MicroVision, Inc.
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MicroVision Company Backgrounder

Overview

A pioneer in the mobile projection industry, MicroVision is redefining the future of visual display, working with partners to design the next generation of consumer electronic products that help users break free from the screen.

MicroVision's PicoP® laser display engine platform is designed to power next-generation display and imaging products, including pico projectors, vehicle displays and wearable displays that interface with mobile devices. As the world's first commercial ultra-miniature laser-scanning technology, the PicoP® platform uses highly efficient laser light sources to display vivid widescreen images with high contrast and brightness from 12 to 200 diagonal inches in size. The PicoP® laser display engine is small and low power enough to be embedded directly into devices such as smartphones, media players, camcorders and tablets.

MicroVision addresses the unmet need facing growing mobility markets—consumers want a far bigger and immersive viewing experience than they currently get from small mobile device displays. MicroVision is collaborating with Original Equipment Manufacturers (OEMs) and Original Design Manufacturers (ODMs) in the telecommunications, gaming and consumer electronics markets to create new experiences that free consumers from the small screen. In addition, they are also creating new opportunities for carriers, content producers and brand marketers.

Strong demand for innovative display and imaging products has created a need for mobile display engines for consumer, automotive, aviation, medical, and defense markets. For example, the PicoP® laser display engine can be embedded into a vehicle or integrated into a portable standalone aftermarket device to create a head-up display (HUD), placing critical information directly on the windshield of an automobile or into see-through eyewear displays. MicroVision is working closely with various automotive suppliers and commercial introduction of an in-vehicle HUD using PicoP® technology is targeted for the consumer market in 2012. The company has entered into contracts with commercial and government customers to develop high-definition, see-through eyewear displays.

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Taking the Mobile Experience Beyond the Small Screen

MicroVision is pushing the boundaries of how consumers can break free from the screen with the development of PicoP® touch interactive and 3D display. The PicoP® Gen2 allows almost anyone access an immersive, 3D experience from the palm of their hand. Additionally, users can directly interact with any projected image on any surface instantly and use multi-user applications such as virtual whiteboards. The PicoP® Gen2 display engine is also the world's first mobile HD display engine with resolutions up to 720p.

MicroVision is also the developer of a focus-free, plug-and-play pico projector accessory based on the PicoP® laser display engine. The **SHOWWX+™ family of products** easily connects to a variety of mobile devices and instantly projects when users play media from their mobile devices, offering the simplest big-screen experience. The SHOWWX+™ products work with any device that offers Video-Out or VGA functionality, casting a full-color, vivid 10 to 200 inches diagonal image depending on lighting conditions.

Boasting two hours of battery life, up to 15 laser lumens, a contrast ratio up to five times higher than competing products, and the shortest throw ratio of any pico projector on the market, the SHOWWX+™ family of products is the perfect accessory for expanding viewing experiences beyond a palm or tablet-sized screen. The short throw enables the device to display large, bright images even in close or cramped environments, such as on the back of an airplane seat or in a hallway, resulting in images that are twice as big as competing displays from the same projection distance.

In addition, emerging ultra-mobile applications like iPhone and Android games that use accelerometers and gyroscopes for immersive movement, have unique display requirements for which lasers and the PicoP® platform are ideally suited. MicroVision is fueling the growth of mobile gaming with its "infinite reality" projection capabilities that provide a more immersive and realistic gaming experience.

The image produced by the PicoP® laser display engine is always in focus, regardless of variations in projection distance or display surface, and every pixel is the same intensity, creating vivid, saturated colors and brightness that are uniform from the center of the display to the edges. Lasers produce all colors simultaneously, in a hundred-millionth of a second, avoiding color break-up or rainbow artifacts that are commonly experienced with other technologies in fast-moving video scenes, or when the projector or the viewer's head moves.

MicroVision's PicoP® interactive touch technology gives users the power to play games with only the touch of their fingertips on a large display surface. Gamers can directly interact with any projected image on nearly any surface with high response levels. Additionally, the PicoP® Gen2 offers 3D capabilities that allow gamers to reach new levels of virtual reality from accessible devices such as their smartphone or tablet.

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The Technology Inside

The new PicoP® Gen2 laser display engine is the first to utilize the direct green laser diode. With direct green lasers, price will join size, power and performance as reasons why OEMs choose MicroVision's PicoP® for embedded applications ranging from cell phones and eyewear, to video games and automobiles. Through the commercialization of the direct green laser, MicroVision will address the growing demand from users to experience content beyond their mobile devices and small screens.

Unlike traditional display technologies such as LCD, DLP, and LCOS, MicroVision's PicoP® modulates laser light temporally and spatially using MicroVision's proprietary single tiny vibrating MEMS silicon mirror to produce an image. The PicoP® engine directs this collimated beam of light via tiny relay optics, to a front or rear screen surface for projection display applications.

The tiny single scanning mirror is less than one square millimeter—about the size of the head of a pin. It is designed to scan in both horizontal and vertical directions so that a single beam of light can be precisely steered in a raster-like fashion at very high speeds to project a complete video image. The flexible PicoP® architecture integrates directly modulated lasers with the electronics, optical combiners and MicroVision's MEMS single-scanning mirror.

High optical efficiency of the architecture results in higher contrast, richer colors and less power usage. The PicoP® engine does not require projection lenses or focus wheels and dissipates less heat, yielding an extremely small form factor. The PicoP® engine is ideal for embedded applications because of its architectural advantages including spectacular image quality, small form factor and low power requirements.

Management Team

Alexander Tokman, CEO and president
Sid Madhavan, vice president of research and product development
Paul Patterson, vice president of business development, strategic marketing and sales

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Recent Quarter Milestones

Products:

- Introduced SHOWWX+™ HDMI, the newest addition to its family of award-winning, pocket-size laser pico projectors, boasting new quick start capabilities and additional compatibility.
- Partnered with WOWee ONE to create a powerful mobile theater bundle with the SHOWWX+™ and WOWee ONE Classic portable speaker.
- MicroVision partnered with Softline UK Ltd., one of Europe's top Apple distributors, to handle the SHOWWX+™ inventory and fulfillment for Apple EMEA online customers.

Automotive HUD:

- Announced contract with a major automobile manufacturer to incorporate MicroVision's PicoP® head-up display (PicoHUD™) technology into its test vehicles.
- Early samples of the new HD PicoP® display engine have been built using direct green laser samples from three different manufacturers. One such sample was demonstrated in a prototype of Pioneer's aftermarket automotive HUD at CEATEC Japan 2011. Pioneer has announced plans to introduce its PicoP-based HUD product in 2012.

IP:

- The third quarter was characterized by continued progress in the development of the next-generation HD PicoP® display engine. The new HD PicoP® display engine platform is expected to have high performance, even smaller size, lower power and an attractive price to accommodate high volume consumer and automotive product requirements. The HD PicoP engine is planned for release in the second half of 2012 to OEMs for integration into their products.
- Demonstrated a 3D PicoP® display engine prototype projector that creates a focus-free immersive 3D experience using less expensive passive 3D glasses. 3D capability is expected to be added as another feature available for future OEM products utilizing MicroVision's HD PicoP® display engine.
- Signed an agreement with Intel to distribute and resell MicroVision's SHOWWX+™ laser pico projector through its U.S. distribution channels.
- MicroVision was again recognized for a Top 50 IP portfolio by the Patent Board, in association with The Wall Street Journal, ranking in the top 50 for the third consecutive year among all global electronics companies. The Patent Board has developed more than 50 indicators that track global patent activity relating to companies' innovation, technology and science strengths.
- Also added to Ocean Tomo 300 Patent Index priced and published on the NYSE Euronext.

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Gaming:

- Introduced MicroVision's Core PicoP® Gen2 (the newest generation of MicroVision's PicoP laser display engine), which provides users with interactive gaming applications in brilliant colors on a wide field of view.
- Developed and improved gaming applications including Interactive Touch Technology, Project Tuatara, and new handsets with high-accuracy pressure reading capabilities.

History

MicroVision was formed in 1993 and is headquartered in Redmond, Washington, USA. The company is an ISO 9001-certified organization, and is focused on delivering quality and reliability in both product design and customer service. The company is also represented in Europe and Asia-Pacific.

Contact Details

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