



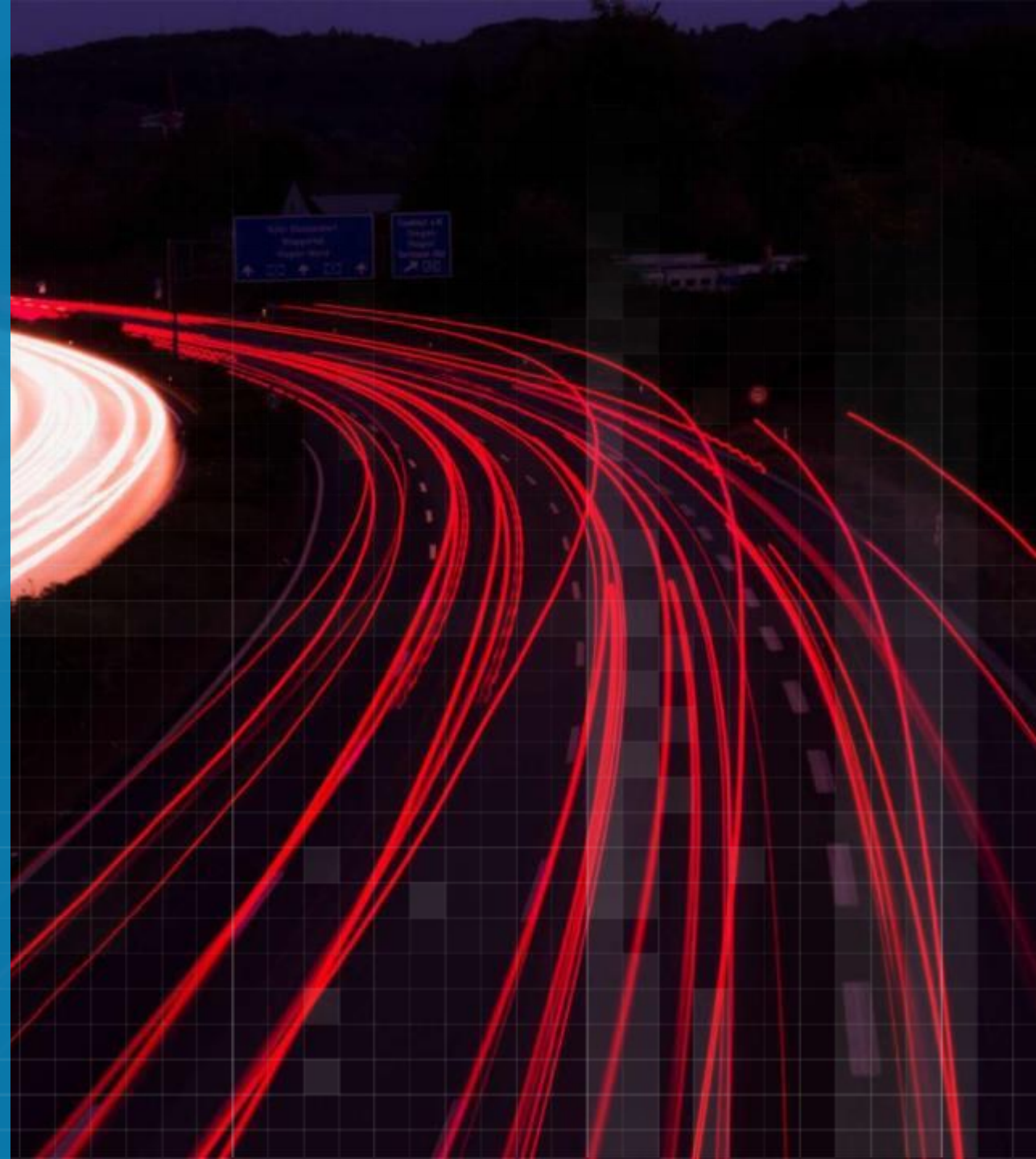
December 6-8, 2021

European NDR

Berenberg (UK, Switzerland)
Exane BNP (Germany, Nordic)

Fermi Wang, CEO
John Young, VP Finance
Louis Gerhardy, Corporate Development

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Forward-Looking Statements

This presentation contains forward-looking statements that are subject to many risks and uncertainties. All statements made in this presentation other than statements of historical facts are forward-looking statements, including, without limitation, statements regarding Ambarella's strategy, future operations, financial targets, future revenues, projected costs, prospects, plans and objectives for future operations, future product introductions, future rate of our revenue growth, the size of markets addressed by the company's solutions and the growth rate of those markets, technology trends, our ability to address market and customer demands and to timely develop new or enhanced solutions to meet those demands, our ability to achieve design wins, and our ability to retain and expand our customer and partner relationships.

In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "could," "would," "expects," "plans," "anticipates," "believes," "estimates," "projects," "predicts," "potential," or the negative of those terms, and similar expressions and comparable terminology intended to identify forward-looking statements. We have based forward-looking statements largely on our estimates of our financial results and our current expectations and projections about future events, markets and financial trends that we believe may affect our financial condition, results of operations, business strategy, short term and long-term business operations and objectives, and financial needs as of the date of this presentation. Although these forward-looking statements are based upon information available at the time the statements are made and reflect management's good faith beliefs, forward-looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause actual results, performance or achievements to differ materially from anticipated future results. Important factors that could cause actual results to differ materially from expectations are disclosed in Ambarella's annual reports on Form 10-K and quarterly reports and Form 10-Q filed with the Securities and Exchange Commission (the "SEC"), particularly in the sections titled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations." You should not place undue reliance on forward-looking statements, which speak only as of the date on which they are made. We do not undertake to update or revise any forward-looking statements after they are made, whether as a result of new information, future events, or otherwise, except as required by applicable law. Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for management 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 to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this presentation may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

Before you invest, you should read the annual and quarterly reports and other documents Ambarella has filed with the SEC for more complete information about the company and its ordinary shares. Additional information will also be set forth in Ambarella's future quarterly and annual reports and other filings made with the SEC from time to time. You may access these documents for free by visiting EDGAR on the SEC web site at www.sec.gov.

Ambarella Overview

Ambarella is an artificial intelligence (“AI”) vision silicon company

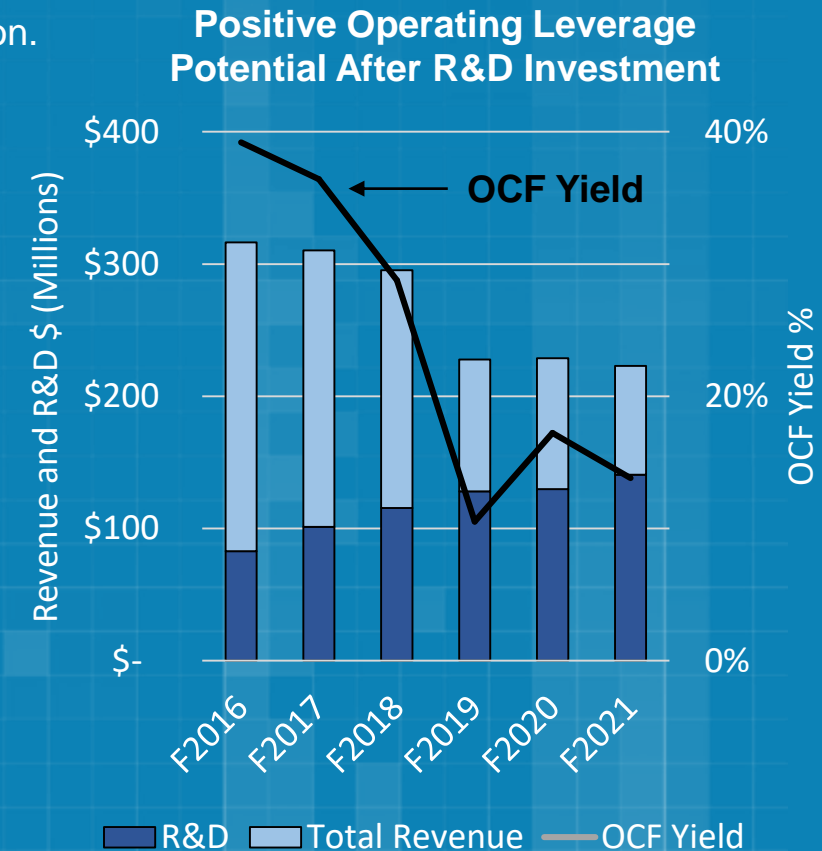
- Ambarella developed over a 4 year period an AI processor architecture specifically optimized for video edge-endpoint applications. The integration of this deep neural network AI processor with the company’s state-of-the-art video processor yields a highly optimized computer vision (“CV”) system-on-a-chip (“SoC”).
- Cumulative CV R&D investment >\$580 million with total cumulative R&D investment ~\$1.2 billion.
- CV revenue was ~10% F2021 revenue and estimated to be 25%+ of F2022 revenue.

Founded 2004, IPO (NASDAQ: AMBA) 2012

- Focused on video applications, always with the premise that video is a special type of data requiring an optimized chip architecture.
- Initially targeted human viewing applications with low-power and high-resolution SoCs for the consumer and security camera markets.
- CV SoCs enable machines to visually perceive, and make intelligent decisions, enabling higher levels of automation in multiple industries.

Strong and liquid balance sheet

- 13 consecutive years of positive operating cash flow
- \$457 million cash and marketable securities and no debt exiting Q3 F2022 (October 31, 2021). \$307.5M cash used on November 5, 2021 to finance the Oculii acquisition.
- Returned \$176 million to shareholders via stock repurchases.



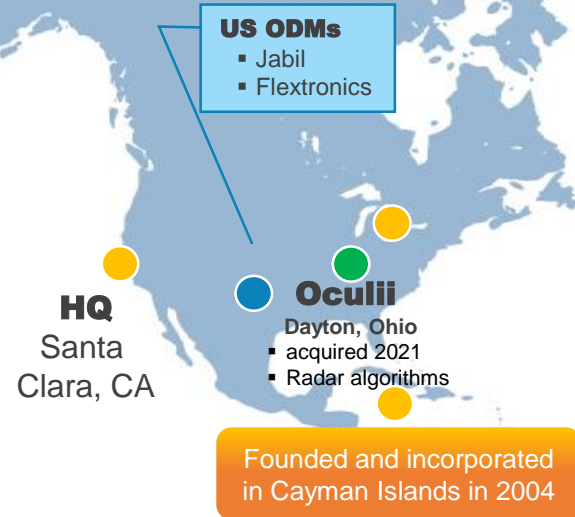
Global Footprint 874 with Oculii

>80% of employees are engineers and >70% of the engineers are focused on software/algorithms

~250

with Oculii

United States



66

Europe

202

China

340

Taiwan

5

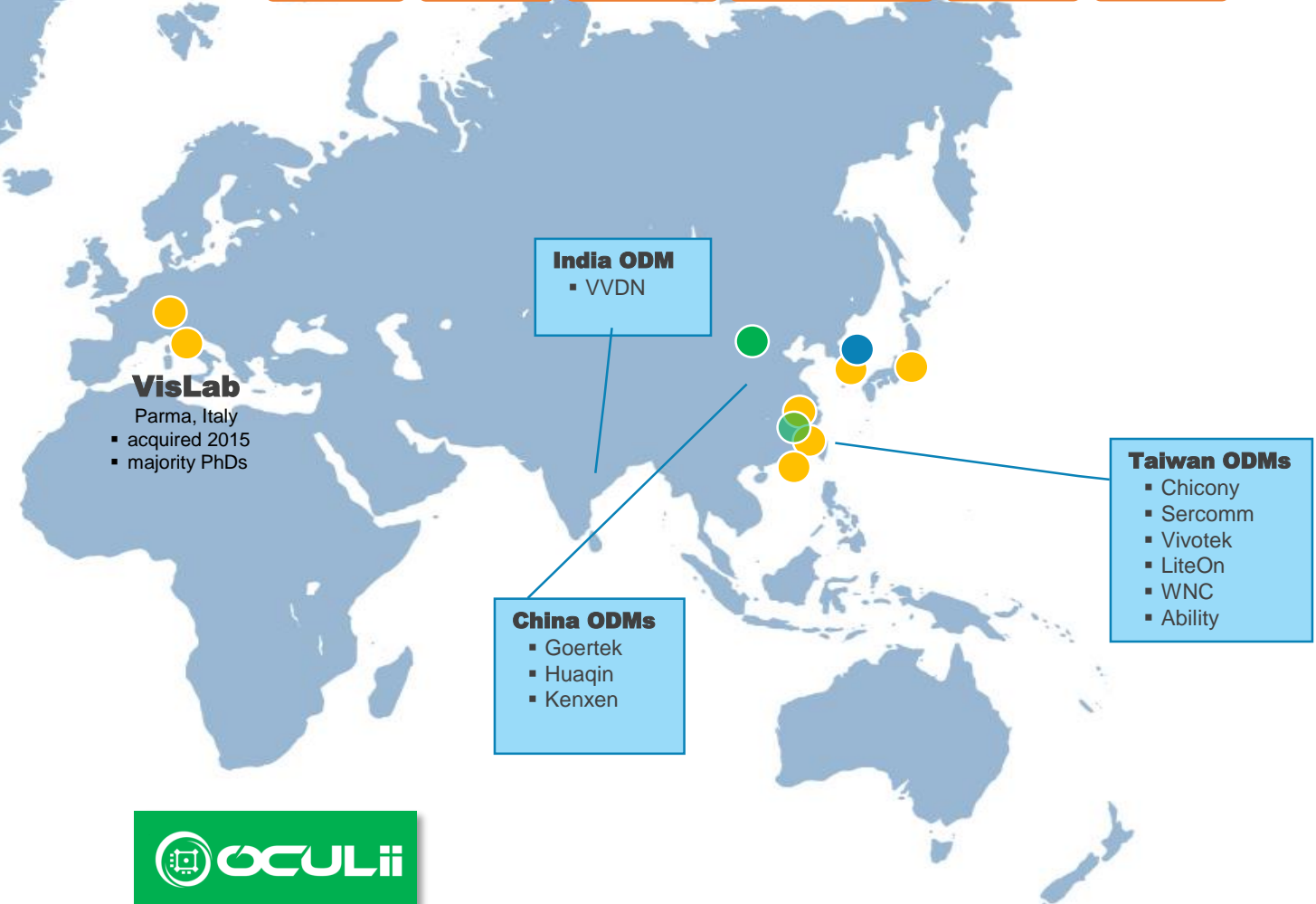
Hong Kong

5

Korea

6

Japan

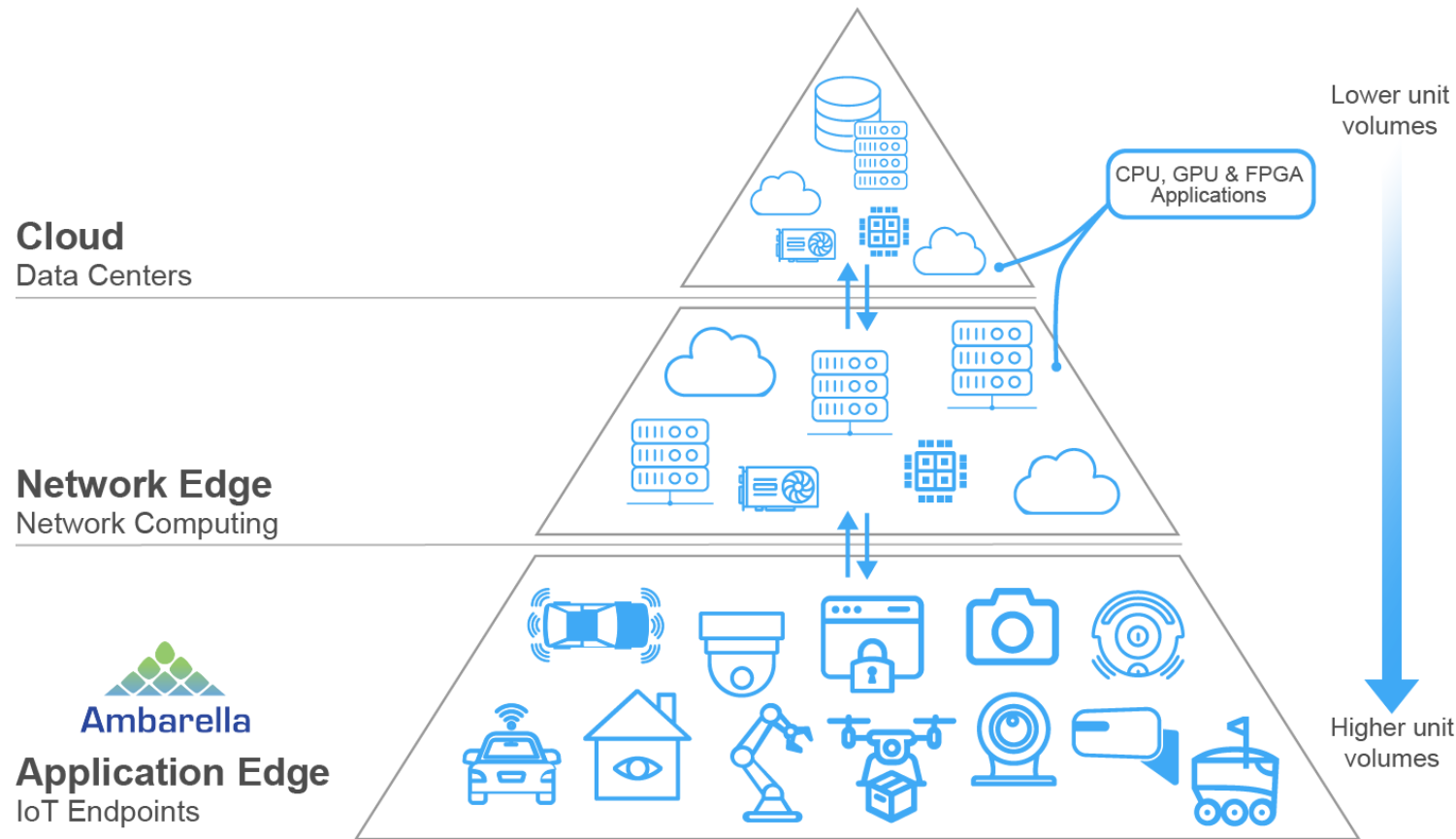


Manufacturing

● Samsung Semiconductor



Ambarella Addresses the Edge Endpoints of the IoT Market



- The IoT endpoint market, the foundation of the pyramid, **requires a fundamentally different SoC architecture** versus the server-based network edge and datacenter layers
- Ambarella is focused on IoT endpoints where **low power, highly efficient processing, low latency and improved privacy and security** are critical
- IoT endpoint market is a **high volume and diverse** market

Ambarella's Computer Vision System-on-a-Chip

Differentiated with a critical mass of state-of-the-art imaging know-how as well as the company's "algorithm first" approach

Leverages 16+
years of Video
and Image
Processing
Experience

Programmable Computer Vision SoC Platform

with Optimized Coprocessor Acceleration

(customer or 3rd party AI application software layer)



Video
Compression



Image
Processing











CVflow Deep Neural Network
AI processor

NEW

Proprietary CVflow
architecture
introduced in
FY2019 after 3
years in R&D

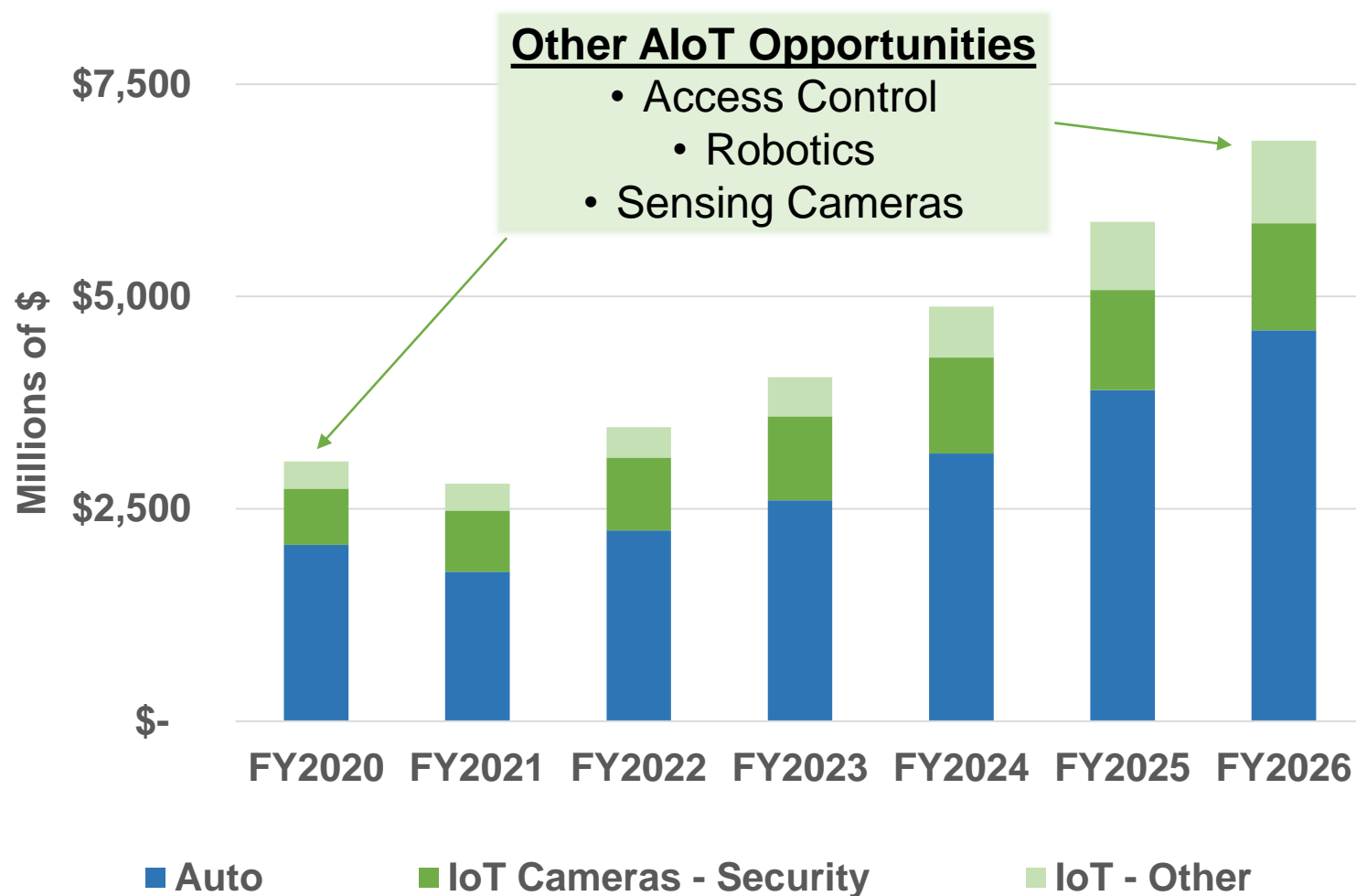
CV52 the Latest Addition to Our Scalable Visual AI Portfolio

AI in the Camera - Superior Performance per Watt and Performance per Dollar

		NEW						NEW		
										
		CV28	CV25	CV22	CV22FS (ASIL B)	CV2	CV2FS (ASIL B)	CV5	CV52	
Availability	Announced	November 2020	Announced January 2019	Announced January 2018	Announced January 2020	Announced March 2018	Announced January 2020	Announced January 2021	Announced June 2021	
	Production revenue	February 2021	Production revenue July 2019	Production revenue December 2018	Production April 2021	Production revenue August 2019	Production April 2021	Sampling Q2	Sampling Q3	
				Samsung low power 10nm process					Samsung 5nm	
Computer Vision	Video Processing	Up to 3x cameras*		Up to 2x cameras*	Up to 3x cameras*	Up to 6x cameras* and stereo support	Up to 3x cameras* and stereo support	Up to 14x cameras*	Up to 14x cameras*	
		5 MP sensors at 30 frames per second**	8 MP sensors at 15 frames per second**	8 mega pixel (MP) sensors at 30 – 60 frames per second**				32 MP sensors up to 30 FPS**	8 MP sensors up to 60 FPS**	
	AI Processing	CVflow® Deep Neural Network AI Processor (software tools port from TensorFlow, Caffe, ONNX, etc.)								
		1/4 of CV22 AI	1/2 of CV22 AI	Baseline (Cvflow DNN AI)		4x CV22 AI	2x CV22 AI	3.5x CV22 AI	3.5x CV22 AI	
		*additional cameras can be supported using external SERDES **video processing trade-offs available between frames-per-second, resolution, and the number of cameras supported								

Large and Growing SAM – Led by Automotive

Oculii's contribution to Ambarella's SAM has not been included yet



- **Automotive** the largest SAM opportunity (15%-20% revenue in F2021)
- **IoT Cameras** – Mostly security cameras today with strong market share (~60% revenue F2021)
- **IoT-Other** offers the highest CAGR

Source: Ambarella, Omdia/IHS, Strategy Analytics, TSR

IoT Camera Market

~60% fiscal 2021 total revenue

▪ “Security camera” market transformation

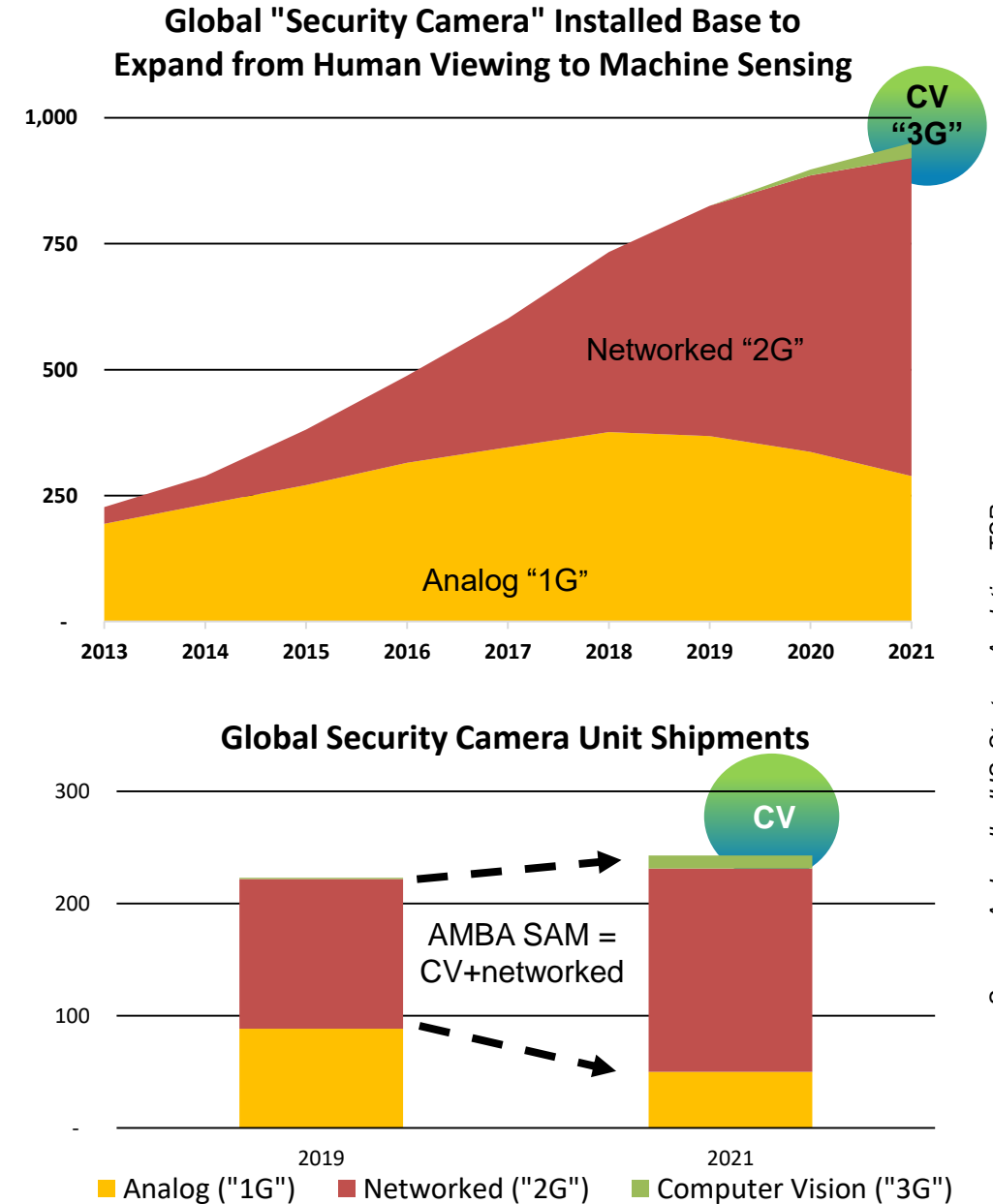
- The security camera market is the largest AIoT market today (Gartner)
- CV enabled cameras collect and process data for a machine’s perception and can simultaneously generate an image for human viewing
- Addressable market expands from humans to include machines
- Customer software on our CV SoCs enables new data driven camera applications and new business models for our customers
- Machines can take advantage of video innovations that human eyes can’t

▪ ~900M “security camera” installed base C2020

- Installed base today is almost all human viewing (“2G”) primarily deployed for security applications
- The human viewing installed base is expected to continue to grow while the installed base for machine perception is just beginning
- Installed base replacement rate estimated between 4 to 6 years

▪ Annual Unit Shipments ~260 million in C2020

- ~75% professional (enterprise and public) and ~25% smart home
- “3G” CV SoCs command a ~2x ASP versus a similar 2G video processor
- “1G” analog camera market expected to continue to shrink – Ambarella does not serve this market



Emerging IoT Camera Opportunities

Market expanding beyond traditional “human viewing security” cameras

ID/Authentication for access control and smart lock applications

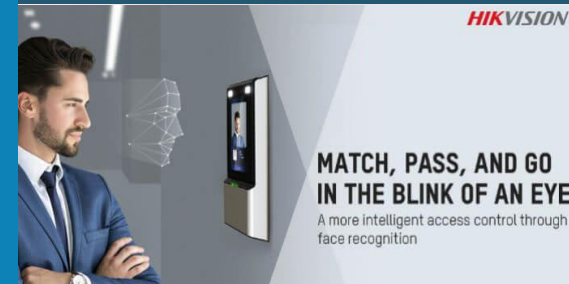
- Use of biometric technology (e.g. face ID) to identify and authenticate individuals for access control in enterprise, smart home and public applications including access control panels, smart locks and payment terminals
- Low cost single-camera fusion of multiple sensors for optimal accuracy

Robotics platform announced at CES 2020

- Robotic software development kit (“SDK”) is a unified software infrastructure targeting home, factory and enterprise-class robotics for assistance, automation, cleaning, delivery, surveillance, warehouse, etc.
- SDK provides access and acceleration for common robotic functions including stereo, object detection, key points tracking, occupancy grid, visual odometry.

Sensing and counting cameras

- Analyze capacity, monitor elderly, customer patterns, foot traffic, line counting, social distancing, property management, and HVAC control for energy efficiency while maintaining privacy and not recording



Ambarella's Global IoT Camera Footprint

Enabling Most Major Enterprise, Smart City and Smart Home IoT Camera Companies

IoT – Enterprise/Public

Security – Retail – Transit Systems - ITS - Smart Parking - Schools



IoT – Smart Home

Security – Access Control - Automation - Delivery Services



Automotive Customers and Partners - Examples

Automotive was 15%-20% of total fiscal 2021 revenue



Mercedes-Benz



DENSO TEN



RENAULT



TOYOTA



Motional

GARMIN™



上汽集团



HYUNDAI
MOBIS



momenta

Panasonic



*

RIVIAN



DONGFENG

sensetime



ARRIVAL

GENTEX
CORPORATION



长安汽车
CHANGAN



SMART EYE®



长城汽车
Great Wall Motors



Hella Aglaia

Automotive Camera System Target Markets



Incremental radar opportunity

Multiple discrete ADAS camera systems today; integration and higher levels of autonomy the trend

Ambarella	Recorders /Dataloggers		Forward-Facing ADAS	eMirrors		In-Cabin		L2+	L4/L5 Part-time + Full-time Autonomous
	Enable Tier 1s to differentiate with combo products on 1 SoC								
CY2019 SAM CY2025 SAM	~\$250M \$400M to \$500M		>\$1B >\$2B					~\$100M >\$2B	~\$25M ~\$200M
Penetration into new vehicle production 2019	<10%		45% to 50%	~1.0%		~1.0%		<1.0%	<0.1%
Ambarella F2022 Revenue	Increasingly driven by T1/OEM (versus aftermarket)		New – ramping F2022	New – increasing activity		New – heavy activity		New Major long-term opportunities	New
Products (Examples)	A12 H22	CV25, CV5	CV22/FS CV2/FS	A12 H22	CV22/FS CV2/FS CV5	CV28 CV22/FS CV2/FS		CV2AQ CV2FS	CV22/FS CV2/FS
Target Customers	Retail (aftermarket)	Tier 1s (pre-install)	Tier 1s	Tier 1s		Tier 1s		OEMs	OEMs
Applications & Examples	Human Viewing (e.g. event reconciliation, scoring, insurance)	Human Viewing + Computer Vision (e.g.L0 - warnings for collision or lane departure)	Computer Vision (e.g. emergency braking, lane keep assist, etc.) L0-L3 ADAS	Human Viewing (e.g. fuel efficiency, improved field-of-view, etc.)	Human Viewing + Computer Vision (e.g. blind spot detection) L0-L4 ADAS	Human Viewing (e.g. driver scoring, event reconciliation, training, insurance)	Human Viewing + Computer Vision (e.g. distracted/ drowsy driver, seat belts, airbags, L0-L5)	Human Viewing + Computer Vision (more frequent autonomy leveraging HD maps and more sophisticated SW, SoCs and HW systems)	Human Viewing + Computer Vision (most or all camera systems running on an SoC)



Vehicle Sensor Suite Trends

Cameras expected to generate a vast majority of the data in a 3D point cloud - at all levels of autonomy

Industry Examples

	Manufacturer	Model	System	Level of Autonomy	PERCEPTION SENSOR SUITES				
					Camera	Long-Range Radar	Mid-Range Radar	LiDAR	Ultrasonic
PRODUCTION VEHICLES	Tesla (2017)	Model S, X	Autopilot 2.0	2	8	1	0	0	12
	MBZ (2016)	E Class	DRIVE Pilot	2	2 (Stereo)	1	4	0	4
	Audi (2018)	A8	AI Traffic Pilot	3	5	1	4	1	4
	Nissan (2016)	Rogue, Serena	ProPILOT	2	1		0	0	0
	Nissan (2019)	Skyline, Q50	ProPILOT 2.0	2+	7	5	0	0	12
	Tesla (2019)	Model 3	Autopilot 3.0	2+	8	1 *	0	0	12
	GM (2017/18)	CT6	Super Cruise	2	5	1	0	0	0
FUTURE VEHICLES	Mobileye (2021)	Geely Models	SuperVision	2+	11		0	0	0
	GM (2021+)	Cruise	Cruise	5	16	11	10	5	0
	Amazon/Zoox		Full-stack	5	14		10	8	0
	Mobileye (2025-)		Full-stack	5	11		6	1	0
	Uber (2019+)	Ford Fusion	Driverless System	5	20		7	7	0

In comparison, in CY2020 there was an average of ~1.5 cameras per new vehicle manufactured globally

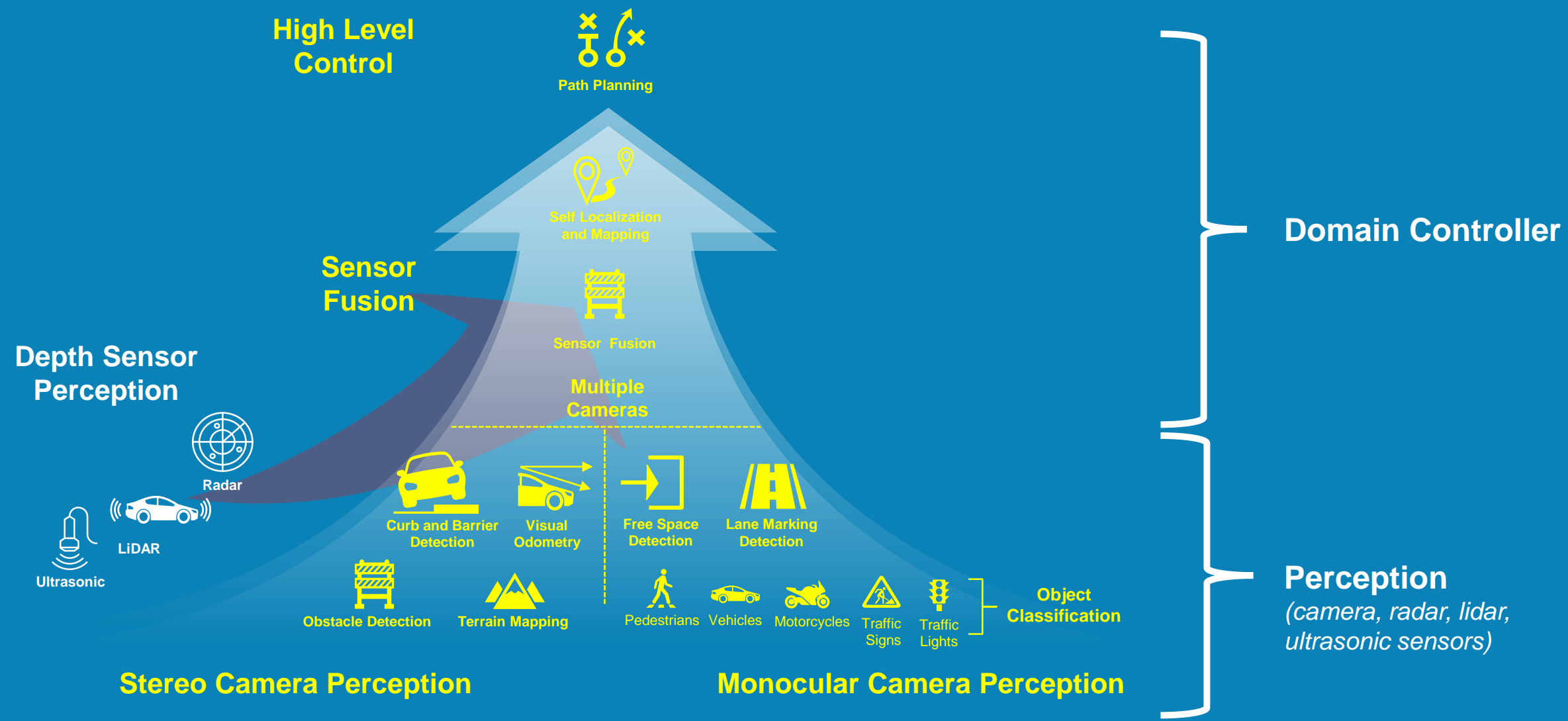


Ambarella's current opportunity is to provide the processing for the cameras in the perception layer. In the future, Ambarella expects to provide the processing for the radar, fusion, planning and control layers in a partially or fully autonomous vehicle.

Note: Data in these exhibits refers to the sensors used to enable the referenced level of autonomy; the figures do not necessarily list all of the sensors embedded in the vehicle as some of these sensors are not used to automate the driving of a vehicle

Source: ABI Research, company reports

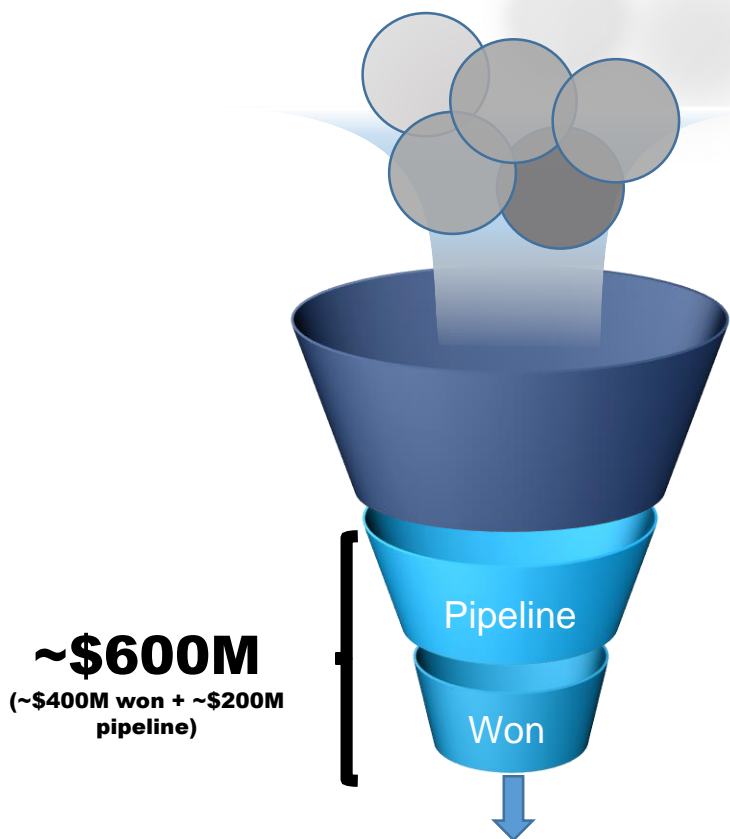
Layers of Processing in an L2+ to L4 Autonomy Stack



Automotive Sales Funnel Estimate

Growth in 6-year automotive sales funnel estimate

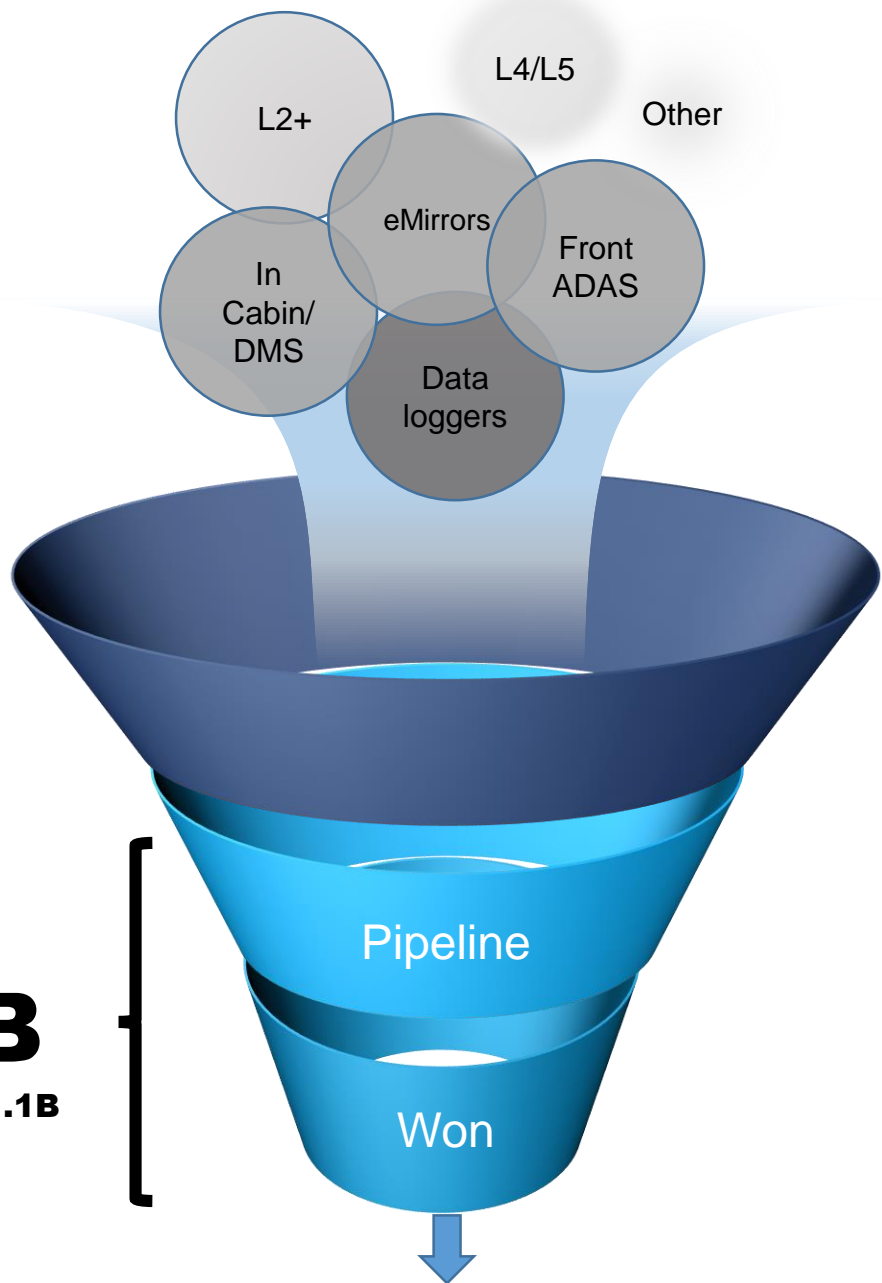
*Prior automotive sales funnel was provided
November 23, 2020*



*Six year (FY22-FY27) automotive revenue funnel
estimate provided on November 23, 2020 as of October
31, 2020*

Radar
not yet
included
in funnel

~\$1.8B
(~\$700M won + ~\$1.1B pipeline)




*Six year (FY23-FY28) automotive revenue funnel
estimate provided on November 30, 2021 as of October 31, 2021*

Competitive Landscape is Fragmented

Ambarella's visual AI processing expertise scales across multiple markets


Access to leading
edge manufacturing
technology suspended
9/15/2021

 Ambarella	IoT Cameras		IoT Cameras - Vehicles					
	Enterprise/Public Security	Home Security	Recorders	Forward-Facing ADAS	eMirror	In-Cabin	L2+	PT/FT Autonomous
Ambarella	✓	✓	✓	✓	✓	✓	✓	✓
HiSilicon (Huawei)	✓	✓ China only	✓ Aftermarket					
Mobileye (Intel)				✓ (SW from Mobileye+SoC from STM="black box")			✓ DNN begins with EyeQ5	✓
Movidius (Intel)	✓							
Nvidia	(Server based architectures not IoT end point)						✓ Mostly planning & control processing	✓
NXP						✓		
Qualcomm	✓	✓	✓	✓ Reselling T1 Veoneer's IP		✓		
Renesas				✓	✓	✓	✓	✓
SigmaStar	✓	✓						
Texas Instruments				✓	✓	✓	✓	✓
Xilinx				✓	✓	✓	✓	✓
(IP Cores) Cadence, CEVA, etc.	✓	✓		✓ Incomplete solution				✓
(Others)	AMLogic, Fullhan, Ingenic, Novatek, Socionext, Will (Custom ASICs)		AIT, Novatek, iCatch	Horizon Robotics (Socionext), (Custom ASICs)			(Custom ASICs)	(Custom ASICs)

Q4 (January) F2022 Outlook and Q3 Recap

(Q3 FY2022 results and Q4 FY2022 outlook provided November 30, 2021)

▪ **Q4 FY2022 (January, 2022) Outlook**

- Our Q4 revenue guidance, including Oculii from November 5th, is in the range of \$88.5 million to \$91.5 million versus the consensus estimate ~\$87.9 million (consensus as of November 29th)
- Sequentially, we anticipate Auto revenue to increase with non auto IoT revenue declining
- Q4 non-GAAP gross margin estimated to be 63.0% to 64.0% (consensus 61.4%) with non-GAAP operating expense \$39.0 to \$41.0 million including Oculii since November 5th (consensus \$37.7M excluding Oculii)

▪ **Q3 F2022 (October, 2021) Results**

- Revenue of \$92.2 million was above the high-end of our guidance range of \$88.0 million to \$92.0 million and the consensus estimate of ~\$90.3 million. Auto and IoT revenue, combined, increased more than 10% sequentially
- Non-GAAP gross margin was 63.1% versus the consensus estimate of 62.0%
- Non-GAAP EPS were \$0.57 versus the consensus estimate of \$0.49

▪ **Despite the challenges we continue to make progress in our multi-year transformation**

- AI computer vision is becoming pervasive, we are embedding it in all our new products and we have growing evidence of market acceptance
- We see a wide variety of risks outstanding, including pandemic, geopolitical and supply chain factors. These risks include*:
 - risks associated with the COVID-19 pandemic
 - potential export regulations on advanced technologies
 - the risk customers in China continue to take actions to reduce their dependence on components they believe could be subject to new export controls, including the creation of dual China/non-China supply chains
 - changes to tariffs and/or the Entity List
 - market share shifts between our customers
 - supply chain issues such as long leadtimes, shortages of materials, components, electricity and manufacturing capacity, and adverse weather conditions
- Our largest competitor in the security camera SoC market, HiSilicon, a unit of Huawei, is facing headwinds of their own

**Potential risk factors that could affect our financial results are more fully described in the documents that we file with the SEC, including annual reports on Form 10-K and quarterly reports on Form 10-Q.*



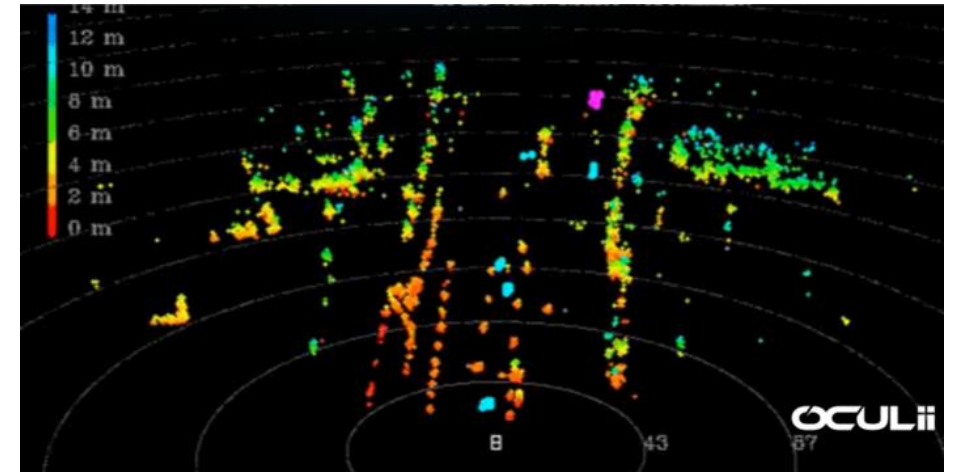
Ambarella and Oculii *Advancing Perception Together*

Acquisition of Oculii announced October 26, 2021 and closed on November 5, 2021

Oculii Acquisition Closed November 5, 2021

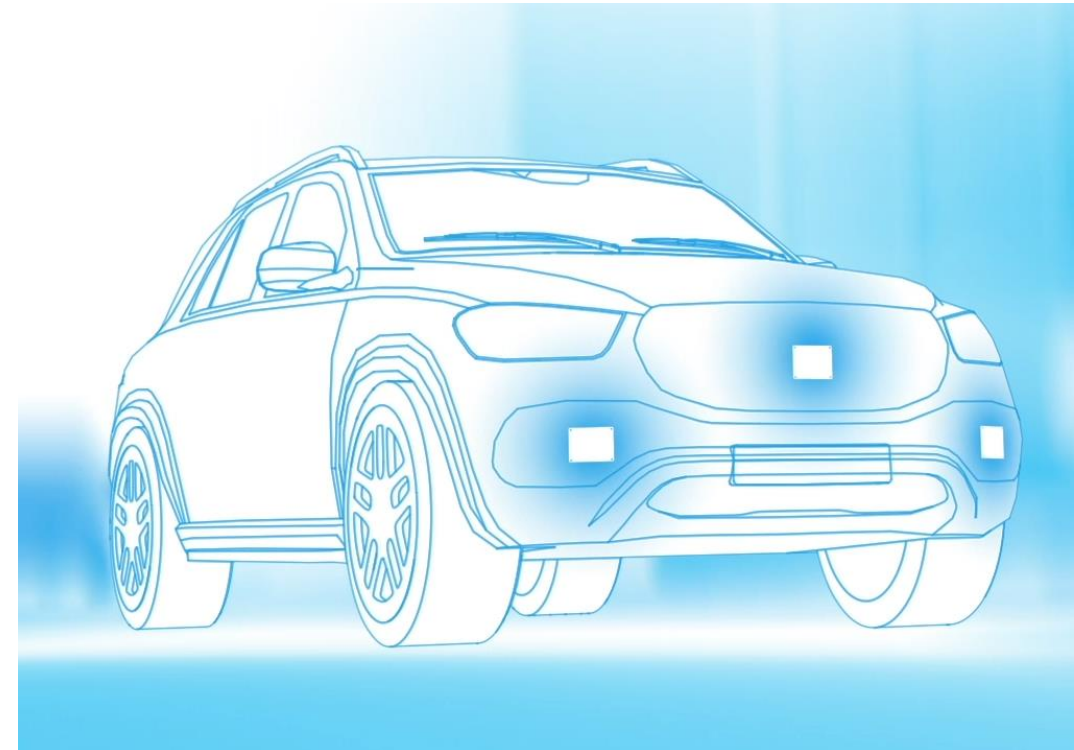
- **Highest Resolution Commercial Radar, Potential LIDAR Disruptor**
 - LIDAR-like Resolution (0.5° H/ 1° V) at 400M+ using commercial radar HW at 1/100th cost
 - Next-gen Oculii Radars better than LIDAR with 360°, 650M+ all weather perception
- **Patented Adaptive AI Software Technology Breakthrough**
 - Up to 100X Radar Resolution with standard radar silicon
 - Works with all radar hardware platforms. Scalable from L2 ADAS to L5 AV
- **Deep Partnerships with Leaders in Automotive Radar**
 - Engaged with 10 of Top 15 Tier-1s on software licensing
 - Commercial Development Contracts with leading OEM and autonomous vehicle companies
- **Broad Applications Beyond Automotive in Robotics, Drones and Security**
 - Working with world's largest robotic companies on automation
 - Thousands of sensors sold across 30+ countries

Eagle - Front Radar



Oculii Company Overview

- Founded in 2013 to improve radar resolution by commercializing adaptive AI software.
- 51 full-time employees:
 - Dayton, Ohio HQ
 - Offices in China
- U.S. patents:
 - 11 granted + 2 filed + 5 provisional filed
- Module and software business models:
 - Software licensing
 - Corner, front, in-cabin radar
 - Per-unit basis
 - Module sales
 - For customers needing fully integrated HW/SW solutions
 - Primarily IoT markets - e.g., mobile robotics (AMR, AGV, delivery) and security

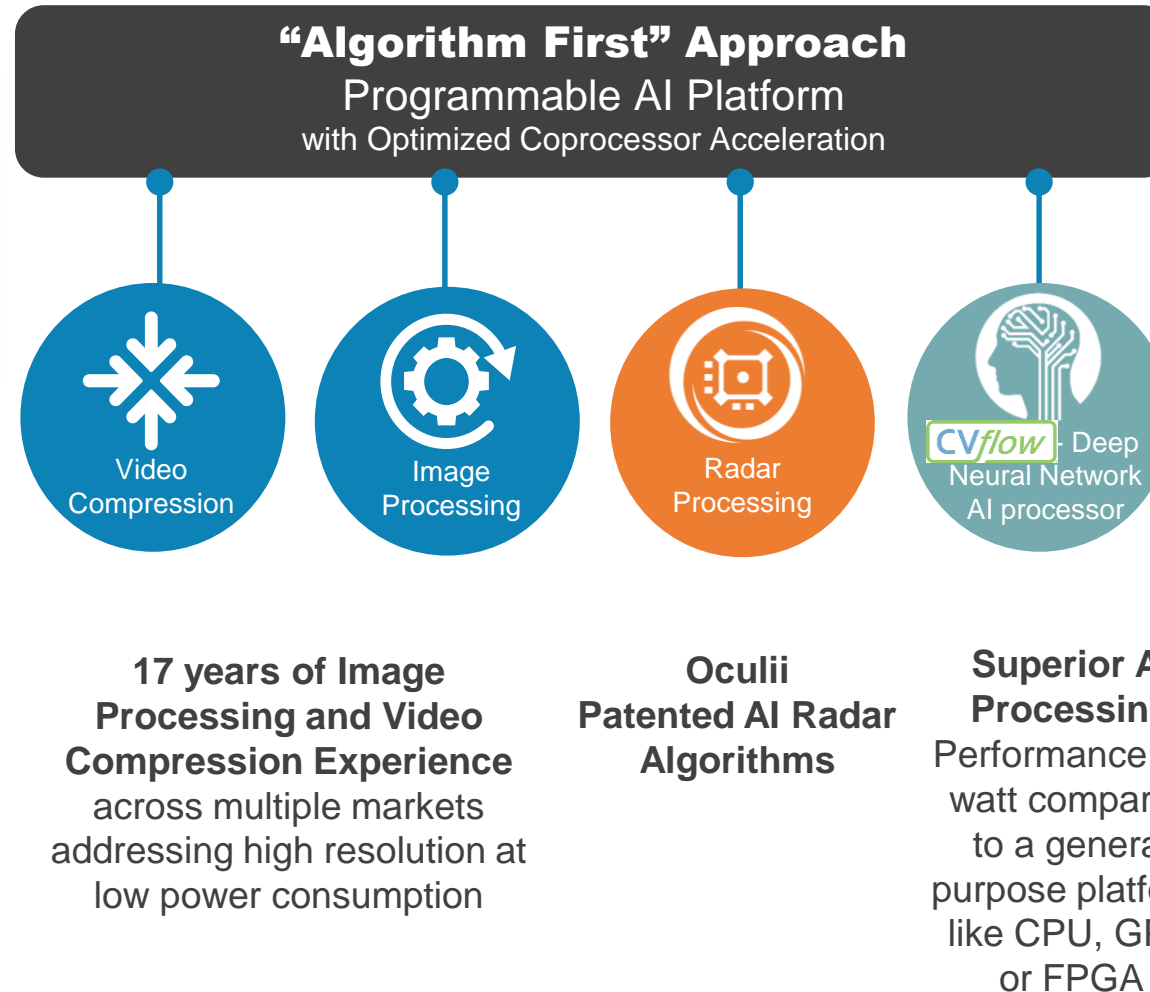
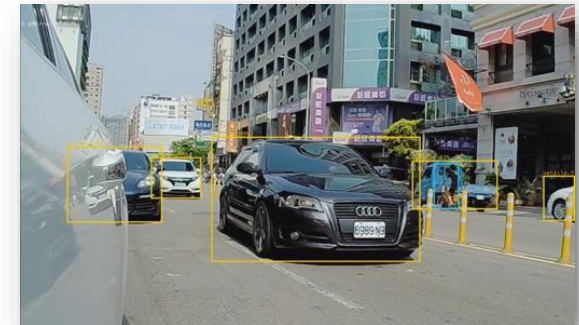


Expands Upon Ambarella “Algorithm First” Approach

Superior Image Quality



AI-based Computer Vision & Radar Processing



Oculii Business Model

Software licensing and modules



FALCON

Corner Radar (Single-Chip)

20X Performance compared to the best selling sensor in its class

AVAILABLE NOW



EAGLE

Imaging Radar (Dual-Chip)

50X Performance compared to the best selling sensor in its class

AVAILABLE NOW



RAPTOR

Imaging Radar (Quad-Chip)

100X Performance compared to the best selling sensor in its class

Coming Soon



REBEL II

ADAS
Radar + AI Vision
Reference Design

New Joint Products

Software

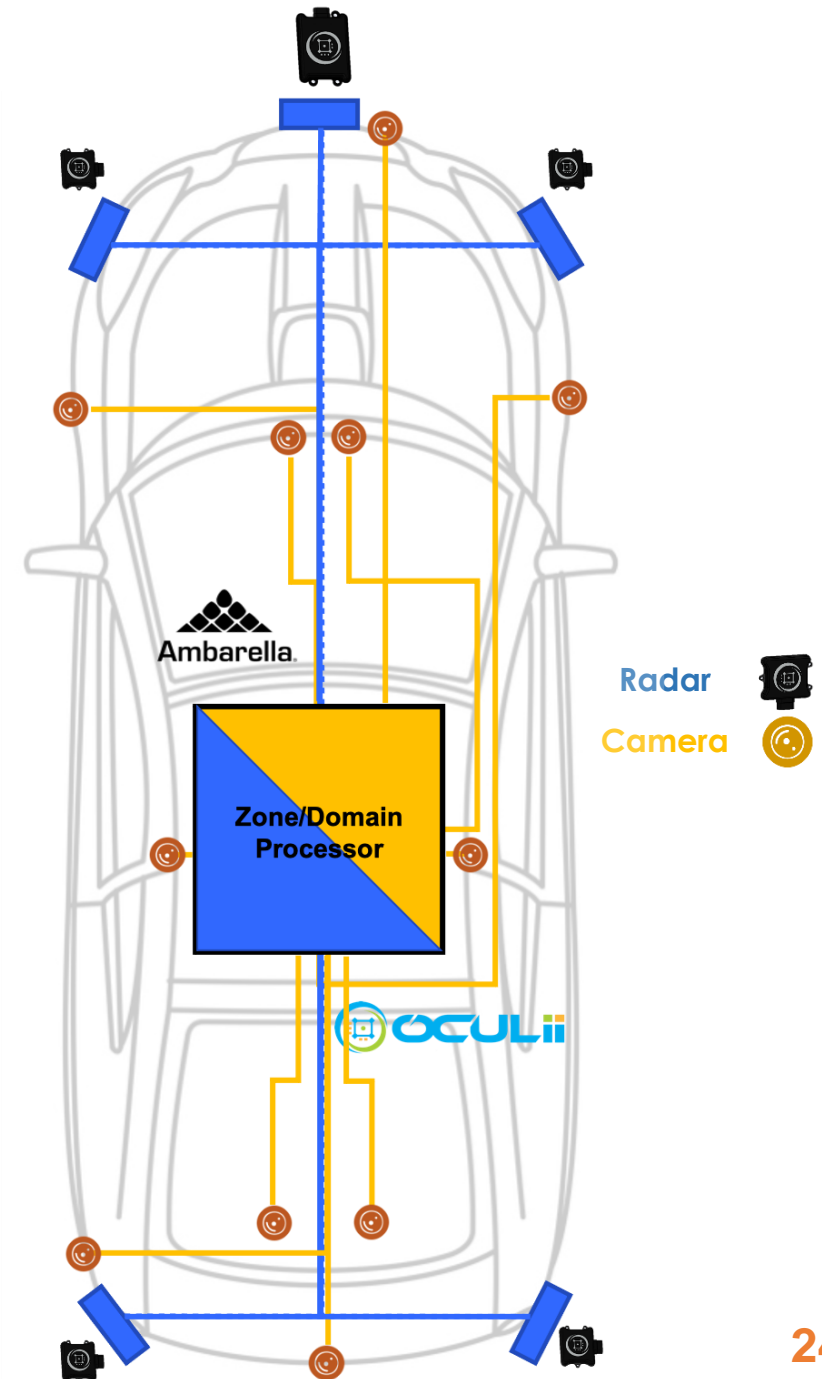
Modules

***Future Products –
Anticipated Synergy***

Reference Design

Acquisition Rationale

- **Expansion of SAM into radar market.** In auto alone ~90M units in CY21 and ~240M units in CY26 (source: ABI April 2021)
- Differentiated imaging radar technology complements Ambarella's mono and stereo camera technology:
 - Vision and radar are key sensing modalities for developments at L2+ and beyond
- Continued development/expansion of Oculii's software licensing and module businesses
- Current CVflow[®] SoCs support Oculii algorithms
- Longer term, Ambarella to optimize camera and radar perception fusion:
 - Unlocking new levels of perception vs. today's discrete camera + discrete radar
 - Future Ambarella edge AI vision SoCs will be enhanced with more processing power for video + radar sensor fusion





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