

Joint News Release

trinamiX and NIL Technology collaborate to offer miniaturized, high security Face Authentication solutions ready for mass market

- Ultra-compact hardware for integration of Face Authentication into all kinds of consumer electronics devices enabled by use of meta-optics
- Collaboration enabling high-volume mass production
- Showcased at the trinamiX booth #4205-01 and the NIL Technology booth #5335 at SPIE Photonics West 2025.

Ludwigshafen Germany, and Copenhagen Denmark, January 22, 2025 – trinamiX GmbH, a leading provider of biometric imaging solutions and NIL Technology (NILT), a global leader in meta-optics design and manufacturing announce their collaboration — a partnership bringing ultra-compact and secure face-unlock and 3D depth mapping technology to mass market. The powerful combination of NILT’s small-scale, high-efficiency meta-optics, and the sophisticated algorithms from trinamiX has resulted in a miniaturized solution, with highly reliable anti-spoofing technology, ready for integrating into automotive, smartphones and next generation consumer electronics.

trinamiX Face Authentication with liveness check

trinamiX Face Authentication fulfills the highest biometric security requirements defined by the International Internet Finance Authentication Alliance (IIFAA), the FIDO Alliance and Android (Google). It has thus been approved for Android integration and for use with particularly high security demands such as digital payment processes. Its unmatched performance is based on the underlying patent-protected algorithms that verify a person’s liveness by checking for human skin. Thanks to the new approach, trinamiX Face Authentication is the first solution to also pass these certifications while the hardware is invisibly mounted behind OLED.

NILT meta-optics enabling ultra-compact module

For **trinamiX Face Authentication**, it is NILT's technology that enables invisible sensing in an extremely small and compact form factor. NILT integrates a 2-in-1 dot-flood-projector single-surface (1M) meta-optics element (MOE) into a projector module. This design not only streamlines the module but also enables an exceptionally compact package and low-Z height architecture, essential in consumer electronics, wearables, in-cabin automotive applications. Furthermore, NILT's capabilities – vertical integration from design to mass production – provide a unique platform for delivering a high-quality and robust module in this game-changing system.

Face Authentication demos at SPIE Photonics West 2025

At SPIE Photonics West both companies showcase the state-of-the-art version of the trinamiX secure Face Authentication solution with technology from NILT. Visitors will be able to experience the ultra-compact Face Authentication in the trinamiX booth #4205-01 and the NIL Technology in booth #5335. Despite its small size, it's a complete system composed of a CMOS camera, a dot projector and flood illumination that is unmatched in its simplicity and robustness. Both companies are looking forward to showcasing this powerful tool for automotive, laptop, and smartphone sensing – starting at SPIE Photonics 28 – 30 January 2025.

About trinamiX GmbH

trinamiX GmbH develops cutting-edge biometric and mobile NIR spectroscopy solutions, which are used in both consumer electronics and industrial designs. The company's products enable humans and machines to better capture data with the goal of understanding the world around us. This results in improved decision making as well as stronger biometric security. trinamiX, based in Ludwigshafen (Germany), was founded in 2015 as a wholly owned subsidiary of BASF SE. The company employs over 230 people worldwide and holds more than 750 patents and patent applications.

www.trinamiXsensing.com

About NILT

NIL Technology (NILT), founded in 2006, is an optical solutions company designing, developing, and manufacturing optical elements and components using high-precision nanoscale features. NILT creates competitive advantages with flat optics (meta-optics) in optical applications for 3D sensing, consumer electronics, machine vision, autonomous vehicles, telecommunication, and AR. With its background in mastering for nanoimprint, the company produces masters and

trinamiX

A brand of
BASF – We create chemistry

offers nano-foundry services. NILT is based in Denmark and has offices in Switzerland, Sweden, US, and a manufacturing in Malaysia. Visit us at www.nilt.com. NILT is owned by Radiant Opto-Electronics Corporation (www.radiant.com.tw).

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