



Emza's Ultra-Low-Power WiseEye™ Solution Powers Vision AI Features in Dell's New Laptops

Human Detection Algorithms Save Energy; Enhance User Privacy and Security

TAINAN, Taiwan – April 14, 2022 – [Emza Visual Sense](#), a pioneer in Tiny AI visual sensing and wholly owned subsidiary of Himax Technologies (NASDAQ: HIMX), a leading supplier and fabless manufacturer of display drivers and other semiconductor products, today announced that its revolutionary WiseEye™ technology is providing innovative AI-based visual sensing technology in a range of [new Latitude, Inspiron and Precision laptops from Dell](#). The ultra-low-power WiseEye NB system runs unique Machine Learning (ML) and Neural Network based algorithms to enable advanced human detection features in the new laptops.

WiseEye's always-on, ultra-low-power sensor enables applications for enhanced user experience, privacy and security, and it works with the Dell Optimizer integrated AI software suite to enhance that platform's intelligent privacy features. Emza's algorithms, executed by Himax Technologies' ultra-low-power AI processor, provide contextual awareness with the ability to visually detect user engagement levels based on presence, movements, and facial direction, contributing to better display power management and maximizing battery life. Key features enabled by WiseEye NB include:

- **Look Away Detect:** To conserve display power and protect data, always-aware AI algorithms adaptively dim the screen when the user is not engaged, then return it to its original intensity when the user's face re-orientates to the display.
- **On-looker Detection:** For enhanced user privacy and security, the system will recognize if a second person is looking at the screen within the field of view, and automatically blur the screen to conceal sensitive information while sending a privacy alert to the user.
- **Reliable Presence Detection:** For increased security and power savings, vision-based user presence algorithms enable enhanced wake-on-approach and Express Sign-In capability as well as screen lock/unlock.
- **User Configurability:** Through integration with Dell Optimizer, users can personalize their experience, setting detection alerts for specific scenarios.

Designed for Privacy

The WiseEye solution was architected for user privacy. Since sensor images are processed entirely on the dedicated WiseEye processor which is co-located with the CMOS image sensor, images are never stored or transmitted to the main platform. The WiseEye system outputs only user presence metadata to the Intel Context Awareness Service and Dell Optimizer software.

Ultra-Low Power Components

WiseEye NB (for Notebooks) combines:

- Emza's unique and powerful computer vision and ML algorithms.
- A Tiny AI system on chip (SoC) that consumes an order of magnitude less power than its nearest competitor, designed by Himax.
- A unique CMOS imaging sensor, specially designed by Himax, that combines high-quality HD image capabilities with ultra-low-power visual sensing for AI context awareness applications.

“Because Emza’s WiseEye is uniquely designed as a tiny, self-contained solution incorporated into the notebook camera module, it is very easy to integrate with any notebook platform,” said Karun Reddy, Distinguished Engineer and Sensing Technologist, in CTO, Dell. “This flexibility is a significant asset to Dell, making it possible for us to offer these powerful human detection applications across a range of our products. The WiseEye enabled applications add real value for our customers in terms of privacy, security, and device battery life, especially with today’s hybrid work experience.”

“We designed the unique AI and neural processing algorithms in WiseEye to be deployed on Tiny Edge devices in the most affordable way, enabling the addition of vital intelligence to a broad array of connected products,” said Yoram Zylberberg, CEO, Emza. “With optimized algorithms and the high level of integration in WiseEye, we can provide always-on human awareness functionality at ultra-low power in a tiny footprint. We’re delighted that Dell is using WiseEye NB to provide a new level of intelligence in its new laptops, ultimately enhancing their customers’ experience.”

About Emza Visual Sense

Emza Visual Sense is a pioneer in ultra-low-power edge AI devices. The company provides solutions including hardware, software, algorithms and IP to semiconductor companies and OEMs bringing AI capability to tiny, power- and cost-constrained edge devices. As compute power increases and silicon costs decline, the market for these tiny edge AI devices is rapidly expanding across a broad array of segments such as consumer, industrial, automotive and smart cities.

Emza’s WiseEye ultra-low power vision AI systems – combining the company’s innovative computer vision and ML algorithms, CMOS imaging sensor and tiny AI system on chip (SoC) – are shipping today in popular consumer products. As the industry’s first vendor to widely deploy an ultra-low power edge AI device, Emza is uniquely positioned to help customers make their tiny edge AI vision a reality. Emza is wholly owned by Himax Technologies Inc. Visit us at: www.emza-vs.com.

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About Himax Technologies, Inc.

Himax Technologies, Inc. (NASDAQ: HIMX) is a fabless semiconductor solution provider dedicated to display imaging processing technologies. Himax is a worldwide market leader in display driver ICs and timing controllers used in TVs, laptops, monitors, mobile phones, tablets, automotive, digital cameras, car navigation, virtual reality (VR) devices and many other consumer electronics devices. Additionally, Himax designs and provides controllers for touch sensor displays, in-cell Touch and Display Driver Integration (TDDI) single-chip solutions, LED driver ICs, power management ICs and LCoS micro-displays for augmented reality (AR) devices and heads-up displays (HUD) for automotive. The Company also offers CMOS image sensors, wafer level optics for AR devices, 3D sensing and ultralow power smart sensing, which are used in a wide variety of applications such as mobile phone, tablet, laptop, TV, PC camera, automobile, security, medical device, home appliance, AIoT, etc. Founded in 2001 and headquartered in Tainan, Taiwan, Himax currently employs around 2,100 people from three Taiwan-based offices in Tainan, Hsinchu and Taipei and country offices in China, Korea, Japan, Israel, and the US. Himax has 3,009 patents granted and 456 patents pending approval worldwide as of March 31, 2022. Himax has retained its position as the leading display imaging processing semiconductor solution provider to consumer electronics brands worldwide.

<http://www.himax.com.tw>

Forward Looking Statements

Factors that could cause actual events or results to differ materially from those described in this conference call include, but are not limited to, the effect of the Covid-19 pandemic on the Company's business; general business and economic conditions and the state of the semiconductor industry; market acceptance and competitiveness of the driver and non-driver products developed by the Company; demand for end-use applications products; reliance on a small group of principal customers; the uncertainty of continued success in technological innovations; our ability to develop and protect our intellectual property; pricing pressures including declines in average selling prices; changes in customer order patterns; changes in estimated full-year effective tax rate; shortage in supply of key components; changes in environmental laws and regulations; changes in export license regulated by Export Administration Regulations (EAR); exchange rate fluctuations; regulatory approvals for further investments in our subsidiaries; our ability to collect accounts receivable and manage inventory and other risks described from time to time in the Company's SEC filings, including those risks identified in the section entitled "Risk Factors" in its Form 20-F for the year ended December 31, 2021 filed with the SEC, as may be amended.

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