that's spot on. So we even call our architecture the core computing architecture. So the core computer on wheels, if you will. And in fact it's not just the computer as such, but it's the combination of compute, software, sensors and data that are really key to create this safe, sustainable and personal user experience. To give you an example of what the computer on wheels will give is, if you think back about the past, we used to have single usage systems in cars. So for example, we would do driver monitoring to support ADAS use cases to detect if you're attentive on the driving task.

Going forwards what we're actually doing is we're leveraging a camera for multiple purposes. So for example, we can use it to create video for a Teams call or a Zoom call like we're having right now, to recognize if occupants are using safety belts or to look whether or not you have left something in the car unintentionally and give you a heads-up on that if you walk out of the car without your wallet for example. And really we believe that consumers will expect and demand more innovation for their cars just like they expect their other consumer devices to stay fresh, we strive to give them a better car every day.

Martha Carter - Teneo - Head of Teneo Governance Advisory

So how do you do that? How do you stay fresh in innovation? How does Volvo really stay on the cutting edge of innovation and then bring that back to ECARX? How does ECARX play a role in all of that?

Alwin Bakkenes - Volvo Cars - Head of Software Engineering, Volvo Cars

Yeah. So providing an innovative experience to customers is partly, of course, what we build in from the beginning. So for example, we have this always on strategy, always connected strategy for our infotainment systems, which is an ambition we share with ECARX. And we provide leading entertainment options such as Spotify, the best navigation data and functionality in the industry with Google Maps and a voice assistant that you can use not just to control functions in your car but also your personal ecosystem like your home automation. But really having a deep understanding of and integrate with the customer's personal digital ecosystem, that's where the key is. And this is where ECARX actually brings a unique perspective on the ecosystems that emerge and this really feeds directly into our common software platform development and it helps us to build better products for the future.

Martha Carter - Teneo - Head of Teneo Governance Advisory

Okay. So let's talk about something you mentioned at the outset, HaleyTek. Joint venture. Help us understand a little bit more about that and what kind of products they're developing.

Alwin Bakkenes - Volvo Cars - Head of Software Engineering, Volvo Cars

Right. So as I mentioned, HaleyTek is a joint venture between Volvo Cars and ECARX, which we started after we did the initial pioneering of Android Automotive and the Google Automotive Services in automotive. And we started it really to develop a common software platform for automotive infotainment that would enable us to deploy the Google Automotive Services, again, Maps, Play Store and the Google Assistant, but also to collaborate around other platform services such as audio management, but even Apple CarPlay for that matter and to be able to deploy that across Geely brands and beyond.

So HaleyTek really is a nimble company, software development company that is really good at maintaining a software platform, sharing that with us and enabling us to build functionality on top and our own bespoke Volvo cars user experience, but also the other Geely brands that build their own experiences on top of this. And as mentioned, ECARX leverages this platform not just for other Geely customers but also beyond. On a personal level, I actually serve as the Chairman of HaleyTek and we are on the board together with Ziyu and the rest of the ECARX team like Pete and we have a really good working relationship in the board of directors, but also on an operational level where really it's a win-win in the relationship because we do efficient development of a software platform that has influences from a global marketplace that make the platform better for both partners.

Martha Carter - Teneo - Head of Teneo Governance Advisory

Okay, good. So let's put this from the perspective of HaleyTek. How do they benefit from the expertise of ECARX and the expertise that you bring to the table with Volvo?

Alwin Bakkenes - Volvo Cars - Head of Software Engineering, Volvo Cars

Right, that's a good question. So if we turn it around and look at it from the HaleyTek perspective, now all of a sudden you have two owners and two owners that have slightly different requirements. We have one car maker that has a personalized user experience at the core of its DNA and we also have a new breed of technology company that is operating in an international marketplace on high-volume B-segment cars and luxury sports cars and everything in between. And this provides HaleyTek with a unique mix of requirements and insights that actually help us develop a software platform that is leading for a global marketplace, so that's really good. And this goes way beyond just normal customer requirements, but really it's a chip-to-cloud benefit for HaleyTek. So to give an example, ECARX, I think they mentioned earlier in the day today that they have very exciting technology roadmaps through their partnerships with SiEngine. Again, a new chip provider in the automotive space and this really helps us to modify the platform, make sure it works on a completely new set of technologies, which is really a great position for HaleyTek to be in.

Martha Carter - Teneo - Head of Teneo Governance Advisory

So the shifts that you're talking about are transformational, very dramatic and that can put pressure on an organization and how an organization functions and there's been a lot of focus obviously on supply chain. So how is supply chain really affected by this shift in demand?

Alwin Bakkenes - Volvo Cars - Head of Software Engineering, Volvo Cars

Yeah, so one of the key terms when talking about the software defined vehicle is hardware, software separation. This is a trend that started in the automotive industry maybe 10, 15 years ago in small scale, but right now it's more a seismic shift. So as we as car makers start to develop software in-house, we also change the requirements we have on our supply base for hardware and it affects them quite profoundly. So we are developing and buying hardware independently from software in many cases, and that has an impact on who we can work with on the supplier side and I think that for most OEMs focus shifts from traditional tier one system suppliers to more novel hardware and technology partners, people that bring IP and are willing to insert that independently of hardware for example. And this is really where ECARX, of course, has a massive opportunity, is a new breed of technology company.

Martha Carter - Teneo - Head of Teneo Governance Advisory

And how about the end user experience? So when we hear about this kind of technologies, some consumers think about automatic driving, parking assist, and there's this issue of safety. When you think about Volvo, the hallmark of Volvo has been really a focus on safety. So let's discuss a little bit about safety and where is that in this software development.

Alwin Bakkenes - Volvo Cars - Head of Software Engineering, Volvo Cars

Yeah, I think as you mentioned, safety is in our DNA as Volvo cars and I think that our vision around safety is one of the most ambitious in the industry. So our aim is that nobody should be killed or seriously injured in a new Volvo and this is something that we are truly relentless about and we call this Towards Zero. So this is why we invest in advanced safety solutions. We call this our Safe Space Technologies which are largely developed in-house.

So we're investing heavily on integration of a very advanced sensor set in our vehicles, both inside with interior radars and cameras and externally, of course, for other ADAS applications such as cameras. We're one of the first companies to equip, for example, our EX90 with lidar as standard. And these technologies really enable us to lead also on safe automation with an example of that again is that the EX90 is shipping with sensors and compute that actually make it AD ready and autonomous driving functionality will be deployed through over-the-air updates after launch. All combined, for us providing a safe experience in our vehicle is key and again, that's where it's really important to work with key partners and build capabilities in-house to develop these core technologies.

Martha Carter - Teneo - Head of Teneo Governance Advisory

Okay and finally, a couple more questions before we wrap. Let's start looking at the future. First of all, what's next in the partnership with ECARX?

Alwin Bakkenes - Volvo Cars - Head of Software Engineering, Volvo Cars

Right. So apart from our partnership with HaleyTek, which is, of course, ongoing since quite a few years, we're also exploring other technologies. So for example, in March of this year, I was actually visiting my team in Shanghai and I had the opportunity to attend the product launch of the new Meizu phones. Meizu is a mobile phone brand in China and they collaborated with ECARX around the Flyme Auto platform and Flyme Auto Link, which is new technology to bring and to bridge consumer devices and personal digital experience in the Chinese marketplace into automotive. And it was very exciting to see how Meizu and the team are thinking about these new technologies, about how to connect these digital ecosystems in emerging markets and how to bring them into automotive. So clearly we are discussing this and other things as opportunities for future collaboration.

Martha Carter - Teneo - Head of Teneo Governance Advisory

And so finally, time to dust off that crystal ball. Everything about this area is so transformational and so fast-paced. So project out, if you can, five years out, 10 years out, what do you see in the future?

Alwin Bakkenes - Volvo Cars - Head of Software Engineering, Volvo Cars

So clearly I don't necessarily have a crystal ball, but I want to focus on the personal digital ecosystems a little bit. So what I think we're seeing is a future where consumers will expect their vehicles to be much more integrated into their personal digital lifestyles. I think we're going to see a rate of change both in the ecosystems that exist externally, so our mobile ecosystems, our services ecosystems as everything gets more integrated. Our home, our energy supply, the way we consume data, the way we can access the information. And I think cars will be integrated in this as well. Cars are not just going to be vehicles that enable you to transport yourself, but they're going to be part of our energy management system. They're going to become batteries in our home energy supply. Of course, we will see new forms of doing transport management, et cetera. So expect smart vehicles to be a much more integrated part of your digital lifestyle.

And I think it's an exciting future that starts with solid and flexible platforms such as the ones that we developed together with ECARX.

Martha Carter - Teneo - Head of Teneo Governance Advisory

Great. Thank you. Thank you so much, Alwin. Great insights.

Alwin Bakkenes - Volvo Cars - Head of Software Engineering, Volvo Cars

Thank you.

Martha Carter - Teneo - Head of Teneo Governance Advisory

It's really a pleasure to have you here remotely today. Thanks again for your time. And now it's my pleasure to turn it over to Ramesh. Thank you.

Ramesh Narasimhan - ECARX – Chief Financial Officer

Thank you, Martha. And thanks to Alwin for sharing some wonderful insights into the future. And good morning everyone. Thanks for joining us today. I hope you found today's presentation to be insightful. And it's been a very exciting time for us since our listing in December. If there's one thing we hope you take away from today's event, it is that ECARX is uniquely positioned to continue to win in this market and be successful. Our product portfolio is aligned with the industry trends that are powering the auto mobility sector, and our operational execution has been strong, evidenced by our 2022 results.

Now, before I get into the projections and forward-looking plants, let me quickly recap the 2022 results. Now, we saw a revenue of $516 million, a year-over-year increase of 28% at constant currency, and largely driven by an increase in the new digital cockpit sales volume and favorable sales mix with higher revenues per unit. Now, alongside the strong top-line performance, we also saw a significantly improved adjusted EBITDA, a loss of a hundred million, coming in well below our projected loss of 162 million for the full year. Now, this gives us even more confidence in meeting our adjusted EBITDA profitability goals by the end of 2024. Our guidance for the current year stands at a revenue of between $700 to $720 million, a 38% constant currency increase at the midpoint. And we remain very confident of being within that range as the demand for our products remain strong.

So that was information that many of you might be very familiar with, but now let me shift gears and focus on our future. Now, this slide should look a bit familiar as Peter introduced many of the elements of the strategy during his presentation, but I'll focus on our objectives and how we will achieve them from a more financial perspective. In the next few slides, I'll dig deeper into each of those elements and highlight some of the key drivers of those objectives and the goals we have set for ourselves. So I hope these objectives are clear from us this morning, driving double-digit revenue growth, focusing on reaching adjusted EBITDA profitability, generating strong free cash flow, and deploying capital in a strategic and disciplined manner.

Now moving on to the next slide. Now, having seen the revenue growth accelerate from 24% for 2021 to 28% for 2022, the midpoint of our guidance for 2023 is at 38%, and we see a further acceleration between 2023 and 2027 where we expect to see a 40% CAGR to achieve between 2.6 billion to 2.8 billion revenue in 2027. Now, what supports our ambitions are the macro trends that you've heard this morning, feedback from our customers on our new product range, and our own efforts to diversify our revenue base, including our ambition to gain the top five global OEMs as customers. And more on this shortly.

Last year, 56% of our revenue came from Geely auto brands, with a further 11% from brands within the Geely ecosystem such as Lotus, Polestar and Volvo. Now looking ahead, given our plans to expand relationships with other OEMs, we see the revenue from Geely auto brands contributing to about 33%, and revenue from other ecosystem brands increasing to a fifth over the same timeframe. Third party brands are expected to contribute almost half our revenue by 2027, up from a third last year.

Now, on the right-hand side of the slide, we look at the geographic origin of our revenue. The percentage revenue from our new markets is expected to double over the next five years. And in dollar terms that represents an 11 times increase from last year's level. New markets represent the car sales outside of China of both global and Chinese OEMs. Now of note, we feel it is better to look at revenue by customer type rather than by region, as our OEM partners are the ones who ultimately decide on the country of deployment for specific vehicle models.

Now, another critical component of our revenue growth is content per car. As we roll out more sophisticated products which more than mitigates standard industry practice of legacy technology falling in price over time. Now, as you heard from Peter earlier this morning, central computing platforms enable OEMs to vastly simplify their car architecture, saving time and cost while attracting premium pricing and allowing our OEM partners to introduce recurring revenue streams. As a result of these factors and our continued innovation to stay ahead of the technology curve, we expect our content per car to increase from about $360 to $380 last year, to approximately $630 to $650 per car by 2027. Key to achieving this estimate will be the increased adoption of the products you heard about today, specifically the Antora series, the Macau, and the Super Brain in addition to our continued development of technology that meets the ever-evolving needs of our current and future customers.

Next, let's discuss our adjusted EBIDTA performance and our pathway to profitability. We expect positive adjusted EBIDTA for 2024 due to our proactive management of operational costs and the quality of revenue streams to date. Given our strong top-line growth, adjusted EBIDTA will scale rapidly, reaching 340 to $360 million in 2027 and achieving a mid-teen margin. Apart from revenue growth, this will be driven by control of costs and discipline and strategic capital allocation, which I'll discuss in greater detail on the next slide. Our key principles for capital allocation are shown on the screen. At ECARX, we have capital light business model, working with partners both for development of technology and for manufacturing of hardware. This important element allows us to play a fence and continue to invest back in our business to enhance and further differentiate our product portfolio.

Now looking ahead, our priority remains continuing to maintain our strong financial position and maximizing the long-term cash flow generated by our business. The largest area of spend for us is R&D, representing 70% of our headcount, where we will continue to invest to stay ahead of

the technology curve and ensure our product range remains competitive. While our focus is very much on organic growth to drive our proven growth strategy, we are not ruling out M&A to accelerate growth or diversification of revenue or customers. We will carefully evaluate all options that add value and fit our mission.

Now, pulling these objectives together, we have set ourselves clear long-term goals which we will work tirelessly against. We have the right people and the right processes in place to continue to expand our scale and reach, giving us confidence to achieve our goals. These are led by revenue growth of 40% CAGR over the medium term, achieving a gross margin above 30% by 2027, and adjusted EBIDTA margin in the mid-teens. By 2027, content per car will have increased to around 630 to $650, and we would expect by then to have seen our technology installed into more than 20 million vehicles on the road across the world. Now finally, we expect to generate $300 million of free cash flow in 2027.

To wrap up, I wanted to summarize the topics I've discussed. We will continue to focus on sustainable profitable growth while diversifying our revenue streams across customers and geographies and also across suppliers to mitigate against any pressures. R&D investments will continue to remain top of our mind as our teams continue to innovate and further differentiate our product suite. And lastly, we will maintain discipline, cost management and capital allocation, focusing on returning value to our shareholders. Now, thank you all. And let me now invite Ziyu back for his closing remarks before we open the door for questions. Thank you.

Ziyu Shen - ECARX - Co-Founder, Chairman, Chief Executive Officer

Okay. So I will welcome back our executive team to the stage to join me for our Q&A session. And I believe so Peter, John Marcus, and Ramesh presentation already very clear to tell our vision, product and strategy. And right now, Q&A session, we are very looking forward with the expertise here and the guest here, we can very open discussion and to share opinion together. Okay?

Karolis Stavinskas - ECARX - Investor Relations

Hi, Karolis again. So now we will open it up to questions from the room as well as some from the online audience. So for the benefit of those on the webcast, please state your name and institution before your question. And we'll got a couple of microphones in circulation so just raise your hand.

Jared Maymon - Berenberg - Analyst

Thank you. Morning guys. Jared Maymon from Berenberg Capital Markets. First question I had, I was just hoping we could talk about the opportunity ex-Geely. Sounds like you're expecting 2027, about 50%, a little bit less of your revenue could be coming from ex-Geely and Geely ecosystem brands. Obviously, that's great news. So I'm curious here, it seems like you guys have had a lot of commercial success in Asia and that's moving to Europe, but you're also building the innovation center in the US. And I know the companies you've been working with, the OEMs, they appreciate the time to market, they appreciate the innovative nature or innovative culture that you guys have. I think the North American OEMs, especially the big three, have historically

been a little bit more risk averse. They take their time with things like testing and validation and they use more traditional suppliers. So I'm curious what you think your opportunity with those North American OEMs looks like and if that's part of your 2027 projections, or you think you can go without them.

Peter Cirino - ECARX - Chief Operating Officer

So Jared, maybe I'll start and then I'm sure Ziyu or Ramesh may add. But thank you for the question. As we look at our customer expansion, diversification across geographies and customers is certainly critical to our strategy. So you look inside the China market, we've got a fantastic capability. We've recently announced a partnership with Hongqi to move our technology onto their brands. And we're in active conversations with a number of OEMs in that market to continue to grow our business. I believe we've said in the past about 20% of our revenue came in that environment in historical periods.

As we look forward, we started our international expansion in the late 2020, early '21 time horizon with the first engineering center that we put in Sweden. Today, between HaleyTek and the ECARX employees that are there, we have close to 300 software engineers that are building software for international vehicles. This year, we mentioned we have opened a center here in North America and continue to expand our engineering capabilities throughout Europe. So international growth is a big focus of the business. John is building a world-class team that I think will help us continue to collaborate deeply with new OEMs that value technology. Inside of the European market, we're having conversations with three very significant car makers about collaborating with them on taking ECARX technology to market. And we're very, very confident we'll continue to grow those capabilities and those partnerships.

As we look at the market, the digital cockpit and the core computer, they tend to follow the EV adoption around the world. It's not exclusive to those electric vehicles, but it's just a general trend in the industry of where makers choose to put those investment dollars in that technology. So I think we'll see that as we increase the adoption of our technology with new customers. So I think we'll continue to expand very aggressively in China. I think Europe will be logically the next market where we'll see more and more ECARX technology on vehicles. We launched a vehicle in 2022 that's European based and will continue to grow there. And then I think that the US market will come third. I don't see it as a technology averse situation. I see it more of just where those types of vehicles are being deployed throughout the marketplace. I don't know if Ziyu want to add anything to that.

Ziyu Shen - ECARX - Co-Founder, Chairman, Chief Executive Officer

Yeah, so I just maybe simplify the... So because we already had a very strong, successful story in China market first, also we started the production reference in global market last year, so we already had a very strong reference in the market. So that's why we have confidence to convince or to provide the best solution to global OEMs.

Jared Maymon - Berenberg - Analyst

Thank you.

George Gianarikas – Canaccord Genuity - Analyst

Hi, this George Gianarikas from Canaccord Genuity. Thanks for taking my question. Just two questions. First on the SiEngine platform, I was wondering if you can share any more detail about the development there and whether or not that platform can sell into outside ECARX solutions over time. And second, you mentioned something about Super Brain that there were 15% software licensing cost reductions. I'm curious as to how you're achieving that exactly. Thank you.

Ziyu Shen - ECARX - Co-Founder, Chairman, Chief Executive Officer

Yeah, maybe I'll answer the questions. So the first one does the SiEngine platform that we build a joint venture under my presentation. So in 2018, we spent 30 months, 36 months, we finished SOC R&D and tape out successfully in TSMC 7 nanometer. So we do believe this platform is very big differentiating in the market. So we are providing very vertical integration from processor and architecture and software together. So we are providing very unique solution, including our architecture like semiconductor, the safe island, physical functional safety insight. Also, we are also providing very strong CPU and GPU together, and also including AI platform inside together. Of course, all the DSP also embedded together. So that's why we are providing very integrated SOC on that and can reduce a lot of cost around the compute. So that's very strong vertical integration, including our software-Cloudpeak, and end to end including virtualization and our top software and features, end to end, one-stop solution to reduce OEM cost for integration. So that's the answer for your first question.

The second one, that's Super Brain. So Super Brain is a computing system SiEngine chip plus one AI accelerator chip. So we can provide like Black Sesame, even TI, whatever the AI chip different, but we provide a Super Brain computer that's based on SiEngine chip because they are super strong SoC, I just introduced, but plus very strong accelerator together. Then we can reduce the cost that because of one platform, one PCB, and the one software stack and the including functional safety together. We don't need a third party software license on the top and also engage with different stakeholder and the two for integration. We just provide the platform, one PCB and the two SoC and together. So very similar like some competitor, they offering, announced a similar solution in CS this year. So that's very similar. And also, we can reduce the harness and connector and all the surrounding third party chip or software together because we fully integrate on Super Brain. Yeah, so that's answer of your second question.

Suji Desilva - ROTH Capital - Analyst

Thank you. Hi, Suji Desilva, Roth Capital. Thanks for the presentations this morning. So the numbers you gave for per car content, the 300 going to 650, what's the total dollars being spent on the central compute and what percent of that are you assuming you have? And this notion of domain versus zonal controller, is that architecture? I don't understand how you guys fit into that architecture.

Ziyu Shen - ECARX - Co-Founder, Chairman, Chief Executive Officer

Yeah, so good question. So actually, in my presentation, I presented two pictures, legacy and future architecture. To be honest, I think in the legacy, so 40% BOM cost of a vehicle are from E/E components, but E/E components almost like hundred boxes over the there and maybe more than 30 different tier one working together for this kind of BOM integration. But the future, if we go central compute system, so I think from ECU numbers perspective, because we have super computer and we very strongly to reduce numbers of ECU on architecture, almost maybe reduced 30, even 40, even Like Tesla Model 3, just 34 boxes over there. And most of them is execution country unit, not compute. And the computer just be one or two over there. So that maybe the value chain changed.

So legacy, like I just said, one in 30 or 35 different tier one to offer that, and this one maybe just five to six different tier one, including some big tech giant like SOC provider and SOC vendor, because think about that, SOC, we call system on chip. So it's already a system over there, they're just on chip. So that's why system on chip, SOC vendor will provide the most valuable on computer system. So that's why the value chain completely changed. Just five to six or seven suppliers and finish all works for OEMs. And OEM also have very big space, can customize software features with their differentiation together. So that's the case. So I'm not sure if the answer to your question or not.

Suji Desilva - ROTH Capital - Analyst

That was very helpful. Thanks.

Ziyu Shen - ECARX - Co-Founder, Chairman, Chief Executive Officer

Thank you.

Suji Desilva - ROTH Capital - Analyst

And then another question on the smartphone use in the car. The MEIZU Flyme Auto sounds very interesting. Would that preclude or would there be potential for other auto smartphone OEMs to collaborate with you and be available in a similar manner in the car?

Ziyu Shen - ECARX - Co-Founder, Chairman, Chief Executive Officer

So this area actually is very typical HMI more interaction software because in the vehicle, my architecture, we understand that we have two software. One is base software of vehicle that's including functional safety, communication, and typical automotive software. Another software is very typical for HMI and user experience Android base, typically. So this one, that's the smartphone company has very strong capability over there because think about that, our smartphone, every day you spend more than five hours, six hours for interaction, and 24 by seven, no shut down and no power off. And you have to keep going maybe couple weeks and still the system very smooth, very strong. So that's very strong software capability behind that.

That's why smartphone company software is very stronger from HMI and application et cetera, et cetera. So that's why we work very close exclusivity partnership with MEIZU and with Flyme Auto software together to guarantee the same user experience from smartphone and the car

together. And we can also guarantee the performance and also for the application working session together. So that's our vision. So that's why very differentiation here that we can collaborate very strong software team in smartphone area and also, we build a very strong automotive base software team here, working together. So that's very unique in the market from our perspective.

Navin Gupta - Oppenheimer & Co – Executive Director, Mobility Technology Investment Banking

Hi there. Navin Gupta, Oppenheimer. So you showed a revenue projection through 2027, which is very impressive, 40% growth. Could you talk a little bit about your revenue visibility? For example, do you have awarded programs right now through the next three or four years because I believe you probably have to get specked in right now for the life of the program? And so just be curious to hear a little bit more about the revenue visibility just to better understand that aspect.

Peter Cirino - ECARX - Chief Operating Officer

Yeah, maybe I'll take that one. Thanks for the question. Obviously, we operate in an automotive environment, so vehicles have a lifecycle to them and a development path. So certainly when we look across our business, we've got a solid revenue pipeline. As we go forward, depending on market, we can have revenue pipelines that extend as short as 12 to 18 months and sometimes it's three to four years from sourcing to revenue to peak volume. So that's very typical for the industry and I think that's typical for what we have. When we look at our revenue growth, there's I think some very key aspects to that. Certainly it's additional penetration.

As we continue to diversify our customer base, we see strong growth in the China market as we bring these capabilities to additional vehicles and additional customers as well as growing relationships that we have beyond the China market with the number of OEMs. It's a key element for us. And then we mentioned the significant cost per vehicle increase that we anticipate. As these systems become more and more complex, as there's deeper software, as there's tighter collaborations with the customer base, we'll continue to see those trends drive up that cost per vehicle. So it's both customer diversification story and increase in our CPV that will allow us to achieve that significant revenue growth.

Ramesh Narasimhan - ECARX – Chief Financial Officer

And also, if I can add, I think in one of the early slides we said, the TAM grows from 260, 270 billion to 470 billion. There's a industry growth and then there's new products coming in, and then there's diversification of customers. So all of those contribute to the revenue growth.

Ziyu Shen - ECARX - Co-Founder, Chairman, Chief Executive Officer

And also, I think a little bit is add. So you understand that automotive business always very early designing and very design-in and design-win, and a very sustainable order process, very long years. So that 2027 forecast, I think maybe '25, '26, actually we already had a very strong pipeline over there because the program already started. And also, three years ago, we decided on any joint investment on EV. That's the very right decision. So that's why we already got a very

successful first earning call. Everybody see that. Also, we will go to second earning call very soon. So we have confidence we can keep on track and make sure all data accurate in next two and three years.

Derek Soderberg - Cantor Fitzgerald - Analyst

Yeah. Hey guys, this is Derek Soderberg from Cantor Fitzgerald. You guys talked about pursuing the largest automotive OEMs. I'm just curious what they're asking for through your conversations with them. What's it going to take to sign on those large OEMs and do they want to see you guys in the market for longer? Do they want to see some progress on the product roadmap? Can you talk about what it's going to take to sign those guys?

Peter Cirino - ECARX - Chief Operating Officer

Yeah, sure. Derek, thank you for the question. I think we expressed our value very clearly today. It is bringing a disruptive technology into this industry. When you look at the way we approach the market, one of our key relationships is obviously with the Geely Auto Group. We've got a fantastic relationship with that team and we truly are there at vehicle birth. We're talking with them and our team is talking about what products onto what cars, into what architecture and how we can push very competitive, impressive products like the Makalu system into the market and demonstrate that capability. And that's one of the key advantages we have when we go talk to new customers is that we're talking about products which are in vehicle, which have history and we can demonstrate in the car, not in a proof of concept, not on a PowerPoint slide, but in vehicle and very much allow those customers to touch and feel those experiences.

So we think our capabilities and on our product roadmap is not only well aligned with the industry, but in some cases, pushing the technology. It's a very powerful computer base that we bring into the car through our partners, through SiEngine as a joint venture, is a key element of the strategy. It's software that's deeply integrated. The partners that we work with very much allow us to do a deep integration of the software layers so we're maximizing the power of the vehicle and the experience that that brings to the customer. And then it's the ability to collaborate with car makers. This market and this technology space is one of the most exciting ones that I've worked in because we've truly build a collaboration. You've heard Alvin today talking about how we're doing that with Volvo in a creative, very nimble environment and bringing a technology with them into future vehicles. And it's not just Volvo that we work with in that way. We have a lot of unique relationships with customers that will help us to continue to bring that innovative roadmap into their vehicles.

George Gianarikas – Canaccord Genuity - Analyst

This is George Gianarikas from Canaccord Genuity again. Just two questions. First, you mentioned M&A opportunities and I wonder if you could share with us broadly what you're interested in pursuing there. And then second, there's been some incredibly well publicized EV demand turbulence in China and I was wondering if you could help us understand any impact you're seeing from that. Thank you.

Ramesh Narasimhan - ECARX – Chief Financial Officer

All right, maybe let me take that question. Firstly, in terms of M&A, I want to make it very clear that today's forecast is all based on organic growth in terms of our product introductions, diversification of customer and content per car. So all of that, the 2.6 to 2.8 billion we believe is organic growth. Now, as I mentioned earlier, we are very open to M&A and basically, where it compliments what we are doing today, where it helps us to accelerate our growth, where it helps us to diversify our customer base, those are a very interesting opportunities for us to look at. But of course, that depends on whether the business case works, cultural fit, all of those factors are critical in evaluating those opportunities. But yes, we are open to M&A and it needs to be in that criteria. To answer your second question, it was a content per car you were asking?

George Gianarikas – Canaccord Genuity - Analyst

It was more about the demand environment in China of EVs.

Ramesh Narasimhan - ECARX – Chief Financial Officer

Oh, yeah. Okay. If you look at our forecast, we have maintained the margin at 30%. We're certainly seeing the macroeconomic environment now. There's a lot of pricing pressure on some of the large OEMs in the EV market and we have seen their reactions recently and the actions that they've taken. So what we have done in our forecast is, while we think that the margin opportunities are higher, we've taken a very conservative view and kept it at 30%, assuming there'll be pricing pressure that'll be pushed onto the suppliers. So that's the assumption that we have made in terms of our forecast.

Ziyu Shen - ECARX - Co-Founder, Chairman, Chief Executive Officer

Yeah. And also by the way, we have a very big opportunity, but I just answered question to that gentleman that because our central computer system make the scope bigger and bigger. So you guys can maybe take a look, our finance bank report, our per-unit price every year is increasing because our capability of computer and software features will be generation by generation, bigger and bigger. So that means our per unit price next three and five years still going very fast and to secure our gross margin growing and keep same percentage over there. And also, we reduce cost to OEM to save a lot of energy on stakeholder integration.

Peter Cirino - ECARX - Chief Operating Officer

And then one thing I would add to my colleagues here, China has been the most dynamic automotive market you could say for probably 15 years minimum, maybe longer than that. And the company has been very successful, very nimble, making sure we're focused on delivering the right trends, high value customers. And I think we will continue to do that on a go forward basis. So I think we're quite excited about the opportunities that the China market creates for us. I talked about leading in the leading market and since we bring technology to vehicles so quickly in that market, as I said, it enables us to go talk with other partners about real vehicles that are demonstrating the capability in the market and how we can bring those technologies to other cars. So I think we're excited about what we see in the market there.

Ziyu Shen - ECARX - Co-Founder, Chairman, Chief Executive Officer

Yeah.

Justin Martos - Cantor Fitgerald – TMT Desk Strategist

Justin Martos, Cantor Fitzgerald. In terms of the competition, who do you see as your biggest external competition when you go to win design wins? Obviously there's Aptiv, have their own engineering design teams, but who do you see as your biggest external competitors?

Ziyu Shen - ECARX - Co-Founder, Chairman, Chief Executive Officer

Okay. So from competitor point view, I think to us, so we are very, very only focused on computer system because other competitors, they have a lot of portfolio, a lot of portfolio. So even SoC vendor, they have a cloud computing, gaming and own model. Even like Aptiv, a traditional tier one, they have body and chassis sprig system, a lot of things. But we very, very around computer system only, including software and hardware together. And also, we keep going to go ASIC SOC at the very bottom level, the technology, to try to vertical integration to give very big differentiation to customer. So that's what we are doing. Also, we are not a typical SOC vendor because we do believe the system together is very competitive to OEM to reduce their integration cost. Because I had a couple experience before with OEMs, so you always spend maybe 11 different stakeholder and the six different time zone and you want to try to working together for one program that's usually extremely cost high. So we want to fix that for OEM. Yeah.

Karolis Stavinskas - ECARX - Investor Relations

Okay. We also want to sprinkle in some of the questions that we've been receiving off of the webcast. So the first one maybe to you Peter and Ziyu, the Wall Street Journal had an article about ECARX and Unreal Engine today talking about the partnership. Can you give a few more details about that and what that means for you?

Peter Cirino - ECARX - Chief Operating Officer

Sure. We presented today and we all went into depth about the Makalu system that we're able to bring to vehicles and Unreal brings additional capability into that system. If you look at that system, it has about twice the computing horsepower of what a leading edge vehicle has today and a substantial step up over what we see in other roadmaps as well. And that enables us to bring an immersive 3D environment, which is Unreal is critical too. We see them as a leading partner and we bring that environment into the vehicle.

So having that immersive 3D environment, it means that the UI UX is completely built in 3D, rendered in 3D, allows you to manipulate it in 3D. The things you get from that as a driver of the car is a very intuitive way to interact with the infotainment system, very customizable so you can make it personal and make it what you want to see as an owner of that vehicle. It enables us to improve the visualization of things like navigation and eventually, when there's autonomous inside the car so that the user of the vehicle may not be a driver anymore, but the user then can

accurately see what's going on as the computer makes those driving decisions, it enables us to bring 3D gaming into the car and work with the OEM on how they implement reoccurring revenue streams inside their vehicle. So I think the power of that platform is going to bring some very unique technologies into the car in a very fast way.

Karolis Stavinskas - ECARX - Investor Relations

Great. The next one, what is a product that you think will drive majority of the growth going into 2024 plans towards profitability? Ramesh, maybe that one over to you.

Ramesh Narasimhan - ECARX – Chief Financial Officer

Sure. So rather than talking about product, let me talk about the factors that will help us to get to the 2024 profitability. As we have said earlier, we're pretty upbeat about the market and the time growth. I think that will help us continue our growth factor. We said previously that the CAGR is about 40% over the next five years. That's going to be a very critical factor for us.

We have some very exciting products that's going to go into the market this year. And also, we have announced, Peter mentioned earlier about FAW partnership, the strategic agreement that we have signed with them. So we are getting new customers that will also help us to drive our growth. But unless I forget that, as I mentioned in my presentation, we are laser focused on making sure that we remain lean from a cost perspective. We will not compromise R&D investment, but we are very, very focused on our fixed costs and you saw that result in 2022, we came in $62 million better than our forecast and we are very, very confident that we will continue on that trajectory towards 2024 profitability.

Karolis Stavinskas - ECARX - Investor Relations

Great. Next one, what are the main factors leading to the near two times growth you're forecasting in content per car? How will your pricing compare to competition and will all of your products be positioned as premium offerings?

Ziyu Shen - ECARX - Co-Founder, Chairman, Chief Executive Officer

I think I already just answer this question, right? Yeah.

Karolis Stavinskas - ECARX - Investor Relations

Anything to add around content per car, Ramesh from your perspective maybe?

Ramesh Narasimhan - ECARX – Chief Financial Officer

Yeah. As we said, content per car goes up by 1.7 times and if we peel back the factors that are driving it, we certainly have new products coming in, Makalu, Antora, Central Super Brain, all of that with additional functionalities that is required for future. I think that's a very, very key factor that is driving the content per car. And because we are vertically integrated, it's a very

cost-efficient solution with those additional features. And we shouldn't forget that. We shouldn't forget that because of that vertically integrated, it enables us to offer something that the OEM is looking for in a much simpler, more efficient way to deliver and at the speed that they need. This market is transforming itself very rapidly and because of the advantage that we have, we are able to transform or deliver what the OEM requires for that transformation. So all of that helps us in terms of the content per car.

Karolis Stavinskas - ECARX - Investor Relations

Okay. Another one we have is, given China's EV makers vying for self-developed full stack solutions, what is your observation on OEMs? Are they happy to accept full stack solutions by ECARX? What differentiates ECARX from OEM self-developed solutions?

Ziyu Shen - ECARX - Co-Founder, Chairman, Chief Executive Officer

Yeah, I can answer that. Yeah, so everybody talking about China OEM in-house strategy, but actually, you will easily find every Chinese OEM in-house strategy around Qualcomm and NVIDIA platform. So they only in house like middleware and HMI and feature level only. And they still need a collaborator with AUTOSAR and QNX, Blackberry, et cetera, et cetera, even [inaudible 02:10:02] whatever.

So ECARX' position, I want to say again, so we are vertical integration solution, also very typically like foundation of smart car. So we provide a SOC platform, hardware and low level software Cloudpeak including functional safety, et cetera, et cetera. So you don't need wasting time with a lot of stakeholders together for one platform. So also you can in-house your software feature label on our platform on top. And also, you can directly use Flyme Auto system from cockpit perspective. Also, you can use third party perception for ADAS is fine. But we are providing the foundation to you and the standard and we want to provide as much as possible in the volume with a couple more different OEMs. So that's our strategy. So I don't think any competition or conflicts in this area we are enable and accelerate Chinese OEM, even global OEM faster development. Yeah.

Karolis Stavinskas - ECARX - Investor Relations

Okay.

Justin Martos - Cantor Fitgerald – TMT Desk Strategist

Justin Martos Cantor. Just on the cost controls, you did well in the last quarter. Where do you see the ability to still wrench cost out of the system? Is it just rationalization of personnel as you've done a lot of investment in the previous couple years? How do you see that... I know revenue growth is up and to the right, but what else is going on in the cost thing behind the revenue line that we can understand, see what happens when you grow the EBITDA?

Ramesh Narasimhan - ECARX – Chief Financial Officer

Yeah. So let me talk about the factors or the points that we are using to make sure that the costs are controlled. One is automation and then the company's five years old. So there are a lot of things that were done in a particular way. We see a lot of opportunity in automation and we have started that journey already and we think we're going to continue to keep doing that in robotic process automation. Those type of opportunities were already identified and we are executing that plan. The second is, we have a number of systems that are integrated together. We are on a war path in terms of simplifying the systems and ensuring that the speed at which the data is available for us to make decisions and also the quality of information that's available. We're certainly working on that. And third is, as we grow the volume, it gives us also the ability to start negotiating from our supply chain to get better value for the end customers. So those are some of the high level cost opportunities that we keep working on.

Peter Cirino - ECARX - Chief Operating Officer

Yeah. Let me just add a few points. Core to the company's technology strategy that we talked about today I think is, one of our capabilities to continue to leverage our cost in an effective way. As you talk very much about platforming and we're building platforms that we can bring to OEMs and deliver solutions and we talked about that with the partnership with Volvo as well. So very focused on a platforming strategy from a technology perspective and then our technology ecosystem, we do development not only in our capabilities but with very leading partners that enables us to be cost-effective in that environment as well and bringing great capabilities into the car. So I think it's one, as Ramen talked about, running the company more efficiently in a number of different ways, but also, being very smart in the way we invest, ensure there's a lot of reuse and ensure that we're in the way that we're bringing great capabilities in the car, we do that with the best capabilities of our ecosystem.

Suji Desilva - ROTH Capital - Analyst

Thanks. Hi, Suji DaSilva again, Roth MKM. The Antora, Makalu and Super Brain products, I'm curious, are any of those the first product that a customer might start with or does it start with Antora and then build up to the other two products? Just understanding the first point of contact with the customer?

Peter Cirino - ECARX - Chief Operating Officer

So, in terms of how we take these technologies to vehicles is very much on what the car maker wants. We have a suite of products that provides different level solutions and we have customers that are launching within to our pro. We have OEMs that are launching with the Makalu product and others that we're looking with just the Antora product. I think you can look at that as a good, better, best type of solution as we bring those capabilities into the vehicle.

Ramesh Narasimhan - ECARX – Chief Financial Officer

If I can just add, it really comes down Suji to the product positioning by the OEM, right? That's the critical factor. That's the driving factor in terms of what technology they adopt from us.

Karolis Stavinskas - ECARX - Investor Relations

Okay. Another one from the webcast. I notice that your adjusted EBITDA for the full year 2022 came in significantly better than the company's projections. Curious to hear what drove that and whether you'll be adjusting the estimates for FY '23 and adjusted EBITDA profitability by the end of '24?

Ramesh Narasimhan - ECARX – Chief Financial Officer

No. I think we have mentioned this previously. I think from a revenue perspective for 2022, we came in very, very close to our forecast and from a cost perspective, as we said, we were very efficient, we were extremely focused on making sure that we take the waste out of the system and get very lean and that helped us to get to the profit results that was $62 million better than what we had forecasted. It was based on that where we gave the revenue guidance for 2023. So we said we will get to 700 to 720 million this year and we're very, very confident that based on what we are seeing, that we will get to a positive adjusted EBITDA in 2024.

Ziyu Shen - ECARX - Co-Founder, Chairman, Chief Executive Officer

Yeah. And also, I think meanwhile even 2022 we got a very big pain from pandemic and shortage, but we still got very success because main reason, I say at the beginning, we decided EV, all in EV three years ago and the last year, everybody know that in China market EV is growing extremely faster and give us very significant contribution on finance area. That's very clear. And also meanwhile this year and the next year, our pipeline quite solid and also including our global expansion. So we do have very strong confidence for future as well. Yeah.

Karolis Stavinskas - ECARX - Investor Relations

Okay. One other one. It is clear that faster EV penetration is positive for the business in terms of margins, returns and growth, but many of your OEM's customers will likely lose money in this segment for some time. How do you reconcile this problem if EV penetration is slower than expected, is that adverse to ECARX achieving its targets?

Peter Cirino - ECARX - Chief Operating Officer

Yeah, it's also a great question. I think EVs are growing massively. That's a trend in the industry. So especially I think a number of our partners in China are very successful with the EV growth and they're expanding the markets on a global scale as well with those products. So that trend will continue to give tailwinds to the business. There is a environment now where there could be some more cost competitiveness. There's a leading global OEM who's very aggressive on the price side that is certainly putting pressure in the business or in the industry. But we're working with some of the best partners and we think their products will continue to be very successful in the marketplace. We have given our integrated technology stack, we have a very competitive offering and we're pretty excited to operate in that environment because we think we've got a compelling solution that brings great technology to the car, cost-effective development and a very cost-effective product in the end. And we think those strengths are going to serve us very well in a competitive environment.

Ramesh Narasimhan - ECARX – Chief Financial Officer

And if I can add, as mentioned by Ziyu and Peter earlier, this actually enables OEMs to drive cost reductions in their vehicles. So it is actually a win-win. So we expect that collaboration to work very strongly.

Navin Gupta - Oppenheimer & Co – Executive Director, Mobility Technology Investment Banking

Navin Gupta with Oppenheimer. Can you talk a little bit about your partnership with Luminar and does that preclude you from working with other LIDAR players or other sensor suppliers in general?

Ziyu Shen - ECARX - Co-Founder, Chairman, Chief Executive Officer

Okay. So let me give you more insight over there. The first one, so our company portfolio very focused on computer system, so that's why we not any sensor portfolio in our company, but sensor is very important for smart EV, for sure. So that's why we need a very strong and close strategic partner to working together to make the feature end to end process very well. So that's why Luminar is a very important partner with us because their LIDAR technology is very strong, advanced and leading in the market because they are super differentiation. Yes, of course it also vertical integration from the sensor and semiconductor ASIC end to end and also, their products is very strong in long range LIDAR sensor and dictation capability.

Can accelerate a lot of features on a computer working together. So that's very unique. Even China, yes, we have a lot of famous LIDAR company as well, but they only short range, not very long range because they are working like 905 nanometer, the LIDAR. So that's not very strong use case in European, in the US market because ECARX is going to international expansion. We need to consider the worldwide coverage. Yeah. So that's why Lumina is very important partner to make our computer system to be very different feature deployment integration for OEMs. Yeah.

Karolis Stavinskas - ECARX - Investor Relations

Okay. So thank you everyone for the questions. This does conclude today's agenda. So thank you all for joining both in person on the webcast. We appreciate you spending time to get to know more about ECARX. And for those in the room with us this morning, we'll invite you to join us in the demo area to my left to see the products yourselves and to those on the webcast. Have a great day.