NL

Holland High Tech

Global Challenges, Smart Solutions

Photonics West
30 January - 1 February 2024

San Francisco, CA, USA

PhotonDelta

PhotonicsNL

Contents

SPIE. PHOTONICS WEST

Photonics is the key technology that uses the properties of light for a wide range of applications such as sensing, data communication, and production technology. Within the photonics domain, there is a fast-growing market for integrated photonics, also known as Photonics Integrated Circuits (PICs). These PICs miniaturize two or more photonic functions into a single chip to create smaller, faster, and more energy-efficient devices.

The Netherlands is known worldwide for its highly dynamic environment for high-tech innovation, evident in the presence of large leading-edge innovative companies such as Philips. The high-tech landscape spans large companies to start-ups, across many domains, as well as in the semiconductor field (ASML, NXP). With a proven track record in our high-tech and semiconductor industries, as well as our leading global R&D in waveguide technologies, the Dutch (integrated) photonics sector has been building in prominence over the last few decades.

Today, the Netherlands offers a robust end-to-end value chain for (integrated) photonics from design and fabrication to packaging, testing, and application development. There are a growing number of industries looking to incorporate Dutch photonics technology into their solutions as designers tackle evermore global challenges. Examples are the expansion of 5G data networks and sustainable data centers, safer autonomous driving vehicles, affordable healthcare, more efficient food production, and energy-efficient processes and products.

Technological developments are taking place at a rapid pace and innovation is essential. Dutch companies and institutes need to collaborate within the international market to accelerate photonic-based innovation and speed up time-to-market. Therefore, this booklet is an invitation to companies, knowledge institutes, and governments to get in contact with the Dutch photonics ecosystem.

It is said that the twentieth century was the century of the electron. If the twenty-first century is to be the century of the photon, then this is the chance to realize new opportunities together.

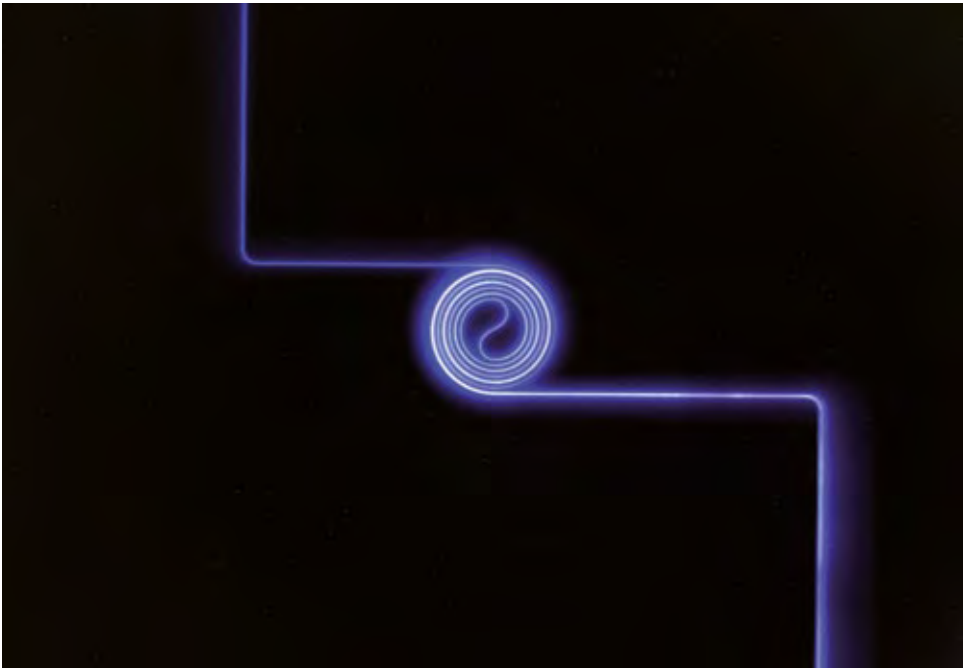
Petra Wicherink — PhotonicsNL
Jorn Smeets — PhotonDelta

Participants Holland High Tech Pavilion

Participant Holland High Tech Pavilion | Booth # 5310-A

ALUVIA Photonics
Enabling the next generation UV photonics

ALUVIA Photonics B.V. offers photonic integrated circuits (PICs) in the aluminium oxide (Al^2O^3) integrated photonic platform, which provide broadband operation range extending from the ultraviolet (~200 nm) till the near-infrared (~3 μm) and optical amplification upon doping with different rare-earth ions including Yb^3+ (for amplification at 1 mm), Nd^3+ (1064 nm and 1310 nm), Er^3+ (C-band amplification) and Tm^3+ (1800-2000 nm amplification). Both multi-project wafer (MPW) as well as dedicated runs are offered. A PDK of parametrized building blocks is available.



ALUVIA

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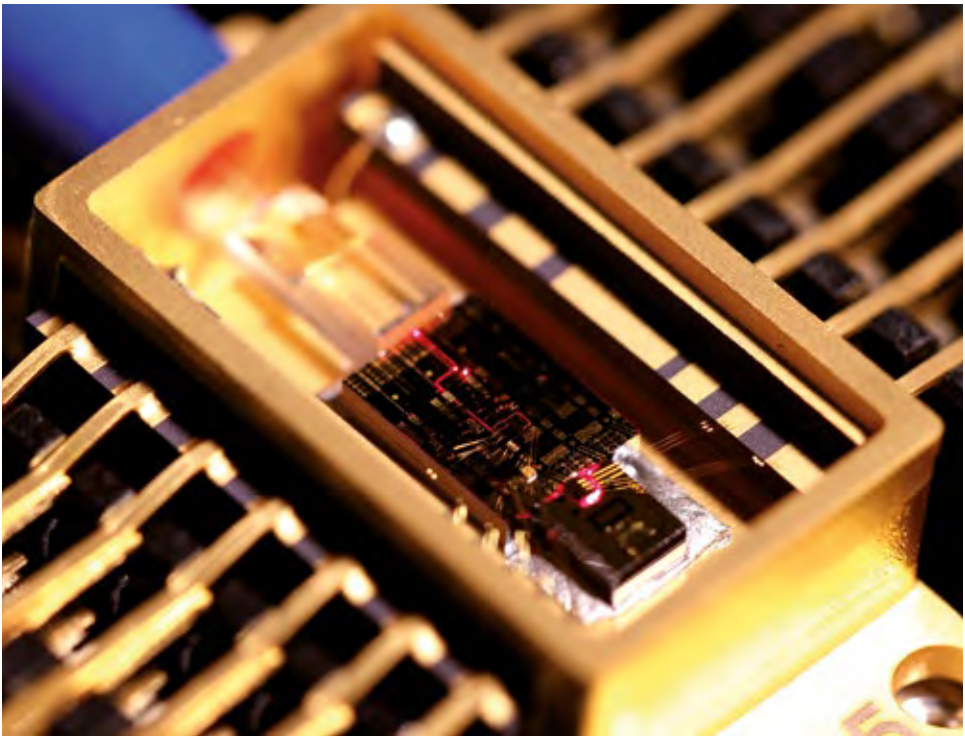
Chilas
Ultra-narrow linewidth external cavity tunable lasers



Chilas produces high-end semiconductor external cavity tunable lasers with ultra-narrow linewidth,based on hybrid photonic integration technology. Chilas offers wavelength bands around 1550 nm, 850 nm and 780 nm. Chilas lasers are ideal for applications such as; coherent communication, Lidar,fiber sensing, atom cooling, quantum computation and microwave photonics.

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Participant Holland High Tech Pavilion | Booth # 5313

Chip Integration Technology Center (CITC)
Integration for Tomorrow

Chip Integration Technology Center (CITC) is a non-profit, joint innovation center specializing in heterogeneous integration and advanced chip packaging technology. We have created an effective ecosystem in which companies, research and educational institutes work on bridging the gap between academics and industry. Together, we work on a new generation of packages providing smart, safe and rugged housing for chips.

In our Integrated Photonics Packaging program, we support customers with their chip packages and develop new packaging concepts. We aim to 'semiconductorize' the integrated photonics industry. We do this by using our expertise and knowledge in the field of high-power electronics packaging and RF packaging to develop packaging technologies that address the following topics:

- Fiber-to-chip coupling
- Chip-to-chip coupling
- High-density electrical and optical interconnections
- Hybrid integration of photonics chips
- Multi-chip module in which photonics and electronics are integrated in a single package
- Thermal management

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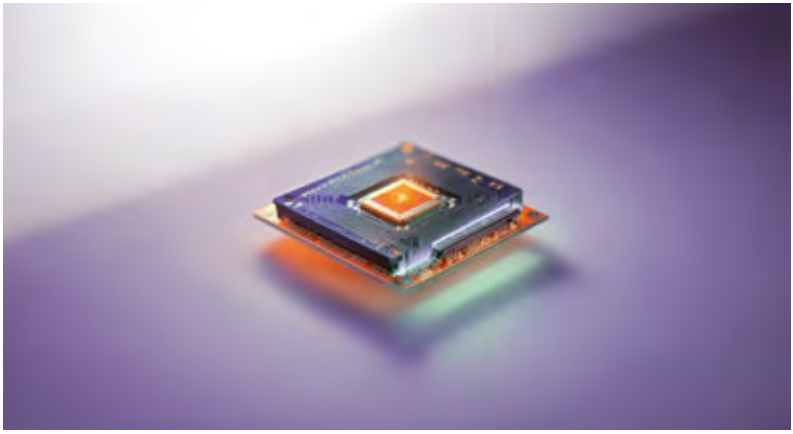
Participant Holland High Tech Pavilion | Booth # 5306

Epiphany
Get the Most out of your PIC

Epiphany Design is your premier partner in advancing photonic innovations. As a leading fabless photonic design house based in the Netherlands, we specialize in empowering your vision through personalized Photonic Integrated Circuits (PICs). Our full-service approach ensures seamless collaboration from initial concept to PIC production. With the flexibility of a fabless model, we expertly combine diverse technologies and design frameworks tailored to your specific needs. As staunch supporters, we work closely with clients to identify optimal PIC technology and foundry solutions, minimizing iteration cycles for swift development and rapid market entry. Epiphany is not just a design house; we actively contribute to the evolution of photonic circuits by merging cutting-edge research with practical applications. Backed by a team of world-leading experts and a robust research network, we are committed to transforming your photonic ideas into reality, driving innovation and efficiency in the ever-evolving landscape of photonics. Choose Epiphany Design for a transformative journey from concept to market success in the realm of Photonic Integrated Circuits.



epiphany PHOTONIC DESIGN HOUSE

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Participant Holland High Tech Pavilion | Booth # 5204

Integrated Mechanization Solutions (IMS)
Taking you steps ahead

IMS designs, manufactures and supports production and test equipment 'from prototyping to high volume production' that require high precision: from several tens of microns down to well under one micron. When quality and performance of your products rely on high-accuracy production and test processes, we deliver innovative, reliable, and scalable solutions.

IMS launches two new systems at the Photonic West, the HELIOS and the SIRIUS. HELIOS allows optical inspection of (photonic) wafers and dies on wafer for contaminations and interrupts. IMS brings complex inspection of front-end production processes down from hours to minutes.
The SIRIUS is designed for simultaneous coupling of optical and electrical I/O means extremely well controlled dynamics of the measurement system. Couplings are made at high speed to ensure limited processing times of functional tests.

HELIOS and SIRIUS are indispensable metrology equipment for cost-effective front-end production and back-end integration of PICs.

Looking for a 'Lab-to-Fab' production or test system in precision assembly, isothermal glass molding, or integrated photonics? We have a solution or can offer a customized solution.
Join us at Photonics West 2024 where we introduce our new metrology equipment for Photonics!

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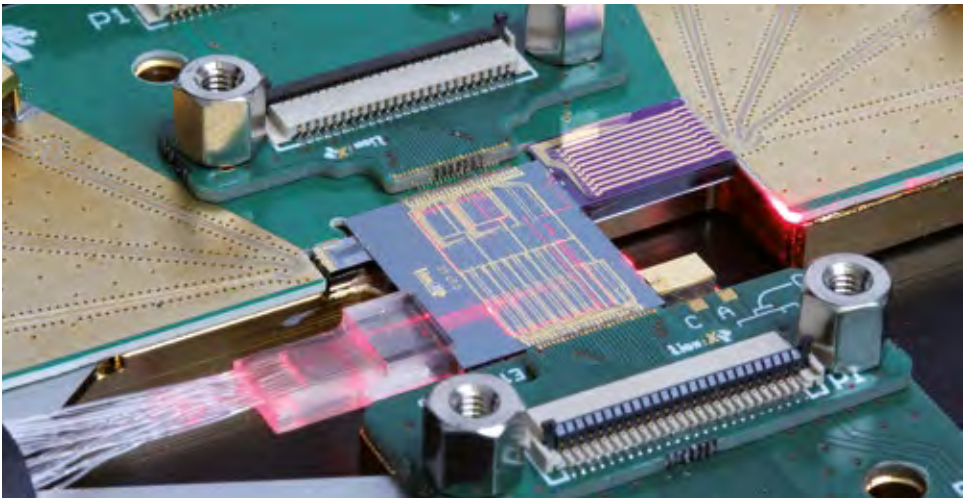
LioniX International
Our chips drive your business



LioniX International is a leading global provider of customized microsystem solutions in scalable production volumes. Our particular focus is the use of integrated photonics. We develop solutions for OEMs and system integrators, using a vertically integrated approach to work from design to device. This way of working is in turn supported by a strong IP portfolio of leading technology.

Since its beginnings in 2001, LioniX International has been the Dutch pioneer company in Photonic Integrated Circuits (PICs). Our proprietary waveguide technology (TriPleX®) combined with other core capabilities in micro-fluidics, opto-fluidics and MEMS, is at the heart of our PIC enabled modules. As a vertically integrated company, we deliver a complete solution to our customers. From initial design to volume production, our modules drive performance from within our customer's products, enabling innovation in markets as diverse as life science, metrology and data/ telecommunications.

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Participant Holland High Tech Pavilion | Booth # 5310

MantiSpectra
See the invisible

MantiSpectra, an innovative spinoff from Eindhoven University of Technology, stands proudly as a leader in the realm of near-infrared spectral sensors. Our pioneering sensors boast the extraordinary ability to quickly and precisely classify and quantify material composition. At the heart of our success lies our cutting-edge technology ChipSense, featuring high-performance detectors designed to capture specific wavelengths within the near-infrared spectrum, spanning from 850 to 1700 nm.
MantiSpectra had developed Nibble™ a standalone spectral module that empowers users to effortlessly capture measurements and build predictive models, harnessing advanced machine learning algorithms in a couple of clicks. At MantiSpectra we fervently believe in the transformative potential of wafer-level spectroscopy, envisioning a future where it revolutionizes a myriad of industries. From quality assessments in agriculture to enabling raw material identification in recycling processes, our technology knows no bounds. It extends its reach to mobile healthcare and chemical analysis in consumer devices, poised to become an indispensable part of our daily lives. Come join us in exploring the thrilling possibilities of spectral innovation at our prestigious conferences!

MantiSpectra

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Participant Holland High Tech Pavilion | Booth # 5309

MicroAlign
Every fiber matters

MicroAlign is developing a revolutionary alignment solution to optimally connect multiple optical fibers to several optical components ranging from photonic chips, and lens arrays, to more optical fibers. MicroAlign's technology has the potential to optimize the quality of each optical fiber connection, for tens of optical fibers and with sub-micrometer accuracy.
The MicroAlign alignment stage can be applied for testing and assembling optical devices employed in DATACOM, TELECOM, and quantum photonic computing markets. When an accurate and fast active alignment of fiber arrays is needed, MicroAlign has the solution for you.

Applications are assembly and testing for:

- Datacom
- Telecom
- Quantum computing
- Space communication

MicroAlign

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Participant Holland High Tech Pavilion | Booth # 5210

NTS
Global first-tier contract manufacturer of (opto-) mechtronic systems

NTS is a first-tier contract manufacturer and develops, produces, assembles, and tests complex (opto-)mechatronic systems and mechanical modules. By doing that, we accelerate our customers' innovation and contribute to a more sustainable, healthy, and future proof world.

To be a partner-of-choice, we must think along and innovate together. As a first-tier contract manufacturer, we align with the technological roadmap of our customers: Original Equipment Manufacturers (OEMs) in both analytical and semiconductor industry. Our customers value us for the know-how and competencies we have in-house, that unburden them, shorten their time-to- market and guarantee quality solutions.

Our broad set of expertise in development & engineering, design and manufacturing, combined with our global presence and local entrepreneurship, makes us your partner-of-choice.

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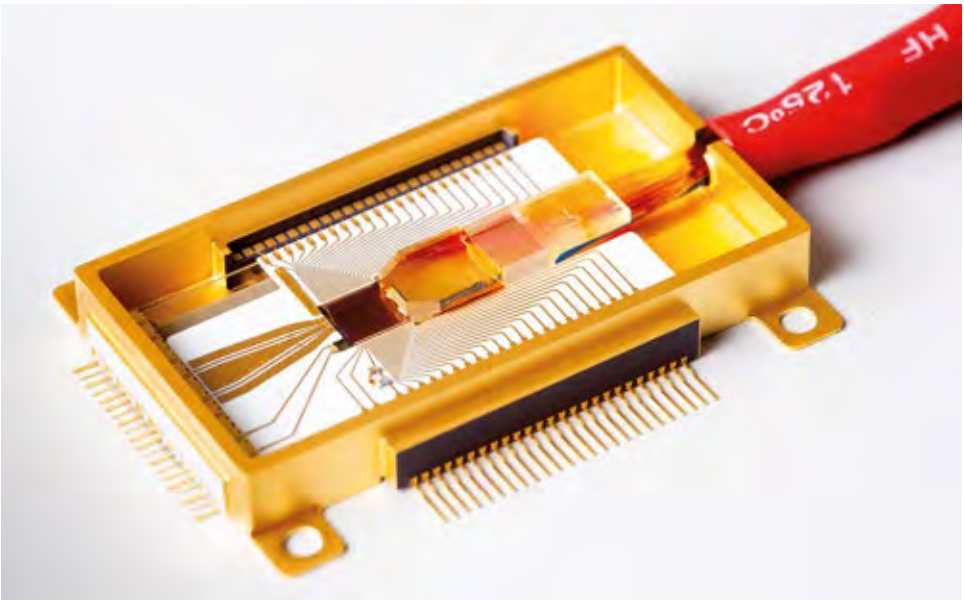
Participant Holland High Tech Pavilion | Booth # 5304

PHIX Photonics Assembly
World leading integrated photonics packaging foundry



PHIX offers assembly services and contract manufacturing for photonic integrated circuits (PICs). We build optoelectronic modules based on all major PIC technology platforms, such as Indium Phosphide, Silicon Photonics, Silicon Nitride, and Planar Lightwave Circuit. We specialize in chip-to-chip hybrid integration, coupling to fiber arrays, and interfacing of DC and RF electrical signals. By offering our knowledge already at the chip design stage, we ensure ease of scale-up for volume manufacturing. PHIX provides a one-stop-shop for PIC assembly, from design to volume production. We have a state-of-the-art production facility located in Enschede, The Netherlands, supporting the global industrial development of PIC enabled modules.

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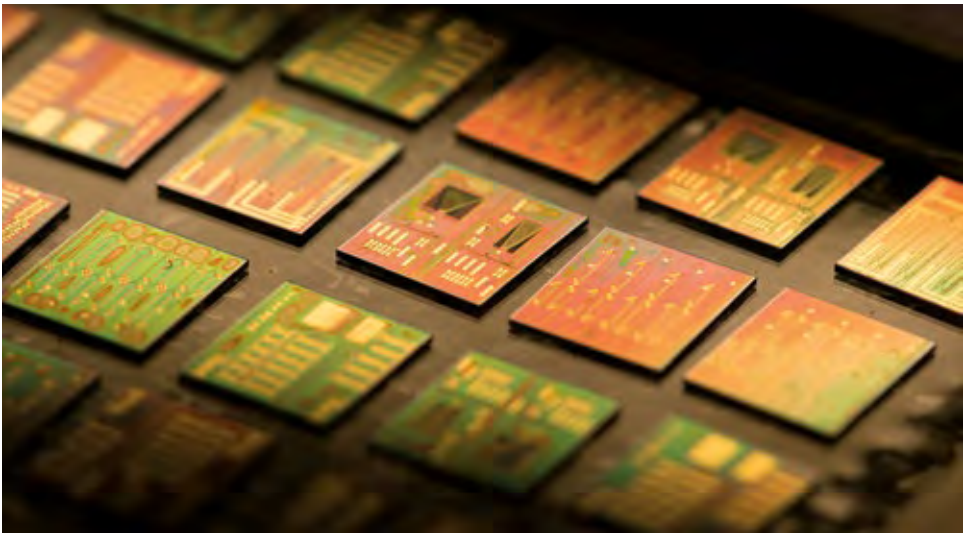
Participant Holland High Tech Pavilion | Booth # 5207

PhotonDelta
A European ecosystem for Integrated Photonics

PhotonDelta is a leading ecosystem and end-to-end value chain for photonic chips that designs, develops, and manufactures innovative solutions that contribute to a better world. Integrated photonics is a technology that harnesses the power of light to create energy-efficient, faster, and more accurate microchips. The combination of semiconductor chips and photonic microchips offers a sustainable solution to society's energy consumption and technological challenges such as the expansion of 5G data networks and data centres, safer autonomous driving vehicles, and more efficient food production. Connecting pioneers in the field with investors, and viable markets, PhotonDelta helps to take the industry forward with funding, investments, R&D initiatives and industry roadmaps. PhotonDelta is located in the Netherlands, a country positioned at the very forefront of integrated photonics, but connects and collaborates around the world.



PhotonDelta

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Participant Holland High Tech Pavilion | Booth # 5113

PhotonicsNL
Empowering Light, Illuminating Futures

PhotonicsNL serves as the paramount hub and trade association for Photonics within the Netherlands. Our core mission revolves around catalyzing Photonics innovation by fostering collaborative partnerships and knowledge sharing among businesses, industries, and knowledge institutes. We are dedicated to elevating the awareness of Photonics' pivotal role in bolstering our economy and enhancing Photonics education at all educational tiers.

The advent of Photonics promises to usher in a transformative era, equipping virtually every industry across the Netherlands and Europe with the tools and solutions necessary for heightened competitiveness. These Photonics-driven innovations are set to revolutionize how we live, work, and engage globally. In the Netherlands, PhotonicsNL is an important connection in this because it is our responsibility to cultivate a robust network and ecosystem, facilitating connections between industry leaders, SMEs, start-ups, research and development entities, knowledge institutions, educational organizations, and end-users. Our collective goal is to position Dutch Photonics on the global stage. Key application areas encompass AgriFood, Healthcare, Semiconductors, Automotive, Energy, and Environmental solutions, among others.

PhotonicsNL collaborates closely with the Netherlands Enterprise Agency (RVO) and with two Dutch platforms, PhotonDelta and Optics Netherlands. On an international level, we nurture strong relationships with our counterparts from various European Union countries, collectively propelling Photonics innovation to new heights.

PhotonicsNL

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Participant Holland High Tech Pavilion | Booth # 5307

QuiX Quantum
Building quantum computers

QuiX Quantum is the European market leader for quantum computing based on photonics. We are building a Universal Quantum Computer based on photonics in Europe sold to the German Aerospace Center (DLR) and will soon offer cloud computing. The core technology is award-winning (Prism Award for Quantum Tech category). QuiX Quantum is located in 4 offices in Europe and has customers worldwide.

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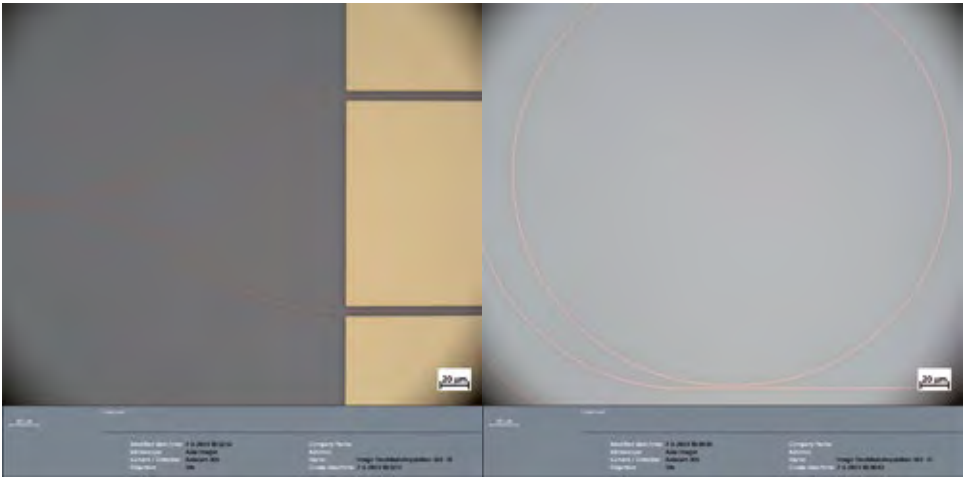
Participant Holland High Tech Pavilion | Booth # 5308

Rapid Photonics
Unlocking the potential of Lithium niobate PICs

Rapid Photonics is a full-service PIC solution provider for design, production and packaging of Lithium niobate PICs.

DEpicT®, our patented PIC production technology, delivers low-loss waveguides in Lithium niobate on Insulator (LNOI) with high yield and short lead time. We have our own production capacity and collaborate with selected partners for electrical and optical integration, packaging and testing. This enables us to provide our customers with fully functional LNOI PIC components for their specific application.
DEpicT® delivers compact PICs with a waveguide density and bending radius comparable to conventional PIC technologies. Our technology supports the integration of both passive and active photonic components.
DEpicT® is a 100% silicon compatible process, facilitating seamless the scale up in conventional SiP foundries.



RAPID PHOTONICS

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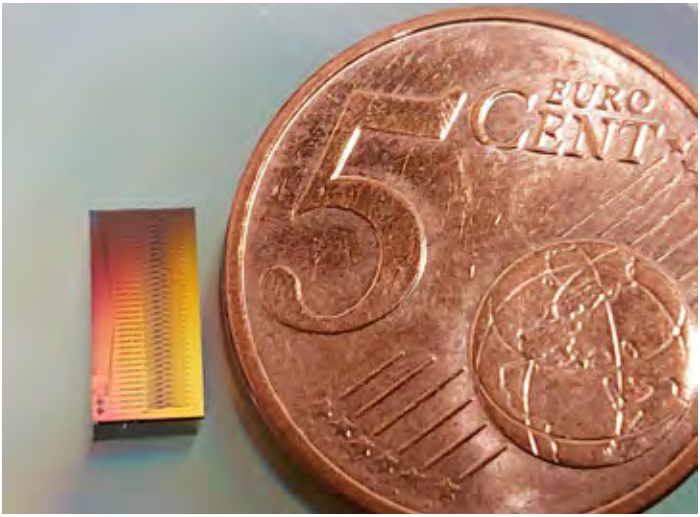
Participant Holland High Tech Pavilion | Booth # 5206

Scantinel Photonics
Scan / Detect / Navigate



Scantinel Photonics is a world-leading company specializing in FMCW sensing technology, providing cutting-edge LiDAR solutions for various mobility and industrial applications. By harnessing the capabilities of silicon photonics, Scantinel integrates the entire LiDAR system onto a single photonic chip. This innovative approach ensures compactness, cost-efficiency, and exceptional scanning performance while maintaining high-quality sensing and reliability.
The employment of Frequency Modulated Continuous Wave (FMCW) technology significantly enhances current LiDAR sensing capabilities, surpassing traditional Time of Flight (ToF) methods. Scantinel's FMCW LiDAR offers remarkable long-range detection of up to 300 meters and more, real-time velocity information, and robustness against adverse weather conditions.
Founded in 2019 and based in Ulm, Germany. Scantinel is backed by Zeiss Ventures, Scania Growth Capital, and Photon Ventures.

SCANTINEL® PHOTONICS

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Participant Holland High Tech Pavilion | Booth # 5311

Single Quantum

The world's fastest and most sensitive light detectors limited only by the laws of physics

Single Quantum was established as the first European company to manufacture and commercialize Superconducting Single Photon Detectors (SNSPDs). Our mission is to share this groundbreaking technology to shape a better future!

Our multi-channel detection system has already been adopted by over 200 academic and industrial labs worldwide for conducting intricate optical measurements. The unique combination of unmatched detection efficiency and time resolution makes our superconducting detectors the ideal choice for various applications, including quantum communication, cryptography, infrared fluorescence spectroscopy, laser ranging, and much more!

Thanks to our latest developments, you may now opt for a rack-mountable SNSPDs system, or maybe some Photon Number Resolving and Ultra-High Count Rate detectors. You can decide to implement gated detectors, to use multi-mode fibers, or even to go for free-space.

Get in touch to explore the full range of possibilities and let us assist you in your research!

SINGLE QUANTUM
Excellence in photon detection

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Participant Holland High Tech Pavilion | Booth # 5305

SMART Photonics
Bringing your innovation to life

Creating the next generation chips
As a foundry for integrated photonic circuits, SMART Photonics offers solutions for data and telecommunication, as well as for sensing – such as Lidar – and medical applications. And it doesn't stop there.

Integrated photonics uses the power of light to create energy-efficient, faster, and more accurate microchips. The technology is set to play an essential role in finding and developing solutions for the world's challenges, such as reducing energy consumption, improving healthcare, fighting food waste and our continuous hunger for information. Together with our customers we create innovative products to improve people's lives.

Datacom & Telecom
- High speed coherent C-band/O-band
- ITLA
- Integrated Coherent Transmitter

Sensing
- SHM
- LiDAR

Quantum
- QKD

SMART PHOTONICS
Bringing your innovation to life

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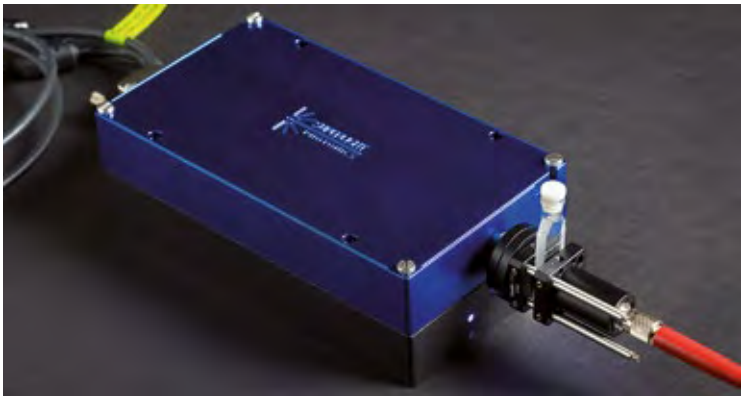
Participant Holland High Tech Pavilion | Booth # 5211

SuperLight Photonics
World's First Portable Wideband Laser



SuperLight Photonics, a leading innovator in laser technology, specializes in the development of supercontinuum generation lasers, also known as wideband lasers or white lasers.
The platform technology offers solutions in various sectors, including medical applications in spectrometry, OCT, precision farming and crop monitoring, surface inspection, and pollution detection.
The SLP-1000 and its PAD - Patterned Alternating Dispersion™, provides a high-quality, coherent and stable spectral output that offers an unrivalled light source for industrial and medical imaging applications and for the dynamic world of spectroscopy.
The SLP-1000 provides a state-of-the-art supercontinuum laser that is reliable, compact, portable, battery-operated and suitable for industry, laboratory and field use.
SuperLight Photonics is at the forefront of creating Photon-IC (PIC) solutions.
Capitalizing on the momentum within the photonics sector, SuperLight Photonics contributes to a technologically advanced and sustainable future.
SuperLight Photonics, is based in Enschede, the Netherlands, and is a pioneering Dutch spin-off company from the University of Twente.

SUPERLIGHT PHOTONICS

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Participant Holland High Tech Pavilion | Booth # 5213

TEMPRESS
The spirit of progress

Tempress' mission is to support customers in the semiconductors, power, MEMS, photonics, life sciences and coating markets to produce advanced materials and devices with high added value innovative furnace solutions.

Tempress' over 50 years of heritage in development and manufacturing of diffusion and deposition furnaces as well as it's related processes is a testament to the company's flexibility, innovation, quality, and dedication.

Our portfolio contains horizontal and vertical furnaces, ranging from small batch R&D systems up to high volume, fully automated manufacturing equipment.

Customers are supported throughout the world by our highly professional sales and service organization.

TEMPRESS
the spirit of progress

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Participant Holland High Tech Pavilion | Booth # 5208

TNO Optical Systems and Components
Centre for Optics Manufacturing

TNO is at the forefront of R&D in optical instruments, specializing in the production of cutting-edge optical components tailored for high-end applications. Our expertise spans sectors such as quantum, space, astronomy and semicon; here we collaborate with world-leading companies to craft innovative solutions. In quantum technology, TNO engages in initiatives with academic and industrial partners, aiming at developing the quantum computer, establishing the quantum internet, and pioneering novel sensors built on quantum principles. For space missions we design and manufacture optical components and earth observation instruments dedicated to monitoring global air quality. In our Smart Manufacturing programme we boost the digitalizing of factories and vision-in-the-loop technology for robotics. Precision engineering in astronomy includes nanometer-precise support structures, actuators, laser launch telescopes, and deformable mirrors, empowering astronomers with unparalleled tools.
In this way, TNO contributes to ensuring a brighter and more sustainable future for industries and societies worldwide.

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TNO innovation for life

Other Dutch Companies present at Photonics West

Other Dutch company present at Photonics West

Booth # 1749

Avantes
Empowering Spectroscopy Solutions

At Avantes, we specialize in empowering spectroscopy solutions that have applications in laboratories, integrated within various products, and out in the field. With three decades of hands-on experience across diverse industries, we possess the expertise to serve as your trusted partner in identifying the perfect setup or product integration that matches your requirements.

One of our newest products, the VARIUSTM Spectrometer, is to be discovered at our booth. Crafted with patented technology, the VARIUS™ spectrometer redefines versatility, delivering precision like never before. Customize the performance and pick from multiple product variations. Experience straylight levels as low as 0,1%, superior signal-to-noise ratios, and high-speed data transfer. Visit booth #1749 and discover how the VARIUS™ will empower your application. Our engineers are happy to help you!

AVANTES
MEMBER OF THE NYNOMIC GROUP

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Other Dutch company present at Photonics West

Booth # 4423

imec
Embracing a better life

Imec is a world-leading research and innovation center with expertise in nanoelectronics and digital technologies. Its > 5,500 employees and top researchers make use of a state-of-the-art infrastructure, including an extensive 200mm and 300mm cleanroom and numerous leading-edge laboratories. Imec is headquartered in Leuven (Belgium) and its 2022 revenue (P&L) totalled 846 million euro.

Imec collaborates with worldwide industry leaders - in the fields of semiconductor technologies, life sciences, photonics etc. - often including the full value chain to realize true impact and innovations.
At Photonics West, imec will present several cutting-edge research results, in the following domains:

- Spectral on-chip filters, for user-friendly high-resolution and video-rate spectral imaging
- Quantum dots technology, for cost-effective thin-film infrared sensing
- Solid-state lidar technology, for compact, robust and affordable automotive applications
- Silicon and silicon nitride photonics, for integrated solutions with cutting-edge performance
- Nanoimprint lithography, for high-resolution patterning with attractive cost of ownership
- Waveguide-based color splitters for next-generation image sensors

Imec's visionary approach to research and development is powered by a dedicated team of scientists, engineers, and researchers who continue to set new benchmarks in photonics and nanoelectronics. During your visit to Photonics West, we encourage you to connect with imec's representatives to learn more about their innovative projects and explore potential collaborations.

imec
embracing a better life

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Other Dutch company present at Photonics West

Booth # 1537

Ocean Optics
Applied Spectral Knowledge

More than three decades ago, Ocean Optics released the "world's first miniature spectrometer," ushering in a new way of utilizing spectroscopy. Today, Ocean Optics spectrometers elevate the efforts of researchers, developers, industrial engineers and OEM suppliers for lab work, field research, instrument development and process monitoring. Ocean Optics draws from its legacy of leadership in compact spectrometers and extensive experience in spectroscopy applications to take on important measurement challenges.

Ocean Optics provides compact UV-vis-NIR spectrometers, Raman spectrometers and fully realized spectral systems for applications from biomedical diagnostics to semiconductor processing. Our newest spectrometers include the Ocean SR, a multipurpose instrument characterized by its rapid acquisition speed and great versatility; Ocean HR, a high-resolution instrument idea for plasma monitoring and laser characterization; and Ocean ST, an ultra-compact microspectrometer with excellent UV response and performance comparable to much larger, less manageable spectrometers.

OceanOptics
PART OF OCEAN INSIGHT

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www.oceanoptics.com

Other Dutch company present at Photonics West

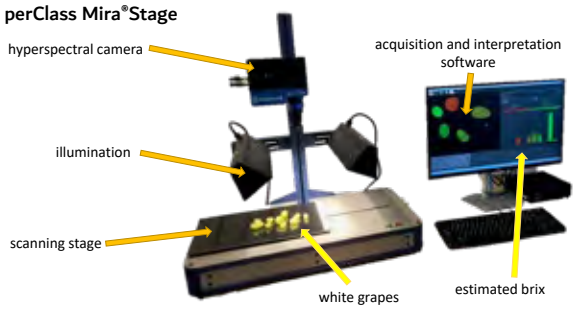
Booth # 5519

perClass
Portable solution for industrial spectral imaging

Spectral imaging enables new types of applications beyond capabilities of classical machine vision. Plastic contamination or foreign objects can be detected in a food stream. Ripeness and taste of fruit can be estimated in-line at production speeds. Plastics and textiles can be sorted by material composition, not color or appearance. Currently, development of such solutions is a time-consuming and expensive process.

perClass Mira® Stage is a portable, fully-integrated solution for development and validation of solutions based on spectral imaging. It enables industrial R&D to quickly scan the relevant samples in production (in fruit cold-storage, plant breeding facilities or close to processing lines). The integrated perClass Mira® user-interface enables anyone to acquire good quality spectral scans and create classification and quality estimation solutions in minutes. It does not require chemometric expertise or programing skills. perClass Mira is directly applicable to any spectral imaging technology available today in the market, including line-scans, snapshot and hybrid solutions. perClass Mira Stage goes beyond development of solutions supporting in-lab or at-line deployment. Switching to the Operator mode, the solutions can be applied to production data by line operators or lab personnel without help of R&D specialists.

perClass BV is a part of Headwall Photonics Group. See the live demonstrations of spectral imaging at our joint booth #5519.



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Other Dutch company present at Photonics West

Photonis Netherlands
Reveal the invisible

For researchers who want to dedicate time to science rather than instrument setup, Cricket™² offers plug-and-play low light level imaging or single photon imaging functionality. Recognized for best value, Cricket™² sets an unmatched standard for connectivity with scientific microscopes and cameras.

Easy to use and compatible with all known scientific cameras types, Cricket™² is adaptable for future imaging requirements thanks to a wide selection of Hi-QE™ photocathodes and gating options. All designed by Photonis, the global leader in Image Intensifier Technology.

Photonis, a subsidiary of Exosens, is a market-leading provider of technologies used in the detection and amplification of photons, ions, electrons, and neutrons. With over 80 years of experience in partnering with our customers to provide the world's leading detection systems, Photonis has the experience to meet the specific challenges of the many markets we serve.

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Emitting, Manipulating & Detecting light!

Te Lintelo System is your partner in photonics. Being a supplier to the photonics industry in the Benelux, with a team of passionate, experienced, well-educated photonics engineers, our mission is to find the best photonics solution, for all of our customers. Whether it is for research & development or to the industry. Together with our highend partners we have the answers to your photonics questions, for: emitting, manipulating and detecting light. Interested to meet us, we will be present at Photonics West 2024. For a meet up, please reach out to the contacts below.

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