



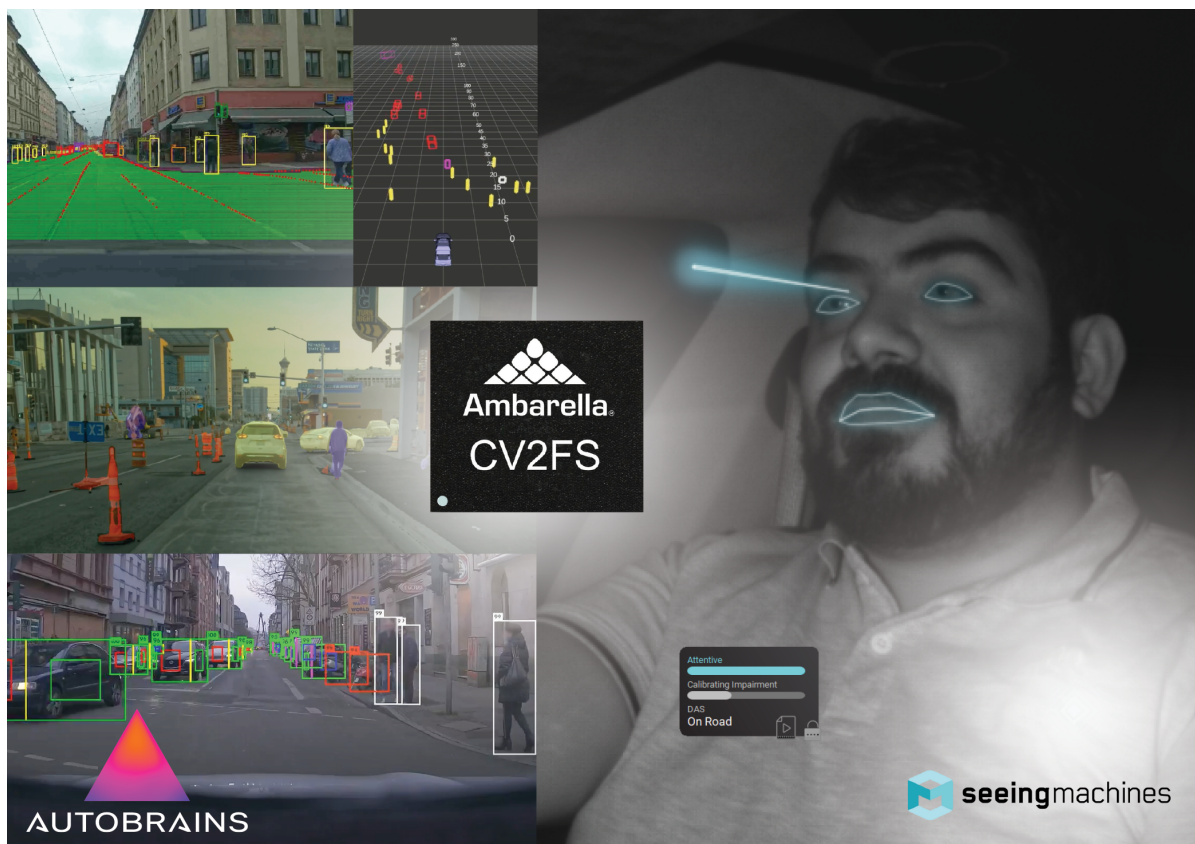
Seeing Machines, Ambarella and Autobrains Offer Combined Front ADAS and Driver Monitoring Solution in Single Box, Using Single System-on-Chip

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Solution Combines Advanced Driver Assistance Systems With Driver and Occupant Monitoring, Providing Automotive Manufacturers Fast Path for Regulatory Compliance With High Performance and Minimal Power, Space and Bill of Materials

- Three global AI leaders announce strategic collaboration to lower cost, complexity and speed of adding advanced safety systems to broad range of vehicles
- Integrated driver assistance, and driver and occupant monitoring solution provides extremely low power consumption, reducing thermal-management needs
- Low power and high performance enables cameras to be packaged in a single box that can be placed in high-temperature areas
- Solution provides rapid path to meeting industry standards and regulations
- Joint solution enables tier-1s and automakers to easily scale implementations of advanced driver assistance systems with driver and occupant monitoring systems on a single SoC across vehicle models

TEL AVIV, Israel and SANTA CLARA, Calif. and CANBERRA, Australia, Jan. 03, 2023 (GLOBE NEWSWIRE) -- [Autobrains Technologies Ltd.](#), [Ambarella, Inc.](#) (Nasdaq: AMBA) and [Seeing Machines Limited](#) (AIM: SEE) today announced a strategic collaboration to offer three safety systems in a single box, using a single system-on-chip (SoC). Autobrains is an AI-pioneer mobility company that develops revolutionary self-learning AI technology and products covering all levels of advanced driver assistance systems (ADAS) and autonomous driving (AD); Ambarella, Inc. is an edge AI semiconductor company; and Seeing Machines Limited is a leading supplier of AI-powered driver and occupant monitoring systems (DMS and OMS) technology to improve transport safety. The companies' joint offering provides automakers with a streamlined, single-box, multi-camera solution—including a forward-facing camera up to 8 megapixels (MP) and an in-cabin camera up to 5MP. This solution enables OEMs to increase vehicle safety and meet both front ADAS and DMS industry standards, including Euro NCAP and the European Commission General Safety Regulation (GSR).



This open-platform solution combines Seeing Machines' embedded Driver Monitoring Engine (e-DME) software stack with Autobrains' patented signature-based AI software stack on a single, power efficient, high-performance Ambarella CV2FS/CV22FS AI perception SoC. Additionally, this joint solution provides the flexibility to add multiple subsystems and stacks on a single CV2FS/CV22FS SoC, as well as sensors with different color filter arrays, and advanced features such as DVR functionality.

Ambarella's CV2FS/CV22FS SoCs provide the industry's highest AI performance per watt, as well as great image quality for operation in challenging lighting conditions. In combination with the highly efficient software from both Autobrains' proven self-learning AI and Seeing Machines, this integrated solution provides extremely low power consumption, which reduces thermal-management requirements and enables both the ADAS and DMS cameras to be packaged in a single box, lowering system cost and complexity. This low power and heat allow one-box, single-ECU solutions to be placed in high-temperature areas that are optimal for both cameras, such as the dashboard or near the rearview mirror.

The joint solution provides a rapid and power-efficient path to meeting industry standards and regulations. Additionally, it enables tier-1s and OEMs to easily scale the implementation of these systems across vehicle models using Ambarella's large portfolio of CVflow® AI SoCs that share a common software development kit (SDK) platform. This allows designers to preserve their development investments while tailoring the selected SoC's processing power to the needs of each car model's features, from basic ADAS and DMS to full domain control using the 5nm CV3 family for level 2+ to L4 autonomy and beyond.

Likewise, the features of Seeing Machines' in-cabin DMS and OMS, and Autobrains' modular ADAS and AD software can scale from the baseline for current regulations and standards, to L2+ and L3 semi-autonomous vehicles, for fusion between driver state detection and self-driving system handoffs, through to the highest levels of autonomy. Additional capabilities such as Autobrains' advanced set of ADAS and AD functionalities—including edge-case coverage, hazard detection and freespace detection—along with digital video recording via the Ambarella CV2FS/CV22FS SoCs' on-chip encoder, enable OEMs to provide value-added features.

"Autobrains' self-learning Perception AI for ADAS and autonomous driving is transforming the next generation of mobility, responding to the industry's limitations," said Autobrains CEO Igal Raichelgauz. "Incumbent market solutions are unable to cover unpredictable edge cases without more advanced, self-learning-based algorithms. Autobrains' self-learning applications, designed to learn like the human brain through neural networks and process information the same way as humans, thwart these challenges. Our hardware-agnostic AI Perception, which requires less data and computing power, combined with the offerings of Ambarella and Seeing Machines, allowed this joint offering to come to fruition, and can help automakers and suppliers to more easily and affordably scale these robust safety systems across vehicle lines."

"Our open CVflow AI processing platform not only allowed Autobrains and Seeing Machines to easily port their stacks onto our SoCs, but it will also enable our mutual tier-1 and OEM automotive customers to readily add their own ADAS and human interface layers to this joint solution," said Fermi Wang, President and CEO of Ambarella. "The CV2FS/CV22FS SoCs combine the processing power for multiple perception stacks with the industry-leading efficiency required to reduce power consumption and thermal management for single-box DMS and ADAS camera implementations."

"Automakers are looking for a way to reliably meet both DMS and ADAS regulatory and safety-standard requirements for all of their car models in the very near term. Due to these requirements, the DMS market alone is expected to grow to nearly 70 million units, per annum, by 2028, according to Semicast and ABI Research," said Paul McGlone, CEO of Seeing Machines. "Our industry-leading interior cabin sensing solutions, focused on driver and occupant monitoring, in combination with Ambarella's AI SoCs and Autobrains' ADAS/AD software, provides that integration path while enabling an optimized implementation that can scale across the feature sets of today's models, along with higher levels of autonomy for the future."

Live demonstrations of this joint solution are offered by invitation-only during CES 2023. To obtain the joint solution or schedule a CES meeting, contact the companies at the following links:

- Seeing Machines: <https://seeingmachines.com/contact/>
- Ambarella: <https://www.ambarella.com/contact-us/>
- Autobrains: <https://autobrains.ai/contact-us/>

About Ambarella

Ambarella's products are used in a wide variety of human vision and edge AI applications, including video security, advanced driver assistance systems (ADAS), electronic mirror, drive recorder, driver/cabin monitoring, autonomous driving and robotics applications. Ambarella's low-power systems-on-chip (SoCs) offer high-resolution video compression, advanced image and radar processing, and powerful deep neural network processing to enable intelligent perception, fusion and planning. For more information, please visit www.ambarella.com.

About Autobrains

Autobrains is a leading Israeli AI mobility company, radically reimagining AI for the safest route from ADAS to full autonomy. Revolutionizing how deep learning is applied, Autobrains' patented self-learning and signature-based AI is a new approach to perception, closing the technology gaps towards the safest human-driven and autonomous car possible. The product portfolio offers modular, highly efficient entry-level, volume, premium and luxury software solutions - covering all autonomous driving levels. Strategic investors include BMW i Ventures, VinFast, Continental AG, Knorr-Bremse AG and others. Learn more here: <https://autobrains.ai/>.

About Seeing Machines

Seeing Machines (AIM: SEE), a global company founded in 2000 and headquartered in Australia, is an industry leader in vision-based monitoring technology that enable machines to see, understand and assist people. Seeing Machines' technology portfolio of AI algorithms, embedded processing and optics, power products that need to deliver reliable real-time understanding of vehicle operators. The technology spans the critical measurement of where a driver is looking, through to classification of their cognitive state as it applies to accident risk. Reliable "driver state" measurement is the end-goal of Driver Monitoring Systems (DMS) technology. Seeing Machines develops DMS technology to drive safety for Automotive, Commercial Fleet, Off-road and Aviation. The company has offices in Australia, USA, Europe and Asia, and supplies technology solutions and services to industry leaders in each market vertical: <https://seeingmachines.com/>.

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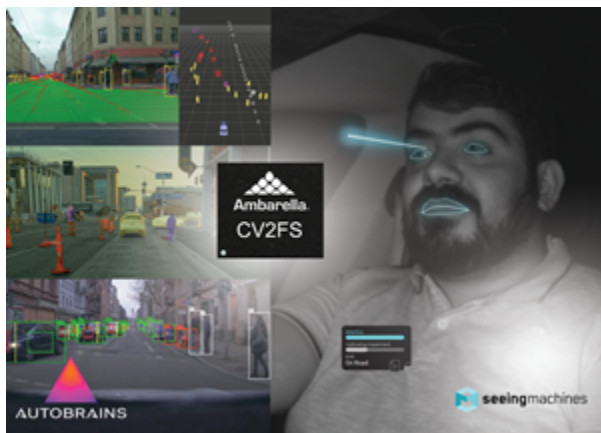
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A photo accompanying this announcement is available at <https://www.globenewswire.com/NewsRoom/AttachmentNg/21f5dd1a-c257-4148-a50a-b117093fdb1c>



Strategic collaboration offers three safety systems in a single box, using a single system-on-chip



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