

Velodyne Lidar®

THIRD QUARTER 2021  
**INVESTOR  
PRESENTATION**

November 4, 2021

ENVISION THE FUTURE™



## SAFE HARBOR

Velodyne Lidar

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 and potential litigation involving us or our predecessors or the validity or enforceability of our intellectual property; our ability to partner with and rely on third party manufacturers; general economic and market conditions impacting demand for our 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 can be found in our filings with the U.S. Securities and Exchange Commission, including quarterly reports on Form 10-Q and current reports on Form 8-K. The forward-looking statements included 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 September 30, 2021 and for the three months ended September 30, 2021 and September 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

Velodyne Lidar

<b>Market Leader</b>	<ul style="list-style-type: none"><li>• First mover with highest market share<sup>1</sup></li><li>• 300+ customers across auto and non-auto markets</li><li>• ~62,000 units shipped to date<sup>2</sup></li><li>• \$715M+ cumulative revenue<sup>3</sup></li></ul>
<b>Trends</b>	<ul style="list-style-type: none"><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>
<b>Competitive Moats</b>	<ul style="list-style-type: none"><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>
<b>Visible Profitable Growth</b>	<ul style="list-style-type: none"><li>• Tracking 220 potential projects across 25+ industries, representing a 13% increase over 194 projects at the end of 2020</li><li>• Increased number of multi-year agreements to a total of 35</li><li>• 2020 revenue \$95.4M</li></ul>
<b>Upside Potential</b>	<ul style="list-style-type: none"><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>

<sup>1</sup> Based on management estimate

<sup>2</sup> From Inception, as of Sep 30, 2021

<sup>3</sup> From Inception, as of Sep 30, 2021

<sup>4</sup> See appendix for reconciliation of GAAP to Non-GAAP measures.

- Appointed Dr. Ted Tewksbury as CEO as of November 10, 2021
- Dr. Tewksbury's five-point plan for the company is:
  - Achieve operational excellence, world-class quality and customer satisfaction
  - Prioritize engineering investments to balance near-term revenue (industrial and robotics) with longer-term growth opportunities (automotive / ADAS)
  - Develop a hardware roadmap that enables the industry's highest performance lidar at the lowest cost
  - Define a software strategy to deliver easy-to-use, intelligent perception solutions
  - Ensure that we have the people, processes and culture in place to achieve the other four priorities.
- Total sensors shipped in Q3 2021 exceeded 4,400, including 630 solid state sensors
- 24% of sensors sold to customers with multi-year agreements
- As of 11/1/21, the total number of multi-year agreements and projects in pipeline increased to 35 and 220, respectively
- Announced customer agreements and deepened partnerships with the following:
  - Renu Robotics
  - AGM
  - TOPODRONE
  - UC Irvine
- Appointed Virginia Boulet to Velodyne Lidar's Board of Directors as of November 4, 2021



# BROAD PORTFOLIO ADDRESSES 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



# WE ARE THE TRUSTED FIRST MOVER WITH THE GREATEST MARKET SHARE

Velodyne Lidar

**2005**

Invented Real-Time 3D Lidar



**2007**

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



**TODAY**

Leading Lidar Technology



## HIGHLIGHTS

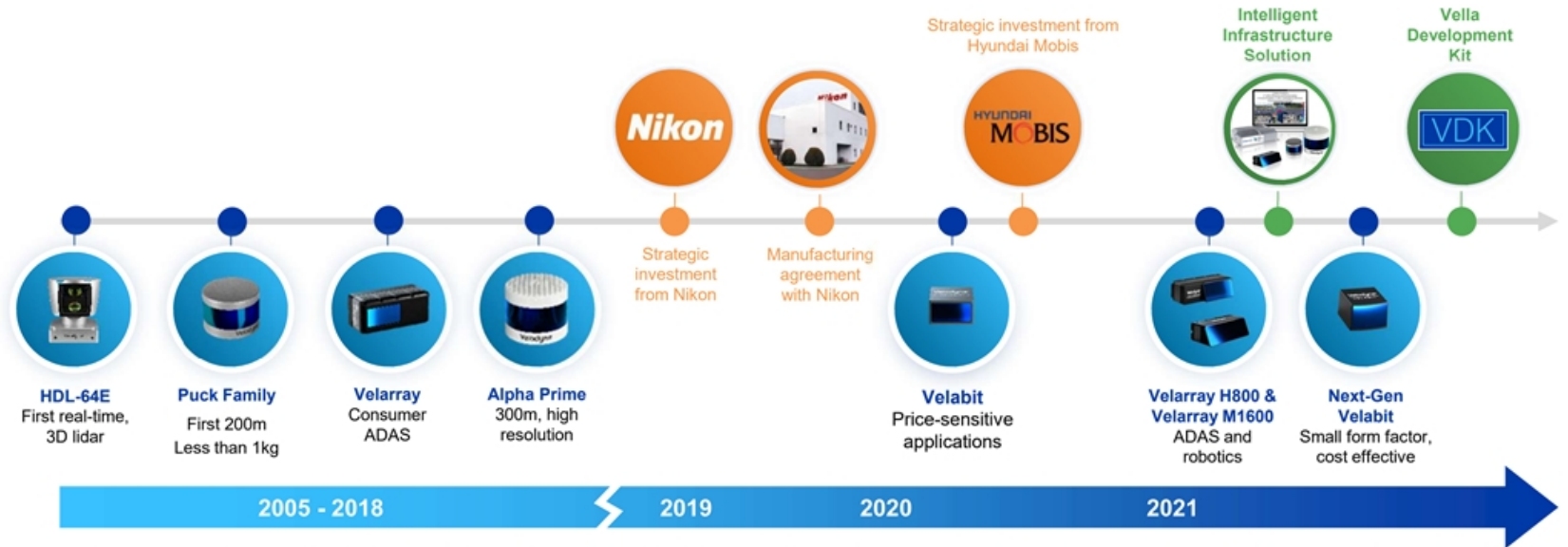
- Market leader for 13+ years
- Broad product portfolio
- Cumulative sales of over \$715 million<sup>1</sup>
- 300+ customers, including major OEMs and leading Tech companies
- Global sales and mass scale manufacturing
- 25+ market segments outside automotive

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

# VELODYNE IS *THE* LEADING LIDAR PROVIDER

Velodyne Lidar

<p><b>~\$95M</b> 2020 Revenue</p>	<p><b>35<sup>1</sup></b> Signed / Awarded Multi-Year Agreements</p>	<p><b>300+<sup>2</sup></b> Customers</p>	<p><b>71 / 250<sup>3</sup></b> Granted / Pending Patents</p>	<p><b>62,000+<sup>3</sup></b> Units Shipped</p>
---------------------------------------	---	--	--	---



<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.

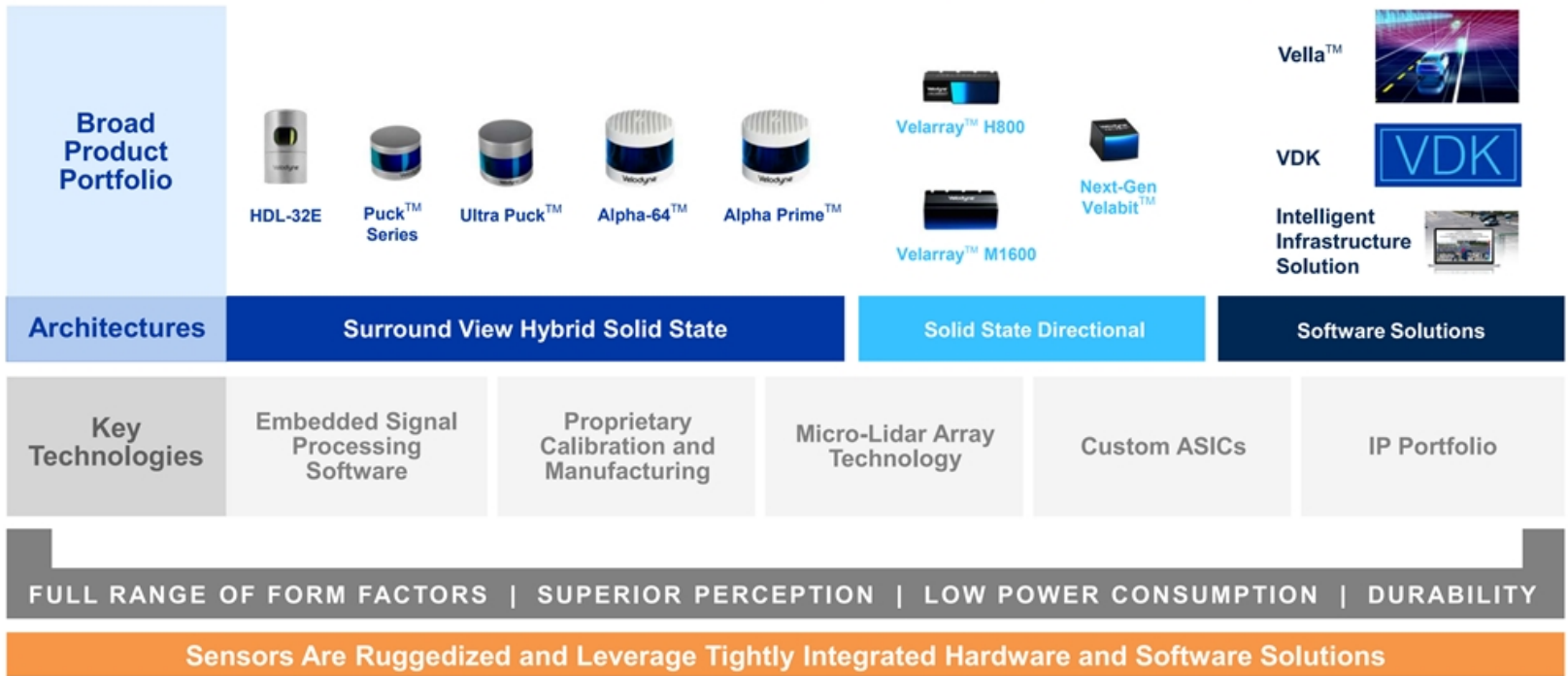
<sup>2</sup>Represents the number of unique customers including distributors that purchased smart vision solutions from us in 2018, 2019 and 2020.

<sup>3</sup>As of Nov 4, 2021.

# VELODYNE LIDAR PRODUCT ROADMAP

Velodyne Lidar

Tireless Innovation to Bring New Technologies and Products



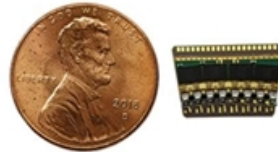


# PAST INVESTMENTS DRIVE GROSS MARGIN EXPANSION AT SCALE

Velodyne Lidar

## TECHNOLOGY MINIATURIZATION

Micro-lidar arrays and custom ASICs enable mass production at lower unit cost



## PROPRIETARY MANUFACTURING IP

Fully automated wafer-scale lidar manufacturing processes



## MANUFACTURING PARTNERSHIPS

Partnerships add capacity and opportunity for higher margins

**Nikon**

(TSE: 7731)

**fabri**net

(NYSE: FN)

## OVERSEAS PRODUCTION

Established low cost production in Thailand



Completed Transition



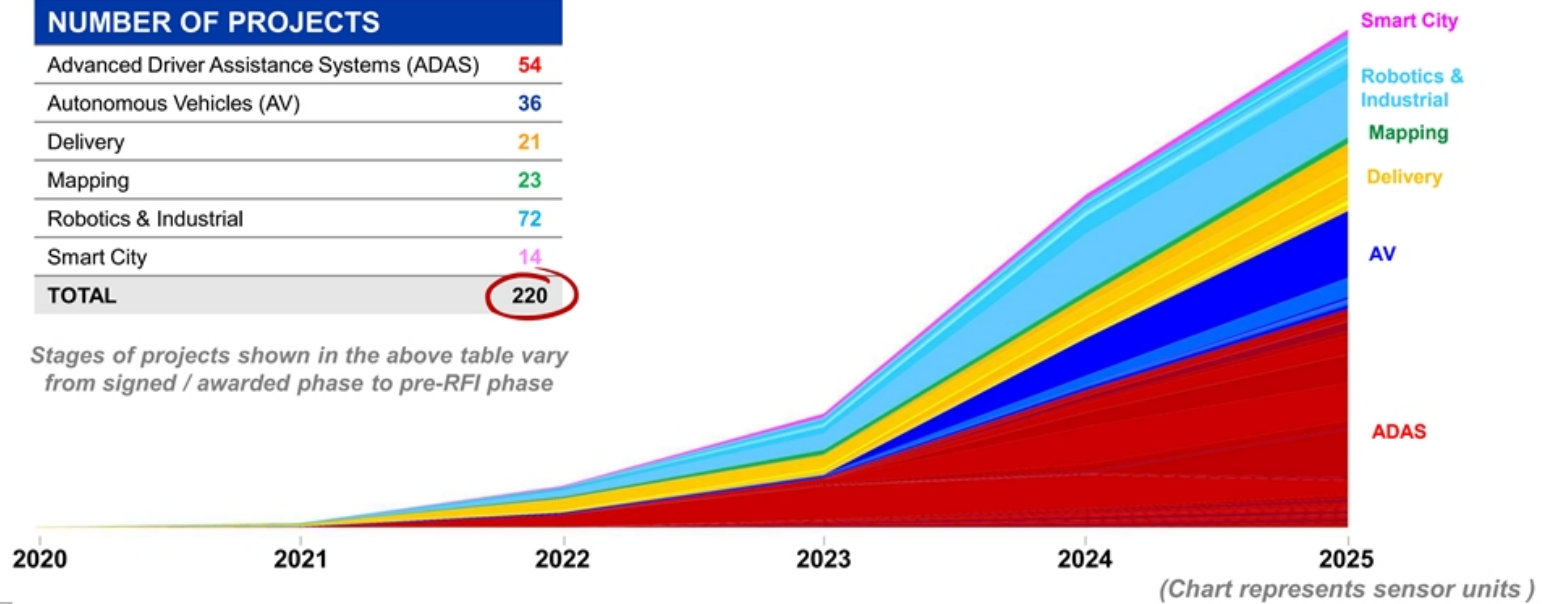
Transitioning 2021

# HIGHLY DIVERSIFIED PROJECTS ACROSS INDUSTRIES

**220** Projects Could Potentially Yield a Total of **~7.5M** Units Shipped by 2025

NUMBER OF PROJECTS	
Advanced Driver Assistance Systems (ADAS)	54
Autonomous Vehicles (AV)	36
Delivery	21
Mapping	23
Robotics & Industrial	72
Smart City	14
<b>TOTAL</b>	<b>220</b>

Stages of projects shown in the above table vary from signed / awarded phase to pre-RFI phase



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 Nov 1, 2021.

# DEMAND CURVE REFLECTS A GROWING MARKET OPPORTUNITY

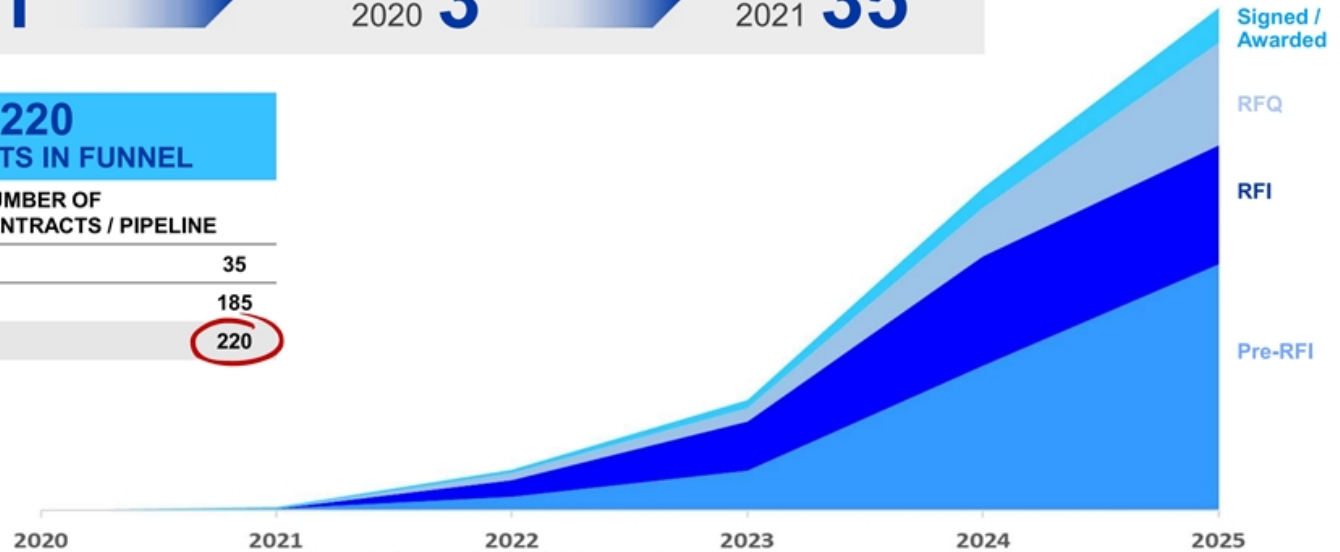
Velodyne is currently in the process of negotiating RFIs, RFQs, and long-term contracts with many customers. The below pipeline only reflects identified projects as of Nov 1, 2021.



**220 PROJECTS IN FUNNEL**

NUMBER OF CURRENT CONTRACTS / PIPELINE	
Signed / Awarded	35
Additional Pipeline	185
<b>TOTAL</b>	<b>220</b>

Chart represents sensor units



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 Nov 1, 2021. Additional Pipeline includes RFQ, RFI, and Pre-RFI projects. Pre-RFI projects are defined as i) a particular sensor and/or sensor set for a project has been identified, ii) the goal for a particular project has been identified, iii) pricing and the future ASP have been discussed, iv) an approximate volume growth over the next 2-5 years has been discussed and identified and v) multiple meetings have taken place regarding the project with several technical discussion. There can be no assurance that any pre-RFI projects will result in significant future unit sales within any specific time frame, if at all.

# VELODYNE'S COMPETITIVE MOATS

Velodyne Lidar

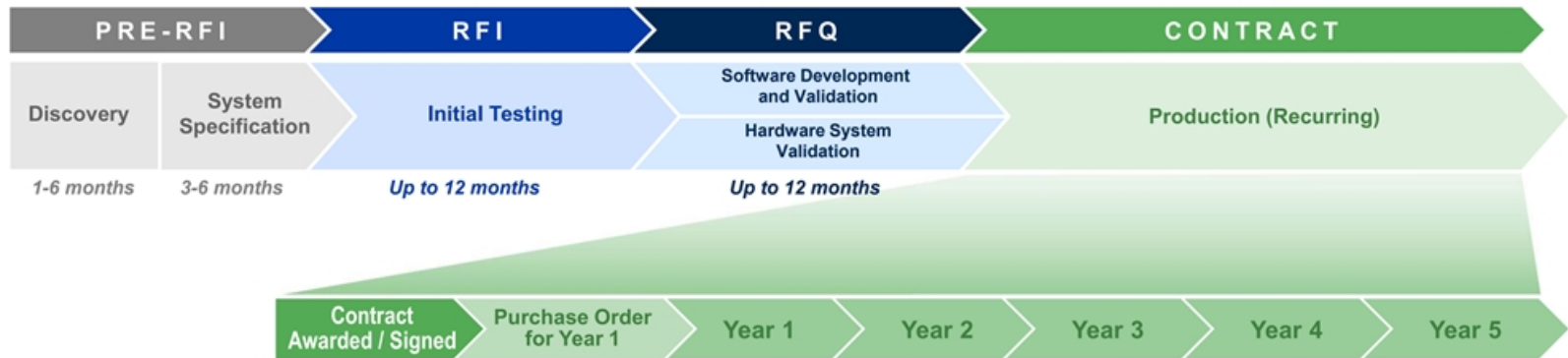


- 1 Entrenched Customer Relationships:** High switching cost as customers spend years and millions of dollars developing and validating solutions around Velodyne's technology, including system design and software development
- 2 Driving ASP Reductions:** Automated manufacturing techniques, deployed at high-quality manufacturing partners, drive down costs and expand our TAM at high margins and scale
- 3 Defendable IP Portfolio:** Technology, products and manufacturing methods protected by comprehensive global patent portfolio
- 4 Diverse Product Portfolio:** One-stop source for all machine vision needs across broad end-market applications
- 5 Access to Capital:** Public currency and well-capitalized balance sheet enable us to drive selective industry consolidation and further differentiate us from competitors



# HOW OUR AGREEMENTS TYPICALLY WORK

Velodyne Lidar



- 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

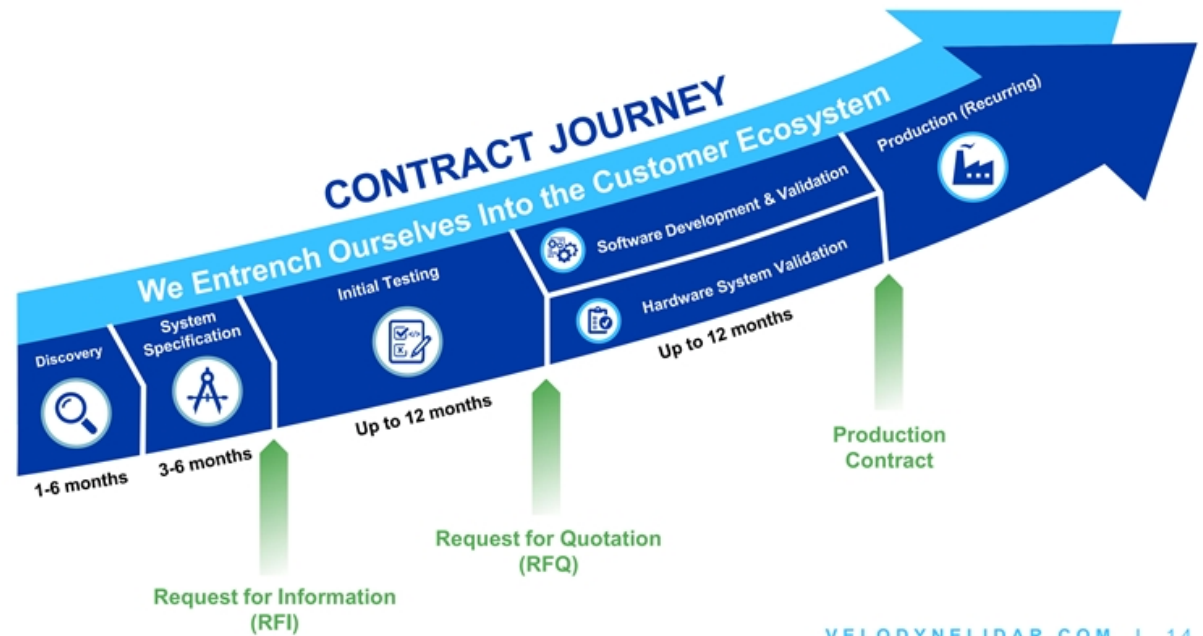
# BARRIERS TO ENTRY: ROBUST DURABILITY OF INSTALLED CUSTOMER BASE

Velodyne Lidar

## 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

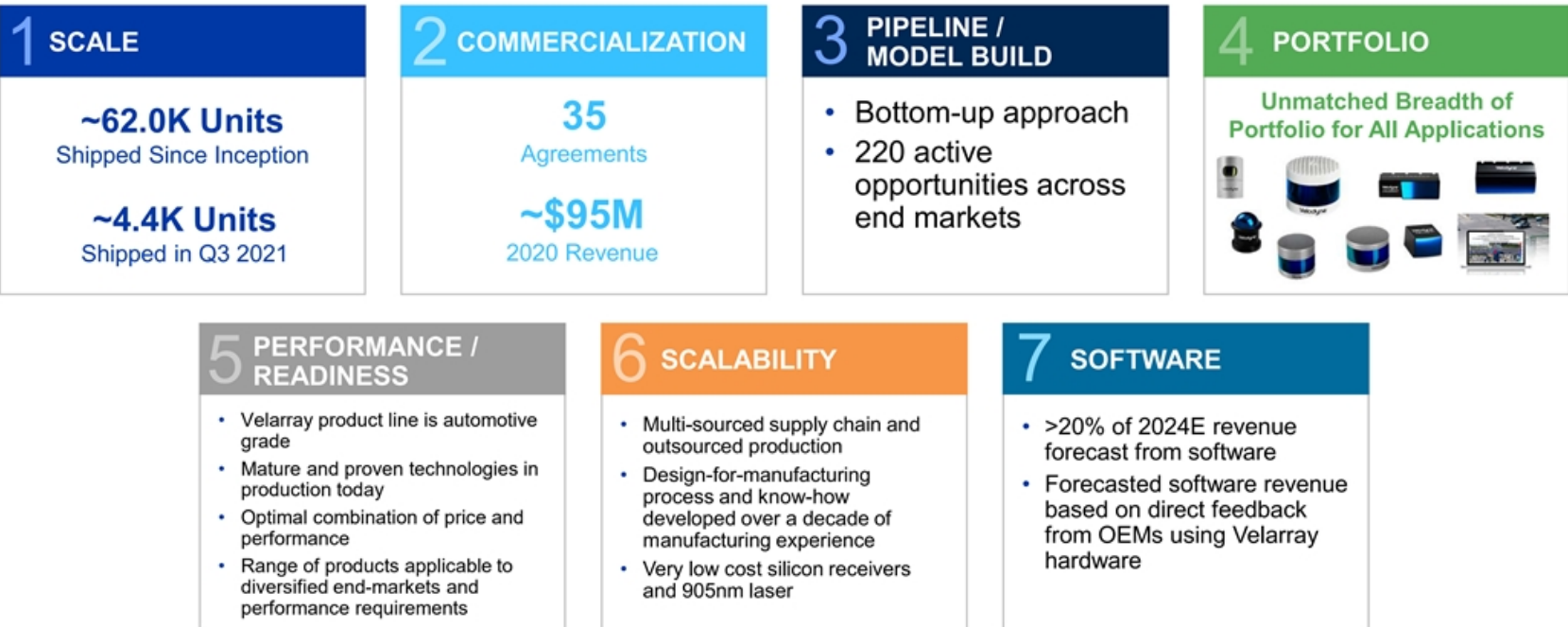
Our Commitment in Platform Development Drives Customer Loyalty



# SUMMARY OF MARKET POSITION

Velodyne Lidar

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



# REPRESENTATIVE CUSTOMERS

Velodyne Lidar

## Automotive OEMs and Tier 1 Suppliers



## Auto System Integrator



## Last Mile Delivery

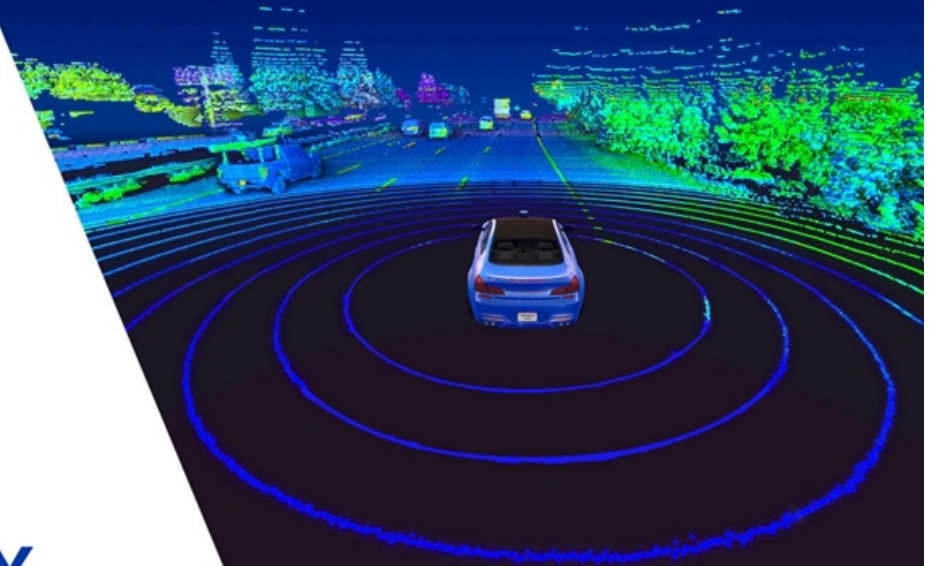


## Non-Automotive Markets





Velodyne Lidar



## FINANCIAL SUMMARY

# FINANCIAL HIGHLIGHTS: THIRD QUARTER 2021

Velodyne Lidar

- 

**4,400 sensors shipped;  
Shipped 62K sensors  
from inception**
- 

**Enabling new applications**
- 

**35 active multi-year  
agreements<sup>1</sup> vs. 26 at the  
end of 2020**
- 

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

<b>Revenue Profile</b>	<b>\$13.1M</b> Revenue	<b>4,400</b> Sensors Shipped	<b>+1</b> Contracts <sup>1</sup>
<b>Improving Profitability and Strong Liquidity</b>	<b>(32.1%)</b> Non-GAAP Gross Margin <sup>2</sup>	<b>\$37.6M</b> Non-GAAP Operating Loss <sup>2</sup>	<b>\$325M</b> Cash on Balance Sheet

<sup>1</sup> As of November 1, 2021

<sup>2</sup> Represents calculations based on Non-GAAP metrics. See appendix for reconciliation of GAAP to Non-GAAP measures

## TARGET BUSINESS MODEL

Velodyne Lidar

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

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



Velodyne Lidar<sup>®</sup>

THANK YOU



# STRONG & EXPERIENCED LEADERSHIP TEAM

Velodyne Lidar





**APPENDIX | FINANCIAL**

# GAAP TO NON-GAAP GROSS PROFIT RECONCILIATION

Velodyne Lidar

## GROSS PROFIT

(\$ in millions)	Q3 2020	Q3 2021
GAAP Gross Profit	\$15.0	(\$4.7)
Stock-Based Compensation	–	\$0.5
<b>Non-GAAP Gross Profit</b>	<b>\$15.0</b>	<b>(\$4.2)</b>
<b>Margin %</b>	<b>46.6%</b>	<b>(31.8%)</b>

# GAAP TO NON-GAAP OPERATING LOSS RECONCILIATION

Velodyne Lidar

## OPERATING LOSS

(\$ in millions)	Q3 2020	Q3 2021
GAAP Operating Loss	(\$2.7)	(\$54.8)
Stock-Based Compensation	\$0.1	\$16.8
Write-off of deferred IPO costs	\$3.5	–
Gain from sale of held-for-sale assets	(\$7.5)	–
Amortization of Acquisition-Related Intangible Assets	\$0.1	\$0.1
Legal Settlement	–	\$0.3
<b>Non-GAAP Operating Loss</b>	<b>(\$6.5)</b>	<b>(\$37.6)</b>

# GAAP TO NON-GAAP OPERATING EXPENSE RECONCILIATION

Velodyne Lidar

## RESEARCH & DEVELOPMENT

(\$ in millions)	Q3 2020	Q3 2021
GAAP Research & Development Operating Expense	\$10.5	\$20.2
Stock-Based Compensation	–	(\$2.8)
Amortization of Acquisition-Related Intangible Assets	(\$0.1)	(\$0.1)
<b>Non-GAAP Research &amp; Development Operating Expense</b>	<b>\$10.4</b>	<b>\$17.3</b>



# GAAP TO NON-GAAP OPERATING EXPENSE RECONCILIATION

Velodyne Lidar

## SALES & MARKETING

(\$ in millions)	Q3 2020	Q3 2021
GAAP Sales and Marketing Operating Expense	\$4.1	\$6.5
Stock-Based Compensation	–	(\$1.2)
<b>Non-GAAP Sales and Marketing Operating Expense</b>	<b>\$4.1</b>	<b>\$5.3</b>

# GAAP TO NON-GAAP OPERATING EXPENSE RECONCILIATION

Velodyne Lidar

## GENERAL & ADMINISTRATIVE

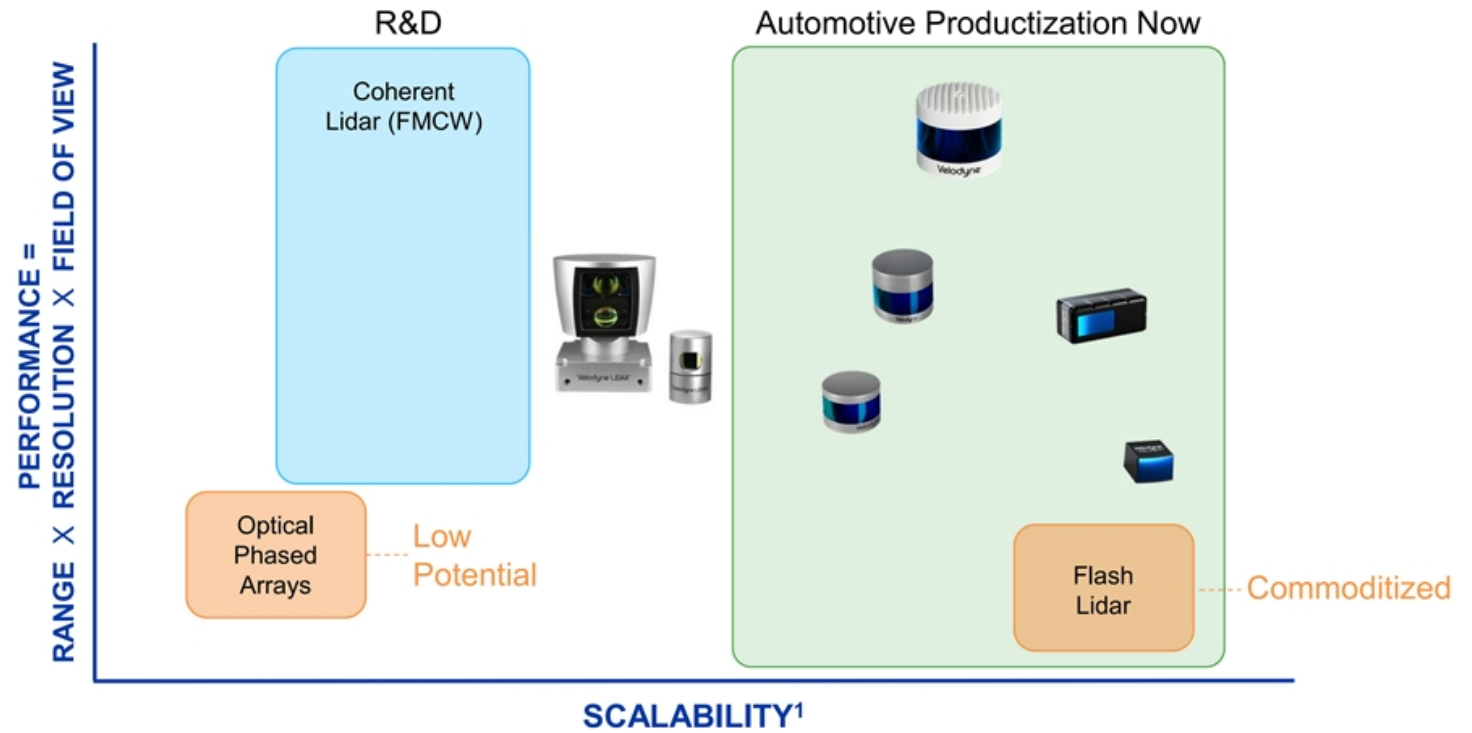
(\$ in millions)	Q3 2020	Q3 2021
GAAP General & Administrative Operating Expense	\$10.6	\$23.3
Write-off of deferred IPO costs	(\$3.5)	–
Legal Settlement	–	(\$0.3)
Stock-Based Compensation	(\$0.1)	(\$12.2)
<b>Non-GAAP General &amp; Administrative Operating Expense</b>	<b>\$7.0</b>	<b>\$10.8</b>



**APPENDIX | TECHNOLOGY**

# LIDAR TECHNOLOGY READINESS

Velodyne Lidar



(1) Scalability represents our interpretation of the industry based on our many years of experience designing lidar and based on publicly available information.

# VELODYNE LIDAR APPLICATIONS

Velodyne Lidar



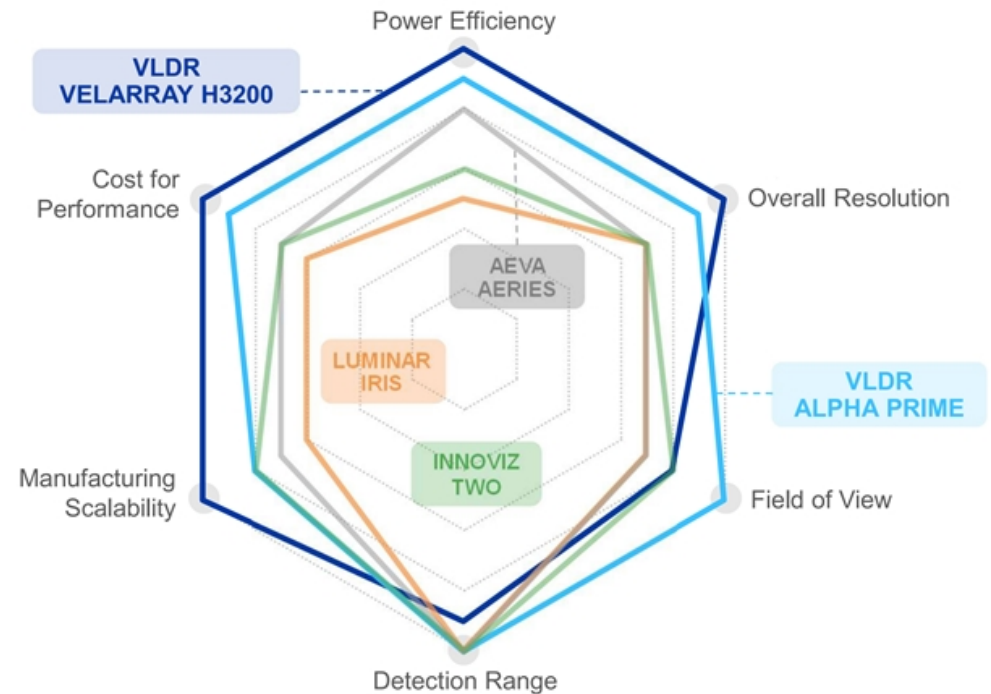
Architecture Innovations	ADAS	AV	Delivery	Drones/ UAV	Industrial	Mapping	Robotics	Security	Smart City	Trucking
Surround View HDL		x		x		x				
Surround View Pucks, Ultra Puck, Alpha Prime		x	x	x	x	x	x	x	x	x
Solid State Velarrays	x	x	x		x		x	x	x	x
Solid State Velabit	x	x	x	x	x		x			



# VELODYNE DELIVERS SUPERIOR COMBINATION OF REQUIREMENTS FOR AV/ADAS

Velodyne Lidar

- 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

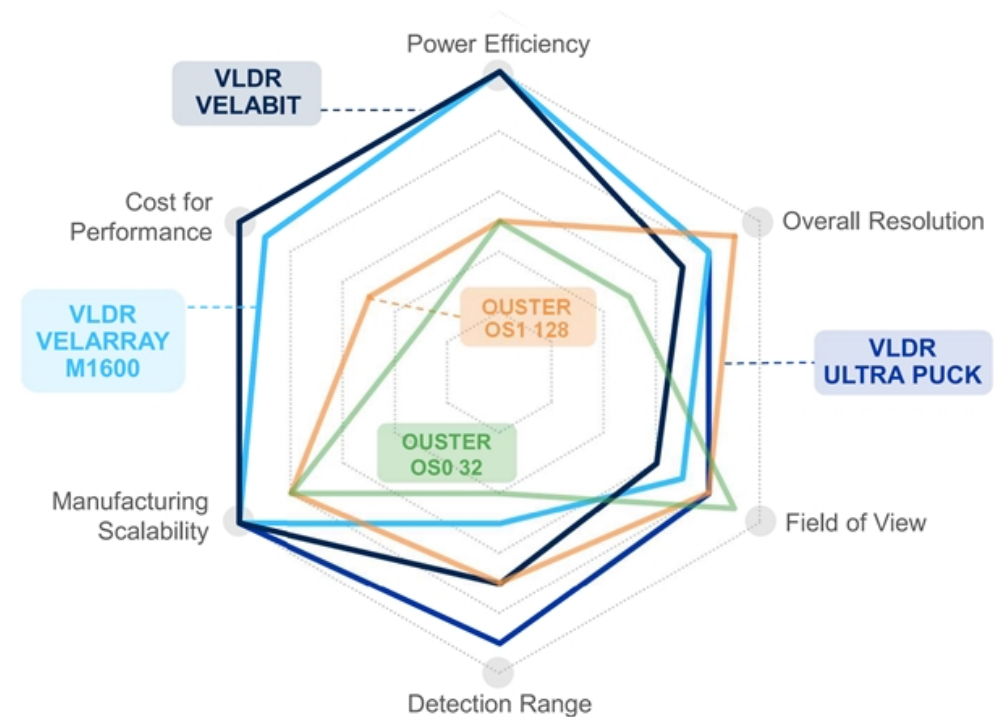


Sources: Publicly available investor presentations as of May 2021, S-1 filings, data sheets, BusinessWire and Venture Beat.

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

Velodyne Lidar

- 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.

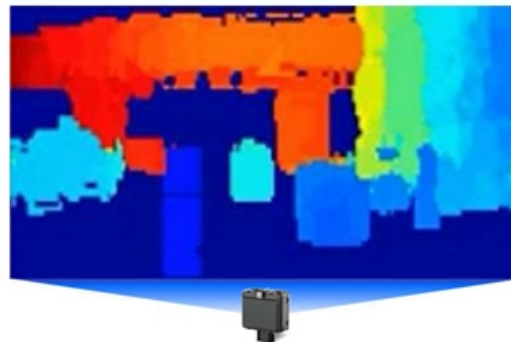
# TRADITIONAL VISION SOLUTIONS ALONE HAVE SEVERE LIMITATIONS

Velodyne Lidar







Camera



High-Resolution Radar



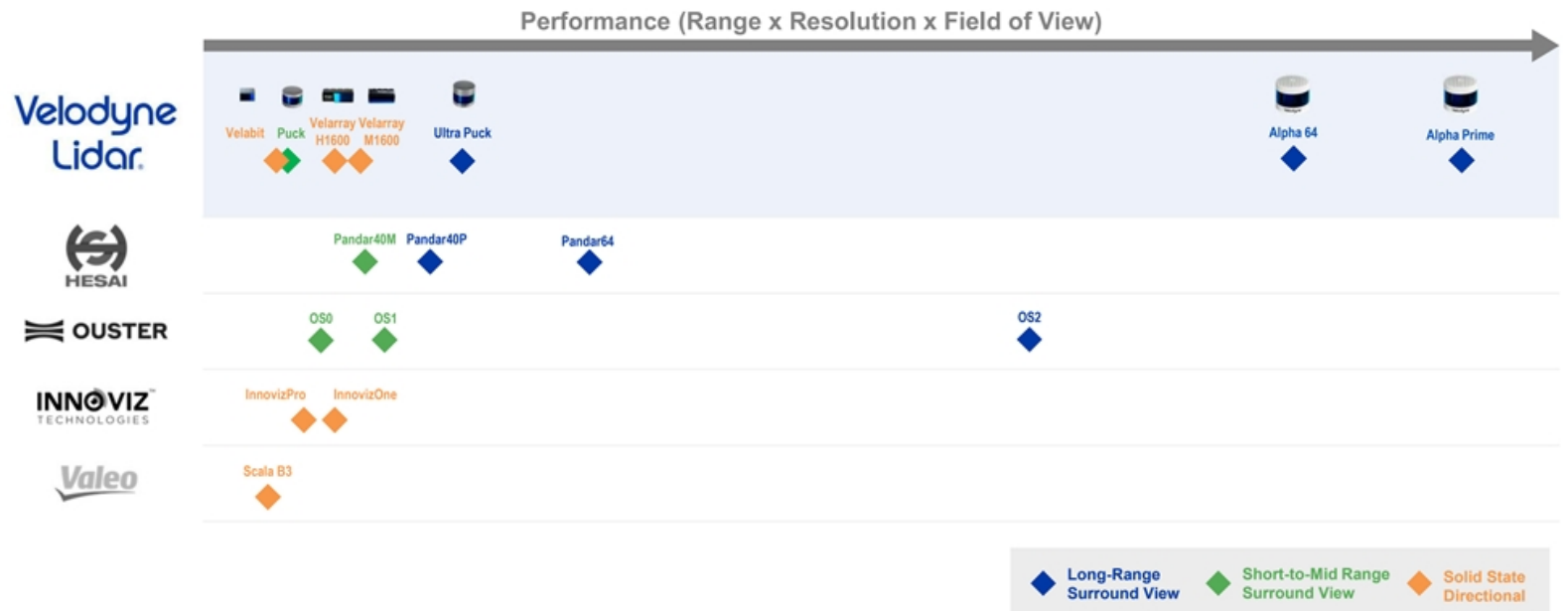
## Shortcomings

-  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 IS THE AT-SCALE MARKET LEADER

Velodyne Lidar

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









Source: Public company websites and product datasheets.

(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.

# LIDAR WAVELENGTHS COMPARISON

Velodyne Lidar

		905 nm	1550 nm	WHAT THIS MEANS
WATER		+	-	Water absorbs 1550 nm waves approximately 145x more than 905 nm waves
RAIN & FOG		+	-	Degradation of 1550 nm waves in rain & fog compared to normal conditions is 4-5x worse than the degradation for 905 nm waves
SNOW		+	-	1550 nm waves have approximately 97% worse reflectance in snow compared to 905 nm waves
POWER CONSUMPTION		+	-	In wet conditions, sensors using 1550 nm wavelength will need $\geq 10x$ more power vs. a similar 905 nm system
RANGE		+	+	In optimal conditions, both 905 and 1550 nm wavelengths can see many hundreds of meters
AVAILABILITY OF TECHNOLOGY COMPONENTS		+	-	Key components for 1550 nm are either custom-made or available only through non-standard supply chains and require exotic materials



## PEDESTRIAN AUTOMATIC EMERGENCY BRAKING (PAEB)

Velodyne Lidar

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 RESULTS

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	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	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 RESULTS

Velodyne Lidar

## 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™ PAEB DAYTIME

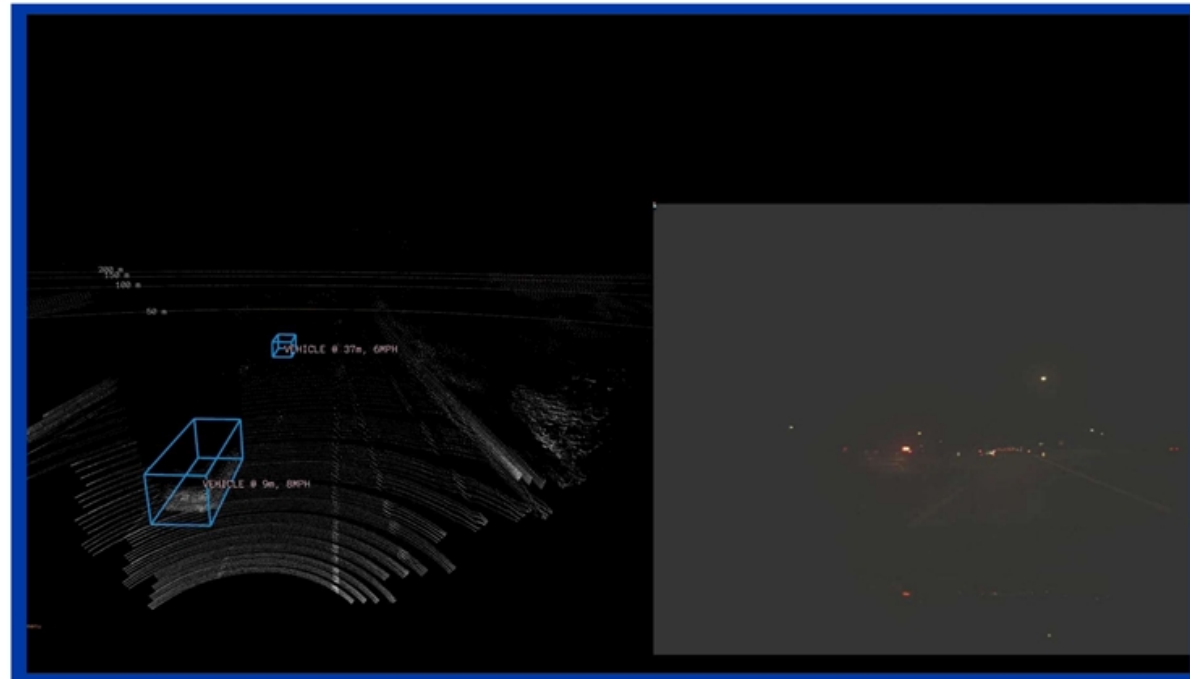
Velodyne Lidar



[https://youtu.be/N\\_QmPJhmEo](https://youtu.be/N_QmPJhmEo)

# VELLA™ PAEB NIGHTTIME

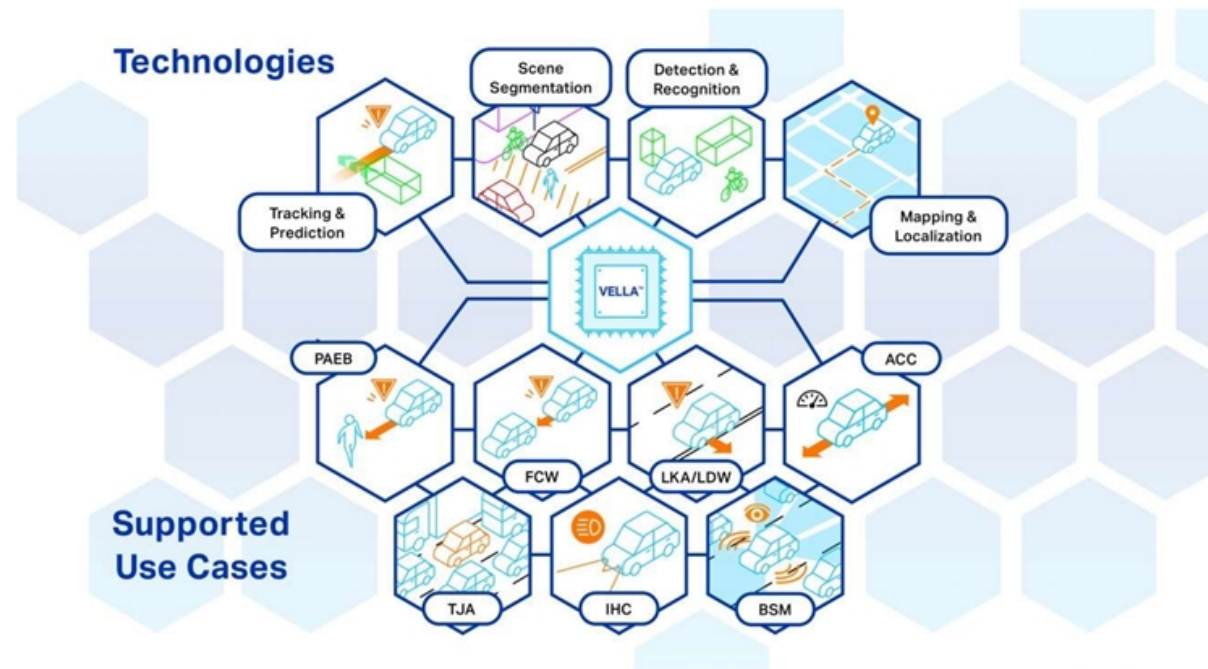
Velodyne Lidar



<https://youtu.be/18O0PT1zMGU>



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



## 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.



<https://youtu.be/n6OmiMzpdjo>