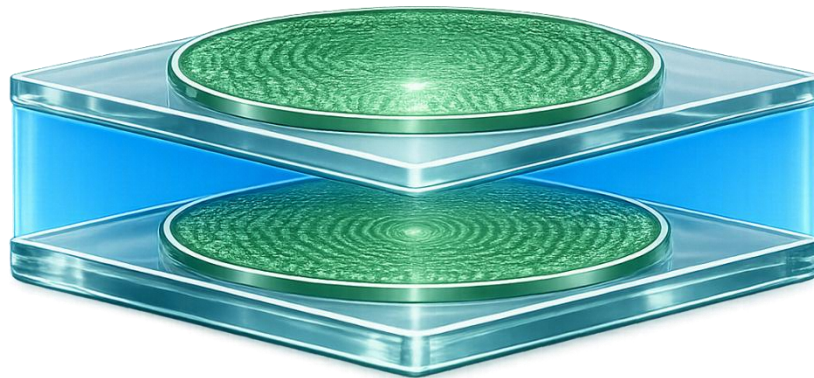




FOR IMMEDIATE RELEASE

Development collaboration update: Compact Tunable Metalens Module Advances 3D Non-Contact Fingerprint Biometrics Toward Smartphone Integration Possibilities



Singapore – 2 March 2026 – MetaOptics Ltd (Catalist: 9MT) (“MetaOptics” or the “Company”, and together with its subsidiaries, the “Group”) MetaOptics has announced plans to develop a compact optical module for 3D non-contact fingerprint biometrics, designed to support future smartphone integration possibilities. The project enhances the Company’s existing 3D sensing technology by reducing optical stack size and incorporating electronic tuning to optimise imaging performance without the complexity of mechanical motion.

This initiative is being carried out in collaboration with a Singapore-based national institute that supports the commercialisation of advanced semiconductor technologies. This collaborative partnership accelerates the translation of cutting-edge optical research into manufacturable and scalable solutions for next-generation secure identity systems.

At the core of the module is a tunable flat-lens optical stack built around two ultra-thin metalenses. Unlike traditional curved lenses, these nanostructured flat optical elements precisely shape and focus light within an exceptionally compact architecture. Each metalens is fabricated on a glass substrate, which are separated by an approximately 100 µm-thick liquid crystal (“LC”) layer equivalent to the thickness of a human hair.

By applying voltage across the LC layer, the optical characteristics of the stack can be electronically adjusted, enabling tunable optical response in a highly compact form factor, eliminating the need for bulky or failure-prone mechanical focusing components.

It is intended that each 2.0 mm-diameter metalens will sit on a 0.775 mm glass substrate, creating a 1.65 mm optical stack within a target overall module thickness of about 5 mm, supporting integration into space-constrained consumer devices. The demonstrator uses green wavelength 532 nm for this



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optical module design, paired with a monochrome image sensor and control electronics, to capture detailed fingerprint features under controlled conditions.

“I have been working on small pixel size, LC-based spatial light modulators (“**SLMs**”)—a challenging class of electro-optic systems where stable, repeatable tuning must be achieved within an extremely compact form factor”, said Dr. Tobias W. W. Mass (VP Systems), MetaOptics Ltd. “Applying this experience to realise an autofocus mechanism for a metalens imaging system is a logical step for MetaOptics. We selected an LC tuning approach because it is a mature technology platform with high optical design freedom while maintaining fully electronic actuation. Compared with mechanical focusing approaches such as VCM-based actuation, our approach supports scalable manufacturing and improved yield.”

“This programme builds directly on the insights gained from our first-generation 3D non-contact fingerprint module. With this next-generation tunable metalens solution, we are targeting a significant reduction in module size down to approximately a 5mm encapsulation, enabling mounting in space-constrained consumer electronics such as 5G smartphones and notebooks. Importantly, while many biometric modules in the market are passive, our tunable metalens stack enables an ‘active’ optical architecture—electronically adjustable to optimise fingerprint capture—supporting higher security through improved 3D biometric precision and offering a cleaner, non-contact alternative to conventional 2D contact-based fingerprint solutions.”

We intend to showcase our new generation 3D biometrics sensing tunable module at CES 2027 in Las Vegas next January. Featuring an advanced tunable metalens, this module delivers significantly higher fingerprint tracing precision, a significantly smaller device size and higher hygienic as compared with currently available 2D biometric technologies.

Additional updates will be shared as development progresses.

By Order of the Board

Thng Chong Kim
Executive Chairman
2 March 2026

This announcement has been reviewed by the Company’s sponsor, ZICO Capital Pte. Ltd. (the “**Sponsor**”).

This announcement has not been examined or approved by the Singapore Exchange Securities Trading Limited (the “**SGX-ST**”) and the SGX-ST assumes no responsibility for the contents of this



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announcement, including the correctness of any of the statements or opinions made or reports contained in this announcement.

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