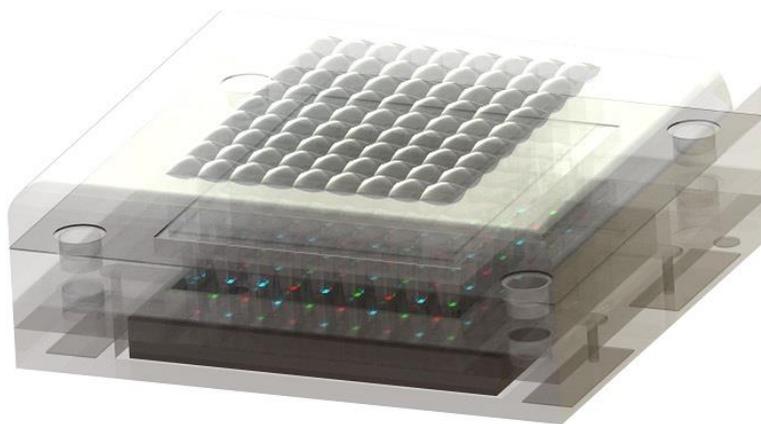


# Plessey partners with Vuzix to develop next-generation AR Smart Glasses using microLED technology



**4 June 2018**

Plessey Semiconductors, a leading developer of award-winning optoelectronic technology solutions, today announced it is partnering with Vuzix, a pioneer in the development of technologies for Smart Glasses. The two companies are partnering to develop the necessary technologies for a new generation of AR Smart Glasses, based around the combination of Plessey's microLED light source product family, Quanta-Brite™, and Vuzix' extensive expertise and IP in Smart Glasses and essential optic technologies.

Plessey has successfully demonstrated how its innovative monolithic microLED technology can be used to deliver Smart Glasses technology for a wide range of AR and MR (mixed-reality) applications for use both indoors and out. In addition, Vuzix

have already developed an evolving family of Smart Glasses culminating in the Vuzix Blade, the next generation smart display with see-through viewing experience via proprietary waveguide optics. Formed from glass with precision nanostructures, the waveguide is a key component in an AR/MR product, enabling users to see high-resolution computer-generated graphics, images and information superimposed over images from the physical or real world.

In the development of its next-generation product, Vuzix has selected Plessey's microLED-based Quanta-Brite™ light engine, which delivers extremely high efficiency and an improvement in lumen output compared to other light sources currently available on the market.

Quanta-Brite™ is based on Plessey's advanced and proprietary gallium-nitride-on-silicon (GaN-on-Si) technology, with an integrated monolithic array of RGB pixels with advanced first level micro-optical elements to create a bright, largely collimated and highly uniform light source for the illumination of DMD and LCOS display engines. The resulting optical system is up to 50% smaller, lighter, simpler and cheaper than incumbent solutions and the high performance microLED emitters combined with minimal optical system losses result in significantly increased power efficiency. Size, weight and power reduction are key considerations in AR/MR wearables. Quanta-Brite™ has been designed specifically for the next generation of Vuzix personal display systems.

“Plessey's Quanta-Brite™ microLED™ technology can be a major enabler of the future of augmented reality,” **said Vuzix President and CEO Paul Travers.** “As well as delivering high-efficiency, low-power and small-size illumination capabilities, the very high level of luminescence of the Quanta-Brite™ light source can also enable the development of end products with a sleeker form factor, which is a key attribute of our waveguide based Smart Glasses and critical to mass market adoption.”

“This development with Vuzix, a leading actor in the exploration of next-generation augmented reality, is a significant endorsement of Plessey's GaN-on-silicon

microLED approach,” **said Dr Keith Strickland, Chief Technology Officer at Plessey.** “Monolithic microLED technology is fast emerging as the only one that can provide high luminance in a very small form factor with minimal energy consumption, necessary for reducing costs and enabling lightweight battery-powered products for a range of emerging consumer and industrial applications.”

According to the Consumer Technology Association (CTA), headsets and eyewear outfitted for AR and VR applications are set for record sales this year of \$1.2 billion in the US market alone.

Plessey recently participated at Display Week 2018, an international trade show and symposium that was held at the Convention Center in Los Angeles from May 20–25 and organised by the Society for Information Display. At the event, Dr Strickland delivered a paper looking at the future of microLED displays using next-generation technologies.

National award recognition continues to build for Plessey’s ground-breaking MicroLED GaN-on-Silicon display technology. Plessey was recently announced as ‘Tech Company of the Year’ at the National Technology Awards 2018, a prestigious annual awards programme celebrating pioneers of new technology, focusing on innovation. Plessey’s recent win builds upon their hugely successful year in the awards industry in 2017, where Plessey was awarded the highest accolade at the Elektra Awards with ‘Company of the Year’ as well as well as winning the coveted ‘Grand Prix’ award at the British Engineering Excellence Awards (BEEAs).

For further information, please visit:

<http://www.plesseysemiconductors.com/products/microleds/>

## About Plessey

Plessey is a leading expert in the development and licensing of technologies that are revolutionising the solid-state lighting sector. With its in-depth understanding and breadth of patents relating to GaN-on-Silicon, the company has established itself as a valued IP partner to OEMs producing the next generation of photonics solutions. Plessey has been successfully licensing its pioneering sensor technology solutions within the healthcare and automotive sectors for many years.

For further information and datasheets, please visit

[www.plesseysemiconductors.com](http://www.plesseysemiconductors.com) or email [sales@plesseysemi.com](mailto:sales@plesseysemi.com). Follow Plessey on [Twitter](#), [Facebook](#) and [LinkedIn](#)

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