

Holland High Tech

Global Challenges, Smart Solutions



The whole Semicon value chain in one country

The Netherlands is one of three countries in the world, together with the USA and Japan, to have a complete value chain within its borders.

Dear Visitor,

Welcome to Munich and welcome to the Semicon Europe 2018! We can't imagine a world without electronics today; advanced integrated circuits (chips) play a major role in all we do. Their rapid development have a great impact on our society and this is only getting bigger in the future. The Netherlands has always had many advanced players in this industry and the total R&D investment in this sector is estimated over 1B€, more than one sixth of the Dutch private R&D.

Still, it is of key importance that we stay connected with developments in all parts of the world. Whether it is the latest lithography technologies, the potential rise of supercomputers or in the more near future, new chip developments for wearables and the automotive industry. Therefore, a new The Netherlands set up a new roadmap innovation agenda in the beginning of this year, emphasizing where future research investments and efforts should be made.

The semiconductor value chain highly depends on cooperation and it is at places like the Semicon Europe where such cooperation is often initiated. I am very happy to see on the participant list a mix of research and knowledge institutes such as Holst Center and TU Twente on the one side, and both medium and large enterprises such as ASML and BKB Precision on the other side. The Dutch pavilion provides a perfect space to meet the Dutch and create new cooperations. All of you are here from materials, semiconductor front-end and back-end manufacturing, advanced Packaging, power and flexible Electronics and in the application fields such as the Internet of Things (IoT) and MedTech. High Tech NL and World Trade Center Twente have done a great job to organize this wonderful pavilion and I would like to thank them for that.

Here in the South of Germany you will find that there is great interest from the manufacturing and software industry on new technologies coming from the Netherlands. The Dutch Consulate General, with its economic and innovation department, is here to support you in growing your business and in finding research opportunities. So please do not hesitate to contact us!
I wish you all a very fruitful and productive week!

Kind Regards,

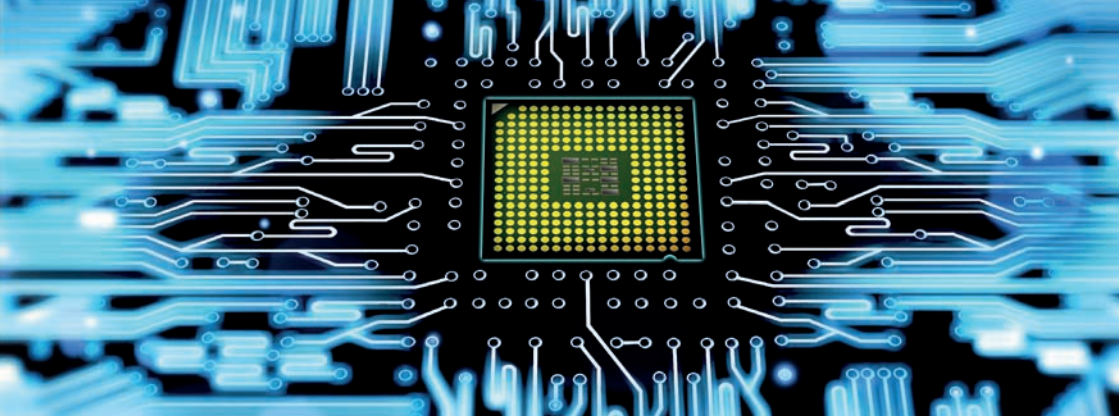


Paul Ymkers

Consul General of the Dutch Consulate General in Munich

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Semiconductor components (from machines to chips)

From applied research, design, architecture, the production of chips and the equipment required to make them, through to system integration and actual applications.

Famous examples are multinationals such as NXP Semiconductors, Philips and Thales. But there are also a large number of SMEs that actively design, test, and use semicon components, mems, micro-fluidic chips and photonics in a variety of applications such as health, energy and automotive. This ecosystem is supported by applied research at the Technical Universities and knowledge institutes.

From equipment to components

The Netherlands also has a large base of companies that provide equipment for the semicon manufacturing sector, such as state-of-the-art EUV equipment by ASML and front-end process, integration and packaging equipment by companies such as ASMi, Boschman Technologies, BESI, ASM Laser Separation International (ALSI), Solmates and Semprow.

Dutch companies work closely with technical universities and knowledge institutes such as TNO and ECN, as well as with dedicated institutes such as the Materials Innovation Institute (M2I). All of these partners have their own semicon expertise and specialization in the development of knowledge-intensive innovations across the whole semicon value chain. These innovations are used in global markets such as MEMS, flexible electronics, imaging devices and other key enabling technologies.



HEALTH

Micro needles for painless injections



ENERGY

Thin-film flexible solar cells



INDUSTRY

MicroGas Analyzer

Examples of semicon solutions for innovative applications

Health

U-Needle uses a unique in-plane silicon etching method to produce micro-needles with an extremely short bevel.

The micro-needles are atom sharp and facilitate perpendicular injections. Their high precision and astonishing ease of use enable accurate, quick, pain-free intradermal and subcutaneous delivery, for example, of vaccinations, drugs, and in-skin aesthetic treatments. The cooperation with other Dutch companies such as Advanced Packing Centre (APC) for the challenges in the packaging of the needles, and with Micronit Microfluidics for the combination with lab-on-a-chip solutions, enabled U-needle to innovate faster and develop and manufacture actual solutions.

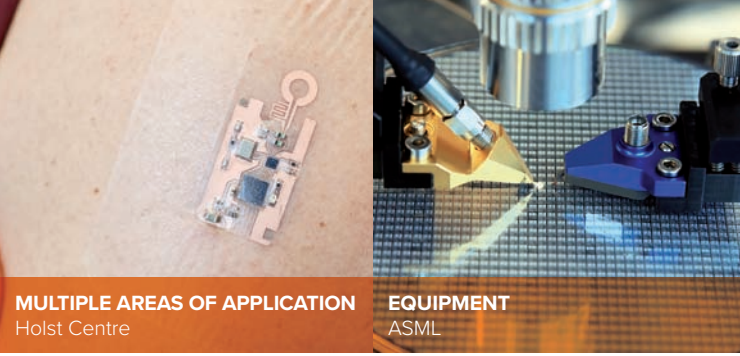
Energy

Tf2devices, a spinoff from Radboud University Nijmegen,

developed a new innovative production process called 'thin-film lift-off' to produce high-efficiency and flexible solar cells. These cells will be used in the aerospace domain and have advantages in both efficiency (up to a world record 38%), low weight and extreme flexibility.

Industry

Qmicro, specialist in advanced MEMS product development and supply, developed a micro gas- chromatograph for on-the-spot analyses. In cooperation with Maser Engineering and Advanced Packaging Centre, a lab-on-a-chip solution was developed that enables the detection of very low volumes of gas (Part Per Billion or PPB levels), thus providing on-the-spot measurements of



MULTIPLE AREAS OF APPLICATION
Holst Centre

EQUIPMENT
ASML

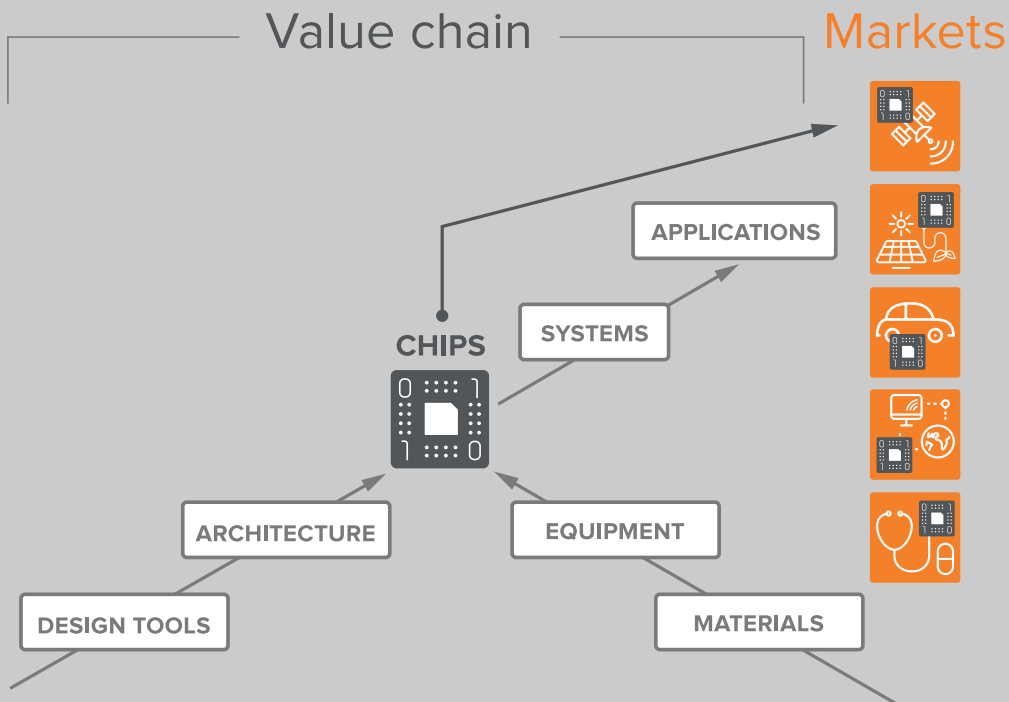
gas or breath, without the need of large and expensive labs. Cooperating with both clinical partners such as Radboud University Medical Centre and technical partners such as University of Twente, Maser Engineering and Advanced Packaging Centre (APC), enabled Qmicro to develop and test a revolutionary new high-tech product.

Multiple areas of application

Holst Centre, the open innovation initiative of imec and TNO, has 10 years of experience in the development of radio chips with significantly reduced power consumption compared with off-the-shelf alternatives. Applications are personal health monitoring, smart homes, intelligent cars, and monitoring of machines, buildings or the environment. Holst Centre also works on biomedical circuits that track physiological parameters such as ECG, EEG, bio impedance and blood pressure for medical-grade health monitoring.

Equipment

ASML is one of the world's leading manufacturers of chip-making equipment. ASML invents and develops lithography machines, metrology systems and software products that together allow its customers to follow Moore's Law and produce ever smaller, cheaper, more powerful and energy-efficient semiconductors. The result? Increasingly more powerful and capable electronics, with faster processing speeds, that enable the world to progress within a multitude of fields, including healthcare, technology, communications, energy, mobility, and entertainment. An improvement of the quality of life. ASML (Euronext Amsterdam, NASDAQ stock exchanges) employs 14,000 people, has over 70 locations in 16 countries, and supplies most of the world's major chip manufacturers such as Samsung, Intel and TSMC.



Semiconductor value chain Component and equipment axes

The Netherlands can provide key enabling technology solutions for themes such as healthy ageing, carbon reduction, energy savings, secure societies, and green transport.

The Dutch semiconductor sector employs over 15,000 people.

The Netherlands' centuries-old tradition of creativity, entrepreneurship, openness and willingness to collaborate has proven to be the ideal breeding ground for the development of high-tech systems and materials. These qualities make the Netherlands the perfect place to find solutions to today's social challenges.

The Netherlands is known for its pragmatic mentality, its smart application of technologies, its partnerships between industry, research institutes and government, and its flat organization structure. It's a great place to live and work.



High Tech NL

High Tech NL is the gateway to the full value chain of the Dutch Semiconductor and Electronics industry and fosters innovation and business creation.

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Ben van der Zon
*Program manager International
Technology Projects*



High Tech NL is the sector organization by and for innovative Dutch high-tech companies and knowledge institutes. High Tech NL is committed to the collective interests of the sector, with a focus on long-term innovation and international collaboration. Members share their knowledge, look for ways to cooperate and use the powerful network to become more successful innovators. The two main chapters with High Tech NL are Micro- and Nano Electronics and Robotics. Together these two create the backbone for Industrial IoT.

Innovation does not stop at the country's border

High Tech NL fully supports the European ambitions for intensifying European and international collaborations. Connecting to the leading high-tech clusters in Europe provides Dutch companies and institutes with access to innovative partners throughout Europe. Participation in European Projects such as COTEMACO (introducing collaborative robotics to SMEs in the food processing and automotive sectors), EuroCPS (supporting SMEs in the development of Cyber Physical Systems) and Silicon Europe are explicit examples of our international collaborative innovation. High Tech NL is one of the founding fathers of the European Cluster Collaboration Silicon Europe that brings together the full European ecosystem on micro- and nanoelectronics.

Would you like to cooperate and innovate with Dutch companies, technical universities and research institutes? High Tech NL opens the doors to successful cooperation!



WORLD TRADE CENTER®
TWENTE

World Trade Center Twente

The World Trade Center Twente in Hengelo is part of the World Trade Centers Association (WTCA) consisting of more than 300 establishments in almost 100 different countries. The objective of the WTCA is promoting international trade.

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Freerk Faber MA
Director

GO  EXPORT



There are over 750.000 companies and institutions connected to the WTC organisation worldwide. World Trade Center Twente will focus on the exchange of knowledge and technology and to boost economic activity. We support local companies in initiating international contacts, getting international exposure and expand their international business network. The entire Twente region and East-Netherlands will be targeted and as this region is situated close to the Dutch-German border, the cities of Nordhorn, Münster and Osnabrück in Germany as well.

WTC Twente key services:

- Trade Information: matching of worldwide supply and demand with regional supply and demand.
- Group Trade Missions: inbound and outbound trade missions.
- Office space and business services: renting of offices, facilities, virtual office for foreign companies.
- Trade Education: practical workshops, seminars and training of international business developments.
- The WTC Business Club: meeting point for international businesses.
- Expat Center: Relocation services, connecting internationals, education and careers, formalities.



Business Cluster Semiconductors

Business Cluster Semiconductors Netherlands (BCSEMI NL) is a national network of over sixty semiconductor companies and knowledge organizations active in the semiconductor value chain of research, design, development, production and applications of Advanced ICs, MEMS, Sensors and Wireless Systems. BCSEMI NL represents companies from the entire value chain. This makes the BCSEMI NL network a world class semiconductor ecosystem.

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Barry Peet

Managing Director

BCSEMI NL members can be found in the following parts of the semiconductor value chain:

- IC, MEMS & Sensor Design
- Front-End Development & Production
- Back-End Development & Production
- Assembly & Test
- System Design
- Semiconductor Equipment & Suppliers

BCSEMI NL Activities

BCSEMI NL supports the development of an open infrastructure and shared facilities for knowledge development as well as the knowhow for industrial production of advanced micro electronics in the Netherlands. Examples of such initiatives are Shared EDA and Chip Integration Technology Centre (CITC). BCSEMI NL sets up, catalyzes and manages development & cooperation projects supported by Regional, National and EU funding in the semiconductor industry. The strength of BCSEMI NL is its broad network which gives access to skills and partners, shared services (facilities), technology and application projects and international visibility.

Business Cluster Semiconductors Netherlands, your gateway to the Dutch Semicon Industry.



GO4EXPORT

GO4EXPORT is a project of the provinces in East-Netherlands, in collaboration with partners, including East Netherlands Development Agency who is the coordinator of the program. Through this initiative, the provinces wants to stimulate export within the SME sector in order to strengthen economic growth in the region.

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Albert Hoogeveen
*Senior Advisor High Tech,
International Oost NL*
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The East Netherlands Development Agency (Oost NL) promotes economic growth and new jobs in the East Netherlands. We pursue this task by encouraging entrepreneurs to innovate, invest, develop international markets and by creating a beneficial business infrastructure. Oost NL focuses on the knowledge driven share of the companies in the region, especially in the following industries: Agro-Food, Life Sciences & Health, High Tech, Energy and Environmental Technology and Manufacturing industries.

Our business development services include: site selection and identification of business partners; advise on how to set up distribution centers, marketing & sales offices or strategic alliances; consultation on government regulations; information on finances (taxation, venture capital), industrial structure, labor & education and social climate.



Ben van den Broek
*Advisor High Tech,
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We work with businesses in the provinces of Gelderland and Overijssel and are commissioned by the Ministry of Economic Affairs and Climate Policy and the respective Provinces.

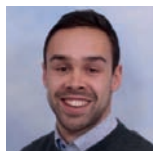
The ASML logo is displayed in a large, bold, blue font. It is positioned on the left side of the page, partially overlapping a white rectangular area that also contains the ASML logo in a smaller font. The background of the top half of the page is a photograph of an ASML lithography machine in a clean, industrial setting with a polished floor and bright lighting.

ASML

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Alexander van Nispen
*Business Development Manager
Europe*

ASML is one of the world's leading manufacturers of chip-making equipment. We provide chipmakers with everything they need - hardware, software and services - to mass produce patterns on silicon, helping to increase the value and lower the cost of a chip.

Our key technology is the lithography system, which brings together high-tech hardware and advanced software to control the chip manufacturing process down to the nanometer. All of the world's top chipmakers like Samsung, Intel and TSMC use our technology, enabling the waves of innovation that help tackle the world's toughest challenges. ASML's corporate headquarters is in Veldhoven, the Netherlands. Manufacturing sites and research and development facilities are located in the Netherlands, Taiwan and The United States. Technology development centers and training facilities are located in Japan, Korea, the Netherlands, Taiwan and the United States. Overall, ASML has more than 60 locations in 16 countries and employs 21,300 people on payroll and flexible contracts (expressed in full time equivalents). Founded in the Netherlands in 1984, the company is publicly traded on Euronext Amsterdam and NASDAQ under the symbol ASML.





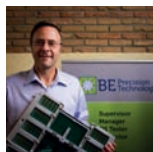
BE Precision Technology

BE Precision Technology for a wide range of probecardtesters, non electrical alignment- 3D probecardtester contact-less, MEMS and VX upgrades.

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Oscar Beijert
CEO

BE Precision Technology has over 20 years' experience in the probe-card industry. Our team includes engineers with diverse skills, covering design for electronic tests, software integration, vision systems, mechanics, human interface and robotics.

We offer tools employing the latest technology and innovation which we constantly evaluate to ensure our customers have access to the fastest and most easy-to-use equipment in the industry. BE Precision Technology is dedicated to serving both the probe-card manufacturer and end-user markets alike. Our systems are superior in accuracy and processing speed.





BKB Precision

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Mannes Westhuis
Managing Director

BKB Precision is a reliable partner in high performance plastics machining for more than 35 years. We process so-called high performance plastics or engineering plastics accurately to a precision of up to 3µm.

High-end plastic machining from start to finish. Our versatility and years of experience with machining plastics make us a proper partner for constructing your concept up until the final product. Continuous upgrades to our machinery allow us to maintain the highest quality in professional CNC machining of plastics. Machining, shaping, assembling and/or cleaning plastics, we view the complexity of your design as a challenge!

State-of-the-art machinery. We boast state-of-the-art 24/7 machinery in our fully conditioned production hall. We have a wide range of CNC machines, ranging from three-axle milling to complex five-axle simultaneous milling or even 7-axle-milling and turning machines.

Markets. We are active in various industry sectors, such as hightech, semiconductor, medical, defence, food, aerospace, optical and chemicals.

Knowledge and experience. We gladly share knowledge and insights with our customers. We highly value intensive contact between engineers and purchasers and our own people. Our versatility and years of experience with machining plastics make us a proper partner for constructing your concept up until the final product. From prototypes to several units to medium sized production series, we provide the precision you need worldwide.



BKL Engineering

BKL: Smart Engineering Works

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Coen Aarts
Commercial Director

BKL is a technical service provider in mechanics and mechatronics. We develop high-quality solutions enabling clients to work smarter, more efficiently and above all more safely: hoisting and lifting tools, industrial modules and machines. Our range of services include engineering, inspections, services and manufacturing. We provide services for partial processes and overall solutions.

Your safety, our DNA

The users of your hoisting and lifting tools, modules and machines are your employees, your human capital. Their safety is of paramount importance. That is why we develop machines that can be operated easily, are user-friendly and enable safe working. Moreover, a safe working environment for your employees encourages their sense of enjoyment and commitment; it reduces the chance of incidents and supports continuity.

High-tech solutions

On a daily basis, a team of forty experts work on inherently safe solutions. We operate throughout the world and we are OEM supplier for such high-tech industries as ASML and Thermo Fisher Scientific – basically, for any organization not wanting to compromise on safety.

Your ambition,
our
IT-solutions



Detron

Lifecycle Services

Detron is a leading independent ICT service provider and supplier of hybrid cloud services, workplace management, lifecycle services, IT security services and unified communication solutions.

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Adrie van Lankveld
Sales Manager

Our lifecycle services focus on high-end computer systems (IPC) for custom-specific deliveries, lifecycle extension, and repair, refurbishment and obsolescence services for computer systems. This complete package enables Detron to fulfil the requirements of its clients, most of which are large enterprises.

Detron stands for experience, reliability, independence and excellence in keeping your critical systems operational.

IT components like servers, IPC systems and boards used in semiconductor manufacturing and other industry need to be robust, secure and of a high and consistent quality. In addition, such systems tend to be used over a long period of time and designing & implementing alternatives result in additional costs and risks. Detron provides insight into lifecycle management strategy that helps OEM and other clients choose/design-in the right IT components and extend the lifecycle of these products with 20 years or more.





ERIKS

ERIKS

Making industry work better, increasing efficiency, lowering total cost of operation and improving product performance. That is our goal. Together with our customers, we make industrial companies more successful, by applying our skills, knowledge and expertise, while continuously challenging both us and them to improve.

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Jurriaan de Weerd
Key Account Manager

Tailored to your needs

To make our customers successful we address multiple needs. In ERIKS, you have an experienced multi-product specialist, offering a wide range of high-quality mechanical engineering components to all sections of industry worldwide. Over the years, we have built up in-depth knowledge in the areas of Sealing and Polymer, Engineered Plastics, Flow Control, Industrial and Hydraulic Hoses, Gaskets, Power Transmission, Tools, Maintenance and Safety.

Asset Management & Risk mitigation

Our comprehensive site services team covers all forms of preventive and predictive maintenance from condition monitoring to full asset management, both on-site and remotely. ERIKS' expertise allows us to work with you to develop risk mitigation strategies for such challenges as spares, obsolescence and health and safety compliance.

Improving product performance

To improve our customers' product performance in original equipment manufacturing, we apply our extensive product and process knowledge. This allows us to co-engineer with our customers and ensure the most innovative and productive solutions. Last but not least, our in-house production facilities and logistics service assure you fast deliveries.



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Emile Asselbergs
*Global Head Business
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Holst Centre is an independent R&D centre based on a partnership of TNO and Imec. We help our customers -R&D departments at successful companies- by developing technologies for wireless autonomous sensors and flexible electronics, either in an open innovation setting or in dedicated research trajectories.

A key strength of Holst Centre is our partnership model with industry and academia, based around roadmaps and programs. It is this kind of close cooperation that enables Holst Centre to tune its scientific strategy to industrial needs.

Holst Centre's focus is to contribute to answering global societal challenges in healthcare, lifestyle, sustainability and the Internet of Things. This is visible through the motivation of its researchers, its different collaboration models and the choice of its research topics. Located on the High Tech Campus Eindhoven, Holst Centre benefits from, and contributes to, the state-of-the-art on-site facilities.

Holst Centre has over 250 employees from some 28 nations and a commitment from more than 60 industrial partners.



Precision
Systems



Precision
Components

KMWE Group

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Robert Jansen
Key Account Manager Semicon

KMWE Group is a supplier to the high tech manufacturing industry. KMWE started in 1955 providing milled and turned machined parts to Philips. Today, KMWE has grown to become an international player. With sites in the Netherlands, Malaysia and India, KMWE employs approximately 600 people worldwide. Our customers are based globally and we proactively work with each of them to fulfill their unique requirements.

We provide complex, functional, critical components and high-end (cleanroom) assembled mechatronic systems and modules. KMWE is active in the aerospace, medical, semiconductor and general equipment markets. We are leaders in innovation, state-of-the-art manufacturing and we're in the forefront of developments such as complex titanium machining and additive manufacturing. KMWE is increasingly involved during development and engineering phases of complex products and equipment.

During 2018 our sites in the Netherlands will relocate to the Brainport Industries Campus (BIC) in Eindhoven. The BIC is acknowledged generally as a "factory of the future". This unique campus will be the first location in the world where high-tech suppliers will innovate and manufacture together. By moving to the "factory of the future" KMWE is actively meeting the changing needs of the markets as well as continuing its high standards in innovation.



LouwersHanique

LouwersHanique has been a leading specialist in the manufacturing of technical glass and ceramic components as well as assembly technologies for a wide variety of high-tech industries for over 60 years.

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Carel van de Beek
Sales Manager

We are specialized in thermal forming of glass and in the mechanical and laser processing of technical glass and technical ceramics (such as aluminum oxide, silicon carbide, silicon and Macor). The company activities also include the bonding and [clean room] assembly of unique material combinations based on an extensive range of bonding and integration technologies. We manufacture Ultra-High Vacuum feedthroughs using proprietary glass-to-metal binding technologies to directly seal pins and other components into metal flanges without laser welding or other sealing technologies. LouwersHanique is your international supply chain partner in the field of total integrated solutions. Our state of the art equipment and clean room facilities allow the precision manufacturing of parts and assemblies with tolerances into the (sub)micron region.

Markets include: semiconductor, analytical, [bio]chemistry, energy, laser and optoelectronics, special lighting, pharmaceutical, medical & life sciences, water purification, replication. LouwersHanique is located in the High Tech Brainport Region of the Netherlands and is ISO 9001:2015 certified by TÜV



NTS

NTS develops, produces, assembles and tests complex (opto) mechatronic systems and mechanical modules for large, high-tech machine manufacturers (OEMs).

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Jeroen Sprankenis
Business Development

As a first-tier systems supplier, we focus on companies active in markets with high levels of product diversity, low volumes and high complexity, such as the semi-conductor, life sciences and digital printing markets, in which precision and maneuverability are paramount. NTS excels in these disciplines, advising and assisting customers in the realization of their objectives throughout the machine's entire life cycle.

Over recent years, NTS has amassed knowledge and know-how of systems and modules for the handling, transfer and positioning in machines. This knowledge is duly applied to our customers' unique products, leaving our customers free to focus their full attention on their core processes and, together with us, delivering their machines in a shorter turnaround time and at a lesser cost.

At NTS flexibility, ambition and expertise form the basis for efficient collaboration that is both solutions-driven and service-oriented. What's more, we are local to all of our customers, worldwide. This means direct lines of communication and fast responses on our part.

Working with NTS means: Accelerating your business



NTS-Optel

NTS Optel (based in Nijmegen, the Netherlands and part of the NTS-Group) is specialized in providing optical automated high volume or manual testing, qualification and validation solutions.

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Jeroen Sprankenis
Business Development

We provide optical measurement solutions for optical inspection, functional testing, validation and qualification for critical 3D sensing hardware components (DOE's, MLA's, WLO) and (sub-) modules like IR laser projectors, MEMS modules, ToF (time of flight), Structured light sensors, VCSEL and LIDAR built to your needs. Our technologies in optics, advanced vision, metrology, optoelectronics and laser technology are ideal tools for present-day needs. We provide these solutions, with 30 years of experience, building to your needs using an existing platform or designing a custom system individually from scratch.

Our proven track record solutions:

- Diffractive Optical Elements (DOE's) on glass or polycarbonate wafers/substrates
- Refractive Optical Elements (ROE's) on glass or polycarbonate wafers/substrates
- Holographic optical elements (HOE)
- Micro Lens Arrays (MLA's) on glass wafers/substrates
- Wafer level optics (WLO)
- R laser projector with or without MEMS scanning devices
- Structured light laser projectors (sub testing and final testing)
- Micro opto-mechatronic devices (VCSEL)
- Online and offline inspections including functional testing systems for Roll to Roll DOE's and Nanostructures



pronexos

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Frank Wissink

Sales Manager

Pronexos is a leading manufacturer of high quality carbon fibre products and a supplier of specialist manufacturing products and services to high-tech industries. With decades of experience in producing complex CFRP products, our expertise comprises engineering, design and series manufacturing capabilities.

Our activities include:

- Manufacturing innovative hydrogen storage solutions such as composite pressure vessels for mobile and stationary applications
- Designing and producing carbon fibre rollers
- Specialist manufacturing for the aerospace and semiconductor industries
- Flow forming for precision tubes
- Heat treatment & Brazing
- Electron beam welding

We operate across the world and rely on the expertise of more than 400 skilled engineers and qualified operators.



Salland Engineering

Salland Engineering in Zwolle – The Netherlands is an international leading Test Technology & Engineering company specialized in solutions and services that enable semiconductor manufacturers to improve the efficiency and quality of their testing.

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Jasper Worst
Sales Engineer

Our Solutions are delivered via a unique combination of innovative Test Technology and realization including Instruments, Applications expertise and supply chain & test services.

ATE Instrument Solutions: We design and manufacture high quality instruments that are used by our customers to upgrade the performance or channel density of their automatic test equipment (ATE) and/or Test & Measurement set-ups. These instruments provide a cost effective means for our customers to extend the throughput and useful life of their ATE investments.

Test Application Development: We provide a wide range of engineering services including test program development and conversions, test program optimization, load board development and failure analysis. We are specialized in mixed signal, RF and High Speed test techniques.

Supply Chain & Test Services: We have in-house test and analysis equipment to offer packaged and wafer chip testing from sample & process qualification up to mid-size volume production test in Europe. We provide as well Supply Chain services from prototyping, manufacturing up to repair service for advanced measurement solutions.



SystematIC Design

SystematIC Design is an analog, mixed-signal IC design and development company specialized in sensor interface and power conversion applications. This year SystematIC is celebrating its 20th anniversary.

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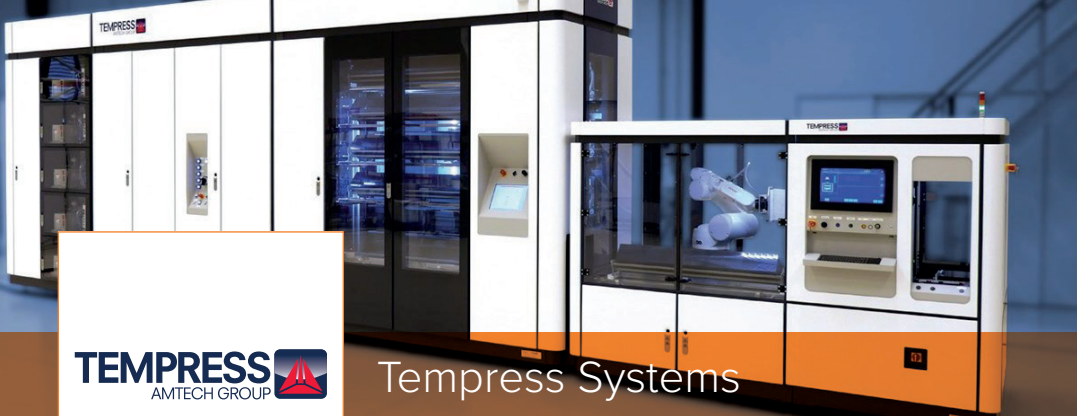
Ritun Roy Chowdhury
Business Development Associate

We provide all design services related to ASIC product development: feasibility study, IC architecture investigation, detailed design and chip layout. We also assist in sample evaluation, testing, and application support for which we have our own lab.

We provide full turn-key solutions for customers, that entails us starting from the product idea moving to product development and supporting IC production. Our customers see us as an extension to their product development team. They leverage our partnerships with world's leading manufacturing service providers, while we hold the sole responsibility of the entire supply chain from order to delivery at customers' manufacturing site.

Over the past 20 years we gained experience in a variety of IC process technologies such as CMOS, Bipolar, BiCMOS, SiGe, SOI and BCD, ranging from high-voltage micron-scale to sub-micron low-voltage. This flexibility, along with a consistent set of analog IP building blocks, allow us to rapidly engage in a new design. Then we rely on our systematic methodologies to attain fully functional, on-spec silicon to serve you: our customer.

Markets include automotive, consumer and industrial electronics.



Tempress Systems

Tempress Systems is a manufacturer of thermal diffusion, PECVD and LPCVD furnace equipment.

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Rob de Jong

Area Sales Manager

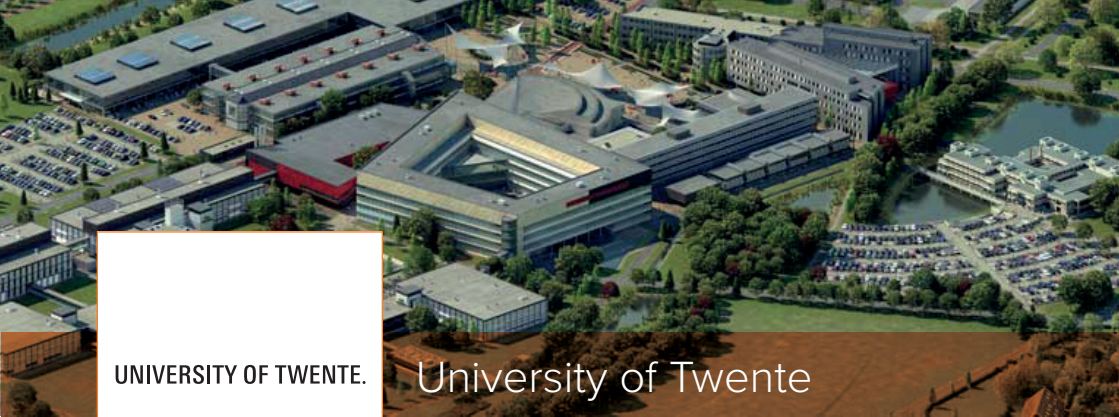
Our product range consist of:

- Small Batch Vertical furnace
- Horizontal furnace
 - » Small batch R&D equipment
 - » High volume, fully automated, manufacturing equipment
 - » All tools applicable for 100mm up to 300mm wafers
 - » Standalone automation can be provided through our sister company R2D.

The Tempress furnace equipment is being used in the following industries:

- Semiconductor
- PV (Solar Cell manufacturing)
- MEMS
- R&D applications

Through our widespread service network, we provide spare parts, maintenance and process support on your Tempress equipment.



UNIVERSITY OF TWENTE.

University of Twente

The University of Twente is constantly anticipating on future world challenges and respond rapidly and effectively to what the industrial world needs. Our ongoing interaction with industry, research institutes and government generates ground-breaking research and world-class innovations. We produce outstanding graduates who excel by combining expertise from a range of fields as they design solutions that meet the demands of the future, in the Netherlands and throughout the world.

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Leontien Kalverda

*Project Manager Strategic Business
Development*

The ever-evolving world of technology showers us with opportunities, but also gives rise to new questions and dilemmas. By combining research areas, the University of Twente provides an effective response to these challenges and succeeds in answering the questions posed by society. High tech, human touch.

University of Twente collaborates with Large firms SME's and entrepreneurial efforts to help solve problem. We do this by applying state off the art technology and scientific research focused on these companies' short term, medium term and long-term needs. We have developed processes that allows us to provide our technology through collaborative programs and student interaction as well create new research based on industrial concerns and focus. These programs have worked well for large firms like ASML, Boeing, and Thales; SME's like Demcon and Micronit, emerging entrepreneurial efforts as Soulmates, Sound energy, Bubles, Robird and many others.

Contact information

High Tech NL and Business Cluster Semiconductors Netherlands connect all knowledge institutes and companies in the full value chain, thus enabling innovative, fast and flexible semicon solutions and products.

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