

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 8-K

**CURRENT REPORT
PURSUANT TO SECTION 13 OR 15(D)
OF THE SECURITIES EXCHANGE ACT OF 1934**

Date of Report (Date of earliest event reported): October 7, 2020

GORES METROPOULOS, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

001-38791
(Commission
File Number)

83-1804317
(I.R.S. Employer
Identification No.)

9800 Wilshire Blvd.
Beverly Hills, CA
(Address of principal executive offices)

90212
(Zip Code)

(310) 209-3010
(Registrant's telephone number, including area code)

Not Applicable
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communication pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencements communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbols	Name of each exchange on which registered
Class A Common Stock	GMHI	Nasdaq Capital Market
Warrants	GMHIW	Nasdaq Capital Market
Units	GMHIU	Nasdaq Capital Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 8.01 Other Events.

On October 7, 2020, Luminar Technologies, Inc. ("Luminar") posted an investor presentation on its website in connection with the proposed business combination between Gores Metropoulos, Inc. (the "Company") and Luminar. The transcript from such investor presentation is attached hereto as Exhibit 99.1 and incorporated by reference herein.

Additional Information about the Transactions and Where to Find It

The Company has filed with the SEC a registration statement on Form S-4 (the "Registration Statement") that includes a preliminary proxy statement, consent solicitation statement and prospectus with respect to the Company's securities to be issued in connection with the proposed transactions contemplated by the Merger Agreement that also constitutes a preliminary prospectus of the Company and will mail a definitive proxy statement/consent solicitation statement/prospectus and other relevant documents to its stockholders. The Registration Statement is not yet effective. The Registration Statement, including the proxy statement/consent solicitation statement/prospectus contained therein, when it is declared effective by the SEC, will contain important information about the proposed transactions contemplated by the Merger Agreement and the other matters to be voted upon at a meeting of the Company's stockholders to be held to approve the proposed transactions contemplated by the Merger Agreement and other matters (the "Special Meeting") and is not intended to provide the basis for any investment decision or any other decision in respect of such matters. **Company stockholders and other interested persons are advised to read, when available, the Registration Statement and the proxy statement/consent solicitation statement/prospectus, as well as any amendments or supplements thereto, because they contain or will contain important information about the proposed transactions. When available, the definitive proxy statement/consent solicitation statement/prospectus will be mailed to Company stockholders as of a record date to be established for voting on the proposed transactions contemplated by the Merger Agreement and the other matters to be voted upon at the Special Meeting. Company stockholders will also be able to obtain copies of the definitive proxy statement/consent solicitation statement/prospectus, without charge, once available, at the SEC's website at www.sec.gov or by directing a request to: Gores Metropoulos, Inc., 9800 Wilshire Boulevard, Beverly Hills, CA 90212, attention: Jennifer Kwon Chou (email: jchou@gores.com).**

Participants in Solicitation

The Company and its directors and officers may be deemed participants in the solicitation of proxies of Company stockholders in connection with the proposed transactions. **Company stockholders and other interested persons may obtain, without charge, more detailed information regarding the directors and officers of the Company in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2019, which was filed with the SEC on March 13, 2020. Information regarding the persons who may, under SEC rules, be deemed participants in the solicitation of proxies to Company stockholders in connection with the proposed transactions contemplated by the Merger Agreement and other matters to be voted upon at the Special Meeting is set forth in the preliminary joint proxy statement/consent solicitation statement/prospectus and will be set forth in the definitive proxy statement/consent solicitation statement/prospectus for the proposed transactions when available.** Additional information regarding the interests of participants in the solicitation of proxies in connection with the proposed transactions is included in the Registration Statement.

Forward Looking Statements

This communication may contain a number of "forward-looking statements" as defined in the Private Securities Litigation Reform Act of 1995. Forward-looking statements include information concerning the Company's or Luminar's possible or assumed future results of operations, business strategies, debt levels, competitive position, industry environment, potential growth opportunities and the effects of regulation, including whether this transaction will generate returns for stockholders. These forward-looking statements are based on the Company's or Luminar's management's current expectations, estimates, projections and beliefs, as well as a number of assumptions concerning future events. When used in this press release, the words "estimates," "projected," "expects," "anticipates," "forecasts," "plans," "intends," "believes," "seeks," "may," "will," "should," "future," "propose" and variations of these words or similar expressions (or the negative versions of such words or expressions) are intended to identify forward-looking statements.

These forward-looking statements are not guarantees of future performance, conditions or results, and involve a number of known and unknown risks, uncertainties, assumptions and other important factors, many of which are outside the Company's or Luminar's management's control, that could cause actual results to differ materially from the results discussed in the forward-looking statements. These risks, uncertainties, assumptions and other important factors include, but are not limited to: (a) the occurrence of any event, change or other circumstances that could give rise to the termination of the Merger Agreement and the proposed transactions contemplated thereby; (b) the inability to complete the transactions contemplated by the Merger Agreement due to the failure to obtain approval of the stockholders of the Company or other conditions to closing in the Merger Agreement; (c) the ability to meet Nasdaq's listing standards following the consummation of the transactions contemplated by the Merger Agreement; (d) the risk that the proposed transactions disrupt current plans and operations of Luminar or its subsidiaries as a result of the announcement and consummation of the transactions described herein; (e) the ability to recognize the anticipated benefits of the proposed transactions, which may be affected by, among other things, competition, the ability of the combined company to grow and manage growth profitably, maintain relationships with customers and suppliers and retain its management and key employees; (f) costs related to the proposed transactions; (g) changes in applicable laws or regulations; (h) the possibility that Luminar may be adversely affected by other economic, business and/or competitive factors; and (i) other risks and uncertainties indicated from time to time in the final prospectus of the Company, including those under "Risk Factors" therein, and other documents filed or to be filed with the SEC by the Company. You are cautioned not to place undue reliance upon any forward-looking statements, which speak only as of the date made.

Forward-looking statements included in this communication speak only as of the date of this communication. Except as required by law, neither the Company nor Luminar undertakes any obligation to update or revise its forward-looking statements to reflect events or circumstances after the date of this release. Additional risks and uncertainties are identified and discussed in the Company's reports filed with the SEC and available at the SEC's website at www.sec.gov.

Disclaimer

This communication is for informational purposes only and shall not constitute an offer to sell or the solicitation of an offer to buy any securities pursuant to the proposed transactions or otherwise, nor shall there be any sale of securities in any jurisdiction in which the offer, solicitation or sale would be unlawful prior to the registration or qualification under the securities laws of any such jurisdiction. No offer of securities shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

<u>Exhibit No.</u>	<u>Exhibit</u>
99.1	Luminar Investor Presentation Transcript.
104	The cover page of the Current Report on Form 8-K, formatted in Inline XBRL.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Gores Metropoulos, Inc.

Date: October 7, 2020

By: /s/ Andrew McBride

Name: Andrew McBride

Title: Chief Financial Officer and Secretary

Luminar
TRANSCRIPT OF VIDEO CLIPS

Austin Russell (00:00):

Two of the fundamental barriers for autonomy are 3D sensing and perception, how well these vehicles see and understand the world around them. We can only make safe decisions based on accurate real-time 3D data. Solving these challenges requires a lot more than capital and smart, specialized engineers. It takes the audacity to build something entirely from the ground up, hardware as well as software, to make autonomy possible, bring it out of R&D and actually put it into production.

Speaker 1 (00:50):

Together with Luminar, we have developed lidar technology with unprecedented perception capability. That means that you can detect not only that there is a human being here, but also where he or she is moving.

Speaker 2 (01:01):

Lidar is an absolute requirement for a safe autonomous drive.

Speaker 3 (01:05):

It's a great challenge and a great reward to be able to develop autonomous technology for the future. This vehicle really represents the most sophisticated automated driving platform that TRI has built.

Speaker 4 (01:15):

You know that little thing that looks like a siren on the top of the car going around in a circle? Does every lidar system have to have that?

Austin Russell (01:22):

No, definitely not. Ours actually doesn't spin.

Speaker 4 (01:24):

Doesn't spin?

Austin Russell (01:25):

No.

Austin Russell (01:28):

When you see Luminar on the roof of your car, you'll know that it's a vehicle that safely enables true autonomy. We've always known this is possible and now we're the ones to have solved it. And that's why we continue on this pursuit every day, inspired to make autonomous transportation truly safe and ubiquitous.

Austin Russell (01:48):

Thanks everyone for joining. Certainly an exciting time. I'm Austin Russell, founder and CEO of Luminar hosting today at one of our lidar software testing, as well as vehicle integration, facilities in Palo Alto, California. As for any company, entering the public markets is a landmark milestone that caps our incredible journey so far and brings us into a whole next chapter. With that, I'm really looking forward to the opportunity to be able to share more details about the company, technology, product, commercial integration, and strategy, with myself and some of the key members of our leadership team.

Austin Russell (02:19):

Our vision is to make autonomous transportation safe and ubiquitous. And at Luminar, we're all incredibly passionate and committed to be able to make that happen. The ultimate goal of this industry has always been around safety. And with that said, it's crazy to put even into perspective just that we do lose 1.3 million lives every year out on the road from vehicle related collisions and deaths. And these are the things that can be preventable from technology. That's the opportunity to be able to prevent. We don't have to have fully autonomous technology everywhere all the time to be able to make that happen, but this will have just an incredibly massive impact on society. These are the things that we need to fulfill, and these are the things that we can do today. That's what we're here to solve.

Austin Russell (03:03):

All right, let's go for some quick history and then we can dive a little bit deeper into the technology. So I founded the company about eight years ago with a goal to be able to build a new type of lidar sensing system for the autonomous vehicle space. And there's a number of very stringent requirements that are needed to build a system to be able to safely enable autonomy and be able to see it through into production in the real world. So, I knew there was no way to be able to do this and meet the performance safety requirements, seeing out to 250 meters in the distance for all types of objects with great resolution, much less also in a very cost effective device using off the shelf parts. And that's why we had to start from scratch, building our own components, our laser receiver scanning mechanism, processing electronics, to be able to have something that can meet this specification.

Austin Russell (03:49):

So with that vision and architecture, I started to bring on a couple hundred highly specialized team members and engineers to be able to build out the various components and systems in this architecture, to be able to see this happen in the real world.

Austin Russell (04:03):

Over the course of the first five years, we remained in stealth mode. We actually ended up acquiring a couple of companies along the way, including Black Forest Engineering, a chip design company based out of Colorado Springs, and Open Photonics, which actually brought on co-founder Jason into this, who you'll meet later. And with that, that's where we showed off to the world what was possible in 2017 with this breakthrough level performance. That was when we launched with four key commercial partners. And over the next couple of years, spent a little bit more time specifically on the commercialization, industrialization maturity side of things, expanding from four partners to now over 50 companies that we're working with today, and going through the various iterations of the technology. We're actually well into multiple generations of our own chip designs, of our own architectures, and all coming back to the same fundamental technology and principle, but continuing to iterate on it to a point of, now we can put it into series production.

Austin Russell (05:01):

Further driving customer growth and accelerating programs is a software stack that we've successfully developed on top of our lidar. If the lidars are the eyes of the autonomous car, this is the brain. And this allows it to be able to autonomously understand what's going on around it in the environment and be able to safely navigate accordingly. This year, excited to be able to get out there with our Iris product for series production. The holy grail of the autonomous industry has always been for people to take it out of R&D and put it into series production. We've been able to do exactly that with our landmark deal with Volvo, to be able to put our lidar and software in the next generation of consumer vehicles, in series production starting in 2022.

Austin Russell (05:42):

The fundamental reason for why we're here comes down to the technology and what we've been able to build. We took a very different approach. Whereas most companies in the autonomous vehicle space have started from the software side of it and worked their way to try to figure out what hardware can accommodate. We knew that the hardware and the sensing systems out there were not nearly enough, in terms of performance and safety, to be able to ultimately solve this problem and enable autonomy to make its way into the real world. So we've been largely focused on the passenger vehicle side, as well as the long haul trucking side of the equation here, really leveraging this existing multi-trillion dollar a year industry to be able to see our technology become ubiquitous and be deployed in the near term.

Austin Russell (06:27):

Specifically, we're largely focusing on highway autonomy use cases, for driver out of the loop functionality in those environments, because they're more constrained than urban environments. That's one of the key areas that we see actually being able to be successfully enabled in the relative near term. We think there's a lot of promise over the long term for level four or five urban autonomy, which is largely where the vast majority of the companies in this autonomous domain have focused. But we see that operating in complex urban environments will still take a long time to successfully train systems to be able to handle all those types of edge cases.

Austin Russell (07:00):

If you take a look at the broader sets and levels of autonomy, you can really separate out things into two discrete areas, assisted driving and autonomous driving. Very different things. So assisted driving, the driver's in the loop constantly, paying attention, ready to take over the wheel at any given moment, eyes on the road. This is reminiscent of the Tesla autopilot systems of this world and relevant other systems with other automakers that require constant driver attention and may follow a couple of lanes on the road ahead. With autonomy, and by the time you go into that domain, driver no longer has to be constantly paying attention, start using your phone, working on a laptop, watch a movie, that kind of thing during that time, and know that you can be safer than a human otherwise would have been.

Austin Russell (07:44):

In addition to the highway autonomy focus that we have, we are also able to enable something that's often overlooked, which is what we call proactive safety. In the areas where we're not autonomous, in suburban and urban environment, in addition to of course, when you manually drive on highways, if you decide to do so, then proactive safety will be able to help prevent forward collisions by actively taking control over the braking systems and steering wheel to be able to get you out of hairy situations altogether.

Austin Russell (08:15):

It starts with the data: garbage in, garbage out. And when it comes to safety, that's not acceptable. So you have to have a level of reliability that's been unprecedented before. You have to be able to accurately detect all of these different types of so-called edge cases to be able to accurately and safely be able to drive. And we'd like to show a few examples of what we mean by these kinds of edge cases and how our lidar and our software solves exactly that problem.

Austin Russell (08:45):

All right, so what you'll see here in these examples is raw 3D data coming from our lidar, with different colors representing different distances as it goes out, with perception, the detection of those objects layered on top of that, represented by bounding boxes. This is actually during a data collection run on the 280 freeway at night. You'll be able to see, zooming way out in the distance, 250 meters ahead, a stalled black car out on the road. We get seven points on that object, which is really a lot in this context. And 250 meters really represents just seven and a half seconds ahead at those speeds. So it's important to be able to see that full distance, so in these kinds of situations you'd ultimately be able to come to a safe stop. If you zoom into 75 meters ahead, just a few seconds ahead, we can actually be able to clearly make out what's going on. You can see the person, the car, the tire on the road. It's a person actually swapping out their tire that was pulled onto the shoulder. And even at 25 meters, you can clearly make out even by eye what those different objects are. It goes to show the kinds of things that we're able to now see with this level of performance from a lidar standpoint, as well as our software for detecting and identifying the objects ahead.

Austin Russell (09:53):

So in the next example, we'll show lidar safety and performance is important even in lower speeds too, as well. If you take a look at this example, we have one of our data collection cars driving around just after dusk.

Austin Russell (10:03):

You could see some camera footage of the suburban neighborhood. And I don't know if you quite caught that, but there was a white orb that just rolled out into the screen just in the middle of the road there. And it's actually really hard to be able to detect particularly with just the camera with everything going on. You have the other street lights. You have some other lights in the scene. But this is where lidar is supposed to come in and help save the day. The challenge is even with these very expensive legacy lidar systems, if you zoom in on this data, you can actually only get a single point on that ball. And that's not nearly enough to be able to accurately detect something. Usually an autonomous car would just see that as noise and be able to drive right through it.

Austin Russell (10:45):

With Luminar, it's a completely different story. That exact same frame, we can clearly make out what's going on with the ball and of course, what's to come a girl chasing after it. That's what makes all the difference. You can see our software identify the different objects and you can actually even see the scene play out live with a girl running out into the street and the car coming to a safe stop just in time.

Austin Russell (11:03):

Those are the examples of edge cases that are absolutely needed to be able to successfully enable any level of autonomy to be able to clearly recognize and see, and, of course, are still extremely helpful for assisted driving systems.

Austin Russell (11:17):

For many, the question of how and when autonomy will successfully transition R&D and be put into the real world has been outstanding for some time. Just a few years ago, the predominant assumption was that urban ride hailing robo-taxis would be the de facto way autonomy is realized in the real world in a city near you by 2020. Of course, that didn't exactly happen, but it did at the time result in an explosion of companies focused on R&D in this domain.

Austin Russell (11:41):

The rationale among these autonomous vehicle companies was, one, that sending systems that cost tens of thousands of dollars ultimately needed to be amortized over the cost of the vehicle in 24/7 ride hailing operation, hence the large roof racks of lidar systems and other things on these vehicles. Two, there was no lidar that could ever meet the long range, high resolution performance requirements that are ultimately needed for high speed highway autonomy driving as compared to the low speed urban driving that required shorter range. And then number three, is that autonomously navigating city environment would be a straight forward problem was the assumption despite the massive complexity associated with edge cases in those urban environments.

Austin Russell (12:24):

Today, none of these assumptions have proven true. The first two reasons in large part because of us. And now that we have a high-performance system that can see long range and be a low enough cost to be able to put onto production consumer vehicles, it's something that was unfathomable just a handful of years ago. With that, we're the only autonomous vehicle company to be focusing in on this market. And at the same time, we're powering nearly every major autonomous trucking company out there.

Austin Russell (12:52):

The economies of scale leveraging the passenger vehicle and trucking markets are also enabling this to be used for assisted driving use cases like the proactive safety system that we talked about to be able to prevent forward collisions and accidents ultimately altogether. And this is how we can see the technology standardized throughout the larger industry and make as big of a difference ushering in the whole next generation of vehicle technologies and safety systems.

Austin Russell (13:21):

Launching this bold vision forward, we entered into a landmark deal with Volvo for the first automotive series production deal for autonomy in the industry. Our hardware and software is integrated into Volvo's next generation consumer vehicle platform to enable these highway autonomy and proactive safety features scheduled to start production in 2022. Historically, Volvo has been the industry leader when it comes to safety, and they've invented everything from the three point safety belt back in the day and introduced most modern new types of active safety technologies that have paved the way for next generation vehicle system safety.

Austin Russell (13:54):

So with Luminar, expect it to be no different. We get to leverage the exact same product that we're building for Volvo vehicles across the rest of the industry for other OEMs, for both passenger vehicles as well as trucks in addition to the software too. That's really important to ultimately have a clear path towards widespread adoption in series production among multiple global automakers, and over the long-term, standardization throughout the industry as with other safety technologies.

Austin Russell (14:24):

Eight years ago, we completely re-imagined lidar technology building something entirely from the ground up. Since then, we've successfully delivered on it. And our lidar is the only one in existence that can meet the stringent performance, safety, and economic requirements to be able to see this through into series production, to take autonomy out of R&D and bring it into the real world.

Austin Russell (14:45):

The seamless integration of our hardware and software together ultimately enables a turnkey autonomous solution that accelerates the ability for OEMs to deliver autonomy in series production scale. We're not just a major force in the lidar space, but also in the autonomous and auto industry at large. No other company has successfully built the lidar sensing foundation, much less the software that's also required to be able to see this technology through into the broader industry in series production and that's what's made all the difference.

Austin Russell (15:18):

As we've been making the transition from a technology development company to now global provider of autonomous systems to major OEMs, there's been a big shifting focus towards execution, and that's something where it's been driving a major focus of mine to be able to build out a really strong team of leadership of executors that can be able to see this vision through end to end. And that's what we built out here. Really look forward for you guys to have an opportunity to hear from some of those members. It all started with the technology. And with that, I'd like to hand it off to Jason in Orlando.

Jason (15:49):

Welcome to Luminar Orlando. I'm Jason Eichenholz, co-founder and chief technology officer. I'm responsible for the technology vision and strategy for Luminar. Here in Orlando, we're going to give you a peek under the hood to see the technology, architectures, and innovations that enable our products to deliver the industry leading performance that you've seen and you'll see the rest of the day today.

Jason (16:10):

In Orlando, we have 250 of the 350 family members in the company, and you're going to get to see a little bit about the R&D and the core R&D architectures that enable our systems, the engineering, and the capabilities to vertically integrate and deliver an automotive grade product and the advanced manufacturing team that allows our systems to be deployed around the world. As Austin mentioned, we started with a model G back in 2017 and shipping those to our first four commercial partners. Here, we developed the core architectures technology and building blocks that would enable our industry leading performance.

Jason (16:48):

The lessons learned in deploying those first systems from the model G were invaluable. That core technology innovation that we put into this then laid the building blocks and the architectures for our second generation system, the Hydra. We were able to improve our receiver technology and our laser technology and move forward to our third generation systems and the Iris that we're deploying today.

Jason (17:14):

What's common in all of these systems is the groundbreaking and revolutionary single laser single receiver architecture that allowed an economy of scale, cost performance, and system robustness that was unheard of in the industry. So all of this technology enabled what we're shipping to customers today.

Jason (17:35):

Let's head to the receiver lab to take a closer look at one of the key components that enables our groundbreaking performance. We're here in the receiver lab, where we take the chips from our Colorado Springs location. And we put the receiver together with the photo detector and build our receiver module. Fundamental to Luminar is the fact that we don't have to sacrifice performance with off the shelf components. We customize each of our subsystems from the chip level up. We custom design the lasers. We custom design the receivers, the scan mechanisms, and the processing electronics, and bring them together to offer the highest level of performance.

Jason (18:11):

As you may know, we operated a completely different wavelength of light, 1550 nanometers. We do that in order to unlock the highest level of performance. The fundamental technology innovations that enabled us to go to this wavelength was developed right here in this lab. Traditional thinking was that these InGaAs arrays were expensive and costs tens of thousands of dollars. We use some fundamental core technology of InGaAs, indium gallium arsenide, a very rare material that typically is very, very expensive. And people ruled out the 1550 wavelength because of that.

Jason (18:45):

We're able to take a very small piece of InGaAs, a small flex smaller than a grain of sand. And we combine that with our silicon receiver chip. We get the best of both worlds. We unlock the performance required to enable our lidar systems and the economies of scale, where we have a chip that only costs around \$3.00. With all these technology innovations, you have to patent the heck out of this. We have over 87 patents already in our extensive portfolio. In fact, it's twice as large as our top five competitors combined. That's it from Orlando. Let's hand this off to Aaron in Detroit.

Aaron (19:23):

Welcome to Luminar Detroit. My name is Aaron Jefferson, VP of product, and I bring to Luminar over 20 years of automotive experience, delivering safety electronics, advanced driver assist systems, product leadership, and business growth. Speaking of growth, we're growing here in Detroit, the North American epicenter for the automotive industry. I joined Luminar because I was excited about the vision and about the technology. We operate in the automotive industry that requires continuous development of performance and innovation, and to a market that is looking for technological advancements. And we at Luminar bring that. There's a lot that goes from taking a product that is R&D and delivering that into serial production with the automotive grade quality and reliability demanded by the market. If you look at this market and you look at all the key requirements needed to deliver the technology into the market, there are a lot of, say, sensors that have certain trade-offs and systems that have trade-offs, and maybe they can do one thing well and not the other thing, or maybe a few things independently, but we are the ones that can bring that technology altogether and enable all the requirements needed to deliver highway autonomy and proactive safety. With this achievement, we now play a key role in bringing this pivotal technology to the market and making transportation safer. We do this in two ways. One, by delivering on highway autonomy. And, two, by delivering on proactive safety. The nice thing about those two is the requirements for each are similar enough that we can focus in on the key technology and deliver that key technology, which enables our customers to unlock the capability and deliver into both.

Aaron (20:56):

First, let's take a look at highway autonomy. We believe that initial autonomy application is on the highway and provides the most consumer value for the foreseeable future. Now, you might ask yourself, why haven't people delivered this before? Many have tried, and there's a reason they haven't. Because the all-round technology hasn't been available to unlock and deliver that capability. However, with our technology, you can unlock the full capability of a highway autonomy system.

Aaron (21:23):

The reason that the sensing today hasn't met the need is because you need the range, you need the resolution and you need the perception performance to be able to really understand the scene and the environment and behave appropriately and safely in that environment. It's the reason we've won these landmark arrangements on the passenger vehicle side. It's also the reason why we are involved in nearly every major autonomous trucking activity and development activity on the market, delivering long-haul automated trucking on the highway.

Aaron (21:50):

We foresee that the passenger vehicle market is still the market driver in the industry. And we expect highway automated functions to grow at a CAGR of 40% from now until 2030. The automotive industry is also trending in this way in terms of highway autonomy, focusing on hands-off and eyes off operation.

Aaron (22:08):

Now, let's move over to safety, and our focus, proactive safety. Recent data suggests that there's still one million lives lost annually due to automotive accidents. Today's ADAS systems really aren't designed to eliminate accidents. They're really designed to mitigate or lessen the severity of accidents. For proactive safety, our focus is to eliminate accidents. Our lidar is capable of unlocking and enabling the full capability of safety at higher speeds, in weather and low light, and can have the perception capability to detect cyclists, pedestrians, vehicles, children, and the most complicated environmental conditions. Many companies have developed lidar, but none of these companies have developed lidar to address the real market needs for lidar in the industry, and none have delivered upon the software required. Our software is fundamental to our system.

Aaron (23:03):

I'll now pass it off to Christoph at Palo Alto. Take it from here.

Christoph Schroeder (23:08):

Welcome to Palo Alto. My name is Christoph Schroeder, and I'm VP of software at Luminar. Prior to joining Luminar, I led the software development team at Mercedes that developed urban autonomy, as well as brought radar sensors into production at Bosch. Here in Palo Alto, we have 100 team members. Most of them are software engineers and work on our perception stack. Beyond Palo Alto, our software engineering team is located in Orlando as well as Munich in Germany.

Christoph Schroeder (23:36):

Luminar's strategy was from the very beginning to build a hardware and software solution that combines both. The software team here in Palo Alto was founded four years ago with the first software developers, and has done a lot of research and development work at the beginning. Software is extremely important to us as a company. With software, we're able to add additional functionalities and additional value to our product. We have the industry leading lidar sensor with the best performance.

Christoph Schroeder (24:03):

Here in Palo Alto, we work on adding the next level of capabilities and value to it. To us, a full stack software solution contains many different components. It starts with the enabling highway lidar technology that actually sees things. It contains things like the computer unit to process things, as well as the entire software stack. You need to understand deeply and exactly how the sensor works, operates, how for example, our scan pattern can be set to leverage that capability to build something on top of it that is much, much better than what you would be able to do if you just used the point cloud as it is. That's why our team internally is able to leverage those capabilities and build a perception stack that is much, much better, much, much more robust, and much, much stronger than anyone else could actually do.

Christoph Schroeder (24:51):

When enabling autonomy, the key thing that you need to think about is to solve for the corner cases, the edge case, the thing that doesn't happen unless it happens once in your life. You don't have anyone who supervises the car. What does it mean for the car? It means for the car; you cannot rely on anyone to be there in case something goes wrong. In order to solve for all of those use cases, you need a technology that gives you the range, the resolution, and the robustness to all the different environmental conditions to actually do the task in all cases. Camera technologies work well in a lot of cases and they work really well for some ADAS use cases, but there are a lot of situations in which you, as a human being can't even see something. So how should a camera see it? It's just not possible.

Christoph Schroeder (25:37):

The key foundation is going to be the lidar. We are focused on solving two key tasks. We want to enable proactive safety as well as highway autonomy. In order to enable those use cases, range and resolution are key. Detecting small objects really, really far out is a key task. It's something that only can be done when you have range and resolution at the same time. You need to have the resolution to detect all those objects and distinguish them from each other, classify them and give the decision-making software as much information as possible to actually make the decision.

Christoph Schroeder (26:15):

What we are focused on right now is taking all of the technology that we developed and putting it into serious production vehicles. Good example for that is actually someone like Volvo who will take our lidar sensor, our perception technology, deploy it in their cars and actually put it on the road by 2022, in order to enable functions like proactive safety, as well as high autonomy.

Scott Faris (26:37):

Hi, I'm Scott Faris. I'm the chief business officer at Luminar Technologies. I've got over three decades of experience in scaling optical component technology companies and both public and private companies.

Scott Faris (26:47):

We're currently in our advanced manufacturing facility where we do both the manufacturing of our Hydro platform, as well as the pilot level work for our new Iris platform. Since the beginning, Luminar is focused on working with companies that believe in the future of mobility and autonomous mobility, as much as Luminar does. We focused on four companies initially with our first generation technology. Those four companies formed the foundation for some of our deepest relationships that we continue to have today. Working with companies like Volvo and Toyota Research Institute, we were able to take that foundational first-generation product and really build the capability for the next set of customers.

Scott Faris (27:23):

We really wanted to main focused on working with the world's largest automotive manufacturers that were committed to seeing this through to volume production. There's a significant difference between development programs and automotive grade series production programs. Automotive series production programs really are the holy grail of the industry.

Scott Faris (27:40):

Luminar has continued to invest in the industrialization of our product. This has allowed us to grow from our initial core four customers to over 50 customers on a global basis. Those 50 customers represent the vast majority of global OEMs. Additionally, those 50 customers can be broken into three key segments, including passenger vehicles, commercial trucking as well as robo-taxis. Collectively that group represents over 75% of a total available market.

Scott Faris (28:07):

Today, many of our OEM partners have mature highway autonomy programs with expected launch dates between 2022 and 2025. With Volvo's productions expected to start in 2022, Luminar is extremely well positioned to leverage both the capital investments we've made in our infrastructure, as well as the industrialization of the lidar sensor itself to help our other OEM partners scale their autonomy programs on a global basis.

Scott Faris (28:32):

Luminar is also working in the commercial trucking space. We currently are working with a significant majority of the global OEM autonomous trucking application partners. Luminar's technology and the ability to see at high-resolution and extremely long range is particularly important for commercial trucking because the ability to see small objects, as well as fast objects such as motorcycles weaving through traffic, it's important to be able to assure an autonomous vehicle and particularly autonomous truck can operate safely at highway speeds. Short range lidar solutions offered by the vast majority of lidar manufacturers, quite frankly, aren't adequate to be able to operate in this type of environment. Once these commercial trucking applications are in production, it's going to make a significant difference. Autonomy is a true economic enabler for the logistics market. In addition, the benefits of proactive safety that we're able to realize in the passenger vehicle market also equally applies to the commercial trucking market.

Scott Faris (29:24):

The other segment that Luminar has been focused on is the robo-taxi market. However, one of the limitations of the robo-taxi market because of the sensors that they've historically used has really limited them to low speed environments. Luminar's technology, and the ability to operate vehicles in high-speed complex environments is really the key to unlocking these robo-taxi market opportunities. At the end of the day, the biggest cost sensitivities and performance demands really are being driven by the passenger market as well as the commercial trucking market.

Scott Faris (29:52):

Okay, so we've talked about the markets we're focused on, but now let's talk about where this is all really headed. We have ten of our commercial partners that are deploying Hydrant at advanced development application. These advanced development programs give us a significant competitive advantage, positioning us to ultimately convert them into series production awards. By 2025, we expect the passenger vehicle market to contribute the vast majority of Luminar's revenues with commercial trucking, adding additional percentages over time. Taking a step back and looking at the true impact of the Luminar production program wins, we expect that over one million vehicles will be using the Iris sensor technology and really leveraging the foundational work that we did with the hydro platform.

Jason Wojak (30:31):

Hi, welcome back to Luminar Orlando. I'm Jason Wojak. I'm responsible for sensor development here at Luminar. We're now in one of our production test facilities, this is where our engineering teams are working on early sample builds of our next generation sensor Iris. I'm really excited to finally share more about this news that we announced this morning. This is our first Iris, and it's going to be shipped to our partner Volvo this week. Now we're going to take a look at what it's taken to kind of reach this milestone and take you through the process. What's unique about Luminar and our lidar solution is that we have a single product to meet entirely what the industry needs. In order to do this, we had to deliver breakthrough performance in the point cloud and it's quality. But we're also going to meet the cost that the industry needs to scale.

Jason Wojak (31:19):

We leveraged the same core technology in our previous generations, but we've refined it for size, cost, and power, and also to meet automotive qualified series production design. Iris has a unique design. To get the best performance out of the sensor we want it to stay at the top of the vehicle. So that gives us the best point of view to get the best performance. Because of the slim form factor, we were able to work with Volvo over the past year and their designers to create a very unique slim line integration into the roof line. This is kind of a seminal moment for the car industry and its design. As we open up autonomy, it's going to act as an iconic design for the future and what initially established lidar and the integration of it. So when somebody looks at the car, now they're going to recognize that this is a car that has autonomy built into it.

Jason Wojak (32:16):

We've reached a significant milestone. We're at what is called the B sample phase for our Iris product. What this means is that we've gotten into engineering validation testing, and we're ready to deliver to Volvo. It's a significant milestone because it proves all of our technology that we had in our other generations and shows that it's still capable in a smaller cost effective, highly mass producible product. In order to get to this stage, we had to develop our in-house capability. This didn't really exist in the industry before. So we hired the key talent in order to make this happen. So we have an advanced manufacturing team that has developed the processes in-house in a way such that we can transfer it to contract manufacturers and collaborated with them on exactly what the process would be so that we can scale this up.

Jason Wojak (33:09):

We're proving that process out now. We're developing the blueprint for that. We're going to take that blueprint as we move from B sample into C sample, and eventually transfer that over to a contract manufacturer. As we transition through our B series production and into our C series, that's where we're going to develop our production tooling. We're going to start to lay down the blueprint with our contract manufacturers. Where they're going to start to replicate lines, we're going to move from thousands of units to tens of thousands of units, and then easily to hundreds of thousands of units with our contract manufacturing partners around the world. That's it from Orlando today. And I'll hand it back to Tom in Palo Alto.

Tom Fennimore (33:49):

Hi, I'm Tom Fennimore. I'm the Chief Financial Officer here at Luminar. I've been a finance leader in the automotive industry for the last 20 years. First running the global automotive practice at Goldman Sachs and then most recently at Jeffrey's. We have a very exciting growth plan here at Luminar. And let me walk you through it.

Tom Fennimore (34:07):

Our rate of growth continues to accelerate. We have over 50 partners today using our technology, including seven of the top ten automakers. We've already been awarded two series production programs. Let me demonstrate to you the earnings power potential of our business model. In 2030, we estimate that the total addressable market for our products is over \$150 billion. If we capture less than 4% of that market, we can make over \$5.0 billion of revenue and \$2.5 billion of EBITDA. We are not your typical automotive supplier. We work with the engineering teams to put our cutting edge technology on their vehicles. Because of this, we have amazing visibility into what their plans are to launch programs with highway autonomy or proactive safety features in it.

Tom Fennimore (34:58):

As many as ten of them are working on such programs with a start-up production in the 2023 to 2025 timeframe. We have a clear path to execute on this revenue growth driven by series production contract wins. First, we've already been awarded two series production programs. Second, we are actively working with eight of our existing customers to convert those relationships in the series production wins over the next 24 months. Only roughly half of those additional eight wins are incorporated in our financial forecast.

Tom Fennimore (35:35):

To give you a sense of our success so far, at the end of this year, we expect the order book for our series production wins to be approximately \$1.0 billion. And to demonstrate to you the exponential growth power of our business model, in 2025, we forecast that this order book will increase by over a factor of ten to over \$10 billion. Today, our revenue comes primarily from two sources. First, individual unit sales of our lidar hardware to customers, primarily for test and development purposes, as well as for their development fleets.

Tom Fennimore (36:14):

Second is primarily from NREs associated with the development and eventual launch for these series production contracts. Starting in 2022, as we enter commercial production, almost all our revenue will come from sales to series production programs and be categorized into three buckets. First, scenarios where we sell only the hardware sensor unit. Second, a solution incorporating our hardware plus software that enables proactive safety functionality. And then, the final bucket would be our hardware plus the software solution that will enable highway autonomy. Our business model is very scalable and has very low capital intensity. This allows us to grow our margins, profitability, cash flows and returns at a very rapid pace as our revenue growth accelerates.

Tom Fennimore (37:11):

There were three underlying factors that drive the scalability of our business in the capital light nature. First, the same underlying hardware and software will be able to be sold to other customers with minimal design R&D and capital changes. So as we continue to sell more and more sensors, we don't need to invest a lot more in R&D and capital. Second, as mentioned earlier, we are deploying a contract manufacturing approach. And then finally, as we grow our revenue and unit sales significantly, we're able to amortize our fixed R&D, SGNA and other costs over a larger volume base. And we're able to get significant purchasing power from our larger economies of scale.

Tom Fennimore (38:03):

To expand on this last point in more detail, our bill of material or BOM is expected to be approximately \$500 per unit once we enter our first full year of commercial production. As we gain economies of scale, our goal is to lower that BOM to less than a hundred dollars per unit. This rapid decline in our BOM enables us to lower the price of our hardware to drive a rapid increase in adoption of our technology, including standardization, without sacrificing our margins. This will dramatically increase the safety of the vehicles. Not only save a lot of lives, but save a lot of time with the increased proactive safety and highway autonomy. Now, I'd like to turn it back over to Austin Russell, our CEO and founder, for some concluding remarks.

Austin (00:41:44):

Hey everyone. All right. Well, thanks again for taking the time and thank you to leadership and Tom here with that as well. A big thank you to the media team for pulling off this production, know it's a huge lift, certainly an exciting day. You know, now with the announcement that we are meeting and delivering this first Iris series production unit, if there was any doubt about what we were able to do and what we could really pull off, you know, in this timeframe and deliver against. This is the key milestone, excited to be able to make that happen this week. With that, I think it would be great to get started on the Q&A side of things. I'm actually here with Tom as well as Michael Beer, our Senior Director of Strategic Finance and IR, he'll be leading some of the Q&A. This is the first time we've really done a Q&A in a kind of a broader public forum here. So it'd be great to get this kicked off. Yeah. Thanks Michael.

Michael (00:42:39):

Many thanks Austin. For those of you online, feel free to type your questions into the chat box on the left hand side, and we'll go ahead and address them as they come. Why don't we go ahead and open this up, first question. *Do you think there'll be multiple lidar winners in the autonomous car space or will it be a winner take all type environment?*

Austin (00:42:57):

So, you know, it's a good question. I think when it comes to the different verticals that you have to address, you know, when there's passenger vehicles to commercial trucks, robo-taxis, and the adjacent markets, I think particularly in the adjacent markets, you know, there's going to be a lot of lidar diversity as there already has been historically, and there's definitely huge opportunities. We'll see, actually a lot of companies, I think more and more pivoting into that domain, just given how hard it is to build something that can meet the spec needed to solve autonomous vehicles and specifically the long range sensing capabilities needed for highway autonomy. So I think, with this, I mean if you're able to execute to the degree that we think we can, I think this could very well be a winner, take all for that specific market and domain.

Michael (00:43:40):

Excellent. This next one's for you, Tom, *can you walk us through what the typical sales cycle is for an OEM when evaluating these sorts of technologies?*

Tom:

Sure. The typical sales cycle for an OEM is usually two to three years in advance of them actually starting production. They will select the suppliers for their vehicles and the parts that will go on them. We're a little bit unique because we're actually developing brand new technology and functionality for these vehicles. And so prior to that, two to three year in advance warning that you typically get to be a supplier on a vehicle, you have to go through a development program for new technologies. The timing on that can vary by each of the individual customers, you know, for certain OEMs, it could take an additional two to three years for some OEMs it can be shorter than that. Right now, we're working on at least eight development programs where our technology is actually on our customer vehicles. And they're kind of developing those programs to eventually go into series production contracts. As I mentioned earlier, you know, at least eight of those that we're working on now, we expect to convert into series production programs over the next 24 months. And in our financial forecast that we shared with investors, we have only about half of those or four incorporated into our financial model.

Michael:

Excellent. This one's for you, Austin. *How do you compare your technology against Velodyne?*

Austin (00:45:04):

So it's a good question. I think really it kind of, as we spoke to earlier, it really just comes down to the core tech of what we built out. It was entirely from the ground up making all of our own components, you know, lasers, receivers, scanning mechanisms, processing, electronics that are needed to be able to see these key performance specifications. And at the same time, really be able to see this product through into series production in an auto grade capacity, at the cost that's really necessary to have this industry take off. And it's that trade off, you know, that you can also try and build a really high performance sensing system, using a whole array of components, but it ends up either being way too expensive and still not performing enough, or you can try and build something that's really cost effective, but then it won't be nearly enough performance to try to enable an autonomous specific application.

I think ultimately there could be other lidar related systems for assisted driving related applications, you know, that maybe have some diversity there, but as it relates to this we are the only lidar sensing system that actually meets the core OEM specs that are needed to see this through with autonomy into series production. And then of course, the software side as well. This is very unique to Luminar in terms of the deep hardware software integration that we built from the ground up. And that's what differentiates us as we kind of have taken things to the next level at the autonomous vehicle level, beyond just the lidar components. So, you know, going from a component company, albeit, you know, high value components that are going in, but now a systems level company.

Michael (00:46:38):

Fantastic. And sticking with that topic. *What are your advantages relative to say camera based systems similar to those on Tesla?*

Austin:

Yeah, so, so it's a good question that really the whole point of lidar is that it gives you that true 3D data in the environment. You know, cameras are really good at getting some decent resolution around 2D data and images, but this, you don't have to guess what's out there in that three dimensional plane. You don't have to try and extract and figure out what's there because when it comes to autonomy, you have to have very, very reliable detection. You can't miss things. Normally a 99% detection rate of something may be okay for a lot of applications. For autonomous vehicles, you know, you can't miss one out of every a hundred people, which it's actually not even quite there yet in many, in many of those cases. So, you know, you have to have ground truth, understanding of the environment.

You have to have ten nines worth of reliability, that's what the lidar gives you in three dimensions. And it's not just any lidar by the way, too, as well. You really have to have that level of performance and data fidelity to make the most out of it. You know, that's where you have to have that camera like resolution for the lidar, which we're actually able to deliver for the first time here and still be able to get that true 3D depth. Now, again, it's still complimentary to existing camera systems, we're not here to try and compete with those, so to say, but this does kind of serve as the ground-truth center for these vehicles, and programs and companies that we're working with.

Michael (00:48:10):

Excellent. For this next topic, *how are you thinking about defensibility? How are you thinking about your IP portfolio and how do you protect the uniqueness of your technology?*

Austin (00:48:21):

Yeah, it's good. It's a good question. When it comes to defensibility, I think this is actually something that is really solid for us. And it's a good question. A lot of people will ask, okay, well, what's preventing this type of technology from just becoming commoditized over time. Like let's say, okay, you guys got the best stuff now, you know, how are you going to continue to build this value and maintain this technological advantage? And I think there's the reason I think a lot of people ask when it, particularly when it comes to the hardware part of the equation, which Luminar has historically been associated with, is that a lot of hardware technologies do ultimately become commoditized over time, you know, and, and either lose margin market, share it, et cetera for what it may have. But part of the whole point is, some companies actually are able to leverage that strong IP to their advantage. You take a look at the Mobileye and NVIDIAs of this world. You know, there's no knockoff of those types of companies. You know, there's really high IP that goes into it and high value, ultimately enabling high margins over long periods of time. And that's where really Luminar fits in, in terms of, categorically. So we actually have a largest IP portfolio as it relates to, you know, these sensing systems than of anyone in the industry. I think it's actually more than, you know, even the top five other related lidar R&D efforts or companies, you know, combined. And the reason why that is, is just because of the fact that we really do have this core tech developed from the ground up. We're not using off the shelf, commodity parts. That's, what's allowed us to do this. You know, again, we build our own chips, we built our own, receiver systems, laser systems that go into this and, you know, have also in parallel, locked up the supply chain for a lot of the key and relevant systems that actually go into this, even making key acquisitions along the way.

You know, we mentioned earlier acquiring, you know, the chip design company in Colorado Springs, that was specialized to one very specific component of the design and something that we've iterated on with custom chips for multiple components now. So that's, what's all led us to be in this hugely advantageous technical position, but at the end of the day, you need to see the commercial adoption too, as well. This is the automotive industry and getting into series production specifically. It's one of those very high barriers to entry, but equivalently very high barrier to exit type arrangements. And that's why we sought so important over the past couple of years to start getting designed into these autonomous development fleets with an eye toward series production, working directly with these OEMs, to be able to see these programs through, that's why it's important to get embedded into that, be integrated into the stack. And then it becomes more a matter of when, rather than if that program will successfully materialize into series production, and with Luminar as the key system powering it. So that's how we're highly defensible in a way that's differentiated from pretty much any other company in this space.

Michael (00:51:09):

Great. And we have a few questions coming in on the commercial opportunity. *So aside from Volvo, or in addition to Volvo, can you walk us through the relationship that you maintain with the other 50 commercial partners?*

Austin (00:51:20):

Yeah, so really as it relates to those, you know, I think Tom mentioned that it can kind of separate into different stages. You know, there's a validation stage that we work with these companies on, have these on where they initially our sensing systems basically do a host of tests, you know, validate and do the diligence. You know, we meet the specs that we say we do, you know, all those of course, you know pass with flying colors, and I don't think we've ever really lost a lidar shootout. So to say, as it relates to performance and safety and or even ultimate long term economics, but when it comes down to the capabilities here and how these programs for grasp, generally starts into that phase, we progress into these kind of advanced development contracts. That's where we start working closely with these companies, programs, fleets.

We have to be selective about that. You know, we probably have realistically more opportunities than we can, you know, even successfully dedicate resources to, to be able to take on and see through two series production at this stage or why we have to remain focused. We started to actually work with ten of these programs. Now at the advanced development stage. And, you know, I think eight of which are very promising with an eye toward series production. And that's always been the Holy grail of someone to be able to achieve that milestone of getting into series production. Course, that's what we're now doing. And the Volvo case it's been public that we're out there and it just and to what one other OEM, in that context. But as it relates to this, there's absolutely going to be a lot of stuff ahead on that front. And I think as people progress through the phases, that's going to be important to being able to realize this, not just on the passenger vehicle side, but also on the commercial trucking side as well. So I think it makes sense to keep an eye on that.

Michael (00:53:15):

This one's for either of you, *how should we think about the \$150 billion TAM in 2030?*

Tom:

So when we look at our TAM as Michael mentioned, we view it as about \$150 billion in 2030, as we mentioned earlier, for systems that deploy our proactive safety system, we view the content per vehicle at about a \$1,000 per vehicle for that system. When we look at systems before that deploy our highway autonomy solution, both on the hardware and software side, we've viewed that as about a \$2,500 content per vehicle solution there. And so when we look at the forecast for potential L0 to L2 proactive safety opportunities in 2030, plus the highway autonomy there, you know, that is a key contributor toward TAM. Once you start getting into robo-taxis and commercial vehicles, there, we believe there's a much stronger value proposition for our products on those vehicles, which could drive potentially higher pricing on the passenger vehicle side. And then the other thing here is that robo-taxis and commercial vehicles will need to deploy three to four sensors and sometimes in certain cases, five per vehicle. And so when you kind of look at all that and combine everything there, we get to about \$150 billion TAM in 2030. And then as you go out to 2040, when you see a much higher penetration for those levels of autonomy, as well as that's when we expect that robo-taxis next decade, to become more prevalent, we see our TAM increasing significantly to north of \$500 billion.

Michael (00:54:47):

Okay. *And then how do you foresee the lidar software landscape evolving over time and will software play a larger part in the ecosystem? When will this be either the recurring software licenses or one time?*

Austin:

Yeah. You know, it's a good question. And as it relates to that, there is a distinction here. I think the reality is that when it comes to the software side of the equation, you know, most people have really tried to separate out this autonomous stack and different discrete components. We have a lot of the larger, you know, autonomous vehicle companies, you know, the Waymo's and Cruises and everything of this world that have focused in on the robo-taxi domain. They've been developing software for that, you know, trying to work with other lidar related companies in this domain to be able to get something off the ground and then ultimately shifting towards the right solution for series production.

One is at that stage. The thing is though, is that, you know, when it comes to passenger vehicle applications, you know, and actually getting something into series production, there really hasn't been any software that's successfully developed to be able to really realize this either is through, as it relates to processing of the lidar data and systems. This is a very different type of approach. You know, when we're focused on highway autonomy, specifically as well, these proactive safety systems, then trying to develop a robo-taxi. We have to actually develop, you know, something that can be deployed in a series production vehicle, you know, auto grade level and quality of code and a performance capabilities that you know, your life can really depend on. So that's what makes all the difference there. And there's no question that it's absolutely going to be playing at a substantially increased role to accelerate adoption of this throughout the industry.

You know, I mean, just a lidar alone, you know, is actually not super useful to the vast majority of OEMs. In fact, you can't really even see it commercialized until you have the software that can successfully enable it and even enable the applications that it needs to be able to go into. So that's why we saw it as key to developing the software side. We're actually at a point now where, you know, even internally to the team, you know, we've had an inflection point where you actually have just as many software engineers as we do hardware engineers, and that's really what's driving the vision of this forward. It's, what we said is a huge portion of kind of use of proceeds for some high ROI opportunities to be able to accelerate the programs and also even further expand our TAM.

You know, Tom mentioned the total size of content value that we can address, you know, on these vehicles. That's how we get to those numbers is because it's both a combination of hardware and software. Again, we will ultimately, and we do sell this ala cart, so it's not our way or the highway, if people have different other components of the systems, we absolutely work with multiple automakers to be able to integrate that. But it is absolutely a critical part of the story. And you will not see a successful industry without that.

Michael (00:57:42):

Okay. *On the topic of data strategy will Luminar be able to harvest this proprietary data much like Tesla does across its entire fleet.*

Austin (00:57:50):

Yeah. Also a great question. Absolutely. This is definitely one of the things that Tesla got right. And what, when it comes to getting, you know, hundreds of thousands of vehicles out on the road that can effectively go back, collect data for you, so you can continue to improve a system. It makes all the difference, you know, for, for that given time. Now, of course there's a significant difference with collecting camera data for an assisted driving application, you know, following a couple of lanes on a road and having the level of ground-truth lidar data that you need for the equivalent to some of these other autonomous vehicle fleets that have been out there collecting data with this. I think the key distinction here though, is that, you know, whereas some of the largest autonomous vehicle fleets out on the road have had, you know, in the hundreds of vehicles out there going and collecting data, you know, in every area like, you know Arizona or Phoenix or Pittsburgh or wherever it may be. We actually have a kind of breakthrough opportunity by getting into series production, to have hundreds, not hundreds, but hundreds of thousands of vehicles out there collecting data at the global scale necessary to see this ultimately realized everywhere.

And that's a really important point because, I mean, if you were to try and deploy like hundreds of thousands of vehicles on a test and development fleet, to try to equip your own cars, you know, driving around, with like a hundred thousand dollars type of roof rack setups, I mean, it would cost you tens of billions of dollars, heck you might as well just buy a car company at that point. So, you know, as a result, that's why we actually, instead of paying to put these data collection vehicles on the road, we actually get paid to be able to do that. And that's a huge and key advantage that we see ultimately leveraging on the software side. That kind of builds that hugely defensible layer on the software, beyond the hardware too, as well.

Michael (00:59:51):

Now, while we've already done the comparison of Luminar versus Velodyne. *Can you just walk us through some of the more nuanced differences between 905 nanometer and 1550?*

Austin (01:00:01):

Yep. Yep, absolutely. So 1550 nanometers, it's a longer wavelength of light. It's actually known as an eye safe wavelength. People in the lidar industry have actually like there's nothing fundamentally new about using a 1550 nanometer wavelength of light for lidar. People recognize it as could say the superior wavelength for some time, if you could find a way to be able to make it work. And the real challenge with 1550, as opposed to 905, which uses a more commodity, you know, silicon receiver components, as well as existing laser supply chains is that there are no readily available off the shelf components at 1550 to build a viable system, you know, at the performance level and much less level of economics that are needed. The advantage of the 1550, just to clarify though, is that you can get dramatically higher pulse energy, and peak power associated with this, the lidar side of it, to be able to see the necessary long ranges and resolution with only a small fraction of components. You know, we've obviously been proud of what we've been able to build using just kind of a single laser receiver based architecture, you know, as opposed to using a huge array of components. And that's in large part, just because we've been able to be so efficient, you know, at this 1550 nanometer wavelength with a small fraction of the components. But again, we had to build out all of our own supply chain, build out all this from the ground up. You know, I have this cost of InGaAs that Jason was mentioning earlier, you know, going from tens of thousands of dollars for a wafer to now just using a fleck of it, you know, for three bucks, you know, powered with our chip and in volume. And that's the kind of differentiation and distinction that's allowed us to succeed.

And we're, and, and also contributes to that whole commoditization question. You know, this is fundamentally differentiated hardware that took us like moving really fast, you know, five, six years to even develop the true first iteration of, ultimately nearly a couple hundred million dollars that we had to be able to see that through with some of the highly specialized top engineers in the world, in their respective fields working on this. So that's what we saw through, but it's here today. It works. And now we get to ship it starting into series production with having our Iris sensing system all come together and start shipping this week.

Michael (01:02:27):

Great. And let's stick with that particular topic, *Tom, this one's for you around the cost of the system, one of the key inputs for, for making a decision and certainly for the OEMs, aside from volume, what are the factors are contributing to our ability to really bring down that cost over time?*

Tom:

Sure. You know, as Austin mentioned earlier, we have very few components, particularly on the laser and receiver side in our product, particularly for the Iris unit that we just shipped the first one today and will ultimately go into the series production vehicles. And so when we look at our BOM or bill of material for our first full year of commercial production, we expect that to be around \$500 per unit. More importantly, as we go from making 10,000 units per year, tens of thousands of units per year to making a hundred thousands of units per year, and ultimately hopefully millions of units per year, we expect our BOM to decline from roughly \$500 to approximately a \$100 per unit.

Now most of that is from economies of scale and a portion of that is going to come from some engineering changes that we make to our next generation after Iris. And so it's really what's driving that is relatively few components that we have on that. And then, because these are custom designed components that Austin and the team, you know, effectively designed and built and incorporated into Iris, as we start buying them in bulk, we're going to be able to drive our costs down to those targets.

Michael:

Okay. This is a two parter for you, Tom, *do you think the current downtrend in, in the stock market associated with specs is associated with broad based sentiment? And then the second part of this, can you lay out the timeline to close this merger?*

Tom:

Sure. Let me take the second question first. So, you know, what we've said publicly is we expect to close our merger with the Gores' group, Gores Metropoulos this quarter. So by the end of the year, I think the exact timing will be dictated upon our SEC review process. But right now what we said publicly is we expect to do at this quarter by the end of the year. With the first. So, you know, I used to be a former investment banker. And so during that time I would kind of, share my opinions on the market. But now that I'm a CFO of Luminar, you know, I'm following a lot less and not too sure that I have any opinions here. I know that, you know, markets tend to be volatile and go up and go down, you know, at the end of the day, our company has a very bright and exciting future here. And, you know, the current gyrations in the stock market, aren't going to impact that.

Austin (01:04:46):

Yeah, yeah, no, it makes sense. The reality is that all of this stuff, everything from the day to day for us, it's all totally in the noise. You know, we, we are literally and figuratively laser focused, you know, towards this deliverable, you know, in 2022 with Iris into series production, this is a launch partner. This sets the clock for everything that we do, and that's at least in series production on that front. And that's where, you know, we're starting to scale there, scale it with other partners too, as, or other programs, even within a partner. And that's what is going to be making all the difference. So, you know, we're really a bet, you know, on the technology, on, you know, the traction that we made on what we're able to, to successfully deliver. And that's where I think we're paying the most attention to, as we shift from, you know, a pure technology development company to now this global provider of autonomous systems, you know, working with some of the largest OEMs on the planet. So that's what really matters to us at this stage at the end of the day,

Michael (01:05:50):

In addition to a passenger vehicle, trucking and robo-taxi opportunities, what other industrial applications are you also pursuing?

Austin (01:06:01):

Yeah, so I think as it relates to this, you know, we do have, well, I should say number one, again, we are extremely focused specifically on passenger vehicle series production, as well as commercial trucking. We see those as being able to materialize and having the vast majority of the addressable market, for anything in the next decade, we want to go after, you know, the markets that has, you know, I mean, consumer vehicles, commercial trucking, it's I think like 3 trillion a year, you know, in sales, we'll go after the trillion dollar industry there. And then I think there are a number of other adjacent market opportunities that are sort of billion dollar industries or opportunities that we can successfully address. And we are actually already starting to do that. You know, it helps, you know, drive some further diversification, but, we're all in, our mentality has always been, go big or go home kind of from day one here.

And that's what we're delivering against the extent that we can leverage the exact same product that we are building for series production, for passenger vehicles and commercial trucks, we will sell it into those other markets. We do believe there's huge value in that tech, are we going to ever be the only player in that? Probably not. Does it is there a lot of value? Absolutely. But that's the way that we're thinking about it. And we do have a host of different partners and customers in the overall, you know, aerospace, defense sector, you know, mapping related systems and other things there. But that's not going to be the maniacal focus that we have on, on the other verticals.

Michael (01:07:37):

Great. Do you think lidar will become standardized or mandatory on cars and trucks as a safety feature at some point? And what do you envision as the insurance implications of something like that?

Austin (01:07:49):

Yeah, so I think as it relates to this over the long term, absolutely. And that's our goal, that was the whole vision around what we're talking about and what we've created with the proactive safety systems. This is what we're building an application towards. I think frankly, the safety side, despite how everyone having talked about it in this overall autonomous industry. Funnily enough, most autonomous systems are not necessarily being built with the singular goal of safety rather than there's a certain other objective. Okay. We want to be able to make ride sharing more cost effective, ultimately as a side effect of a byproduct of safety, et cetera. The reality is that there is massive opportunity for improving even the most basic levels of autonomy or assisted driving like level zero, which is, you know, automatic emergency braking type systems.

If we can enable dramatically safer automatic emergency braking and now automatic emergency steering systems, this is the kind of tech that can be able to make all of the difference to really be able to save those 1.3 million lives. And that's what we need to continue to drive towards. That's what I think is going to ultimately drive, as you said, from a regulatory perspective, consumer demand perspective, safety perspective, standardizations rather broader industry. I mean, don't get me wrong. The autonomy side is really cool. I think that's, what's gonna drive a lot of high content value in these vehicles and you'll be able to serve as an upgrade option because it's the same, you know, hardware it's enables it, you know, with different software and lock feature sets. But when it comes to this, there is that additional insurance opportunity that will help subsidize some of the technology or has the opportunity to over the long term.

So as kind of second part of that question, what would it mean by that is that if you take a look at actual vehicle insurance premiums, you know, it's one of the most, you know, significant aspects of cost of ownership beyond the actual purchase of the vehicle itself. And, you know, you take a look for it for the average kind of a premium vehicle. You know, it's on the order of, a couple thousand dollars a year in many states associated with it, with the insurance payments for such vehicle. And you can imagine that in, in such a low margin space, you know, as insurance in such a cutthroat industry, having a dramatic safety improvement really actually starts to break some of those traditional models. You know, normally a huge safety improvement in automotive is like, if you have like a 5% safety improvement, that's a really big deal, you know, but imagine a world where instead of just 5% or some kind of incremental amount, you know, we can increase the safety even by our preliminary analysis up to seven X and that's what can make all the difference.

So if you can dramatically reduce that cost of insurance, that actually not only could benefit the consumer, but actually even serve as an additional revenue stream to both us and even in respect of OEM and insurance partners. So on that note actually today, excited to announce as well, that we're kicking off a strategic partnership with Swiss Re the world's largest reinsurance partner in the industry or the world's largest reinsurance company period. And that's where, we're actually going to be working to develop these new types of insurance models and, you know, working with them and other related partners along the way, you know, in conjunction with OEMs to be able to see that through. That's how you can see subsidization of the technology throughout the broader industry, because of the difference it makes and what we're going to continue to drive towards so long winded answer and a bit of news there, but it'll be a good journey ahead,

Michael (01:11:39):

Tom, *can you talk about some of the benefits of having a homogenous piece of hardware that you can port into multiple applications?*

Tom:

Sure. So one of the ways that we're differentiated from your traditional automotive supplier and I'll use a seat manufacturer as an example, not only does a seat manufacturer have to tool up and develop a different seat and seat design for a Chevy pickup truck versus a Ford pickup truck. That seat manufacturer actually has to develop and retool for different platforms within GM, whether it's the pickup truck, the Camaro or the Corvette. And so as you ramp up more sales as a seat manufacturer, your capital, as well as your typical engineering or R&D designs need to go up because each incremental platform win that you get has a lot of incremental capital and other costs and other fixed costs associated. For us, the same underlying hardware and software that we're initially selling to Volvo will be sold to our other customers, not only in the passenger vehicle space, but throughout the commercial vehicle space, the robo-taxi, and eventually the adjacent markets.

So as we win more serious production programs, we do not have to invest anywhere near a significant amount in capex or our fixed costs. And so as we grow our business, we expect significant growth in our margins and longer term, we expect our margins to be around approximately 50% given not only this factor that I discussed, but also the hardware and software combined nature of our business. And when you look out there at a company like Mobileye, that kind of had a similar business model to us, they were able to achieve similar margins. Is that right?

Austin (01:13:23):

Yep. EBITDA margins, right?

Tom:

Correct. Yep.

Michael (01:13:26):

Great. It's another one for you, Tom. *What do you expect? The consumer price will be for level three capability in say 2025?*

Tom:

You know, ultimately our customers are gonna decide that. When we look at kind of, you know, trim packages today that incorporate, you know, the leading edge safety systems or other leading edge technology systems, they typically bring an additional cost of anywhere between three to eight thousand dollars to the consumer. And when you look at some of the take rates for similar products, you know, not necessarily as ours, but for L0 to L2 functionality enabling, you know, what certain OEMs call self-driving capabilities, at that upper end of \$8,000, that take rate tends to be a bar around 30%. Once you're kind of down in the lower end of that range around 3%, it can be, you know, high in that 80% to 90% range.

And so, you know, ultimately our, our customers are going to decide where they price, you know, we're going to encourage them to make it standard on their other platforms. But, you know, my personal expectations would be in that three to eight thousand dollar price range. And I shared with you kind of like the ranges of the take rates for that product. One of the things is in our financial projections, we tried to be conservative. And so the take rates for some of the option packages are actually less than 10%. And so it is relatively conservative to that. Let's call it 30% to 90% take rates that we shared with you through some of the research that we described.

Michael:

On the topic of government regulation what's needed to win various approvals. And then how do you see that developing over time?

Austin (01:14:59):

Yep, yep. No, no, it's a good question. There's actually a specific advantage, you know, being in the passenger vehicle space and domain, you know, versus some of these other related applications. So when it comes down to it on the regulatory side, it actually is kind of interesting, you know, contrary to popular belief as it relates to even in the United States. You know, for most areas, there's actually no additional fundamental regulatory approvals or barriers to entry that are needed to be able to overcome, to see the autonomous technology deployed out on the streets and roads today. The real challenge comes into play when you start messing with the actual vehicles themselves, you know, if you're ripping out a steering wheel and breaking systems or other types of modifications, you know, if you actually are able to be designed into production vehicles, you know, there's, there's a lot of leeway and flexibility. Of course, ultimately it varies, you know, geographically at a global scale, but at the same time, this is also a key driver and reason why highway autonomy, on production vehicles just makes a lot of sense to be able to get out there and part of how it can be enabled in the relative near-term without, you know, massive barriers from regulatory perspective, to be able to, to overcome necessarily in a lot of environments.

Michael (01:16:12):

Great. *Many self-driving companies have acquired their own lidar companies or develop them in house. Can you kind of speak to that over the last couple of years?*

Austin (01:16:21):

Yeah, yeah, absolutely. I think the thing is that it kind of goes back to all of these, you know, larger scale autonomous vehicle companies, they started with the software, and then we're trying to figure out a way to be able to actually get the level of data quality of 3D data quality and the input into the software to be able to make sense out of it, because at the end of the day, it really is garbage in garbage out when it comes to the data perspective. And you really want to be able to have that high quality data that current lidar systems at that time were just not delivering. And that's what really, from our perspective from day one, I mean, part of the reason why I founded this company and part of the reason I went down this route to create this value here, is because we knew that the hardware side, the lidar side was going to be one of the key bottlenecks to really enable this space to be able to happen.

It's the foundation. And as a company, we started by building out this core technology from the ground up to be able to make all this come together and happen, and then start with the hardware and then work our way to the software as an autonomous vehicle play in company, rather than starting with the software, and then trying to work our way down to the hardware. That obviously doesn't preclude us as well with partnering with other companies too, that do some of their own software development associated with that. But again, that's largely for the robo-taxi domain rather than the production vehicle passenger vehicle, as well as, you know, partnering in the commercial trucking domain. So, I'd say that's the kind of the main distinction there. And I will say though, is that despite all of these different internal efforts that launched, that people have made acqui-hires for, that people have made all of these other things for, effectively, none of them have worked out.

None of them have been able to deliver the spec that was actually needed. That was promised, you know, I mean, heck at one point, I mean, it was frigging every single major, you know, ecosystem player from, you know, OEMs to tier ones, to autonomous vehicle companies, to a significant extent all these guys had their own internal lidar efforts. Nearly all of those have kind of either shut down or gone into zombie status, you know, as they haven't been able to meet the performance backs, using the same types of off the shelf components and trying to put it in different configurations, but it just doesn't quite solve that problem. So that's really where we've come into play. You know, we knew that we had to do it from the ground up. We knew we had to start with that and then do the software that was the vision to ultimately see this realized it goes. And that's why it goes beyond the lidar itself into the software side. We really thought about it the other way around kind of from the beginning,

Michael:

Right? With today's announcement that you've shipped the Iris B sample, what else is going to be required between now and a 2022 SOP?

Austin (01:19:13):

So we got a lot ahead of us and I think there's going to be ultimately multiple things to be on the lookout for, of course, when it comes to us, I'll list, let's talk us internally and then we'll talk, you know, some of the things more in terms of what we'd expect more publicly externally. So internally we have to be able to deliver against, you know, the rest of the milestones associated with, with this program. You know, of course we kind of hit this key inflection milestone here of what we've announced today of delivering the first sensing system and unit. There, we, we have a very specific, you know, week by week negotiated series production delivery schedule, you know, along the way with a lot of different things that come into play. This is actually in large part, you know, even our revenues so to say today are largely driven by these series production programs in working with these guys hand in hand to deliver first, as we go execute kind of the, through the final stages of development and work its way into series production. That's what that's driving towards. And of course, that's unique to us in a few different capacities, but when it comes down to this, you know, we have a lot left to do. Obviously I don't want to diminish that by any means, but of course the fundamental enabler of this, the technology in large part, that's done, that's proven there's no new science, no new engineering, no new anything that has to go into this to actually make it all work. Of course, we're, we're continuing to focus, you know, on building and maturing the rest of the product.

We actually have to go through this kind of next phase of validation, you know, for the sensor and at the vehicle level, as well as actually now, internally from a process perspective, we're actually going first where we have this advanced manufacturing process. You know, we have nearly a hundred people that have been working day in, day out to be able to make this sensor really manufacturable, document that process, build the blueprint for how to be able to assemble it, how to be able to scale it, and then outsource the commodity labor, that is the assembly part of it out to the relevant contract manufacturing partners. And that's largely what we've been doing as of late. And now what we've been kicking off with some of our CM partners. So that's what's ahead as well as kind of interim step, as it relates to series production ramp deliverables is how we maintain a high degree of flexibility when it comes to the actual series production side of it.

And then how we can ramp up in a straight board capacity, again, working with automotive qualified plants, actually specifically, I think we stated that one lead assembler being in Mexico. So that's for a host of different reasons, but that's the view on that. That's us internally. Externally and in terms of our partnerships and other work that we're doing. I think in terms of what to look forward to ahead obviously continued validation of our tech, what we've built out, you know, Oh, you said, if it's as good as we say it is, you know, it's worth a lot. So, you know, I think it's one thing, hearing it from us is one thing, you know, actually at the end of the day, you have to have that commercial validation and traction and seeing that out there. And of course, we already have established initial partnerships with a number of these major companies, you know, within the space, as it relates to the passenger vehicle side, trucking side, but seeing those progress, I think will absolutely be key. In addition to that, I think really the other thing to look out for is, you know, we've certainly made a big bet early on as it relates to a focus on highway autonomy use cases where passenger vehicles and commercial trucking, that's where we focused largely our resources. And again, we are still relevant to the robo-taxi players. We absolutely think there'll be incredible value over the long term, but I think it will be great for everyone to see how that plays out. You know, are we right? Are we not? I think we have an extreme amount of conviction on this.

That's maybe a little bit contrarian in the industry. And I'm probably one of the, I like to think one of the people that were more grounded in reality, as it relates to the status of, of these different programs and what it's going to take for autonomy to ultimately be realized in the larger scope of things. But I think this bet will hopefully pay off for us big time here, and that's what, what we're going to enable. So I think those two things there, and then of course, you know, the ultimate economics in terms of what this is driving towards. I think that, you know, Tom mentioned that, but by the end of the year here, we're expected to be able to end with an order book of nearly \$1 billion, largely driven by these series production programs that we we've already won here to date, and that's only gonna continue to drive up exponentially as we deliver against these additional programs.

In fact, when it comes to opportunities like what was mentioned earlier around standardization and what that means, you know, that can actually be multiple programs all at the same time, like a single standardization when they're launching on all these different vehicle models and, and actually having it, not just be an option, but actually standard on all of these vehicles. That's the total blowout success that I think, you know, we have an opportunity to be able to see in the time ahead. So I'd say those are the things in terms of what's next. And of course just could do deliverables executions again, we try and stay out of the noise, you know, and we have that focus towards realizing this. And I think as it relates to this market, you know, it really is ours to lose. So, you know, we gotta keep delivering.

Michael (01:25:00):

Great this next one's for Tom, *a company has been tremendously successful raising capital in the private markets, why choose a SPAC versus a traditional path to IPO?*

Tom:

Sure. You know, look, I think that's a very good question. And, you know, after I joined Luminar, we sat down and, you know, we were approached actually by several SPACs. We ultimately chose the Gore's team, given their track record. You know, the fact that Alex Gore was willing to join our board and, and, you know, write a substantial check into our advanced pipe and given the fact that they had significant automotive and technology expertise. And so we viewed them as the right partner from the several SPACs that approached us. And then more importantly, we thought the going public route via SPAC was the right forum for us to really go out there and tell our story, especially on the heels of us winning, you know, the first series production program from Volvo.

And so I think that really gave us, that was catalyst for us to be approached by this SPAC, as well as it to be the avenue to us going public. And as a SPAC, you know, we're really able to tell our story in the right forum over a more extended timeline and really was able to raise via this series extra what we call advanced pipe \$170 million to date both from Alec Gores and his friends and his family, as well as our existing shareholders. So we were very excited about this path, and it was really a good opportunity for us, not only to take Luminar public, but it also really repositioned more importantly, how our customers are thinking about us. And so I think before the Volvo announcement, as well as our announcement of our transaction with Gore's, there was this perception that we were an early stage company. Now with the validation from Volvo putting us on their vehicles starting in 2022, as well as the validation from the Gores group and going into the public markets, as well as being able to raise up to \$600 million from this transaction. You know, we're really a company in our customers that are going to be here for the foreseeable future in a long time, and to really, you know, continue the success that we've had so far.

Austin (01:27:13):

Totally, you know, it's funny coming from the early days, with all of this, you know, as a startup, you know, in this space and particularly one, you know, at our stage before a lot of this was proven before a lot of what we were building out was a thing, because we had to develop all these components from scratch. So it takes time for stuff to come together. It's actually really hard, you know, to be able to work with these major global automakers. In fact, you know, honestly, we're probably the last company that anyone wants to engage with at those stages in terms of what to be able to supply and power their future of autonomy. And it's funny because, you know, I mean, ultimately we're the only ones that can deliver the spec. We're the only ones that can deliver the product. There's no, none of the companies, the traditional supply chain, the, you know, the Boschs of this world or other types of, you know, ecosystem players, you know, we're able to successfully do that. And that's where we really pioneered those relationships. We got in, you know, working directly with these customers and programs. And now that we're at a stage where, you know, they have to be able to depend on us for not just months or years, but decades to be able to come to support these programs and see this through, you know, it goes back to that kind of ten year life span and cycle of these, these vehicle platforms. So it's what makes all the difference. And I think of course, allowing us to get the usability wise, that's extra capital to, as well to make the relevant strategic investments along the way. That's certainly a unique resource that we can be able to deploy that was beyond the expectation of what we needed to get to cashflow positive for our core business. So we're going to utilize that to the fullest extent and yeah, look forward to what's ahead there.

Michael:

Okay. *On the topic automotive specs, are you seeing the industry start to coalesce around a particular set of specifications and, and or how does that differ from one OEM to the other, and then piggybacking on, on that topic, how are the people thinking about the software side of the equation in addition to the hardware side of the equation?*

Austin (01:29:18):

Yep. Yup. So you take a look, I don't know, five years ago here, and I would say every OEM probably had their own idea of a spec that was necessary to be able to solve this problem, you know, is because the hard part was the companies that did the real work that did the due diligence, you know, like the Volvos of this world early on, you know, most of these companies kept it proprietary. It's not like they were sharing with all of their other competitor OEMs, you know, exactly what the specs were that were needed to be able to solve this problem. I think we did a bottoms up analysis very early on, you know, in the industry of what level of range, performance, resolution performance, safety performance was needed to be able to successfully solve this. And I think we actually built our product around that spec to be able to solve it. That's why it's like, Oh, like, how does the automotive spec like exactly align with what you guys built? It's cause we designed it that way. And at this stage now pretty much every major automaker has fully aligned. You look at these different like RFQs, you know, programs, you know, spec docs that people provide. They are plus or minus pretty much the same, you know, seeing out 250 meters for 5% to 10% reflective objects, you know, out of distance being a high enough resolution, you know, along the horizon, you know, seeing well, being able to see that like, you know, a 0.05 degrees by, you know, 0.1 degrees, you know, at least a couple hundred points per square degree and a bunch of other different factors that go into it, obviously, you know, has to be something that's economical into industry's production to be auto grade too, as well here.

But those are the things that are really, I think I've successfully converged. You know, we have a slide on that in the broader deck, but the important part is again, you know, when it comes to highway autonomy and these use cases, you know, there's no screwing around with performance. You really have to be able to see those long range to see those edge cases, see those small objects up on the road up ahead and you know, the child up on the street ahead, heck and even a short distance as much less long. So I think that's how the different OEMs are thinking about it. And then when it comes to the software side, software's become pretty much a requirement, you know, for most of these different programs. Now sometimes different levels of software are necessarily fundamentally required. But I would say, this is also kind of what puts us in a league of our own because this is the lidar data by itself, raw. Yeah. Not particularly useful for most of these things. I mean, it's cool. You have to be able to meet the spec and to be able to actually see it through, into the real world. So again, you can get away with a lot of stuff when it comes to R&D when you have a bunch of stuff in a roof rack on test vehicles, you know, and don't actually put something into pure series production. When you put it into series production is a completely different game altogether. You know, this is the real deal. And that's where, you know, you have to have this combined hardware, software solution to be able to see this through in an auto grade capacity.

Michael:

Great. Question for Tom. *Do you think the stock market understands lidar, do generalist investors understand lidar? Is Velodyne's poor performance since its IPO a reflection of that. And do you think investors are capable of understanding the differences between the performance of Luminar versus some of the other competitors?*

Tom:

You know, I think it's a very good question. You know, my personal opinion is that the public markets are in the early stages of understanding lidar and the opportunity for lidar. I think the markets are kind of relatively familiar with the opportunity and the very large TAM for autonomous vehicles in general. But I think the public markets quite frankly, had very high expectations on, on what kind of the opportunities would be in the near term a few years ago. And then they kind of recalibrated that those opportunities are probably going to take a lot longer than initially thought of to realize, you know, particularly with regards to the robot taxis. I think the fact that Volvo is going to start putting us on their vehicles starting in 2022 would be, you know, probably a pleasant surprise to many investors to see that there is this, you know, way to really better known to autonomous vehicle company that has really a near term revenue opportunity within the next two years. And so I do think that there needs to be an education process for the market to not only recalibrate on what the timeline can be for autonomy, but also that the deployment is going to be a little bit different and that this proactive safety, as well as this highway, autonomy can be viable and will be viable over the next two to three years. And then the robo-taxis, you know, which I think was everybody's initial introduction to the market is probably going to take out to be to the next decade. Look Velodyne, you know, they're a very good company, but at the end of the day, they're really focused on a different segment of the lidar market than we are.

We're really the only long range lidar that Austin and the rest of the team mentioned that can meet these specifications to deploy this proactive safety system, as well as this highway autonomy. And so in our interactions with a lot of our customers to really do the conversions from those development programs to those series production programs, the customer is really only interacting, you know, with us. And so I do think that as the market kind of gets smarter, not only on lidar and the autonomy opportunity, they'll kind of realize that, you know, we're really, you know, much different than Velodyne, focusing on a much different segment on the lidar segment. We both have an opportunity to be very successful companies, but we're playing in the part of the lidar segment that not only has the biggest TAM, but as we see it today, we're the only company that can really enable that autonomy for proactive safety and highway autonomy within the next couple of years.

Austin 10 (01:34:58):

Yeah, absolutely. I think that's well said. And I think I absolutely look forward to continuing to go through, you know, it's part of ultimately our jobs in a complicated world in space to be able to, you know, educate the broader market and industry. Obviously, you guys on the webcast here are, are ahead of the game, you know, and then being able to understand some of the details around what's going on and some good questions already here, but I think, you know, there are two types of companies, you know, there's one where as you dive deeper and deeper into it and into a technology or into a product, or, you know, and as you do more diligence, it maybe loses some of that shine and maybe becomes a little bit less impressive, so to say either the company or product level. For us, I really think that, you know, the more you dive into it, the more time you spend, the more you really work to understand what we built and just how fundamentally differentiated is what, what we're able to do and the problems that we're able to solve. It only gets more impressive. And we absolutely encourage you guys to be able to continue to dive deep, really understand the space. You know, this is a highly complex problem. It's not intuitive, there's so much noise out there, you know, in the broader market. So many different claims, you know, you ask any company, you know, of any size in this space, you know, and what they have and how they compare it to tell you how they have the best thing since sliced bread. Obviously we're no different in that respect, but we do actually have something to show for it and do have the only system that can meet the spec.

And as far as we understand the only way from a physics perspective and supply chain perspective, to be able to successfully do that at the relevant cost for any perceivable future. So, you know, I think that's really, what's going to continue to define this and help build our story and background in the broader industry. But, you know, that's just as much our responsibility as anyone and why we think kicking this off, you know, with this investor day is the best way to be able to kind of get this road show off to a great start.

Michael (01:37:02):

Great. *What is the power draw of your system, and how does that compare to leading competitors? Is the power draw significant enough to change the electrical architecture?*

Austin (01:37:12):

Yeah, good question. You know, I think that there's definitely a lot of misconceptions around, the answer is it's less than 25 watts. So, you know, it's actually only a very small fraction of a fraction of a percent, you know, of what would be on a reasonable electric vehicle in terms of overall instantaneous power consumption. When it comes to this, just for example, compared to this, this system is less than 25 watts for the actual lidar, you know, an air conditioner alone can reach a hundred times that power consumption, you know, for a vehicle. So I think that's just like being at the ends of the thousands of watts. So, you know, that's not really a real issue here fortunately. I would say though, if the current robo-taxi systems and set ups don't evolve, I think that could be that composes a challenge, you know, the real problem from a power consumption standpoint, if it was going to actually make some kind of impact on these electric vehicles would be, you know, a lot of these test vehicles have like super computers in the back of the trunks of these systems. Of course, you know what we're doing with our deployment with Volvo and other OEMs, we're actually able to get the compute efficient enough to be integrated onto, you know, a highly cost effective, you know, GPU that's integrated into the vehicle. You know, power consumption is still quite low, but that is one of the things that does need to happen, you know, for the robo-taxi decide to make that efficient. And part of that is of course enabled by the sheer fidelity and quality of the lidar data that makes processing efficient. But to answer the original question, not a problem at all in our case, and probably in most cases for that matter for lidar.

Michael (01:38:57):

Great. *Do you think Iris could change Tesla slash Elon's mind on lidar?*

Austin (01:39:06):

Yeah, you'll have to, yeah. You have to ask them.

Tom (01:39:09):

We'd welcome an opportunity to meet with Elon and walk them through it and why we think it could be very helpful to us.

Austin (01:39:15):

You know, I, think it's hard, you know, with, with some of these companies, they form opinions, you know, very early on, like even in the Tesla case, you know, back in, I think it was the first time they said it was, you know, we're never gonna use a lidar is, you know, back in 2015, you know, when you know, these systems were, you know, \$75,000 and, you know, as, you know, R&D system, and could never, couldn't even deliver a reasonable level of performance to actually be able to recognize what's going on accurately much less, by the way, like up until now, there's never actually been a performance lidar system that could even go into any production vehicle. Like it's never really been a thing. So for what it's worth, it was never historically even been an option for automakers to put this into a production vehicle until starting with this Volvo launch and starting with Iris now in the rest of it.

So I think it absolutely will change the game. You know, I do think it's kind of funny, obviously, there's, there is a misnomer of, okay, well, if camera's space systems keep improving, they'll eventually get to a point they'll close this gap from where they are today to getting safer than human level capability. What most people don't realize is that gap is it's not like 20% off, it's not 50% off. It's like, you know, 10,000x off, you know, from being able to, to be safer than human level capability. That's why you need that ground-truth lidar data for what's going on. And yeah, I think this is absolutely for the first time. It's something that can be embedded in a production vehicle that's relevant to other auto makers. We're still for what it's worth heavily focused on the automaker. Like we wanted to get kind of a mid-sized OEM that was really reliable and safety focused. Of course, that's what Volvo built a brand around to be able to work with as a launch partner. But now we also want to continue to work with a lot of the high volume OEMs, you know, that occupy the majority of this industry. You know, we get just as much money regardless of what vehicle we sell it on necessarily, you know, with maybe a skew, a little bit towards premium or luxury vehicles, but, you know, we want it, we want to go for the really high volume stuff too, as well. Following the successful 2022 launch for the series production with Volvo.

Michael (01:41:28):

Will the winner of autonomous driving in 2030 use Luminar technology and sort of building on top of that embedded in your 4% penetration rate in the 2030 forecast. What have you sort of included in that, in that assumption?

Tom:

Look, we believe that we're the only long light range lidar that can meet these automotive specs. As we get on more of these series production programs. That's going to give a significant advantage because those programs tend to last for five to ten years. And so once you're on those programs, it's extremely difficult if not impossible to displace you. So not only is it going to be very difficult to remove us from this program, but we're going to get a huge economies of scale advantage, which is gonna allow us to drive our costs lowers and increase the adoption of our vehicles.

And so we're, we're very confident that whoever the winner is in autonomy in 2030, will be utilizing our lidar technology. Look, the TAM here is huge, you know, at the end of the day, 4% is not a heroic penetration rate in that TAM. And I think Austin and I would be very disappointed if we found ourselves in 2030, and only had 4% of the market and somebody else had that 96%. And so, you know, we think that there's a lot of upside here in our business model. I think we tried to use that slide to show you using very conservative assumptions for the penetration of the TAM on what our business can look like.

Austin (01:42:55):

Yep. And, and, and again, you know, in that context with just a 4% penetration rate, that's, you know, we're talking, you know, 5 billion revenue, two and a half billion EBITDA opportunity. I mean, it's for some pretty, pretty serious figures. So yeah, no, I mean, we're of course moving towards that winner take all type strategy or arrangement, but when it comes to it, of course the focus that's driving, almost all of that is the passenger vehicle side, as well as the commercial trucking side. You know, I think again, if you were to reassess in 2040, I think that's where the, maybe the robo-taxi side would, would play a significant role, but that's, what's going to be driving all of this and yeah, it's just a matter of getting out there. We'll have, I mean, we certainly expect 100% to be on this, on any winning, now, I wouldn't even just say any winning program, just any program that successfully materializes, you know, because again, you need to have something that is auto safe meets the performance specs is actually put into series production, and we have just such this huge advantage of the economies of scale network effects that Tom was mentioning. You know, that if you, somebody want to displace you, you have to have better tech at a lower cost and access to that supply chain, which you've already locked up, not infringing on irrelevant IP, and to be able to have the software and the data, you know, which you wouldn't be able to have at that point. So, you know, I think, we're golden, it's really our, what we need to do is we need to execute. That's what will determine that, you know, I think I should say that's what will determine how quickly we get there, you know, I think that's going to be the key variable, but, you know, in terms of the long term value, as we realize that curve, that we're all aligned on that vision.

Michael (01:44:40):

Can you talk about Luminar's dynamic and proprietary scanning methodology relative to other MEMS based technologies or solid state?

Austin (01:44:49):

Yeah. Yep, absolutely. So, you know, it's interesting, you know, I think there was a lot of hype around this, this notion of a solid state type of lidar with zero moving parts in it, you know, so some time ago, you know, I think it was initially kicked off with you had these, you know, like I said, at 50 pounds spinning systems on the roof of, the roof of vehicles that were like, okay, we need to shift onto the other end of the spectrum. You know, just have something, let's eliminate all possibility of all moving parts in a system altogether. The problem is, is that basically handicapped you so much that you can never have the level of performance or safety that's needed to actually solve the problem in the first place. And I think there was some other companies that were funded with surprisingly large dollar amounts had surprising valuations early on that didn't necessarily materialize.

They kind of led the charge, you know, on that, in terms of going down the solid state and the pure solid state route, you know, into kind of what amounted to some of these other companies that are out here today. But they're really just to any extent of our knowledge and the physics behind it, which, you know, things can change, but the physics doesn't. You know, and we don't believe there's any viable way to build a true solid state that meets these specs. So again, it really comes down to, we had to, it comes down to most of the core components that we had to build from the ground up. That's how you do it. And then we actually pair it with a very lightweight mirror that scans the beam that's integrated into the system over the field of view. And that allows us to be able to have a really dynamic raster scan type pattern, you know, over the field of view, the scanning system is actually, you know, in terms of what we've done and for what it's worth with this initial shipment with Iris, it's already qualified as auto graded, already means, you know, temps backs, shock, and vibration specs, everything that's there, you know, so we're in a really solid place, but when it comes down to the dynamic scanning pattern, that is key as part of this, because basically it allows us to focus the resolution and the image focus, the lidar data points, where it matters most, you know, and to be able to really get to a point of where you can make out things very clearly into the distance.

And that's how, you know, you saw some of the examples that were presented with, you know, seeing a stalled car way out of the distance, 250 meters ahead, seeing the girl and the ball out on the road with dynamic scanning and the resolution focused there, that's what makes a huge difference in being able to clearly make out those objects as well. And that's what we can do with our proprietary system. Again, it all had to be designed at the system level, you know, with each of the different components, you know, they weren't designed in a vacuum, they were designed to work together and that's how we can make all of this work. So instead of scanning, instead of having a huge array of lasers and receivers, you know, we have this kind of single laser receiver pair type architecture that scans over the field of view.

Michael (01:47:35):

Alright, this one's for Tom, *Tom, how do you define public market readiness and how does Luminar measure up?*

Tom:

Sure. You know, look, I would say that the team has really put in a lot of work here over the last few months for us to be a public market ready. And so, as Austin mentioned before, we made a lot of hires at the senior levels over the past 12 months to expand the team and really bring in the right talent, not only in the technology industry, but throughout the automotive industry to help us grow. You know, we recently completed our audits here with, with Deloitte, we're rapidly expanding our finance team, as well as our other team around the firm to enable us to be a public company and allow it to be ready here. And so, you know, look, a lot of work has gone into this, but I'm very confident that we're ready to be a public company and very excited about the opportunity.

Michael:

Great. *A handful of questions here about adjacent market opportunities, other industries, including robotics, warehousing, logistics, aerospace, Austin, you care to touch on, on how we're thinking about some of these other adjacent opportunities.*

Austin (01:48:43):

Yeah. So, you know, I think, and I think it's consistent with regards to our focus, but, you know, I do still believe there are, you know, these billion dollar opportunities, you know, for lidar related applications within that, you know, again, to, I think we have, we have some of the largest, you know, customers or programs that we're working with, you know, within, you know, for example, the defense and aerospace sector, you know, we have a lot of different programs when it comes to related to automation and robotic systems. And I think, there are definitely a lot of last mile kind of delivery opportunities that I think will be manifested over the course of the next real, you know, I wouldn't say immediate term, but you know, a lot longer term, I think there could that operate at lower speed.

And I think there are some different markets there that are certainly interesting. Like I said, I think ultimately it's less interesting to us off the bat, you know, I think while you can use our stuff, you know, for like a sidewalk delivery robot, you know, it's not necessarily going to be the first applications that we really see driving the value of this business over the long term. You know, that's not how you become a hundred billion plus company. I, again, think it will be valuable. It will continue to leverage that. But, you know, we are still maniacally focused on the passenger vehicle side, commercial trucking side, but, you know, there are, there do continue to be host of applications that we continue to leverage the same product for as well. You know, there are other certain types of contracts that we may even sell subsystems for both the hardware side and the software side on a continued basis, that to be able to generate kind of incremental near term revenue streams, to be able to help drive economies of scale at the component level. So, we already do that with our chips, for example, you know, and we'll continue to do that with other components too, as well for specialized applications.

Tom (01:50:44):

The one thing I would just add there is I was, if I would say, if there's any adjacent market where I think we see the biggest near term opportunity, it's going to be on the defense side. And I'd say for two reasons for that one is, you know, as Austin mentioned earlier, a business we bought a few years ago that does our chip design BFE, they kind of come from a, you know, a legacy defense nature. And so that gives us some inroads in the defense space. The other thing about our technology and the 1550 wavelength is it's not visible to the naked eye, the lower down you go to, you know, and particularly as you go above a thousand, you'll have a risk that it becomes more visible to the naked eye. And so if you start thinking...

Austin:

Or IR cameras

Tom:

Or IR cameras specifically. And so when you think about potential autonomous defense applications, one of the benefits of operating at 1550, is it's not visible at night by the naked eye or kind of traditional IR or infrared applications. Yep, absolutely.

Michael:

Great. *Why don't we, why don't we call this the last question here, Luminar calls itself, the global leader in an autonomous, an automotive letter technology. What makes you feel confident in being the leader versus say other players in the market?*

Austin (01:51:54):

So it's a good question. I think really we've become a leader in, in a few different dimensions, few different factors, you know, for first at the technology to component level, then at the product level than at the company level, and then at the system level. And we've consistently proved that out. Step-by-step over the past, you know, eight years here, along the way, you know, we've delivered against these milestones, we've actually delivered everything almost amazingly plus or minus in the scheme of things, you know, on a time horizon that even I think is, we'd like to think impressive in terms of what we've been able to do against, against the goals and autonomy goals, but when it comes to the actual lidar itself, you know, why, why are we there? Why can we call ourselves the best?

Why do others and why do all of our partners work with us here in this capacity towards series production? It really just comes down to the fact that, of all the different companies that started initiatives to be able to enable and try and build this key missing sensing solution that can meet the spec. We're the only company that meets the spec. And we're the only company that meets the spec at a cost and economics that can actually be put into series production in an auto grade capacity. And that's fully validated by both our partners and the fact that we actually have won the first and only, you know, series of production programs, actually putting this into the real world at, at scale for autonomy altogether. So I think that really validates us again, not just on the hardware side, but also on the software side, in terms of what we're doing.

There's nothing that's even really remotely close in that domain. And that wide gap is something that we're very confident, proud of. Again, you know, as you dig more and more into it, I think it only gets more impressive. And despite all of the claims, the noise out there, there's the reason why we're the ones here and why we're the ones to have solved that problem. And hopefully this whole video and as part of the live stream here has been able to give some of that context and background for how we've been able to solve this and why we really are that global leader.

Michael:

Excellent. So with just a minute here left before the top of the hour, why don't we hand it back over to you for some concluding remarks?

Austin:

Yeah. Yeah. Thanks. Thanks Michael. Thanks everyone. Well, appreciate all of you guys for joining us today, you know, excited to be able to, to really have you all along here for the journey, you know, thanks again for this engagement. And you know, of course we got, we got some good stuff ahead. I actually had just released as well, kind of an overall letter in terms of, you know, state of the industry Luminar, where we see our positioning in that market. So, you know, feel free to share that out. And I think summarizes some of the things that we've actually talked about in more detail today. So, you know, be excited to get out there with this. So, thanks everyone for joining. I look forward to what's ahead.

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Gores Metropoulos, Inc. (the "Company") and Luminar Technologies, Inc. ("Luminar") and their respective directors and officers may be deemed participants in the solicitation of proxies of Company stockholders in connection with the business combination transaction pursuant to the Agreement and Plan of Merger (the "Merger Agreement"), dated August 24, 2020, by and among the Company, Dawn Merger Sub, Inc., Dawn Merger Sub II, LLC and Luminar. **Company stockholders and other interested persons may obtain, without charge, more detailed information regarding the directors and officers of the Company in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2019, which was filed with the Securities and Exchange Commission ("SEC") on March 13, 2020.**

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