# Velodyne Lidar®

# SECOND QUARTER 2021 INVESTOR PRESENTATION

August 5, 2021

YOUR SAFETY DRIVES US

## SAFE HARBOR

This presentation contains "forward-looking statements" within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995, including but not limited to, statements regarding our financial outlook and market positioning, business strategy and plans, potential contract opportunities, planned products and services, growth opportunities, market demand and technological developments. These forward-looking statements are based on information available to us as of the date of this presentation and are based on our management's current views and assumptions. You can identify forward-looking statements by the fact that they do not relate strictly to historical or current facts. These statements may include words such as "anticipate", "estimate", "expect", "project", "plan", "intend", "believe", "may", "will", "should", "can have", "likely" and other words and terms of similar meaning in connection with any discussion of the timing or nature of future operating or financial performance or other events.

All forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from those that we expected, including: the impact on our operations and financial condition from the effects of the current COVID-19 pandemic; the impact of the COVID-19 pandemic on our customers and suppliers; our ability to execute our business plan; the timing of revenue from existing customers, including uncertainties related to the ability of our customers to commercialize their products and the ultimate market acceptance of these products; uncertainties related to our estimates of the size of the markets for our products; and future revenue opportunities; the rate and degree of market acceptance of our products; the success of other competing lidar and sensor-related products and services that exist or may become available; our ability to identify and integrate acquisitions; rising costs adversely affecting our profitability; uncertainties related to our current litigation involving us or products and services; and changes in applicable laws or regulations. We operate in a very competitive and rapidly changing environment and new risks may emerge from time to time. It is not possible for us to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results or outcomes to differ materially from those contained in any forward-looking statements. Additional information concerning risks, uncertainties and other factors that could cause results to differ materially from the expectations described in this presentation relate only to events as of the date hereof. We undertake no obligation to update or revise any forward-looking statement as a result of new information, future events or otherwise, except as otherwise required by law.

This presentation includes information concerning economic conditions, our industry, our markets and our competitive position that is based on a variety of sources, including information from independent industry analysts and publications, as well as our own estimates and research. Our estimates are derived from publicly available information released by third party sources, as well as data from its internal research, and are based on such data and our knowledge of our industry, which we believe to be reasonable. The independent industry publications used in this presentation were not prepared on our behalf. While we are not aware of any misstatements regarding any information in this presentation, forecasts, assumptions, expectations, beliefs, estimates and projections involve risk and uncertainties and are subject to change based on various factors.

In addition to our results determined in accordance with generally accepted accounting principles in the United States ("GAAP"), we believe the non-GAAP measures of non-GAAP gross profit (loss), non-GAAP gross margin, non-GAAP operating expenses, non-GAAP operating loss, non-GAAP net loss, non-GAAP net loss per share, and Adjusted EBITDA are useful in evaluating our operating performance. Certain of these non-GAAP measures exclude stock-based compensation and related employer payroll taxes, litigation settlements, amortization of acquisition-related intangibles assets, restructuring, and discrete tax items. We believe that non-GAAP financial information, when taken collectively, may be helpful to investors because it provides consistency and comparability with past financial performance and assists in comparisons with other companies, some of which use similar non-GAAP information to supplement their GAAP results. The non-GAAP financial information is presented for supplemental informational purposes only, and should not be considered a substitute for financial information presented in accordance with GAAP, and may be different from similarly-titled non-GAAP measures used by other companies. Reconciliation tables of the most comparable GAAP financial measures to the non-GAAP financial measures are used in this press release. The impact of these items in future periods is uncertain and depends on various factors. Accordingly, a reconciliation for forward-looking non-GAAP operating income is not available without unreasonable effort.

The financial results contained herein as of June 30, 2021 and for the three months ended June 30, 2021 and June 30, 2020 are unaudited. These numbers are derived from our unaudited interim consolidated financial statements. The unaudited interim consolidated financial statements have been prepared on the same basis as the audited consolidated financial statements and, in the opinion of management, reflect all adjustments, consisting only of normal recurring adjustments, that are necessary for the fair presentation of our unaudited interim consolidated financial statements. Our historical results are not necessarily indicative of the results that may be expected in the future, and our interim results are not necessarily indicative of the results that may be expected for the full fiscal year.

# **INVESTMENT HIGHLIGHTS**

Market Leader	<ul> <li>First mover with highest market share<sup>1</sup></li> <li>300+ customers across auto and non-auto markets</li> <li>~58,000 units shipped to date<sup>2</sup></li> <li>\$700M+ cumulative revenue<sup>3</sup></li> </ul>
Trends	<ul> <li>Our auto and trucking customers are adopting lidar in commercial ADAS systems to improve safety</li> <li>Rollout of contactless last-mile delivery solutions accelerating due to COVID-19 pandemic</li> <li>Multiple non-automotive industries starting to use lidar, driven by lower ASPs</li> </ul>
Competitive Moats	<ul> <li>Entrenched customer relationships with high switching costs</li> <li>Multiple production agreements across many automotive, delivery and security customers</li> <li>Extensive patent portfolio with demonstrated defensibility</li> <li>Broad product portfolio in rotational and solid state lidar, not relying on just one product or technology</li> <li>Proven low-cost manufacturing at scale, including automotive grade</li> </ul>
Visible Profitable Growth	<ul> <li>Tracking 213 potential projects across 25+ industries, representing a 10% increase over 194 projects at the end of 2020</li> <li>Increased number of multi-year agreements to a total of 34</li> <li>2020 revenue \$95.4M</li> </ul>
Upside Potential	<ul> <li>Steepened customer demand across different applications across multiple industries</li> <li>Continuing to build the broadest product portfolio to meet the needs of a diverse range of industries</li> <li>Significantly expanding customer pipeline demonstrates inflection point in market</li> </ul>

# **BUSINESS UPDATES**

- Total sensors shipped in Q2 2021 exceeded 3,800, including 260 solid state sensors
- 28% sensors sold to customers with multi-year agreements
- As of 8/1/21, the total number of multi-year agreements and projects in pipeline increased to 34 and 213, respectively
- Announced customer agreements and deepened partnerships with the following:
  - o ANYbotics
  - o Trunk.Tech
  - Seabed
  - o Farraday Future
  - AGM Systems
  - o Gatik
  - o Knightscope
- Launched Velodyne Lidar's Intelligent Infrastructure Solution (IIS) with first IIS sales agreement announcement; First IIS deployment in the US and IIS being currently tested in 10 cities
- Announce the next-generation Velabit sensor, Equipped with Velodyne's breakthrough proprietary micro-lidar array architecture (MLA)
- Intelligent Infrastructure Solution wins Smart 50 Award from Smart Cities Connect
- Joined NVIDIA's Metropolis program for Intelligent Infrastructure Solutions
- Launched the India Design Center in Bangalore, India

#### BROAD PORTFOLIO ADRESSES SAFETY NEEDS FOR DIVERSE APPLICATIONS

#### Velodyne Lidar

#### **DELIVERY** | MOVING GOODS

Includes touchless delivery, B2B transport, railways, and robotic delivery



#### AUTOMOTIVE | MOVING PEOPLE

Includes ADAS, levels 1-5 AV, and robotaxis



#### **SMART CITY & SECURITY**

Includes intelligent intersections, advanced people monitoring, parking & traffic management, and drones



**2005** Invented Real-Time 3D Lidar



**2007** Began World's First Commercial Production of Real-Time 3D Lidar



**TODAY** Leading Lidar Technology



#### HIGHLIGHTS

- Market leader for 13+ years
- Broad product portfolio
- Cumulative sales of over \$700 million<sup>1</sup>
- 300+ customers, including major OEMs and leading Tech companies
- Global sales and mass scale manufacturing
- 25+ market segments outside automotive

<sup>1</sup> As of June 30, 2021

# VELODYNE IS THE LEADING LIDAR PROVIDER

Velodyne Lidar



<sup>1</sup>Contracts represent agreed upon terms and conditions but do not include firm commitment purchase orders. Actual sales may differ materially from projected volume. <sup>2</sup>Represents the number of unique customers including distributors that purchased smart vision solutions from us in 2018, 2019 and 2020. <sup>3</sup>As of August 5, 2021.

# **VELODYNE LIDAR PRODUCT ROADMAP**

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## PAST INVESTMENTS DRIVE GROSS MARGIN EXPANSION AT SCALE

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#### Vella is Our Core Perception Technology That Enables Many Use Cases



#### **HIGHLY DIVERSIFIED PROJECTS** ACROSS INDUSTRIES

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Note: The chart above reflects a visual representation of how Velodyne believes the market is developing based on multi-year commercial demands that Velodyne currently sees from customers and is not indicative of projected revenue or unit shipment. Signed and awarded contracts represent agreed terms and conditions of supply, but do not reflect firm orders unless and until purchase orders are received. To date, shipments under and revenue from these signed contracts have not been material. Based on data as of Aug 1, 2021.

#### **VELODYNELIDAR.COM**

#### DEMAND CURVE REFLECTS A GROWING MARKET OPPORTUNITY

Velodyne is currently in the process of negotiating RFIs, RFQs, and long-term contracts with many customers. The below pipeline only reflects identified projects as of Aug 1, 2021.



Note: The chart above reflects a visual representation of how we believe the market is developing based on multi-year commercial demands that we currently see from customers and is not indicative of projected revenue or unit shipment.

Signed and awarded contracts represent agreed terms and conditions of supply, but do not reflect firm orders unless and until purchase orders are received. To date, shipments under and revenue from these signed contracts have not been material. Based on data as of Aug 1, 2021.

Additional Pipeline includes RFQ, RFI, and Pre-RFI projects. are defined as a particular sensor and/or sensor set for a project has been identified, iii) pricing and the future ASP have been discussed, iv) an approximate volume growth over the

# **VELODYNE'S COMPETITIVE MOATS**





Entrenched Customer Relationships: High switching cost as customers spend years and millions of dollars developing and validating solutions around Velodyne's technology, including system design and software development



**Driving ASP Reductions:** Automated manufacturing techniques, deployed at high-quality manufacturing partners, drive down costs and expand our TAM at high margins and scale



**Defendable IP Portfolio:** Technology, products and manufacturing methods protected by comprehensive global patent portfolio



**Diverse Product Portfolio:** One-stop source for all machine vision needs across broad end-market applications

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Access to Capital: Public currency and wellcapitalized balance sheet enable us to drive selective industry consolidation and further differentiate us from competitors



- Customers typically buy products on a spot basis for several years during pre-contract process
- Customers forecast purchase volume for each contract year, with contracted ASPs for indicated volume
- Contracted ASPs drop as volumes increase
- Binding purchase order for Year 1 confirmed upon signing contract
- Non-recurring engineering (NRE) revenues may be generated in Year 1 of contracts
- Purchase orders for subsequent years typically to be confirmed by September, providing solid visibility on production volume and revenues more than a year forward
- Velodyne can typically renegotiate pricing upward, at its discretion, if projected volume for any year drops more than 20% below forecast

#### BARRIERS TO ENTRY: ROBUST DURABILITY OF INSTALLED CUSTOMER BASE

Why We Have a Sticky Customer Base

- A. Technology differentiation
- B. Lengthy and rigorous validation process
- C. Long-term contracted volume arrangements
- D. High switching costs





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#### Our Low-Cost Production Drives ASP Reduction and TAM Expansion Across Industries and Product Portfolio

1 SCALE	2 COMMERCIALIZATION	3 PIPELINE / MODEL BUILD	<b>4</b> PORTFOLIO
~58.0K Units Shipped Since Inception	<b>34</b> Agreements	<ul> <li>Bottom-up approach</li> <li>213 active</li> </ul>	Unmatched Breadth of Portfolio for All Applications
~3.8K Units Shipped in Q2 2021	<b>~\$95M</b> 2020 Revenue	end markets	

#### 5 PERFORMANCE / READINESS

- Velarray product line is automotive grade
- Mature and proven technologies in production today
- Optimal combination of price and performance
- Range of products applicable to diversified end-markets and performance requirements

#### **SCALABILITY**

- Multi-sourced supply chain and outsourced production
- Design-for-manufacturing process and know-how developed over a decade of manufacturing experience
- Very low cost silicon receivers and 905nm laser

#### SOFTWARE

- >20% of 2024E revenue forecast from software
- Forecasted software revenue based on direct feedback from OEMs using Velarray hardware

## **REPRESENTATIVE CUSTOMERS**

Velodyne Lidar



# Velodyne Lidar

# **FINANCIAL SUMMARY**

#### Improving margins with transition to new overseas manufacturing

from inception Revenue Profile **Enabling new applications** 34 active multi-year agreements<sup>1</sup> vs. 26 at the Improving end of 2020 **Profitability** 

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3,800 sensors shipped;

Shipped 58K sensors

**FINANCIAL HIGHLIGHTS:** 



Product (Sensor) Gross Margin	Mid-to-High 40%s
Gross Margin	Mid-to-High 50%s
R&D as Percentage of Revenue	20%
Sales as Percentage of Revenue	10%
G&A as a Percentage of Revenue	7%
Adjusted EBITDA Margin	20+%
Free Cash Flow	15%

The target gross margin and EBITDA margin are on a non-GAAP basis.

# Velodyne Lidar®

# THANK YOU





# **APPENDIX | FINANCIAL**



#### GAAP TO NON-GAAP GROSS PROFIT RECONCILIATION

# **NON-GAAP GROSS PROFIT**

(\$ in millions)	Q2 2020	Q2 2021
GAAP Gross Profit	\$13.9	(\$5.8)
Stock-Based Compensation	_	\$0.5
Non-GAAP Gross Profit	\$13.9	(\$5.3)
Margin %	48.9%	(39.2%)

# **NON-GAAP OPERATING LOSS**

(\$ in millions)	Q2 2020	Q2 2021
GAAP Operating Loss	(\$9.7)	(\$90.6)
Stock-Based Compensation	\$0.1	\$54.1
Amortization of Acquisition-Related Intangible Assets	\$0.1	\$0.1
Legal Settlement	-	\$2.3
Non-GAAP Operating Loss	(\$9.5)	(\$34.1)

#### GAAP TO NON-GAAP OPERATING EXPENSE RECONCILIATION

# **RESEARCH & DEVELOPMENT**

(\$ in millions)	Q2 2020	Q2 2021
GAAP Research & Development Operating Expense	\$14.6	\$17.0
Stock-Based Compensation	-	(\$2.9)
Amortization of Acquisition-Related Intangible Assets	(\$0.1)	(\$0.1)
Non-GAAP Research & Development Operating Expense	\$14.5	\$14.0

#### GAAP TO NON-GAAP OPERATING EXPENSE RECONCILIATION

# **SALES & MARKETING**

(\$ in millions)	Q2 2020	Q2 2021
GAAP Sales and Marketing Operating Expense	\$3.4	\$47.2
Stock-Based Compensation	—	(\$42.2)
Non-GAAP Sales and Marketing Operating Expense	\$3.4	\$5.0

#### GAAP TO NON-GAAP OPERATING EXPENSE RECONCILIATION

# **GENERAL & ADMINISTRATIVE**

(\$ in millions)	Q2 2020	Q2 2021
GAAP General & Administrative Operating Expense	\$5.6	\$18.3
Stock-Based Compensation	(\$0.1)	(\$8.5)
Non-GAAP General & Administrative Operating Expense	\$5.5	\$9.8

# **APPENDIX | TECHNOLOGY**



# LIDAR TECHNOLOGY READINESS



#### **SCALABILITY**<sup>1</sup>

## **TRADITIONAL VISION SOLUTIONS ALONE HAVE SEVERE LIMITATIONS**

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**High-Resolution Radar** 



#### **Shortcomings**



Lack of precision at range



Poor object detection and recognition at range, dangerous optical illusions



Localization: lack of mapping



Field of view: multiple sensors required



Poor performance at night, dawn and dusk



Poor performance in direct sunlight

## VELODYNE OFFERS MULTIPLE LIDAR ARCHITECTURES

#### Velodyne Lidar

#### Each Of Our Products Is Built With Solid State Lidar

## SURROUND



Sees 360-degrees around the vehicle simultaneously Best-in-class distance perception Broad portfolio offering



#### DIRECTIONAL



Long-range directional vision Subtle vehicle integration Robust solution for mass adoption

Wedger abalant	Velarra H800	y
Velarray M1600	Velodyner	Next-Gen
		Velabit
		Announced Future Product

#### HEMISPHERICAL



Ultrawide field-of-view for nearrange perception Excellent resolution and point density

Tailored to blind spot monitoring



Veladome

Announced Future Product

#### **VELODYNE IS THE AT-SCALE MARKET LEADER** Velodyne Lidar

#### We Have the Broadest Product Portfolio with Superior Software-Driven Performance <sup>(1)</sup>



Performance (Range x Resolution x Field of View)

Long-Range Short-to-Mid Range Solid State **Surround View** Surround View **Directional** 

(1) Long-Range defined as 200m and above and Short-to-Mid Range defined as less than 200m. Chart reflects sensors for which stats are disclosed on company websites and product datasheets.

Source: Public company websites and product datasheets.



#### VELODYNE DELIVERS SUPERIOR COMBINATION OF REQUIREMENTS FOR AV/ADAS

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- These requirements combined are needed to effectively meet the needs of AV/ADAS customers
- To achieve scalability for the automotive market, global partnerships and miniaturized processes are necessary, which Velodyne delivers



Sources: Publicly available investor presentations as of May 2021, S-1 filings, data sheets, BusinessWire and Venture Beat.

# VELODYNE OUTPERFORMS COMPETITORS FOR ROBOTICS & LAST MILE DELIVERY WITH COMBINED KEY SPECIFICATIONS

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- Meets the needs of robotics & last-mile delivery customers with combined critical specifications
- Velodyne is already in scaled production of select sensors to meet mass manufacturing demands



Sources: Publicly available investor presentations as of May 2021, S-1 filings, data sheets, BusinessWire and Venture Beat.

Velodyne has developed lidar-centric PAEB, a critical ADAS function, for improving road safety and protecting vulnerable road users such as pedestrians and cyclists. Using Velodyne's lidar sensors, our PAEB solution can operate in both daytime and nighttime, urban and freeway, and inclement weather scenarios.



# Lidar-based PAEB succeeded 100% of the time in multiple scenarios with different target sizes and orientations

	Results for Lidar Based PAEB System								
Test #	Crossing adult @ 50% overlap	ossing adult @ 50% Crossing adult overlap @ 25% overlap		Crossing child @ 25%, adult @ 75% 10 feet child	Crossing adult @ driver-side corner	Fallen adult @ 50% overlap			
1	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped			
2	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped			
3	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped			
4	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped			
5	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped			

#### **Camera+Radar Based PAEB System Failed Frequently in the Dark**

	Results for Camera+Radar Based PAEB System							
Test #	Crossing adult @ 50% overlap	Crossing adult @ 25% overlap	Crossing child @ 50% overlap	Crossing child @ 25%, adult @ 75% 10 feet child	Crossing adult @ driver-side corner	Fallen adult @ 50% overlap		
1	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	Collision	Collision	Collision		
2	Vehicle Stopped	Vehicle Stopped	Collision	Vehicle Stopped	Collision	Collision		
3	Vehicle Stopped	Collision	Vehicle Stopped	Collision	Collision	Collision		
4	Collision	Vehicle Stopped	Collision	Collision	N/A	N/A		
5	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	N/A	N/A	N/A		

## **VELLA<sup>TM</sup> PAEB DAYTIME**



https://youtu.be/N\_QmPJhhmEo

## **VELLA<sup>TM</sup> PAEB NIGHTTIME**



https://youtu.be/1800PT1zMGU

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Architecture Innovations	ADAS	AV	Delivery	Drones/ UAV	Industrial	Mapping	Robotics	Security	Smart City	Trucking
Surround View HDL		x		x		x				
Surround View Pucks, Ultra Puck, Alpha Prime		x	x	x	x	x	x	x	x	x
Solid State Velarrays	x	x	x		х		x	x	x	x
Solid State Velabit	x	x	x	x	x		x			
VelaDome		x		x	x					x





#### We are transforming infrastructure to make communities smarter and safer today

Intelligent Infrastructure Solution (IIS) combines Velodyne's award-winning lidar sensors and Bluecity's powerful artificial intelligence (AI) software to monitor traffic networks and public spaces, generating real-time data analytics and predictions to improve traffic and crowd flow efficiency, advance sustainability and protect vulnerable road users.

IIS is sold as a bundle comprised of sensors compute and subscription software, with ongoing access to system analytics.



#### Reliable Collect data in any lighting or weather

conditions -24/7, 360 days a year.



#### Multi modal

Detects all road users, including vehicles, pedestrians and bicyclists.



#### **Cost Effective & Easy to Install**

A single sensor needed for most intersections, mounted on a traffic pole, with no need for underground wire.



#### **Privacy Protected**

Lidar-based system cannot identify facial features, eliminating privacy concerns and preserving trust.



#### **Advanced Safety Analytics**

Predict, diagnose, and address road safety challenges.



#### **Cloud-based Traffic Analytics**

Powered by LTE/5G, Explorer delivers real-time access to your data.

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https://youtu.be/n6OmiMzpdjo