



## Ambarella, Lumentum, and ON Semiconductor Collaborate to Provide 3D Sensing Platform for Access Control and Smart Video Security Solutions

January 6, 2020

### Platform to leverage Ambarella's CVflow<sup>®</sup> AI vision SoCs, Lumentum's VCSEL structured-light solution, and ON Semiconductor's RGB-IR sensor

LAS VEGAS--(BUSINESS WIRE)--Jan. 6, 2020-- Ambarella, Inc. (Nasdaq: AMBA), an AI vision silicon company, Lumentum (Nasdaq: LITE), a market-leading designer and manufacturer of innovative optical and photonic products, and ON Semiconductor (Nasdaq: ON), a leading provider of CMOS image sensor solutions, today announced a joint 3D sensing platform for the development of intelligent access control systems and smart video security products such as smart video doorbells and door locks. The platform is based on Ambarella's CV25 CVflow<sup>®</sup> AI vision system on chip (SoC), structured-light powered by Lumentum's VCSEL technology, and ON Semiconductor's AR0237IR image sensor. Ambarella, Lumentum, and ON Semiconductor will demonstrate the platform during CES 2020.

Traditional structured-light solutions need to use both an infrared (IR) camera and a separate RGB camera and typically, a dedicated ASIC for depth processing. This new platform leverages a single ON Semiconductor AR0237 RGB-IR CMOS image sensor to obtain both a visible image for viewing and an infrared image for depth sensing. The Ambarella CV25 AI vision SoC powers depth processing, anti-spoofing algorithms, 3D facial recognition algorithms, and video encoding on a single chip, significantly reducing system complexity while improving performance.

"Lumentum has worked to enable diverse applications of our VCSEL technology into next-generation 3D sensing products," said Dr. Andre Wong, vice president, product line management, 3D Sensing at Lumentum. "We are excited to partner with Ambarella to help expand the use of 3D sensing in new applications including video security and more broadly AI vision."

"ON Semiconductor's RGB-IR sensor technology enables single sensor solutions to provide both visible and IR images in security and vision IoT applications," said Gianluca Colli, vice president and general manager of the Commercial Sensing Division at ON Semiconductor. "Ambarella's CV25 computer vision SoC, with its next-generation image signal processor (ISP), brings out the best image quality of our RGB-IR sensor, while providing powerful AI processing capability for innovative use cases in security applications."

"We are delighted to partner with Lumentum and ON Semiconductor to deliver a hardware platform for the next generation of intelligent access control systems and video security devices," said Fermi Wang, president and CEO of Ambarella. "Powered by Lumentum's VCSEL solution, ON Semiconductor's RGB-IR technology, and our CV25 SoC, it delivers 3D sensing with reduced system complexity as well as improved reliability and security. We look forward to seeing the innovative products our customers will build with this hardware platform."

Ambarella's CV25 chip includes a powerful ISP, native support for RGB-IR color filter arrays, and advanced high dynamic range (HDR) processing, which results in exceptional image quality in low-light and high-contrast environments. CV25's CVflow architecture delivers the computational power required for liveness detection and 3D face recognition, while running multiple AI algorithms for advanced features such as people counting and anti-tailgating. CV25 includes a suite of advanced security features to protect against hacking including secure boot, TrustZone<sup>®</sup>, and I/O virtualization.

### CES 2020 Demonstrations

The 3D sensing platform will be shown to select Ambarella and Lumentum customers and partners at their respective private events during CES 2020. For an appointment with Lumentum, email Scott Gardner at [Scott.Gardner@lumentum.com](mailto:Scott.Gardner@lumentum.com)

ON Semiconductor will offer CES 2020 demonstrations of the 3D sensing platform in their demo room at the Venetian/Sands Convention center, Murano 3302. To schedule a tour, email: [CESEvent@onsemi.com](mailto:CESEvent@onsemi.com)

The URL for this news release: <https://www.ambarella.com/news-events/>

### About Ambarella

Ambarella's products are used in a wide variety of human and computer vision applications, including video security, advanced driver assistance systems (ADAS), electronic mirror, drive recorder, driver/cabin monitoring, autonomous driving, and robotic applications. Ambarella's low-power system on chips (SoCs) offer high-resolution video compression, advanced image processing, and powerful deep neural network processing to enable intelligent cameras to extract valuable data from high-resolution video streams. For more information, please visit [www.ambarella.com](http://www.ambarella.com)

### About Lumentum

Lumentum (Nasdaq: LITE) is a market-leading designer and manufacturer of innovative optical and photonic products enabling optical networking and laser applications worldwide. Lumentum's optical components and subsystems are part of virtually every type of telecom, enterprise, and data center network. Lumentum's lasers enable advanced manufacturing techniques and diverse applications including next-generation 3D sensing capabilities. Lumentum is headquartered in San Jose, California with R&D, manufacturing, and sales offices worldwide. For more information, visit

<http://www.lumentum.com/>

### **About ON Semiconductor**

ON Semiconductor (Nasdaq: ON) is driving energy efficient innovations, empowering customers to reduce global energy use. The company is a leading supplier of semiconductor-based solutions, offering a comprehensive portfolio of energy efficient power management, analog, sensors, logic, timing, connectivity, discrete, SoC and custom devices. The company's products help engineers solve their unique design challenges in automotive, communications, computing, consumer, industrial, medical, aerospace and defense applications. ON Semiconductor operates a responsive, reliable, world-class supply chain and quality program, a robust compliance and ethics program, and a network of manufacturing facilities, sales offices and design centers in key markets throughout North America, Europe and the Asia Pacific regions. For more information, visit <http://www.onsemi.com>

All brand names, product names, or trademarks belong to their respective holders. Ambarella reserves the right to alter product and service offerings, specifications, and pricing at any time without notice. ©2020 Ambarella. All rights reserved.

View source version on businesswire.com: <https://www.businesswire.com/news/home/20200106005371/en/>

Source: Ambarella, Inc.

### **Ambarella Contacts**

Ambarella Contact: <https://www.ambarella.com/about/contact/inquiries>

Media Contact: Molly McCarthy, Valley Public Relations, [mmcarthy@ambarella.com](mailto:mmcarthy@ambarella.com)

Investor Relations Contact: Louis Gerhardy, Ambarella, [lgerhardy@ambarella.com](mailto:lgerhardy@ambarella.com), (408) 636-2310

### **Lumentum Contacts**

Investor Relations: Jim Fanucchi, 408-404-5400, [investor.relations@lumentum.com](mailto:investor.relations@lumentum.com)

Media Contact: Sean Ogarrio, 408-546-5405, [media@lumentum.com](mailto:media@lumentum.com)

### **ON Semiconductor Contacts**

Media Contact: Amy Heimpel, 519-884-9696 ext. 2267, [amy.heimpel@onsemi.com](mailto:amy.heimpel@onsemi.com)