

Laser World of Photonics 27 - 30 June 2023

Munich, Germany





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Brighten Your Future with Dutch Photonics

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. Photonics also has an important contribution to solving societal challenges. 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 has traditionally had a strong position in photonics. They are known worldwide for their highly dynamic environment for high-tech innovation, evident in the presence of large leading-edge innovative companies. The high-tech landscape spans large companies to start-ups, across many domains, of course in photonics, but also 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 and optics sector has been building in prominence over the last few decades. Furthermore, all Dutch SMEs together have a rich history and broad knowledge base in Photonics.

Today, the Netherlands offers a robust end-to-end value chain for (integrated) photonics and optics 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, recently becoming more visible, defense.

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 twentyfirst century is to be the century of the photon, then this is the chance to realize new opportunities together.

Petra Wicherink Jorn Smeets
Director PhotonicsNL CMO PhotonDelta



Admesy

Your partner for all spectral, color and light measurements

Booth # A3.227

Built to perform. Ready to use.

Neo Spectrometer

High-end perfo combined with industrial streng



Admesy is a well-known brand for a wide range of user-friendly and robust light and color measurement devices, suited for both analytical applications and display measurements. We provide customers with innovative solutions for production processes, test and measurement, automated inspection and analysis. Our colorimeters, spectrometers and light meters are fast, accurate and reliable.

ADMESY

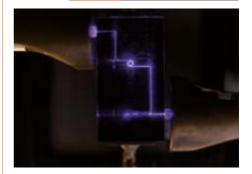
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Aluvia Photonics B.V.

Enabling the next commercial UV PICs

Holland Higl Tech Pavilioi Booth # A2.231/14



Aluvia Photonics offers open foundry services of photonic integrated circuits in the aluminum oxide platform, with operation down to ultraviolet wavelengths. A PDK of basic building blocks permits the easy design of complex PICs, accelerating the product cycle from idea to fabricated PIC. Together with our partners, we strive to enable new applications.



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Avantes B.V

Empowering Spectroscopy Solutions

Booth # A3.372



Avantes' empowering spectroscopy solutions can be applied in the lab, in-line at a production facility, or in the field. With nearly 30 years of experience in all kinds of industries, we're an equipped partner to guide you in finding your most ideal spectroscopy setup or product integration. We believe in a partnership approach to tailor our solutions to meet the needs of the end user. Besides our carefully picked product portfolio, we go the extra mile.



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Brilliance B.V.

Ultimate light engines for Augmented Reality projection

> Holland High Fech Pavilion

Booth # A2.231/6



Brilliance delivers the ultimate light engines for Augmented Reality projection applications. We integrate red, green and blue laser lights into the smallest, most efficient and easiest to integrate light engine module. Our light engines enable our customers to overcome the challenges of miniaturization, integration, energy efficiency and overall comfort for all AR projection applications. Our patented siliconnitride based platform and laser integration are based on >20 years of integrated photonics experience, offer technical superiority and allow high quality low cost volume production.



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Booth # A2.231/11

Holland High Tech Pavilion

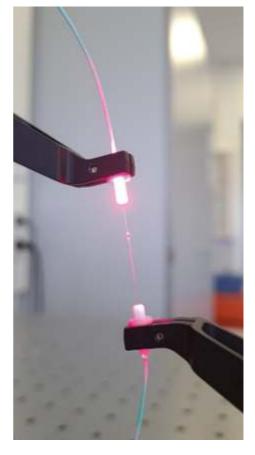
Chip Integration Technology

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 develop new assembly packaging concepts in close cooperation with the customer. Our expertise includes:

- · Heterogeneous integration of photonics with micro-electronics
- · Packaging technology process development
- · Massvolume production technologies
- Massvolume production technologies





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Chilas B.V.

Ultra-narrow linewidth external cavity tunable lasers

Holland High

Booth # A2.231/16



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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Dutch United Instruments

The solution for aspherical and freeform optics

Booth # B1.337



Dutch United Instruments (DUI) provides NMF surface metrology tools for different sizes of optics. The NMF platform is specifically designed to provide easy, fast and accurate surface metrology of complex optics to the workshop floor. NMF is non-contact and capable of measuring optics ranging from convex to concave and from flat to freeform, with a typical measurement uncertainty below 15 nm RMS.



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Booth h A2.2 | | | | |

Demcon Focal Your design and engineering partner for opto-mechatronic systems



Demcon focal is specialized in the design, engineering, and assembly of bespoke optomechatronic systems for hightech markets such as semicon, bio-medical, life science, aerospace, industrial manufacturing, and others. Demcon focal also provides the manufacturing of small series if needed and supports

FOCAL

customers in setting-up the optomechatronic supply chain Demcon focal is part of the Demcon group.

Demcon is an independent organization, with its headquarters in The Netherlands and further subsidiaries in The Netherlands, Germany and Singapore.



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Holland High Tech

Global Challenges, Smart Solutions

Holland Hig Tech Pavilio

Booth # A2.231/9

Integrated Mechanization Solutions BV - IMS Taking you steps ahead

IMS designs, builds, supplies, 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 processes, we deliver innovative, reliable, and scalable solutions.

With an install base of well over 750 systems worldwide, IMS is a leading, high-tech provider of precision production and test equipment

in many industries, such as smart devices, medical, automotive, photonics and semicon. Key is our extensive experience and knowledge base in automated assembly and production of small and precise components, optics and photonics, various types of sensors or actuators, sensitive medical devices, and many, many more.

Looking for a 'Lab-to-Fab' production or test system in precision assembly, isothermal glass molding, or integrated photonics? Visit us, so we can discuss your challenge.





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NL

Imec Leading in Photonics

Holland High Tech Pavilion

Booth # A2.231/5



Imec is the world-leading R&D and innovation hub in nanoelectronics and digital technologies. Each application, from optical communications, optical 3D sensing, metrology through to gas sensing and more, requires a different light source.

Imec is extending the capability of its silicon photonics platform 'iSiPP' with customized light sources, tailored to your needs and specifications.

unec

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ISTEQ

Booth # B2.340



ISTEQ is a manufacturer of high brightness narrow and broad-band advanced light sources. They have a wide range of expertise and know-how in developing and manufacturing various types of products. These products include light sources, modelling software, and codes. ISTEQ's team has substantial experience in developing cutting-edge products from concept and feasibility to production.



Contact details

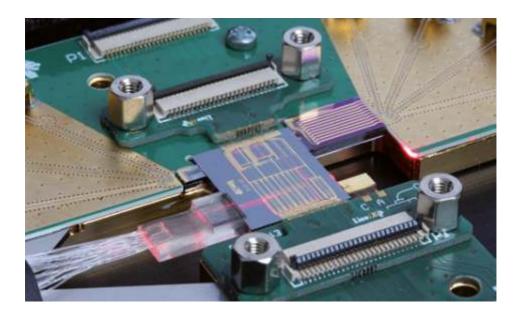
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Booth # A2.231/19

LioniX International Our Chips Drive Your Business

LioniX International is a leading global provider of customized microsystem solutions. We have driven technological and commercial development in our specialist fields-photonic integrated circuits and MEMS-since 2001. As a vertically integrated company, we work across all stages of the production process from design to delivery of a finished module.

And with world-class fabrication facilities, we scale production volumes as your requirements grow. Our strength lies in the service we provide as well as the creativity of our problem solving. By building a project team with you at the center and by asking the right questions, we make sure to deliver solutions that not only solve a problem, but drive your business.





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Laser 2000 Benelux

Expert partner in high-tech photonics

Booth # A2.103



Laser2000 Benelux is a high-tech distributor of photonics products and OEM design-ins. With our years of experience in photonics we have all technical knowledge on product and application. Laser2000 Benelux likes to be challenged. How can we assist you?



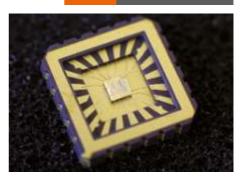
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MantiSpectra B.V.

Spectral Sensor | Miniaturized NIR Spectroscopy

Iolland High ech Pavilion Booth # A2.231/15



Miniaturized Spectral Sensor for real-time material analysis using Near-infrared light. Innovative chip based on wafer-scale semiconductor fabrication. ChipSense™ increases technical performance and economical value with faster & noninvasive measurements.

ChipSense™ enables countless applications:
- Analytics - Industry 4.0 - Smart Consumer
Electronics - Smart Farming - Etc.
Classification & Quantification, On-site &
In-situ. Join The Spectral Revolution!



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Holland High Tech

Global Challenges, Smart Solutions

Holland High Tech Pavilion

Booth # A2.231/18

MicroAlign **Every fiber matters**

MicroAlign is developing a revolutionary alignment solution to connect multiple optical fibers and photonic integrated chips optimally. Several photonic applications ranging from optical switches, and co-packaged optics, to quantum computing, require an increasing number of optical fiber connections with sub-micron positioning accuracy. MicroAlign

allows you to achieve the needed fiber array alignment accuracy, in order to optimize your total coupling efficiency with a very short alignment time. This is possible by means of the developed fiber array alignment stage that provides automated, independent and simultaneous active alignment capabilities for every core of the array unit.



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Nedinsco B.V Your Vision – Our Optical Solution

Holland High

Booth # A2.231/3



Nedinsco acts as a one-stop partner for opto-mechatronic module design and series production. With in-house multidisciplinary R&D, precision parts production, optics centering, mechanical, electrical, optical and cleanroom assembly and high quality standards and qualification facilities, Nedinsco has everything under one roof.



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NTS

Combines development, manufacturing and assembly

Booth # A2.238



NTS is a first-tier contract manufacturer that develops, manufactures and assembles complex optical, laser and opto-mechatronic tooling, systems, and modules. At our specialized site NTS Optel, we combine over more than 3 decades of experience, some of the best minds and state-of-the-art facilities. We are active in the semicon, analytical, healthy and industry market.



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NL

Ocean Optics

Applied Spectral Knowledge

Booth # A3.421



Ocean Optics spectrometers are used worldwide by industrial engineers, developers and OEM suppliers, and researchers for lab work, field research, instrument development and process monitoring. With the ongoing introduction of new spectrometers for UV, visible, Raman and NIR, we continue to collaborate with customers on their important measurement challenges.

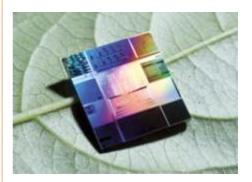


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Optics Netherlands

A world leading institute for Dutch Optics



Optics Netherlands aims at boosting the optics industry by increasing utilization of science through joint R&D. With our partners, we cover the entire value chain from academia to industry in research and development projects supported by networking and education activities, consultancy, and assistance for startup companies. Optics Netherlands is creating a world-leading institute for optics and photonics focusing on Research, Education, and Innovation through our vast (inter)national network.



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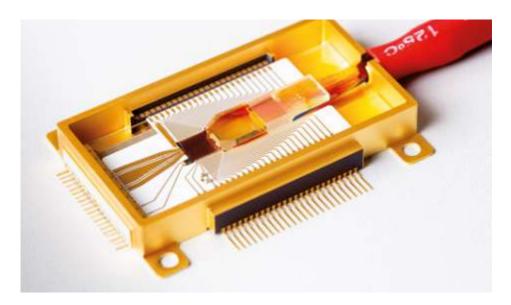
Holland High Tech Pavilion

Booth # A2.231/1

PHIX Photonics Assembly Photonic integrated circuit packaging in scalable volumes

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 towards 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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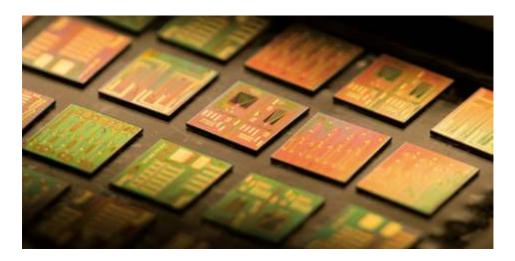
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NL

Holland High Tech Global Challenges, Smart Solutions

Booth # A2.231/8

PhotonDelta Accelerating next-generation chip technology



PhotonDelta is a growth accelerator for the photonic chip industry. Photonic Integrated Circuits (PICs) are chips that use photons instead of electrons to sense, process and transmit data at unparalleled speed and sensitivity. The use of PICs allows for the creation of devices that are smaller, faster. and more energy-efficient and can contribute in solving various societal and technological challenges, such as reducing the energy consumption of datacenters, safe autonomous

driving, cost-effective monitoring of diseases, and more efficient food production. Over the years, PhotonDelta established an ecosystem of organisations that research, design, develop, and manufacture photonic chip technology. PhotonDelta actively supports the ecosystem by stimulating collaboration between partners, providing funding and connecting them with viable markets. PhotonDelta is located in the Netherlands, but collaborates worldwide.



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Holland High Tech Pavilion

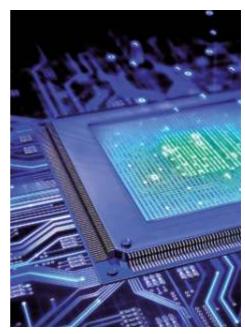
Booth # A2.231/7

PhotonicsNL The unique portal for photonics in the Netherlands

PhotonicsNL is the unique portal and trade association for Photonics in the Netherlands. Our mission is to stimulate photonics innovation by enabling collaborations and cross-fertilization between companies and industries, to increase the level of awareness of the importance of photonics for our economy and to increase the knowledge of photonics at all levels of education.

The use of photonics will lead to a transformation that provides tools and solutions to literally every industry in every region of the Netherlands and Europe that takes up the challenge to become more competitive. All photonics-based innovations will fundamentally change the way we live, work and play, globally. To achieve this in the Netherlands it is our role to build a strong network and ecosystem, to connect the industry, R&D, knowledge institutes, education institutes and end users to position Dutch photonics worldwide. Important application areas are amongst others AgriFood, Healthcare, Semicon, Automotive, Energy & Environment.

PhotonicsNL has a close collaboration with the Netherlands Enterprise Agency (RVO) and the two Dutch platforms PhotonDelta and Dutch Optics Centre. On international level we have a close collaboration with our partners from various EU-countries.





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Photonis Reveal the Invisible

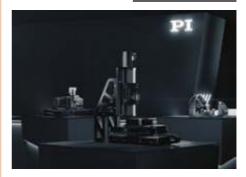
Booth # A3.117



Photonis is a market-leading provider of technologies used in the detection and amplification of photons, ions, electrons, and neutrons. We innovate and engineer quality components for integration into a variety of applications such as night vision optics, digital cameras, mass spectrometry, physics research, space exploration and many others.

PI Benelux Driving Innovation

Booth # A3.461



PI – Physik Instrumente is market leader for high-precision positioning solutions and piezo technology applications in the Semiconductor Industry, Life Sciences, Photonics, and Industrial Automation. PI has been driving innovation in many Photonics applications, varying from packaging to quantum computing and Free Space Optical Communication.



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PITC Shared innovation in Integrated Photonics

Holland High Tech Pavilion Booth # A2.231/4



PITC - Photonic Integration Technology
Center - is a non-profit joint innovation
center, with the mission to accelerate the
industrial uptake and commercial adoption
of integrated photonics. Together with
our partners, we tackle key technology
challenges through a shared innovation
model. PITC is a collaboration of TNO,
PhotonDelta, Eindhoven University of
Technology and University of Twente.



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QuiX Quantum

Quantum computing based on light

Booth h A | . | 2 |



QuiX Quantum is the European market leader for quantum computing hardware based on photonics. They are building the first Universal Quantum Computer based on photonics in Europe for the German Aerospace Center (DLR) and will soon offer cloud computing. The core technology is based on their commercialized market-leading, award-winning product (Prism Award 2023 for Quantum Tech category): the Quantum Photonic Processor. QuiX Quantum is a rapid-growing startup since 2019, with 4 offices in Europe, and customers worldwide.



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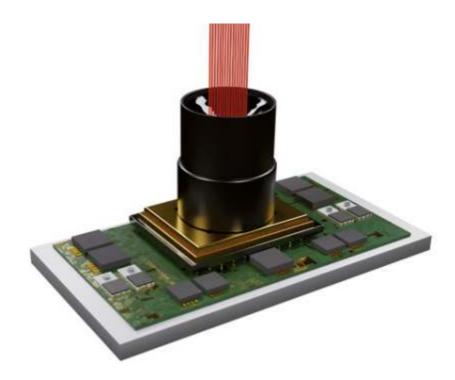
Holland High Tech Pavilion

Booth # A2.231/10

Scantinel Photonics Game changer for every autonomous journey

Scantinel Photonics is a leading FMCW sensing technology company offering next-generation solid-state SingleChip LiDAR solutions for

automated mobility and industrial applications. Scantinel is backed by ZEISS Ventures, Scania Growth Capital and PhotonDelta.





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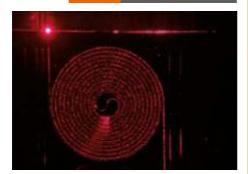


Rapid Photonics B.V.

Unlocking the potential of Lithium niobate PICs

Holland High

Booth # A2.231/17



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

We have our own fabrication capacity and collaborate with selected partners for electrical and optical integration, packaging and testing. This enables us to provide our customers with functional LNOI PIC components for their specific application.

RAPID PHOTONICS

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SCIL Nanimprint Solutions

High-volume nano patterning



SCIL offers manufacturing solutions for high-performance optics and other products that require complex nanostructures. These (optical) components enable, sensing, vision and display applications in products such as smart phones, smart glasses and cars. The unique combination of nanoimprint equipment, materials and process knowhow enables our customers to make high-performance products at high volume and with low cost and very high quality.



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SEDI-ATI Fibres Optiques

Bringing light to your environment

Booth # A2.335



SEDI-ATI Fibres Optiques designs and manufactures custom-made passive fiberoptic assemblies for complex or extreme environments. Indeed, our solutions are tailored to survive cryogenics, very high temperatures, vacuum, pressure, corrosion, and radiation. We address very demanding applications in the military, aerospace, industrial, medical, and research markets. We are experts in broadband and highly achromatic multimode couplers with high directivity, as well as in fiber-optic hermetic feedthroughs, and in complex fiber-bundles.

SEDI•ATI fibres optiques

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SFC Energy B.V

Powering your innovation

Booth # B3.104



SFC Energy develops, manufactures and markets highly reliable standard and semistandard high-power platform solutions for demanding requirements in laser and semiconductor manufacturing equipment and analytical applications. Recently we launched our 2 new products: The LACS series: a 19" 3U, multiple channel fast current driver system for laser applications. And the LAPS-R series: 8,12,16 or 20 kW output power in just 19", 3U. Meet us at our booth and we will tell you all about it.



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Holland

Booth # A2.231/2

SMART Photonics Bringing your innovation to life

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 some of the world's most pressing societal and environmental challenges of our time, such as reducing energy consumption, improving healthcare and supporting our continuous hunger for information. SMART Photonics plays a central

role in the Photonics industry which has been recognized by the EU as one of Europe's key enabling technologies. As a leading foundry of photonics integrated chips (PIC's) SMART Photonics aims to bring the innovations of its customers to life and thus drive the creation of products that improve people's lives. SMART Photonics supports its customers in the design of photonics chips by offering Process Design Kits (PDKs).





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Te Lintelo Systems Photonics. Our Passion!



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 LASER World of Photonics 2023. For a meet up, please reach out to the contacts below.



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Thank you for joining us at Laser World of Photonics

#IloveDutchPhotonics



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#IloveDutchPhotonics



