



PRESS RELEASE

NILT Launches Meta-Optics Camera Series

Copenhagen, Denmark, January 24, 2025 – NIL Technology (NILT), a global leader in meta-optics design and manufacturing, launches the metaCamera™ product line, a family of near-infrared ultra compact cameras, all fully based on meta-optics, and optimized for object distances from 2 mm to infinity. The metaCameras™ provides high-fidelity near-infrared (NIR) images for a wide range of applications including authentication, augmented reality (AR), and automotive safety and IoT sensing.

Meta-Optics Technology for Ultra-Compact NIR Cameras

NILT has developed a new product line of ultra-compact NIR camera, enabled by metalenses, for a variety of configurations. Utilizing its comprehensive vertically integrated approach to meta-optics NILT is demonstrating a series of cameras, for object distances ranging from 2 mm to infinity, all of them using the same proprietary and novel camera architecture. Many use-cases require active illumination of the scene and NILT's proprietary meta-optics technology allows for camera performance optimization for a variety of light sources, ranging from narrow bandwidth VCSEL illumination to broader band LED illumination.

From MetaEye™ to the MetaCamera™ Product Line

The original metaCamera™ product was demonstrated in January 2024, as the metaEye™ camera optimized for 15 mm and designed to match typical requirements for eye tracking cameras. The metaCamera™ reference product family is now expanded to include a macro-configuration for 2 mm object distance (the metaMacro™ camera) and a configuration for infinity imaging (the metaInfinity™ camera). NILT metaCameras™ are available in standard configuration, and they can also be customized to specific requirements. The cameras are demonstrated at 850 nm, but they can be optimized for any NIR or SWIR wavelength.



NILT cameras powered with OMNIVISION Sensor

The metaCameras™ are demonstrated with sensors from OMNIVISION, and are built without the use of refractive lenses, which allow for a mechanically and thermally robust cameras. The XY footprint of the camera is limited only by the sensor size, and the z-height can be adapted to any customer-defined specification.

“We are excited to demonstrate to the world the versatility of our meta-optics technology. We are building cameras relying entirely on metalenses and we are showing that different configurations are possible. The cameras are demonstrated with image sensors from our partner, world leading OMNIVISION,”
says [Theodor Nielsen, founder, CEO, NILT](#)

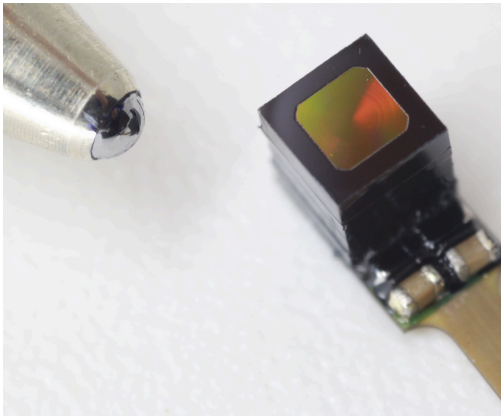
“We are happy to see NILT’s excellent progress in building camera modules with metalenses and OMNIVISION image sensors. As an image sensor partner for this innovative and disruptive work with metalenses, we are looking forward to supporting the commercialization of these exciting cameras,” says [Devang Patel, Marketing Director for the IoT, and Emerging Segment at OMNIVISION.](#)

Demos at SPIE Photonics West, Booth #5335

Visit us in our booth at SPIE Photonics West, San Francisco to demo the smallest, and almost invisible, sensing solutions for next generation smart phones, biomedical diagnostics, and consumer electronics. During the week, 28 – 30 January 2025, we will showcase all standard configurations of the metaCamera™ family:

- metaMacro™ is optimized for close-range applications (2 mm), with uses in close-range applications such as marker detection, encoder recognition, diagnostic, and IoT sensing, where high precision is required.
- metaEye™ is optimized for eye tracking (15 mm), provides high performance ultra compact eye tracking solution enabling next-generation AR and VR headset designs. The metaEye™ have further optimized performance over the 2024-demonstrator.
- metaInfinity™ is optimized for infinite object distances (1 m to infinity), supports applications like gesture recognition, face tracking, biometrics, and more.

In addition to NILT metaCamera™ family, visitors will be able to interact with six other demos—from AR Waveguides to the latest Dot Projector for Face Authentication at **Booth #5335**



NILT metaCamera™ next to the tip of a ballpoint pen

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 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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About OMNIVISION

OMNIVISION is a global fabless semiconductor organization that develops advanced digital imaging, analog, and touch & display solutions for multiple applications and industries, including mobile phones; security and surveillance; automotive; computing; medical; machine vision; and IoT / emerging applications. Its award-winning innovative technologies enable a smoother human/machine interface in many of today's commercial devices. Find out more at www.ovt.com. OMNIVISION® and the OMNIVISION logo are trademarks or registered trademarks of OMNIVISION. All other trademarks are the property of their respective owners.

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