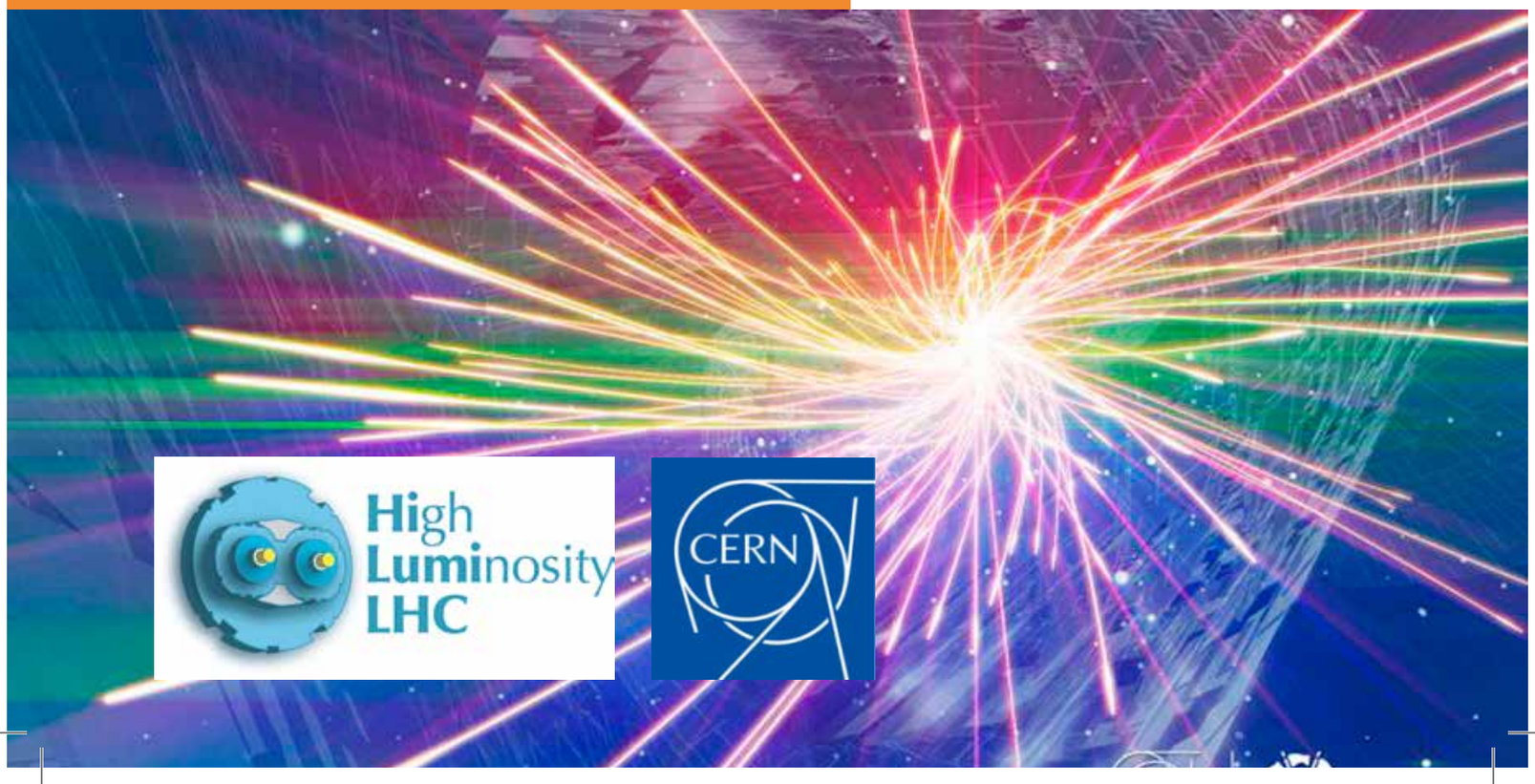
High Luminosity LHC CERN

25 en 26 juni 2015

Holland™

Pioneers in international business



For further information: http://www.iterbusinessforum.com

where business and science meet

www.bigscience.nl

HiLumi LHC goes to Industry

Holland was one of the founding Member states of CERN and the first General Director of CERN was a Dutchman. Scientists an Research Technicians as well as the Dutch Industry have consumed the benefits of CERN for many years. This construction phase of the *High luminosity LHC project* will be the next opportunity for our High-Tech companies to do business with CERN. This booklet presents many companies who obviously represent the High-Tech side of a country also well-known from low lands, wooden shoes, tomatoes and an Orange Royal Family. Many of the firms presented have done business with CERN for many years but some of them are new to CERN but very eager to cooperate and exchange know how in the purchasing of HiLumi.

Today for the HiLumi Industry days 15 companies have come to CERN. It's a unique opportunity to meet Dutch firms. You will find the latest technologies from these highly skilled companies who look forward to collaborate with you to realize your most challenging requirements. Later this year we will invite you to come to the *Precision Fair* in Veldhoven. A CERN delegation comes every year to Holland to meet more than 250 companies in the High Tech area around Eindhoven. And last but not least next year we will have a *Holland@CERN* again with at least 35 companies joining.

Dutch Scientific used to be an organization of firms developing for science in close cooperation with scientific research institutes and their research engineers. Now Dutch Scientific has been re-invented by the Dutch Industrial *Liaison Officers Network for Big Science* and will be supporting all Dutch high-tech systems companies for doing business with Big Science.

This Dutch ILO-net is a network of Industrial Liaison Officers in the Netherlands supported by the Dutch government and NWO – *The Netherlands Organisation for Scientific Research* that funds thousands of top researchers at universities and institutes and steers the course of Dutch science by means of subsidies and research programs.

Since companies listed in this booklet are very well equipped for translating their scientific knowledge to commercially applicable solutions, Dutch Scientific proudly presents a number of frontline high-tech companies who can support you with the HiLumi project for the success of all of us and the entire world.

Geneva, June 25 2015

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Netherlands Organisation for Scientific Research

Contents

3D-Metal Forming

Product information

3D-Metal Forming B.V. is specialized in metalworking by the use of dedicated explosive materials.
New production processes are developed within the company by using CAD, FEM simulations and photogrammetry.

Explosive bonding makes the joining of unique metal combinations possible, such as molybdenum to copper or tungsten to CuCrZr.
3D-Metal Forming B.V. is your partner in developing new solutions.
We can provide a full process and manufacturing chain including e.g. explosive bonding, machining, brazing, electroplating, HIP etc.

Explosive forming provides complex double curved shapes, formed from sheetmetal.
The possibilities in size, shape, metal and sheet thickness are almost unrestricted.
Only one tool part (comparable to a lower die) is needed so that Non Recurring costs are kept to a minimum.

3D-Metal Forming B.V. serves customers Worldwide in the markets Big Science, Energy, Aerospace and Architecture.
We continuously develop new, innovative solutions. For example, the development of the explosive forming of large, 60 mm thick stainless steel plates for the ITER vacuum vessel led to the development of an integral Nose Fuselage for Airbus. This component is explosive formed out of one, 100 mm thick aluminum plate, and fully machined after explosive forming. For Airbus this results in significant weight reduction of the Nose Fuselage structure.

References

RES (Cadarache): explosive formed panels of the water basin – ITER (F4E): explosive bonded CuCrZr-stainless steel tube transitions – ITER (RFX): explosive bonded molybdenum to copper, machined and warm formed – MAST (Culham, UK): explosive formed cans for poloidal field coils

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3D-Metal Forming

3D Worknet

3D- Worknet – The 3D mass customization printing company.

Product information

3D Worknet manufactures parts using the latest additive manufacturing technologies (also known as 3D printing). 3D printed parts are often only used as prototypes, but in an increasing number of applications 3D Worknet supplies fully functional end products. Our very efficient production facility is suited for cost effectively manufacturing small to medium sized series of high quality parts.

The 3D Worknet online portal gives our customers a user friendly method to upload 3D CAD data for quoting and ordering. Please visit www.3dworknet.com all call one of our sales engineers for further information.

References

Philips Consumer Lifestyle – Philips Lighting – KLPD – Robert Bosch Packaging – VUmc FMT – UMC Utrecht – ESA / ESTEC – Plasticum Group and many more

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3D WORKNET
the mass customization 3D printing company

4DSP

Leader in data acquisition and signal processing solutions

4DSP is an innovative company specialized in the design and production of FPGA products, high speed digitizers and turnkey systems for the most demanding applications. Located in the Netherlands, 4DSP is ideally suited to partnering with European companies in order to deliver solutions for the most challenging applications.

Products

- FPGA COTS Boards – Based on Xilinx Virtex and Kintex family FPGAs; in PCIe, VPX, XMC and FMX form factors
- FMC Modules – I/O and coprocessor boards: Analog inputs and output with up to 5.6 GHz sampling rate and up to 16 channels, radio transceivers, optical transceivers, clock sources and Digital Signal Processors (DSPs).
- FPGA IP – FFTs, digital filters, DDC, Serial FPDP and PCIe with DMA.
- Systems – Complete systems that can be either used as turnkey solutions or development platforms.
- Custom Solutions, Support and Consultancy

Applications

4DSP delivers high-performance DSP solutions for the specific requirements of Military, Aerospace, Biomedical, Chemical Science, Telecommunication and Research applications such as Image Processing, Software Defined Radio (SDR), RADAR, SONAR, Airborne Surveillance, Medical Imaging and Fiber Optics Sensing.

References

4DSP serves hundreds of customers across multiple industries including NASA, Boeing, BAE Systems, Lockheed Martin, Pratt & Whitney, Anite Telecom, Philips, CERN, RUAG Space, NLR, SRON, PSI, Siemens, Bosch, Fraunhofer and many more.

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Certified to AS9100

Xilinx Alliance Program

Texas Instruments Design Network

Member VITA Open Standards, Open Markets

ACE ingenieurs & adviesbureau

Passion for technology and innovation

ACE is ingenious. That means we work with inspiring, intelligent and passionate craftsmen. Every day our specialists combine their thorough knowledge with the ability to analyse from a different perspective.

Ingenious means analysing, developing, designing and realizing, with our customers' success as a starting point. It's the added value of individual competence, supported by a professional organization with vast expertise and experience. It also means believing and investing in a close collaboration in the chain and co-engineering with future constructing partners.

A completely transparent design process and an organization that connects to the needs and principles of our customers form the foundation of our company. That is why our services enable our customers to increase their competitive edge. Analysis and research, engineering at our premisses but also turn-key projects. We also provide individual specialists or if necessary complete engineering teams in addition to your own resources.

Our services are grouped in four market oriented business units:
- product development
- industrial automation
- hightech systems
- construction technology

The engineers within these units know the market. They are up-to-date as far as technological development is concerned and have a thorough and specific knowledge in their field.

The culture of ACE has its roots in a constant thirst for innovation. However, always pragmatic and without losing sight of important parameters as costs and planning. That force has been recognised already for 35 years. By industry leaders but also by starting innovators and research organizations.

The long lasting relations with our customers confirm our vision on collaboration, creativity, professionalism and effectiveness. Be ingenious!

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AcQ Inducom

AcQ Inducom develops, produces and delivers solutions for a wide range of embedded electronics applied in aerospace, science, transportation and industrial automation. In most cases this involves the design, building and support of embedded real-time hardware- and software components. Strengths of AcQ Inducom are fast prototyping, safety-critical designs, form-fit-function replacements for discontinued products and long product life cycles. AcQ Inducom also participates in large European 7th framework programs, such as SCARLETT, Actuation 2015, ASHLEY and AFLoNext.

Products and Competences

- Embedded System Engineering
- High-throughput data processing systems
- Rugged small form factor systems
- Safety critical applications
- FPGA design (e.g. Xilinx, Lattice)
- High-performance processor boards (e.g. Freescale)
- Real-time OS support (e.g. VxWorks, PikeOS)
- Developing according to market specific standards (e.g. DO-178, DO-254)
- VPX, AdvancedTCA, VME, CompactPCI and PCI products
- PMC, XMC and M-modules
- Various I/O boards:
  - CAN, ARINC429, MIL-STD-1553/STANAG, AFDX
  - Ethernet, switch and controllers
  - Analog – Digital (ADC, DAC)
  - High-speed serial communication
  - Temperature measurement (PT100,200,500,1000)
  - Serial communication
  - Audio and video controllers
  - Motion control, LVDT/RVDT, encoders

References

Airbus, Alstom, Bombardier, Eurocopter, Danieli-Corus, Horiba, Tata Steel

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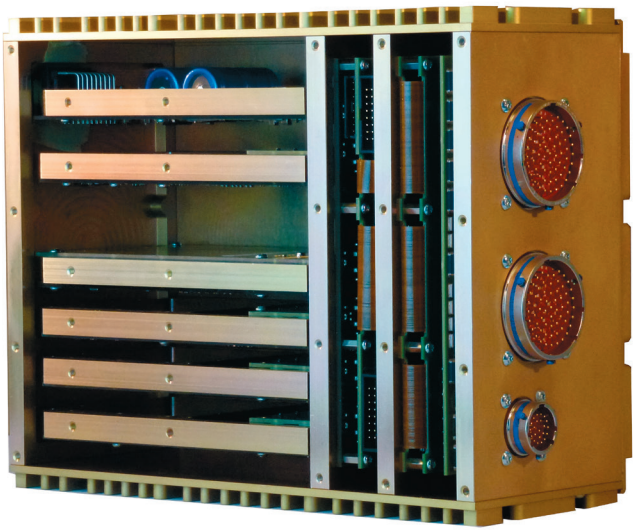

Actemium E&A

Actemium E&A is specialist in controls, Printed Circuit Boards, electronic units, machine and modules for the high tech Industry.
Actemium is a tradename of VINCI Energies and consists of a network of cooperating VINCI Energies companies which delivers their products and services to the industrial market. Actemium advises, supports industrial customers in the construction, optimization and maintenance of their industrial production facilities.

Product information

The core competence of Actemium E&A is the development, engineering, production and testing of high tech electro mechanical systems and PCB (printed circuit boards).

Customers of Actemium E&A can be found in Medical, Electronics, Lighting, Optical, Semiconductor, Military, Solar & Energy, Food, Feed, Chemicals, Logistics and Science.

Our capabilities summarized

- Machine controllers and line
- Mechatronics Measuring and testing systems Module Construction Panel Construction (prototypes and serial) Power control cabinets PCB (printed circuit boards) Prototyping Engineering Embedded software Cleanroom UL Panelshop, CE certification Supply Chain Management QMS After Sales (repair and spare)

Project reference EFDA

Actemium built four control units for the new high voltage supply units (160.000V, 130A) for the Joint European Torus (JET) project of UKAEA in Culham – United Kingdom.
The improved supply units will be used to facilitate a higher energy output of the Torus (50 – 70%).

Reference

Philips – ASML – NXP – Bosch – Océ – Canon – Kema – TNO – Vialis – Moba – ASM – van der Lande – Mars – VDL group, Pon Power – Fuji – PANalytical – UKAEA and EFDA.

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Turnover: (M)€ 56 | 450 Employees

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ACTEMIUM

Active Space Technologies

Active Space Technologies is an SME incorporated in The Netherlands since 2004. We have been engaged in high added-value projects in two main areas:

- **automated infrastructures;**
- **telemetry systems.**

Our customers include the European Space Agency, TNO, and ITER.

Product information

Infrastructure

Active Space Technologies specializes in automation and control, in particular for remote handling manipulation, automated operations, and logistics. We have sound experience in the use of Automated Control Vehicles (AGVs), robotic arms, electro-mechanical systems, complex operations, and programming (FPGA, PLC, wireless communications).

Telemetry

Whether it's in space or on firm ground, Active Space Technologies deals with harsh environments (temperature, radiation, high pressure, among other critical conditions). In order to meet this market need, we use and install smart sensors capable of measuring flow, temperatures, strain, and pressure while withstanding the most adverse conditions. These self-sufficient smart sensors are capable of harvesting energy and encrypting data, and can communicate both via wired cable and wireless.

Insulation

Active Space Technologies further commercializes Aerogels – Aeroflex© – which was originally designed for super insulation applications in space. Aeroflex©can be used both for thermal insulation (cryogenics and pipelines) and absorption (oil & spill and organic contaminants from wastewater). Its proprieties are the following:

Thermal conductivity: 35 mW m^{-1} K^{-1}
Highly hydrophobic
Porosity: 93 - 97%
Low density - < 80 kg m^{-3}
Operating temperature: -200 to 350 °C

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activespace technologies
making space a global endeavour

ADMATEC Additive Manufactured Technical Ceramics

Proposition

Admatec is producing highly accurate parts (resolution as of 15 micrometer) in technical ceramics by 3D printing. Based on in-house development ADMATAC has managed to gain control over recipes, additive manufacturing machines, debinding- and sintering procedures, and validation methods. This enables them to be the first to supply finished highly accurate additive manufactured ceramic parts on a commercial base.
The ADMAFLEX method now opens the way to apply all benefits of ceramics, combined with the design freedom of layered manufacturing techniques. (Internal channel's, integrated functionality, no moulds needed, design not limited to conventional production methods like milling and drilling)

Factsheet (medio 2015, rapidly increasing)

Standard resolution: 15 to 50 µm
Building Z layer thickness: 15 to 50 µm
Z building speed: 8 mm / hour, independent on complexity of geometry
Max. part size: 130 x 70 x Z 400 mm
Materials (expandable): Alumina oxide / Zircon oxide
Density: >98%
The ADMAFLEX technology provides the designfreedom of additive manufacturing, and delivers complete dense microstructures with low surface roughness's. Material properties similar to ceramic products shaped by traditional technologies.

Capacity

Current capacity is setup for both jobbing as well as feasibility studies for high-tech components. Duplicating capacity, in 2016 an extra new separated line will be installed for medical productions due to a H2020 grant. Because all is inhouse developed, ADMATEC can upscale capacity in a matter of weeks by building more printers.
Current setup (medio 2015) is:

- Laboratory for making base pastes
- Sealed production area with:
- 4 ADMAFLEX production printers
- 1 ADMAFLEX prototype printer
- 1 Lithoz machine
- 3 Cleaning and finishing stations
- Two debinding and sintering streets (ovens)
- 1 QC, validation and packaging room

Challenge us with your 3D file or feasibility question!

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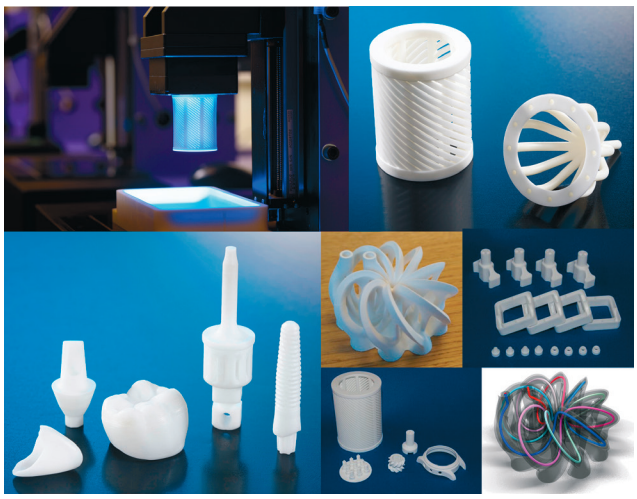
ADMATEC
Additive Manufacturing Technologies



Advanced Electromagnetics

Company profile

The AE-GROUP has more than 75 years experience with the manufacturing and distribution of electrical motors and actuators, ranging from greenhouses to military, automotive and aerospace applications. We are a technological center with in-house experienced specialists in all relevant domains (from simulation to manufacturing, from electromagnetics to fluid mechanics and from training to auditing and grant proposals) which take advantage of dedicated analysis and design software tools.

Products

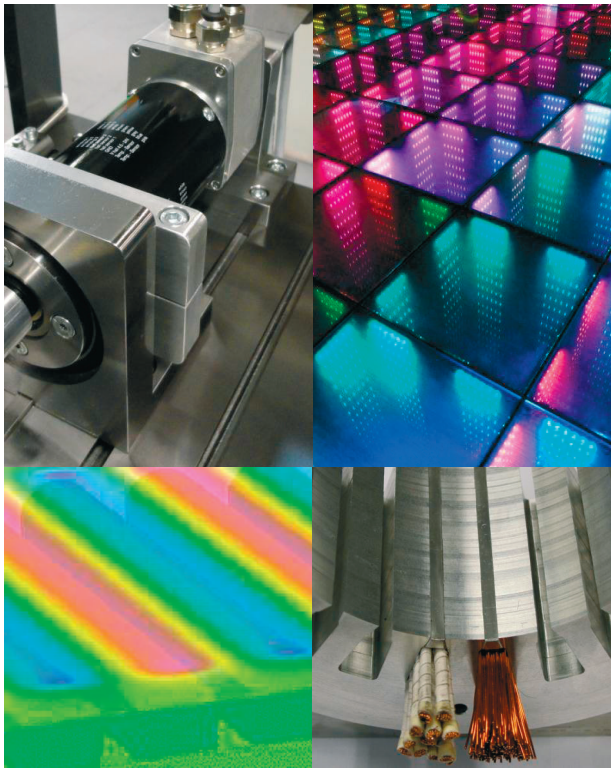
- Electrical motors and generators: a broad range from general to servo-drives or traction applications, from standard frame sizes and models to custom designed electrical machines
- Test-benches for electrical motors and systems: computer controlled test-stands for electrical machines and drive systems (features: adjustable mounting platforms, integrated power analyzer, graphical user interface, various types of sensors, programmable load curves)
- Magnet assemblies and magnetic materials: design, analysis and/or manufacturing of custom magnet assemblies, permanent magnet rotors/translators for electrical machines
- Electrical motor components: off-the-shelf or custom made coils and windings, lamination stacks, permanent magnets, insulation materials, brushes and brush-holders, etc.

Services

- R&D and technical consultancy: the in-house know-how and a close cooperation with selected partners enables us to provide expert consultancy concerning the electromagnetic, mechanical, thermal, power conversion and control aspects of complex electromechanical solutions and mechatronic systems
- Measurements: facilities and qualified operators for prototype- or production-level testing of electrical machines and transmission gears covering a broad power range
- Manufacturing: facilities for the manufacturing of electrical machines, electromechanical actuators, precision machined components for both series and prototype production

Software

- SPEED and Motor-CAD: exclusive distributor the Benelux area



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Advanced Solutions Nederland

Advanced Solutions Nederland is a hi-tech design consultancy that specialises in providing custom made DSP (digital signal processing) algorithms and hardware design services for a broad portfolio of sensor measurement applications.

Product information

Our core competence is the development and implementation of advanced signal analysis algorithms for high performance sensor applications. Typical applications include: noise reduction in speech/audio data, automotive radar tracking algorithms (speed cameras, collision avoidance systems), feature extraction, and non-linear system identification.
Whether you require feasibility advice, critical thinking, or a fully integrated product solution, we offer a comprehensive range of managed services at any stage of your product design. Building upon our track record of providing international businesses with working prototypes, we integrate the best technologies and talents in order to convert your concept into reality.

Summary of core competencies

- Real-time DSP algorithms.
- Non-linear signal analysis.
- Simulations.
- Embedded software.
- Low noise, ultra-precise instrumentation and measurement systems.
- Prototypes.
- Proof-of-concept demo systems.

Selected references

Mitsubishi Electric (UK) – Shell (NL) – Etronic (DK) – Hi-tech RF & Microwave solutions (NL) – Gatsometer (NL) – Gnoka (NL) – NeuroRobotics (UK).

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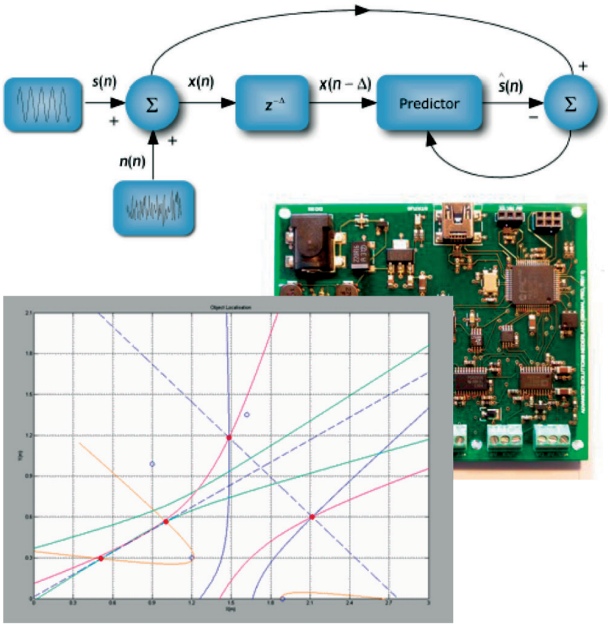

Airbus Defence and Space Netherlands

Airbus Defence and Space Netherlands B.V. is a supplier of high-tech products and services for the international aerospace industry. Since its founding in 1968, the company has contributed to many challenging space programs and has built-up considerable expertise in space technology in areas such as Earth observation, telecommunications and science. The Dutch organization is part of Airbus Defence and Space, a division of Airbus Group. The portfolio of Airbus Defence and Space Netherlands B.V., which employs more than 200 experienced professionals, includes solar arrays, launcher structures and instruments & systems. The company employs more than 200 experienced professionals.

Some examples of relevant achievements for Space and Science are:

- The European Robotic Arm for the ISS is one of the most comprehensive space projects ever executed in the Netherlands. ERA has been developed for ESA by a European consortium, led by Airbus Defence and Space Netherlands. The project provided valuable heritage for remote handling.
- Three major optical spectrometers for measurement of atmospheric gases have been built by Airbus Defence and Space Netherlands, partnering with TNO: Sciamachy on ESA's Envisat and the Ozone Monitoring Instrument on NASA's Aura mission have provided state-of-the-art data and key knowlegde of atmospheric processes. Their successor TROPOMI for ESA's Entinel 5 precursor mission is currently being calibrated and prepared for flight early 2016.
- Six optical delay lines were built and delivered to ESO's Very Large Telescope Interferometer in Chile

The Leiden-based space company is known for its, call it typically Dutch, approach: reliable, solution-driven, with a clear goal in mind, and always open to international collaboration.

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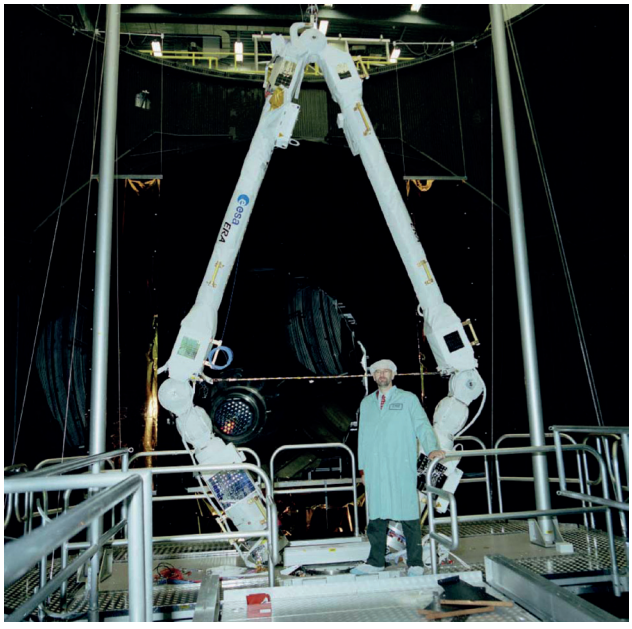
AIRBUS
DEFENCE & SPACE



Amstel Engineering BV

In business for more than 25 years, Amstel Engineering offers advanced Mechanical Engineering services to customers that help them in developing complex mechanical designs and products. Our customers call on our expertise to design or evaluate critical components for reasons such as reducing cost, reducing time-to-market, increasing load capacity and extending life span.

End-to-end capability

Amstel Engineering's capabilities in providing solutions throughout the product development life cycle from conceptual design, industrial and mechanical engineering design, CAD modelling and detailing, to simulation, analysis and prototyping, product testing and manufacturing, makes Amstel Engineering a unique one-stop solutions provider for Engineering Services.
Clients outsource their engineering work to Amstel Engineering, allowing them to focus on their core competencies. We not only solve unique engineering challenges, we manage the routine day-to-day engineering tasks that many clients no longer can complete in house.

Dedicated staff

We are staffed by professional engineers and designers with extensive experience and expertise in engineering design and 3-D drafting in a range of industries. We focus on delivering technically accurate and scientifically sound solutions based on our training and industry knowledge.

Proven expertise

We have a proven track record of providing complete Mechanical Engineering solutions for customers in verticals like Aerospace, Automotive, Rail, Material Handling, Food Processing and Retail.
What does that mean for you? When you partner with Amstel Engineering, you can depend on better value, faster delivery, superior products and services and a collaborative relationship throughout your project – as well as an engaged, expert partner for the life of your business Amstel Engineering is part of the Neitraco Groep

References

ASML – Nikhef – ECN – Dutch Space – Philips – ASM – Vanderlande Industries – Stork/Fokker – Multin Hittech – SKF

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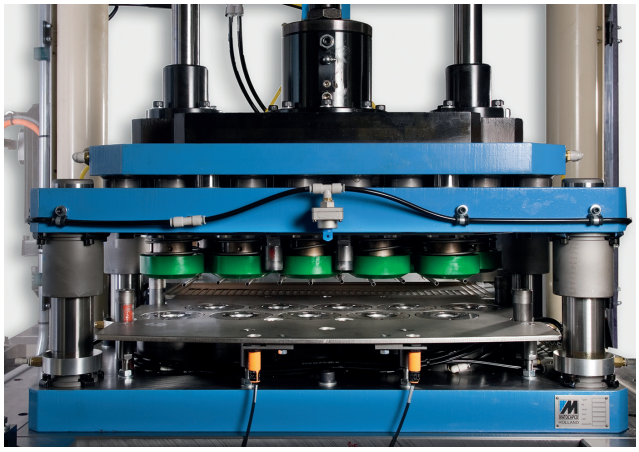

Amsterdam Scientific Instruments

We offer you the benefits of cutting edge detector technology developed by the Medipix collaboration lead by CERN.
Our customer-focused team consists of scientists and engineers with a vast global experience covering all aspects of particle detector technology. We close the gap between innovation at the frontier of science and ready-to-use products for science and industry.

Product Information

Our Timepix hybrid pixel detectors can be used in a wide range of applications.
Besides X-ray imaging, ASI detectors are used for precise spatially resolved detection of electrons, neutrons and heavy charged particles. We also offer our detector in a vacuum compatible system.
Conventional detectors use a counting method. We offer clever pixels: every pixel can operate in three different modes. These are counting mode, time-over-threshold and time-of arrival mode.
For more information on our products, please visit our website: amscins.com or write us an email: info@amscins.com.

References

Nikhef, NL
AMOLF, NL
Reactor Instituut Delft, NL
Royal Adelaide Hospital, AU
Tribogenics, USA
Brookhaven National Laboratory (BNL), USA
Princeton Plasma Physics Laboratory (PPPL), USA
Stanford (SLAC/LCLS), USA

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AMSTERDAM SCIENTIFIC INSTRUMENTS

AR Benelux

Specialists in test and measurement solutions from DC to RF

AR Benelux offers products from well established industry names including Teledyne LeCroy, Kepco and MITEQ. To compliment our standard of the shelf solutions we also provide custom solutions, a wide variety are offered ranging from AC/DC power supplies to special designed RF solutions.

European partner

AR Benelux is part of the AR Europe group of companies which consists of the European AR offices in the Benelux, Germany, France, United Kingdom and sales associates across Europe.

Product groups

- AC/DC Power
- Electrical Safety
- Oscilloscopes
- EMC
- RF/Microwave
- General T&M
- Custom Solutions

AE TECHRON® Precision Industrial Amplifiers

AMETEK® PROGRAMMABLE POWER

GLASSMAN HIGH VOLTAGE INC. Designing Solutions for High Voltage Power Supply Applications

AN ISO 9000 COMPANY KEPCO® THE POWER SUPPLIER™

MITEQ

TELEDYNE LECROY Everywhereyoulook™

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ATG Europe

ATG is recognized as a leading provider of specialized engineering, scientific and technical services to the Aerospace, High Tech and Offshore industry. With highly educated personnel operating in different branches ATG Europe provides access to the brightest minds. ATG has three main core competencies: Projects, People and Medialab.

ATG Projects

ATG Projects excels at delivering highly demanding engineering projects in the areas of structural, thermal and flow analysis. Our team of in-house engineers is experienced in analyzing and solving complex problems in demanding technical fields and industries. Major customers include the European Space industry, EADS/Airbus, Atlas Copco and Shell. From 2008 onward our focus has broadened to other challenging areas such as Offshore, Energy and High Precision. As an example ATG Projects has worked on structural parts of various Airbus aircraft, it has been responsible for the thermal design of the vegetation instrument on board the Belgian PROBA-V satellite and has given consultancy for the optimization of a supersonic gas separating system for Twister. Next to that it is and has been involved in various R&D projects ranging from investigations in new structural concept using composites to the development of a helicon plasma thruster.

ATG People

ATG People is the key player in delivering highly educated personnel for High Tech environments throughout Europe. Our brightest minds are engaged in innovative projects performing to high standards and utilizing the full extent of their professional knowledge. With our 30 years of experience we have access to the brightest minds in for instance structural, electrical, mechanical and automation engineering.

Medialab

ATG Medialab is our high-end 3D visualization studio that has the ability to visualize technical and scientific complex projects is unmatched worldwide. The outstanding reputation among customers is earned by the scientifically and technically sound visuals of complex subjects. Sectors of activities are the Aerospace, Semiconductors, Defense, Offshore and Energy industries.

References

ESA – OHB – Qinetiq – Kongsberg – ASML – TNO – EADS/Airbus – Lockheed Martin – Atlas Copco

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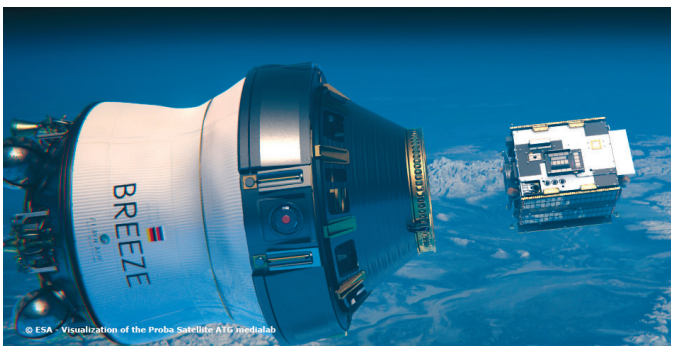


Atkins BV

Atkins BV, part of Atkins Aerospace and Atkins Plc, is a leading multinational aerospace design and analysis consultancy, with over 17000 permanent staff worldwide.
Atkins Plc operates in multiple markets, including: Aerospace, Defence, Highways & Transportation, Oil and gas, Nuclear, Telecommunications, Rail, Water and Environment.
As a result we have access to a variety of engineering capabilities such as Atkins Nuclear. Qualified to AS9100 : 2004 rev. C across all offices

Product information

We design and analyse main components for many new aircraft programs, as have emerged onto the market over the past ten years such as the Airbus A380, A400 M and A350XWB, Lockheed Martin JSF and Mitsubishi Jet:

- Wing structure including integration of engine, landing-gear and movables
- High-lift devices
- Fuselage structure and interior
- Future aircraft program concept studies
- Structural integrity prediction methods development
- Landing gear systems & structures engineering services
- Engine components for low pressure compressor

For ITER-NL, Atkins performed an optimisation study of the concept for Remote Handling Tooling of the Port Plugs.

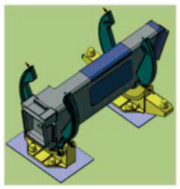
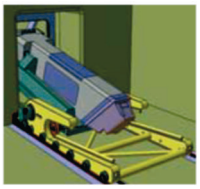
Specific expertise includes

Structural and mechanical engineering for large and complex international projects including integration and design for manufacturing.

- Structures – Light weight metallic and composites
- Systems – Landing gear, Controls, Fuel systems
- Interiors – cabin, cargo-hold, flight-deck
- Aero Engines – Compression & transmissions
- Our main tools are CATIA V5, Unigraphics NX, MSC PATRAN/NASTRAN, HyperMesh, PDM.

References

Our Customers include Airbus, Rolls-Royce, Fokker, Bombardier

Arent-Jan de Graaff
Head of Composites design, Aerospace

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80+ employees

http://www.atkinsglobal.com

ATKINS

Bakker Fijnmetaal

Company Profile

Bakker Fijnmetaal BV – development and manufacturing of ultra-precision parts and assemblies. Bakker Fijnmetaal concentrates on cutting technology based from proto up to high volume production with a far-reaching qualification standard.

The completely automated machinery guarantees short lead times and cost-efficient-production. Materials used include copper, brass, stainless steel, aluminum, titanium and various plastics.

Bakker has an assembly hall and a clean room, class 10.000 where experienced professionals carry out assembly work. All the means required to clean and assemble products are in house available.

To develop customer-specific products, Bakker Fijnmetaal uses Hypermill CAM software. Bakker Fijnmetaal is able to assist from idea, new product introduction (NPI), DFM (Design for Manufacturing) up to release for volume (RFV).

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BAKKER
fijnmetaal
precies, daarom

From 1 to 10.000 pcs, parts and assemblies!

Bayards Aluminium Constructions

Thanks to 50 years of experience in designing and manufacturing high-quality complex Aluminium structures, Bayards has become one of the most ground-breaking construction companies in Europe, establishing itself as an industry leader while gaining international momentum with each project.

Product information

With our innovative approach to design, fabrication and assembly of complex aluminium products, we have the expertise and the capability of working on projects with very specific requirements. The solutions we offer are tailored specially to our customers needs, engineered and built in accordance with the latest international safety regulations and highest quality standards.

Bayards production capabilities

- High speed profile milling machine
- Friction stir welding machine
- Gantry machine
- High speed milling machine

With our state of the art equipment, the possibilities are limitless.

Reference

A remarkable example of our work is manufacturing components for the Cern's newest generation of practical accelerators (LHC) which are used for fundamental scientific research. This project was ordered by the European Organization for Nuclear Research (CERN - Conseil European pour la Recherche Nucleaire).
It involved precision machining, orbital welding, x-ray, vacuum- and helium leak-testing. Like all our projects, this too was completed to the full satisfaction of our very demanding client.
Please visit our website for more information and track records.

Ing. Dies W.S. Mackintosh
Managing Director

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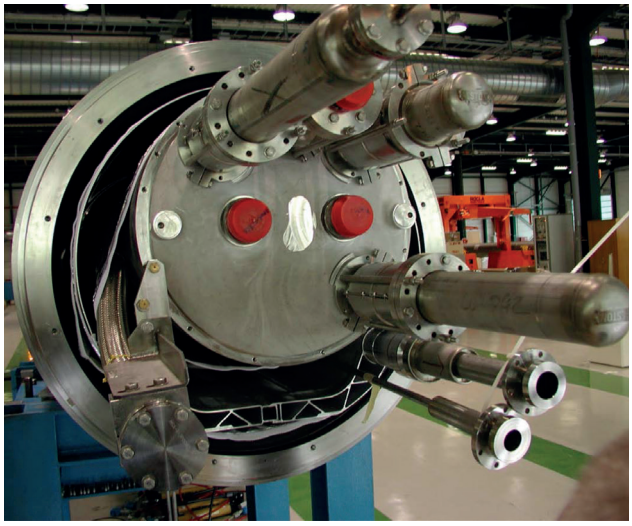
Turnover: 25 M€ | 135 employees

www.bayards.nl

BAYARDS®
solutions in aluminium



BKB Precision

BKB Precision is well known for her accurate and innovative way of processing high performance plastics and the production of critical and complex parts. BKB is a trustworthy partner for design engineers and (technical) buyers. We enable our customers to gain a competitive advantage by sharing our knowledge, which leads to creative solutions with high performance plastics like PEEK, PEI and glasfiber composites. We outperform on accuracy up to 3 µ, using a state of art machine park for milling and turning up to 5 axis. BKB does prototyping and series as well. If needed, we are happy to take care for (cleanroom) assembly or sub-assembly. NEN-ISO 9001:2008 certified.

BKB Precision's Core competences

- Specialists in high performance plastics machining
  Producing high complex and/or very accurate parts on customer specification is our core business. 'Making the (near) impossible, possible' is our slogan.
  We are specialized in manufacturing of PEEK, PEI, Torlon, Glasfiber composites, etc.
  As well as Foam materials like Rohacell and Airex products.
  To produce these materials on the requested spec's our complete production area is acclimatized on temperature and humidity.
- Turning
  Our turning and milling machines are up to 3µ accurate. Dimensions from Ø10mm tot Ø100mm.
- Milling
  We have 'state of the art' milling centers. From our 5-axle machines (Hermle) with automated robot loading docks to our portal milling machines (6.500 x 2.500 mm) with an accuracy of 0,02mm on 6.500mm.
- Assembly
  Assy's can be assembled at BKB Precision. If necessary in clean room conditions. Of course is delivery in clean-room packaging in most cases standardized.

Markets

Semicon – Defence – Medical – Optical – Food – Chemical

References

CERN – ASML – PSI – Storz Medical – Philips – Thales – VDL-ETG

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Sales director

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BKB PRECISION
High Performance Plastics Machining

BOA Nederland / BOA Group

Introduction – Purified Solutions

BOA Nederland is a part of the worldwide operating BOA Group with 8 manufacturing plants. The BOA Group is specialised in the manufacturing of metal hoses, bellows, compensators and complete assemblies. BOA Nederland is specialised in industrial and ultra-clean / ultra-high-purity / ultra-high-vacuum products and assemblies.

Competences

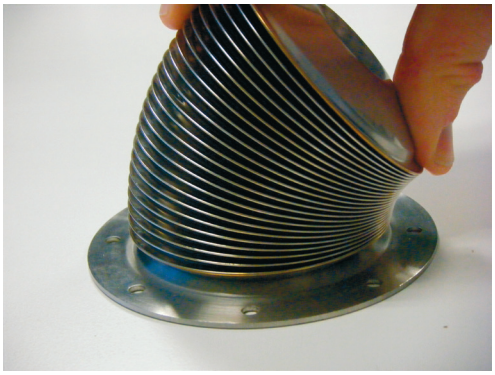
Design / Engineering	:	Engineering gas & liquids distribution in/around machine
Welding & Assembly	:	Of the hose/bellows to any connector, flange, hard ducting, etc. For series of 1 – 10,000 pcs.
Cleanrooms	:	For Cleaning, Assembly, Testing and Packaging
Leak Tests	:	With air, water, helium, nitrogen, XCDA
Cleanliness Tests	:	UV-inspection, Airborne Particle Count, Residual Gas Analysis, Total Organic Carbon

Products

Hoses	:	SS 316 L, SS 316 Ti, SS 321, Inconel, Hastelloy, PTFE, PUR, braiding, PTFE liner, etc.
Bellows	:	SS 316 L, SS 316 Ti, SS 321, Inconel, Hastelloy, Elastomer, etc.
Assemblies	:	With connectors, flanges, valves, hard ducting
Tests	:	Leak Tests and Cleanliness Tests

Markets

- Semiconductors
- Optical
- Vacuum technology
- Solar (thin film, ALD)
- Space & Aerospace
- Food, Bio & Pharma
- Health Care (MRI scans/magnets, cryogenics)



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BOA Nederland BV - Purified Solutions

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BOA Group : > € 200 mln. / approx. 1,100 employees

www.boagroup.com

BOA Group

Bodycote Vacuum Brazing

Bodycote Vacuum Brazing has been engaged in advanced brazing techniques for about 40 years. During these years an extensive know-how and vast practical experience have been built, unique for the industry. Practically all types of base metal, filler metals and brazing processes are being applied to hundreds of different products. Bodycote Vacuum Brazing has several different types of brazing furnaces available for basic research, product development and production.
Bodycote Vacuum Brazing is ISO 9001, ISO 14001 and ISO 50001 certified.

Product Information

In the high temperature brazing process joints are generated in a vacuum atmosphere. The combination of high temperature and reducing atmosphere ensures metal oxides dissociate at the product surface. The process results in very strong joints (90-100% base metal strength) Due to the automated furnace control these joints can be reproduced with a constant high quality.

Bodycote Vacuum Brazing Diemen provides the following services
Vacuum brazing – Special heat treatments in vacuum or reducing atmosphere – Consulting for material selection and design of braze joints

Materials regularly handled

Low and high alloy steels – Tool steel – Cast Iron – Stainless steel – Copper alloys – Titanium alloys – Superalloys – Carbides – Ceramic, composites, graphite

Markets served

Power Generation and Energy – Oil & Gas – Measuring & Control – High precision tooling – Lithography – Aerospace – Pharmaceuticals – Science/research – Plastic Moulding

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Plant Manager

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50 employees

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Bodycote

Boessenkool

Machinery Manufacturer Boessenkool: knowledge, competence and facilities. Co-maker mentality. Pro-active thinking and handling. Based on a complete knowhow and service mentality. Engineering, steel structures, metalworks, mounting facilities and mechanical machining. When needed also supplied with controls, electronics and final treatment. For that reason "Made by Boessenkool" is a guarantee for quality and success to many of our customers.

Product information

Product	Description	Customer
Beampipe Bake Out Shell	Beampipe for electrons, matter research	CERN (CH)
Revolver Mobile Undulator Carriage	Electron fibration tool , matter research	E.S.R.F. (FR)
Galacsi Structure + Graal Tools	Alu structure to mount mirrors for space research	E.S.O. (D)
Product & Utility Swivel	Off-shore FPSO (Oil Production & Storage Unit)	Bluewater Energy Services (NL)
Rotary Bottle Filling machine	Bottle filling machine for the food industry	Stork (NL)
Compression Piston Rods	Piston Rod for high pressure compressor	Thomassen Compression (NL)
Rollers & Shaft for Test Bench	Rollers & Shaft of a testbench for trucks diam. 5 mtr.	Froude Hofmann (GB)
Warehouse Stacker Crane	Order picking unit for warehouses upto 40 mtr. height	FKI Logistex (World Wide)
Vacuum Vessel	Vacuum vessel for Wafer-Stapper production	ASML (NL)
Bearings & Gears	Bearing & Gear for Windmills upto 4 mtr. Diam.	Siemens (D) / Flender (D)
Services	**Description**	**Max. weight**
Milling	Upto 10 meters to 4 meters to 2 meters	60 tons
Boring	Upto 10 meters to 4 meters to 2 meters	60 tons
Turning	Upto 6 meters length with a diameter of 1 meter	20 tons
Vertical Turning	Upto 5 meters diameter with a height of 4 meters	60 tons
Fabrication	To customer specifications	120 tons
Welding	Certified welding in all materials and thicknesses	120 tons
Machine-building	Hardware incl. electronics, pneumatics and hydraulics	120 tons
Assembly	Products upto 60 meters with weight upto 120 tons	120 tons
Project-management	Projectmanagement incl. traceabillity	
Powder coating	Upto 4 meters long	
Hoisting	Hoisting capacity inside the factory is 120 tons	Max. 120 tons

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CEO

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Turnover: 5 M€ | 40 employees

www.boessenkool.com

MACHINEFABRIEK Boessenkool
Osse Equipment Manufacturing Group

Revolver Mobile Undulator Carriagesfor the E.S.R.F. in ,France. Repeating Paralellism tolerance between the beams is 0,05 mm over 2,5 meters incl. beam rotation.

Large Welding constructions including the Large Machining against small tolerances in just one factory!

Butraco

let BUTRACO hatch your idea!

BUTRACO is a small service oriented prototyping activity for machines & parts. We not only engineer but also manufacture. To save time and costs we often work from a sketch only, or convert/ adapt existing products. Knowing many production techniques and having a large network of sub suppliers we can offer the best suitable production technology. Our way of working guarantees professional solutions and low throughput times. We can deliver in a timeframe that it normally takes to merely draw it on paper .

Our offer:

- One stop shop for prototypes: we engineer **and** have it made.
- Over **25 years experience** in machine building and part making.
- **Know how**; always the best suitable production technology.
- Small, flexible, and thus **speedy results**.

References

Mostly universities or research institutes e.g. Technische Universität München (ZAUM) Germany; RIVM, The Netherlands, Adam Mickiewicz University, Poland; University of Evora, Portugal etc .

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Director

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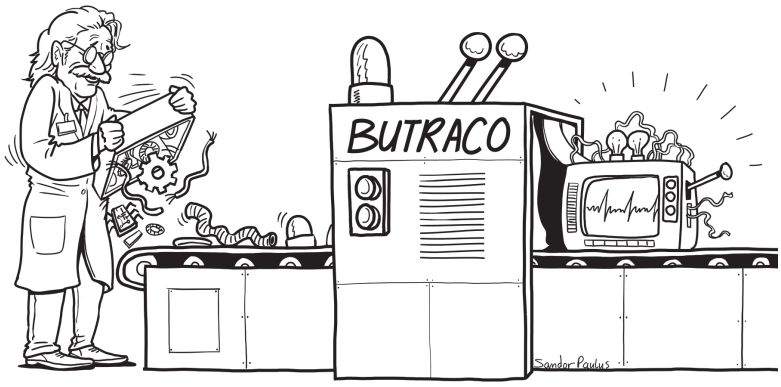
BUTRACO

expierenced in machinebuilding



CAPABLE BV

Cables and connections. That is the strength of Capable BV Cable Application Engineers. We develop customer-specific specialty cables and connectors as well as systems for a broad diversity of applications in high-tech environments (e.g. space industry, offshore and medical). Years of experience, a broad knowledge base and expertise in specialty cables are the basis for our solutions. You won't find a catalog at Capable; we develop unique solutions for every individual application. Capable is part of the TKH Group NV, an international group that is specialized in advanced telecommunication, electrical and industrial solutions (www.tkhgroup.com). Capable is an exclusive partner of Axon' within the BENELUX.

Products and services of CAPABLE BV

- Innovation support
- Micro-connection
- Micro assembly

Mr. Alex de Wijs

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capable
create your connection

Carl Zeiss Industrial Metrology

A CNC coordinate measuring machine (CMM) is only as good as the information it provides. Information that can save time by improving processes, save money by reducing scrap, and help in the production of high quality parts. Carl Zeiss is a leader in CMMs and complete solutions for multidimensional metrology in the metrology lab and production. The company is a recognized partner to the high-tech industry and its suppliers.

The offering encompasses bridge-type, horizontal-arm and inline measuring machines, as well as form, contour and surface measuring machines. All relevant modules, such as controllers, software, measuring systems and sensors are developed and manufactured in-house. This total system design results in precision of your metrology equipment and accurate results.
Recent new developments include a system to measure extremely small parts and a computer tomograph for industrial quality assurance. With its optical and tactile measuring systems, Carl Zeiss has added image processing to the application spectrum of coordinate measuring technology. Synergies have been used to create optical sensors and optimized software. The extensive CALYPSO software library enables users of ZEISS measuring technology to perform almost any measuring task.
The offering is rounded off with extensive customer services, contract measurements, part inspection using computer tomography and services to ensure optimum machine uptimes.

Products

Systems – Precision metrology products, including CMMs, surface & form, CT, optical, and more.
Software – Measuring, evaluation and management software to increase the performance of your measuring operations.
Sensors – Contact and optical sensors, even for the most sensitive surfaces. From VAST active scanning to laser to RDS articulating.
Accessories – Fixturing, styli & accessories, and system-specific options.

Services

Software/Hardware Services – Services for your CMM to ensure highest reliability and performance.
Training – Trainings for measuring software, statistic and reporting software and more.
Measuring Services – Contract measurements, calibration and contract programming in our Benelux Measuring House in Best.

Metrology Solutions

Automotive – Machinery – Aerospace – Medical – Energy – Plastics

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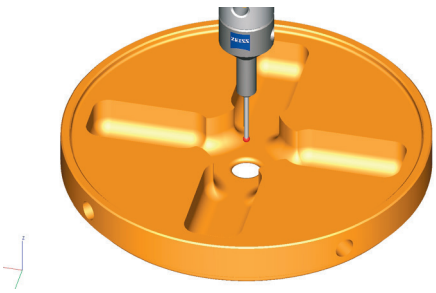

CCM

CCM is a well experienced innovative product development company, founded in 1969.

Company Profile

We translate technology into solutions in the field of mechatronic products and systems.
Our main focus goes to the appropriate functionality, performance requirements and time-to-market, without ever losing track of product cost price and development costs.
Our competences in physics, mechatronics, mechanics, electronics and software enable us to support our customer's success.

Commitment, motivation, education and skills of our employees are the solid basis for our business approach.

CCM specializes in customized innovation for the semiconductor industry, medical diagnostics, pharmaceutics industry and the imaging and printing industry.

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Senior Project Developer

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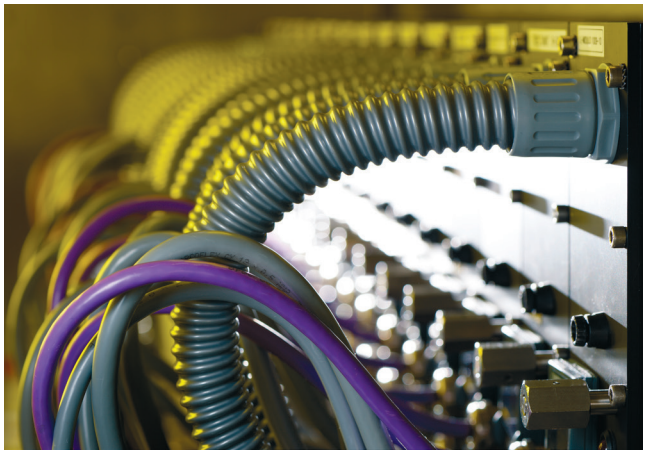
ccm

centre for concepts in mechatronics



Ceratec Technical Ceramics BV

Ceratec Technical Ceramics BV has specialized in industrial technical ceramic components since 1983. Ceratec's strength lies in the complete formula of problem analysis, development, prototyping and production. Alongside various processing techniques, special joining techniques are applied for production of composite products made of technical ceramic and metal. The requisite metal-working processes and assembly activities are carried out in-house. We produce both small and larger series. Ceratec develops and manufactures products made of technical ceramics for customer-specific applications.

Production capabilities

Green stage shaping and sintering – OD grinding, max 500mm, max length 1500mm – Honing min 0.6 mm inner diameter – Flat and profile grinding – Centreless grinding min 1mm, max 60mm (tolerance 2 microns) – Lapping with surface roughness of Ra 0.01 um – Coördinate grinding – Drilling of small holes, min 0,3 mm – 4-axis CNC grinding – CNC OD grinding – CNC turning and milling – Brazing of ceramics and corrosion resistant steel.

Assembly of metal ceramic components

We are a main supplier for various kinds of industries; mechatronics, semiconductor, space & aerospace, medical, automotive, energy, optical, (petro)chemical, R&D, pump industry etc. The ceramic precision products we supply are engineered in house, designed with solid works & cosmos, green shaped & sintered and ground with state-of-the-art (CNC) grinding machines.

Following properties make our ceramic components successful; low density, high stiffness, electrical insulator, suitable for high vacuum, wear resistant, smooth surfaces, corrosion resistant, non-magnetic.

Ceramic on the right spot!

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Director

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www.ceratec.nl

ceratec®
Technical Ceramics BV

Cosine Measurement Systems

About cosine

Cosine develops and builds optical and distributed measurement systems for its customers.
Cosine has extensive experience in

- multi-sensor hyperspectral, infrared and 3D imaging measurement systems
- X-ray optics
- distributed sensor networks

The systems of cosine are used in space, on aircraft, on drones, in the field and in the factory.
The cosine team develops transparently in close collaboration with the customer.

Applications

Space & Aerospace – Miniaturized instruments for remote sensing, precision agriculture, water and air quality
Agri, Food & Pharma – Inline non-destructive quality and safety inspection
Safety & Security – Detection of features not visible to the human eye

Our customers

cosine customers range from small high-tech companies to large industries and organizations.

Solutions ready to adopt

- CONDI® Continuous optical non-destructive inspection systems for inline inspection
- SPO® High-energy optics for space, beam lines and material analysis
- 3D-One® camera systems for multi-camera hyperspectral imaging in the visible and infrared
- a complete product line of miniaturized remote sensing systems for space and aerospace

For more information about our products and services visit our website cosine.nl

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www.cosine.nl

cosine | measurement systems

Cryoworld BV

Advancing in Cryogenics

Cryoworld B.V. is a manufacturer of cryogenic, vacuum insulated equipment. Our company is based on extensive experience in both theoretical as well as practical field. Our core business is design, production, testing and installation of helium and other custom designed cryogenic equipment.

In our new production facility our dedicated engineers and specialists make sure every project meets the highest quality standards. Cryoworld delivers projects to renowned companies and scientific institutes worldwide.

Besides “standard” cryogenics our fields of expertise are:

- Valve boxes for liquid helium
- Liquid helium transfer lines
- Cryogenic pressure vessels
- Special cryogenic processes and equipment
- Innovative design, cryogenic prototyping
- Accurate sensing and controlling of cryogenic processes, level, pressure and temperature
- Custom built valves

Some references–

Linde Kryotechnik AG – GSI Darmstadt – Radboud University – Merck – MBB Fertigungstechnik – CCM

Marcel Keezer
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DARE!! Development

DARE!! Development is a Research & Development company bases in Woerden, The Netherlands, specialized in the development of analog RF and EMC measurement instruments. In the past 20 years DARE!! has acquired a strong name in RF electronics. With the successful implementation of several daring RF projects for civil and military use, DARE!! Development is always stretching the limits.

Specific expertise includes

Our expertise lies in the field of:
- RF signal generation
- Analog LASER applications
- Custom made RF filters
- Custom made RF mixers
- Custom made antennae, including custom patch antennae.

In our state of the art facilities we can simulate designs, build fast prototypes and perform accurate measurements. As we can perform the total activities in house we have an very fast research and development cycle. Next to the hardware development we have our own embedded software team which has also expertise in the RF field.

References

DARE!! Development has performed projects for Dutch Defense, Dutch Government and many private companies. Our measurement systems are sold worldwide to renowned customers. Recently a RF power meter has been developed for the linear accelerator of DESY, Hamburg, Germany. This unique power meter is capable of measuring RF signals till 18 GHz at an unprecedented measurement speed of 1 Msamples/sec. At this moment the measurement speed is increased to 5 Msamples/sec. At the same time a trigger input/output is added.

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Technical Director

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DARE!!
Development

Delft Neutron Instruments BV

The long experience of Delft University of Technology in the development of instrumentation for neutron science now serves the global neutron scattering community through a spin-off company. Delft Neutron Instruments designs and delivers a wide variety of high-tech components for polarized neutron applications tailored according to your specifications:

- High-frequency magnetic flippers and our in-house developed HF-generators
- Foil-based flippers (like in SESANS at the TU Delft)
- Coils for adiabatic spin rotation
- General purpose custom build DC coils and guide field configurations
- Complete add-ons for polarized neutron and Larmor labelling applications (like on OFFSPEC at ISIS in the UK)
- Our product range will be expanded in the future, please contact us if you need any other components or instruments.

Delft Neutron Instruments BV delivers the full package: not only a component but also design, specify, install, and supply test reports and simulations.

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CEO

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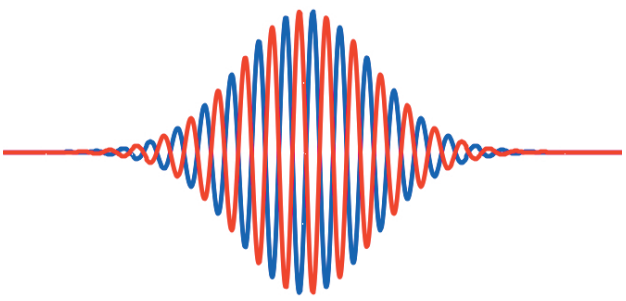
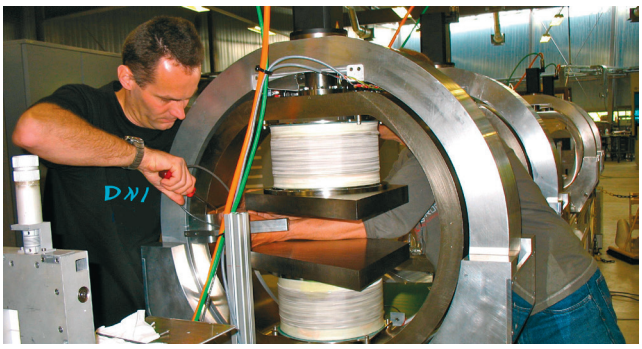
www.delftneutroninstruments.com





Delta Elektronika BV

DC Power Supplies

Delta Elektronika designs and manufactures DC power units since 1959. A power supply is seen as a minor part of any equipment and often taken for granted. For many just an electronic box ordered at the last moment. It can be compared with our heart. It's often neglected and we tend to pay even more attention to our hair. But if the heart fails the system goes down.

Design concept

By reputation, a Delta power supply must be reliable. This is why our design concept has a strong emphasis on excellent technical specifications and long life. The specifications of our products may seem unrealistic but turn out to be even better when measured. Delta users expect perfection and an almost infinite life time at continuous full power and low cost of ownership. An ongoing research program has resulted in production designs that can meet an ever increasing number of specifications.

Result

As a result of our design philosophy the units react more than 10 times faster on load transients, produce hardly audible noise and produce 10 – 30 times less electromagnetic interference. Delta customers will never face any problems due to radiated or conducted emissions of our power supplies. The same design philosophy applies for immunity: the toughest standard is not good enough for us. A Delta power supply will operate totally reliably even in a very noisy environment.
All our power supply units are thoroughly tested before being dispatched to the customer. All this ensures the long term correct functioning of each unit and client satisfaction. Delta Elektronika produces world class DC power supplies.
We are proud to hear our customers say: ***"you are making them too well."***

Service and Support

Just designing and producing excellent products is not enough. At Delta we believe that excellent power supplies are incomplete without outstanding service and support. Only the best manufacturers do not let you down when problems might occur. We keep on helping. Also when equipment has been bought many years ago or when you made the mistake.
For us it is only natural that Delta users get technical support and advice about applications within 24 hours. Lead times are as short as possible and our product support is at least 10 years after the production of a unit has been stopped. Just because our customers appreciate this.
Delta Power Supplies: excellent products, excellent service!

M.A. Giltay

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E: sales@delta-elektronika.nl

www.delta-elektronika.nl

DELTA ELEKTRONIKA
DC POWER SUPPLIES

Demaco Holland BV

If you are looking for…

- Support in Cryogenic Engineering
- Cryogenic expertise in manufacturing and installation of your Cryogenic Infrastructure like
  - Helium Transfer Lines
  - Helium Distribution Valve Boxes
  - Helium Interconnections between your facility and the storage tank or liquefier
  - Cryostats
  - Liquid Nitrogen Systems
- Optimisation or Modification of your existing Cryogenic Infrastructure

…please don't hesitate to contact us and send us your enquiries. It will be our pleasure to provide you with a suitable proposal with your Cryogenic Solution.

Demaco is the leading knowledge driven cryogenic infrastructure partner for industrial gas companies, scientific institutes and EPC contractors world-wide. Our team of cryogenic specialists, Cryogeniuses, is committed in supporting our partners in their daily effort to transport and condition all liquefied gasses. By advising on, designing, engineering, manufacturing, testing and installing customer specific vacuum insulated solutions of superior quality we continuously provide the highest yielding infrastructure in the industry.

References

CERN

- Multiple Helium Transfer Lines for LEP, LHC, ATLAS and CMS
- UHV-chambers for LEP separators
- Helium Siphons
- Liquid Argon Valve Box

DESY

- HERA-by-pass Helium Transfer Lines
- Bunch Compressor bypass pipelines I and II
- Helium Valve Boxes and Transfer Lines for the X-FEL Test Facility
- Extension for the TTF Transfer Lines

ESA

- Main Valve Boxes for the LSS Satellite Test Facility
- LN2 Transfer Lines and Phase Separators

Triumf – NSRRC – ESRF – KIT – GSI – ITER – PSI – ISRO – NIKHEF – Helmholtz – Max-Planck

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Director Strategy & Large Projects

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100 employees

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DEMACO

Demcon Advanced Mechatronics

About DEMCON

DEMCON researches, develops and produces high-tech systems and products for our focus areas of high-tech systems and medical devices. Due to our production capabilities, DEMCON can differentiate our self from other suppliers. Our clients receive not only a blueprint but also a working product or system.

Markets

DEMCON is a high-end supplier of technologies for the high-tech systems and medical devices markets. Within these markets, our focus is primarily on development and production.
DEMCON is highly proficient at applying, technical skills and high level of expertise in order to come up with surprising solutions to complex problems. The knowledge gained in one market enables us to look at problems in other markets in an open and creative manner.

Capabilities

We have employees from a wide range of technical disciplines in every project group and make use of a large number of facilities.

- Mechanical engineering
- Software engineering
- Electronics engineering
- Industrial design
- Physics/optics
- Clean room
- Prototyping
- Production

References

Philips – ASML – FEI – DORC – SIEMENS – TE Connectivity – Bronkhorst

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Turnover: 20 M€ | 140 employees

www.demcon.nl

DEMCON

DeRoovers
Vacuum & Precision Technology

For everyhing concerning vacuum and precision technology, from idea to realisation, DeRoovers can help you.

With our years of experience and a wide range of knowledge we will help you find the answers to your questions. We do this through close and strong partnerships with established partners, who all have their own specialty. We believe in combining strengths.

DeRoovers will help your company gains its goals. And that is a promise.

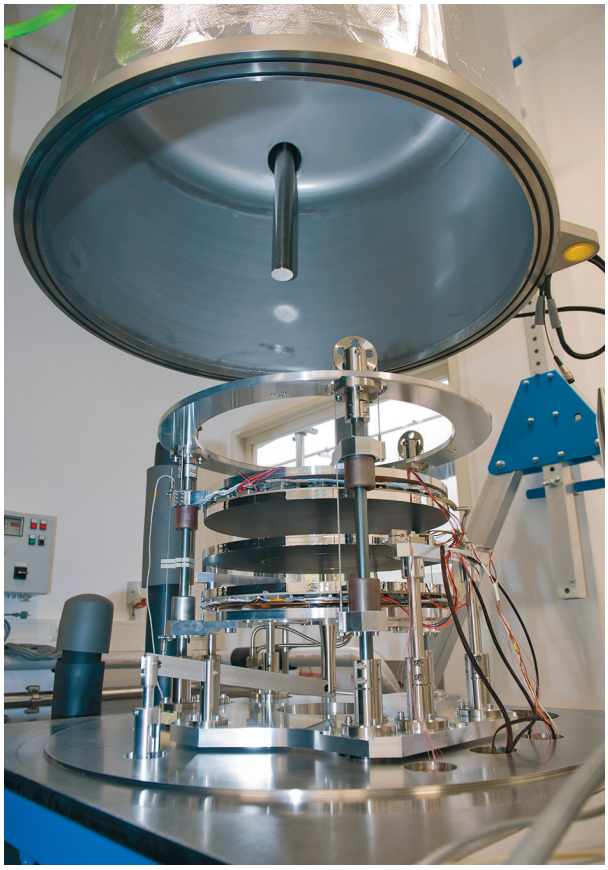
Our field of ...

expertise:

- Vacuum
- Precision Mechanics
- Cryogenic Technology
- Vacuum Pumps
- Lab- and Analysers Equipment
- Tooling
- Monitoring Systems / PLC
- Maintenance
- Components and Hardware
- Prototyping

experience:

- BioScience
- Energy & security
- Healthcare
- Micro electronica
- Offshore
- Optical Technology
- Aerospace
- Semiconductor Technology
- Solar Technology



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deroovers
VACUUM & PRECISION TECHNOLOGY

DH Industries

cool to excel.

DH Industries specializes in the design and production of Stirling Cryogenerators and closed-loop cooling systems. Research centers, businesses, and industries all over the world rely on our expertise to provide them with a reliable, on site supply of cryogenic liquids or cryogenic cooling systems for all kinds of applications. Our two product brands, Stirling Cryogenics and CryoZone, have earned a solid reputation in their respective field of expertise.

Stirling Cryogenics is the world's leading specialist in stand-alone cryogenic cooling systems. More than 3.000 systems are in operation across the globe, often in extremely demanding conditions. The reliability of our different versions of the Stirling Cryogenerator has earned Stirling Cryogenics an unbeatable reputation.

Stirling Cryogenics developed the Stirling-cycle cryogenerator almost 60 years ago and it has been the cornerstone of our cooling systems ever since. The Stirling cryogenerator makes it possible for our systems to produce temperatures ranging from -75 °C to -250 °C. A Stirling Cryogenics cooling system is an indispensable piece of equipment in those situations where constant cryogenic cooling is crucial, independent of bulk liquid logistics.

CryoZone offers an extensive choice of cryogenic gas circulation fans called CryoFans, cryogenic pumps and heat exchangers for third-party cryocoolers. These products are customized to create cryogenic systems specifically designed for clients who operate with a unique process design and IP.

CryoZone's expertise extends to everything that involves the control and circulation of cryogenic fluids and gases, such as LN2 and GHe, to cool and heat an application. We handle every aspect of the cryogenic process related to coding, cryogenics, pressure, heat and physical flow.

Examples of cryogenic cooling systems involving Stirling Cryogenerators and CryoFans are the liquid argon cooling system for Icarus, INFN Italy; cooling of neutron moderators at IFE Kjeller Norway and ISIS Chilton Didcot UK; several HTS cooling systems at 20 or 67K in USA, Europe, Russia, China, Korea and Japan; re-liquefaction of boil-off of methane in the LNG logistic chain.

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cryozone.nl

cool to excel.

CRYOZONE
THE CRYO CREATIVES

STIRLING
CRYOGENICS

DotX Control Solutions BV

DotX Control Solutions specialises in high performance control system development and the realisation thereof. It develops control solutions for complex industrial challenges and scientific research projects.

Product information

One of the DotX main products is the DotX Nonlinear Predictive Controller (DNPC); this controller allows extremely accurate control, due to its ability to simulate and optimise complex nonlinear dynamical systems on-line in a stable and fast manner. This controller has applications in various processes (furnace control, temperature control) and mechanical systems (wind turbines).

Specific expertise includes

- Development of high performance control solutions including NMPC, H_inf, and ILC
- Control-oriented modelling of complex systems
- Observer design for high performance controllers
- Development of advanced model based fault detection
- Integration of commercial control software systems in real-time environments and simulation environments

References

ECN – Tata Steel – ISPT – 2B Energy – EWT – STX – DSM – VDL Weweler – Mitsubishi

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Director

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Turnover: 0.2 M€ | 3 employees

http://www.dotxcontrol.com

ECM Technologies

ECM Technologies is a company offering non-conventional electrochemical machining solutions, with its headquarters located in the Netherlands and its production facility in the USA. It has been operating on the global market from its inception in 2003.

Products & Services

ECM Technologies focuses on offering unique Research & Development (R&D) on materials, followed by Production of the requested product, as well as Consulting & Training services within the expertise of precision electrochemical machining (pECM).

Precision Electrochemical Machining (pECM/ECM)

Electrochemical Machining is an advanced metal-working technique which can machine products difficult or impossible to design through conventional machining. It is an extremely accurate technique, capable of machining any electrically conductive work, even improved and new to machine metal alloys irrespective of their hardness, strength or thermal properties.

Application

Process application: Electrochemical Machining can add accuracy and substitute the following processes: *drilling, polishing, milling, grinding, and roughening*; along with machining & designing what conventional-machining cannot, such as *micro-machining, shaping hard to reach locations, flow turning,* and *die-sinking* among others.

Industry application: Furthermore, there are no boundaries as to where pECM can be applied. ECM Technologies have researched and developed for the majority of the high industries: Aerospace & Space, Automotive, Medical, Energy & Offshore, Consumer products, and Machine Tooling.

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Turnover: 1.0-1.2 M€ | 10 employees

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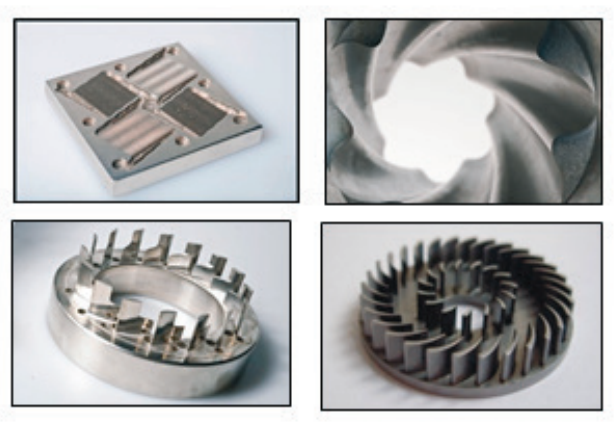
ECM Technologies
Innovative Electrochemical Machining Solutions



ECN Engineering

With over 50 years of experience, ECN is seasoned in complex engineering and manufacturing for extreme conditions (pressure, temperature, purity, radiation).

Mechanical engineering and materials science

We specialise in mechanical engineering and materials science. This broad base enables us to take your idea right through from initial design to turn-key installation: We work with you in close consultation to transform your concept into a design specification for your product or process, which our workshop – specialised in working with high-precision parts and exotic materials – can then realise for you. If required we can also arrange acceptance testing.

Competences

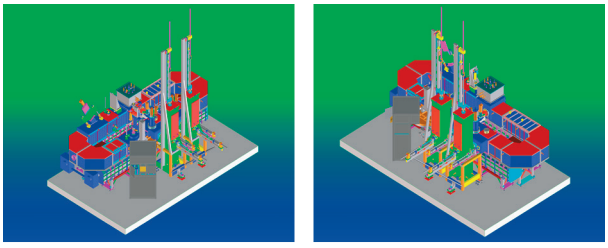
- Specifications, design briefs (SRS)
- Process and system design (Aspen)
- Safety and risk assessments (HAZOP / FMECA)
- Compliance with EU directives (CE: Machinery directive / PED / ATEX / EMC)
- Detailed engineering (3D-CAD, ANSYS)
- Construction, assembly and testing
- Laboratory and test equipment
- Installation, commissioning and acceptance testing (FAT, SAT)
- Project management

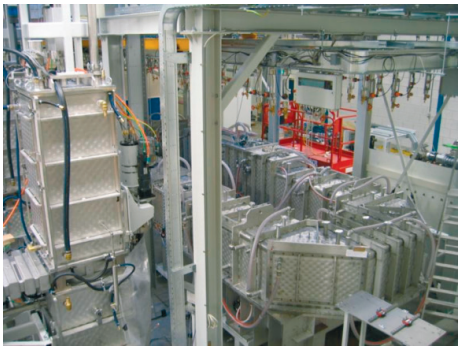
Materials capabilities

Stainless steel, aluminium, titanium, tantalum, hafnium, tungsten and molybdenum (injection molding), ceramics

Selected references

CEA, Philips, ASML, Bosch, Fokker Aerostructures, Bosch, Océ, Shell, Nuclear Research and consultancy Group (NRG)





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ECN

Ecomatters

Ecomatters provides services, tools and training in the field of sustainability and chemical safety and links these topics where possible. Among our multinational clients are chemical and pharmaceutical companies, manufacturers of cosmetics and cleaning products, companies that provide water and environmental services and retailers. Within each project we are committed to achieve tangible results that are comprehensible and useful within the organization. We focus on customer satisfaction in order to build sustainable business relationships.

Sustainability

We offer sustainability strategy consultancy services as well as sustainability assessments based on Life Cycle Thinking, such as environmental footprinting, Life Cycle Assessment (LCA) and Life Cycle Inventory (LCI) data management. We assist organizations in determining their stance on sustainability and setting concrete sustainability goals. Further, we perform quantitative analyses in the area of social, financial and environmental issues and identify any issues within these sustainability aspects for our clients.

Based on Eco Efficiency Analysis (EEA), Ecomatters has developed the Customer Value Calculator (CVC). The CVC is a user-friendly, interactive model, which quantifies the business case of your sustainable product throughout the value chain. Fully customized to customer-specific products and/or scenarios, the CVC provides an integrated overview of financial and environmental impacts of your product.

Chemical safety

In the field of legislation and regulations, Ecomatters provides advice and guidance on chemical safety, substance management, REACH, EU-GHS/CLP, and product registrations. Depending on our customer's needs we take the full project off their hands or part thereof, such as performing (eco) toxicological risk assessments, authoring MSDSs, creating exposure scenarios or calculating hazard classifications.

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ecomatters

EKB

EKB is a system integrator for industrial automation projects. EKB provides automation solutions within the process and manufacturing industry with over 200 committed and qualified employees. A high quality system according to CSIA-regulations and thorough project management, makes EKB a reliable partner.

EKB was founded in 1971 and has developed into a nationwide operating and well-reputed industrial automation company located at four places; Beverwijk, Drachten, Bunnik and Someren. EKB is also member of the listed TKH Group, an international operating group of companies in the field of Telecom, Building and Industrial Solutions making an annual turnover of more than 1 billion euro.

EKB is synonymous with product and process automation.

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EKB

elQuip

elQuip has been for over 30 years overall designer of workshops in the field of electrical and electronic engineering and assembly. Advice and guidance form the basis for each project, customized solution or delivery of finished products.

Product information

The range (ESD-safe) workshop furniture consists of a variety of workbenches and workbench configurations, work chairs, filing cabinets and trolleys. Additionally elQuip offers a wide range of tools, (ESD) accessories and instruments (including oscilloscopes, spectrum analyzers, generators, power supplies and multimeters of the brand BK Precision).

FLEXILINE®

The workshop furniture brand Flexiline® has been developed by elQuip on the basis of customer requirements. Much attention has been put into ergonomic aspects, flexible applicability and extensibility. As a basis a worktable is used, which can be extended with measuring uprisings, electrification (230/400V), instrument-consoles (for 19" equipment), electrical work height control, lighting, soldering fume, etc. A client can customize the products and extend them to his own needs. The product is mainly used in the fields of R&D, service, maintenance, repair, calibration, small-scale production in the fields of electronics, such as appliances assembly, and in education.

Our customers can be found in the industry, utility companies, government, hospitals and technical/scientific & educational institutes.

References

Amolf – TU-Delft – TU-Eindhoven – NXP – Intel – Fugro – Technolution – NUON powergeneration – Roy – NL Navy – Thales – TNO – RTD – Tokheim – DAF Trucks – Heineken – and many more.

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www.elquip.nl
www.esd-winkel.nl
www.bkprecision.nl

elQuip™

Etchform BV

Etchform stands for "ETCHing & electroFORMing" of metal precision parts especially for high-tech applications.
With our know-how, our network and our enthusiasm we offer innovative (total) solutions with an optimal TCO (Total Cost of Ownership) during the entire lifecycle of your products.

Full Service

Etched and electroformed parts often require one or more additional processing treatments in order to fulfil their end function. These specialized treatments are outsourced, placing the requisite burden on your organization.

Etchform offers a full service option for this. With Supply Chain Management, we take over management of the supply chain as well as responsibility for the final result, thus increasing the added value and taking as much off your hands as possible.

Etchform has chosen to anchor these additional services in a strong network. Our network partners pool their resources within this network in order to realize concrete added value in the field of engineering, production and logistics. This network comprises professionals who have been successfully collaborating for years.

Additional processing options include:
- assembly;
- bending;
- precision mechanical treatments;
- laser cutting;
- surface treatments;
- heat treatments.

If YOU CAN SKETCH IT WE CAN ETCH IT

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Futura Composites BV

Specialists in Fibre reinforced Composites

Components for products of the future. That is what Futura Composites produces. As a specialist in fibre reinforced composites, we are a reliable partner for all manufacturers of high-grade technical applications.
Futura Composites operates at the very highest technical level. We supply products of high-grade material according to unusual designs, which require extensive engineering work and are produced using highly advanced techniques. An extremely high delivery reliability complements the picture.

Technology

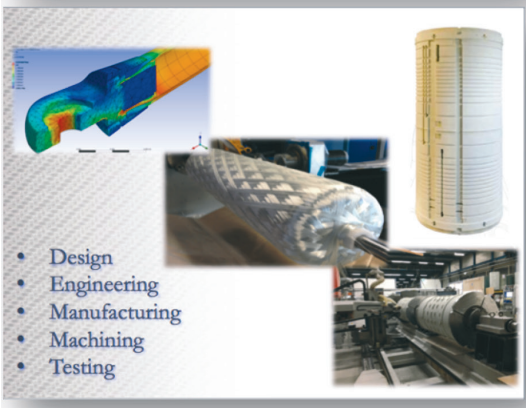
Futura Composites offers solutions for the technological challenges encountered by specific clients. We do not supply standard but only tailor-made products. Each product we make requires some measure of innovation. That is why creativity is central to our working methods.
Futura Composites performs the entire production process in-house, from design and engineering to production and testing. For this reason, too, we can guarantee the very highest quality.
Futura Composites is certified Iso 9001:2008 / Iso 14001:2004 / Iso13485:2003

Production techniques

- Filament winding
- Prepreg (In and out of Autoclave)
- Resin Infusion
- Sandwich Construction
- Resin Transfer Moulding (also Vacuum Assisted)
- Machining Composites
- Testing Composites

Materials

- Epoxy
- Phenolics
- Glass Fibres (E-R-S)
- Carbon Fibres (HM/ HS - Pitch /PAN)
- Aramids
- Dyneema



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Futura
Specialists in fibre reinforced composites

Germefa

Greater precision provides countless new opportunities, whether noticeable or not. A good example of this is insect robots. For over a decade, scientists have worked on these minuscule robots, and now these robots, which weigh less than a gram, are ready to take to the skies. The applications are numerous; think of, for example, their possible use in disaster areas. That the production of these minuscule robots became possible, is due to recent breakthroughs in the fields of manufacture, design and materials. Manufacturing precision played an essential role in this development, needless to say.

The greater the precision and the higher the quality demands, the more we like the challenge at Germefa. We are continually striving to guarantee and further improve this accuracy and quality. This cannot be achieved overnight; we have been working on this process for decades.

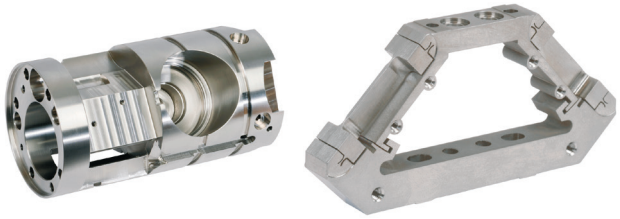
Our precision and quality make us the perfect partner for companies in demanding markets, such as the medical/optical industry, aviation and aerospace as well as measurement and control.

As part of the stock market listed Aalberts Industries, we can also take over the entire production process for components, by integrally outsourcing other types of processing to our sister companies, for example, heat and surface treatments, deep hole drilling, engineering, casting processes, punching and vacuum brazing. This way, you retain one point of contact, but you benefit from all the processing options and expertise available within Aalberts Industries.

Germefa is also part of the Micro Machining Group, a group of suppliers of complex precision mechanical components and assemblies. See www.micromachininggroup.nl/en/
How can we contribute to your next great advance?

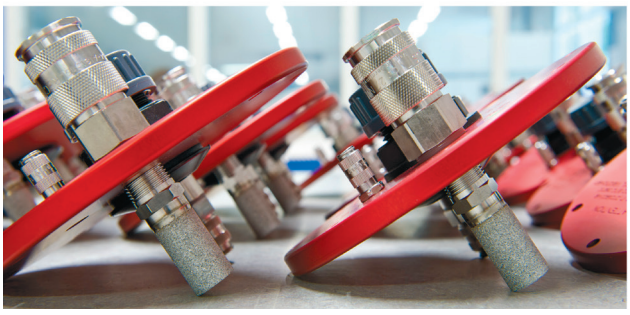
Markets

Medical/Optical – Aviation and Aerospace – Oil & Gas, Science – Defence – Automotive – Measurement and Control



Certification

ISO-9001-2008, ISO 13485



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GERMEFA

Grontmij

Grontmij provides consultancy, design & engineering and management services in a broad range of market sectors related to the built and natural environment. We work in all sectors, ranging from infrastructure all the way to urban development, Energy and Water.

Within our range of expertise, we aim for European leadership in five Group growth activities: Energy, Highways & Roads, Light Rail, Sustainable Buildings and Water. Our guiding principle is sustainability by design which is a leading value proposition for our customers.
Grontmij ranks among Europe's largest engineering consultancies and has a presence in the Netherlands, France, Denmark, Sweden, Belgium, United Kingdom, Germany, Poland, Turkey and China. We have approximately 7,500 professionals around the world where we work on a project basis.

Our envisioned future – what we aspire to become, to achieve and to create

- Recognised by our clients for market leadership and quality of delivery.
- 'Sustainability by Design' is our leading principle.
- Preferred company for talented professionals and offering ample opportunity for development.
- Among the best on financial performance in the Consulting & Engineering industry.

Core purpose – our fundamental reasons for being

- We enable our clients to make informed decisions and well-considered investments as they develop our natural and built environment.

Core values – our enduring beliefs: engaged, collaborative and reliable

- Engaged: Our engagement is driven by our clients' desire to improve life and society. We have the courage to develop new ideas and pursue new ways of achieving a sustainable future. We stay committed, overcoming problems and obstacles without compromising our integrity. Our working environments ensure that everyone's untapped source of creativity adds value to our clients' solutions.
- Collaborative: For us, collaborative means being part of a collective effort to meet our clients needs. We pool our knowledge, skill and expertise – acting as one company and sharing the same goals. We work together to find win-win solutions with empathy and respect for all. Together we celebrate our success.
- Reliable: We aspire always to perform and deliver – on time and on budget. We do more than just the job; we do it well and we are always there for our clients – now and into the future. Clients, partners and colleagues can all rely on us to deliver quality performance. We aim to be down to earth and practical in all our dealings.

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Grontmij

Harsveld Apparatenbouw B.V.

Engineering, manufacture and installation of

- Piping
- Plate- and construction work
- Pressure vessels & tanks
- Heat exchangers
- Skidbuilding

Materials

- All Steel and Hi alloy Steels
- All Stainless Steels and heat-resistant Steels
- Duplex and Super Duplex
- Aluminium
- Titanium, Hasteloy ®, Incoloy ®, Inconel ®, Monel ®, Haynes ®,

Certified

- ISO 9001
- - ISO 3834-2
- PED Module H and H1.
- Workshop Approval Germanischer Lloyd

"We have built the Smelt Reduction Vessel for the HIsarna pilot plant"

References

Albemarle – Danieli-Corus – EXXON mobil – Gardner Denver Nash – Linde Gas – Tata steel – e.a.

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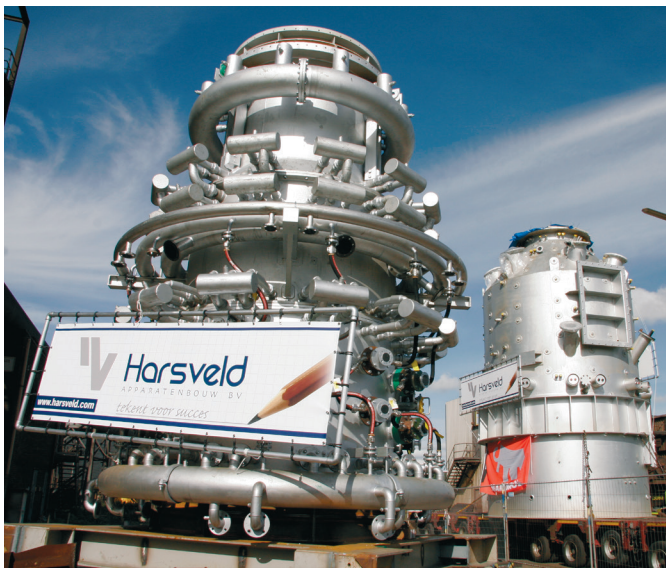
Harsveld
APPARATENBOUW BV



Heat & Surface Treatment B.V.

Introduction

Heat & Surface Treatment B.V. (H&ST) is a high-tech supplier of heat treatments, vacuum brazing and PVD or CVD surface treatments. Because of a high diversity in product-market applications combined with over 50 years of experience, H&ST is a reliable partner which is active in high tech industries like the aerospace, automobile, medical and semiconductor industry. H&ST distinguishes itself in the industry by: its clean rooms, wide diversity in equipment as well as processing materials, specific processes required by client and optimum care for the product.

H&ST is one of the most modern heat treatment companies in Europe, is located in The Netherlands in the city of Eindhoven and operates in high demanding markets. H&ST is part of Aalberts Industries N.V., a Dutch stock listed company and market leader in various market segments.

Most important values of H&ST are Quality, Technical solutions and Customer Care. No matter how large, complex, unique and innovative it may be the customers demands are, H&ST's co engineers are capable to deal and perform with any requests.

H&ST has three main activities:
- Heat Treatment
- Surface Treatment (CVD and PVD coatings)
- Vacuum Brazing

Heat treatment is H&ST's main business and is specialized in Vacuum Heat Treatments and the special diffusion process Stainihard (to harden the surface of Stainless Steel). Next to standard processes H&ST also provides very specialized treatments, geared to material, application, geometry and use.

Present quality systems are:
- NADCAP
- ISO9001
- ISO14001

References

ASML – Philips – VDL Enabling Technologies Group – Océ – Rolls Royce – GE – Snecma – Fokker

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Heemskerk Innovative Technology

Heemskerk Innovative Technology offers strategic and operational consultancy in the areas of robotics, mechatronics and hightech systems, and primarily targets the European institutional market.

Product information

Innovation Management – Heemskerk Innovative Technology (HIT) blends innovation management, systems engineering, and people management to support research projects and to develop spin-offs into proof of concept and market readiness, working in close cooperation with Institutes, Universities, and industrial partners.
ITER Remote Handling studies – During operation, plasma facing components of the experimental fusion reactor ITER will get activated and contaminated with radioactive and toxic materials. Remote Handling (RH) maintenance is performed by master-slave telemanipulation techniques. Heemskerk Innovative Technology develops new RH technologies and tools and validates RH maintenance sequences.
Virtual Slave – In an industrial partnership with Dutch Space and TreeC, HIT develops a simulation tool to simulate in real-time kinematics, dynamics and physical interaction of designs and environments imported from CAD software. The Virtual Slave system is multifunctional; it can be used to analyse the maintainability of components in the design phase, to validate maintenance procedures, to train operators and to provide operational support during maintenance operations.

References

ITER – Dutch Space – FOM Insitute DIFFER – FlexGen – TNO – Oxford Technologies – VDL APTS

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Managing Director

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2172 HZ Sassenheim
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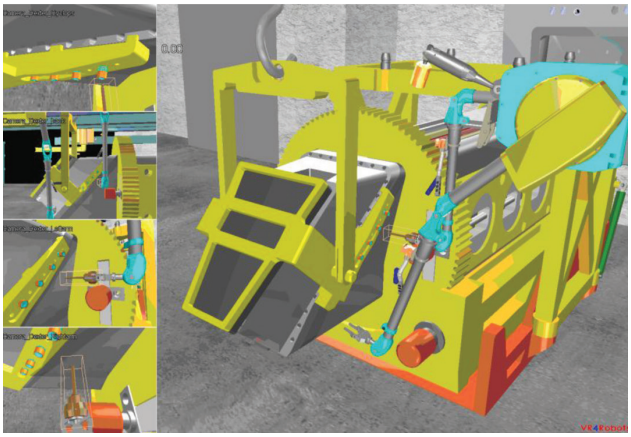
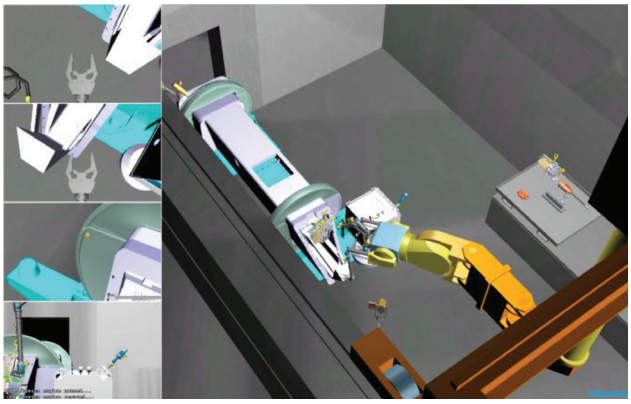
E: c.heemskerk@heemskerk-innovative.nl

Turnover: 400.000 € | 7 employees

www.heemskerk-innovative.nl





Heeze Mechanics

Design and Precision Engineering for R&D Institutes since 1966; manufacturing of microwave components i.e waveguides, parts for Clic, parts for long en short Yoke, cartridge plate for RAL and parts for Galaxy.

Product information

- Design and Precision Engineering for R&D Institutes since 1966.
- Manufacturing of Waveguide (FOM), parts for Clic (CERN), parts for long en short YOKE (CERN).
- Cartridge plates for RAL (Rutherford Appleton Laboratory).
- Parts for Galaxy (ESO).

References

CERN – ESRF – ESO – Rutherford Appleton Laboratory – TNO – OMT solutions – Rimas – Philips Research – FOM

Theo van Tongerlo
Managing Director

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5595 DD Leende
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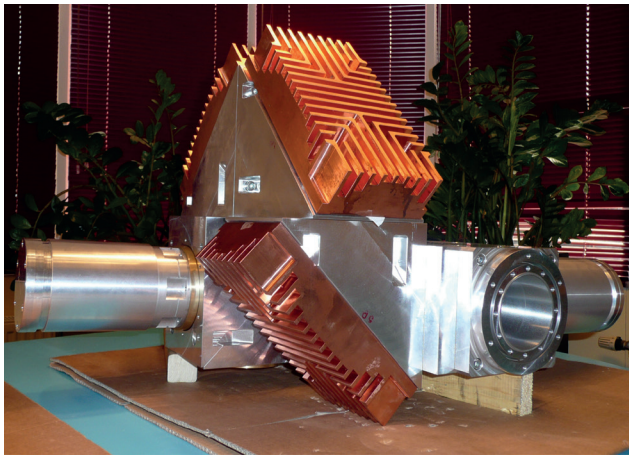
Turnover: 800,000 € | 5 employees

www.heezemechanics.nl



HEINMADE

HEINMADE develops and delivers piezo system solutions ranging from a single bulk piezo to servo controlled multiple axis motion platforms. With our long term experience and extended network, we are able to detect critical aspects, to control and solve these aspects and to provide reliable solutions.

Product information

Through collaboration with Noliac (DK), Nanomotion (Isr) and Piezomechanik (DE), HEINMADE offers a wide portfolio of standard products and system solutions. Over the years HEINMADE has extended this portfolio with developed custom made designs to meet the high demanding requirements of the high tech and medical industry.

Some examples of systems in production are; multiple axis long stroke motions systems, transducers, sensors and active damping systems. Present R&D work is focused on active damping, accurate dispensing and high force high precision stages. HEINMADE supplies basically all piezo related components and (sub-) systems:

- R&D work on piezo components and integrated systems.
- Design, engineering and supply of high precision metal parts like hinge structures, etc.
- (Encaged) Piezo actuators and benders (high and low voltage).
- Piezo motors and steppers.
- Short and long stroke piezo stages (actuator and motor based).
- Drivers and controllers for piezo actuators and motors.
- Active vibration dampers.
- Dispensing systems for low vapour pressure or high viscous substances.

References

Philips Apptech – ASML – ESO – TNO – TU Delft – TU Eindhoven – TU Twente – VSL (NMi) – FEI

Hein Schellens
Director

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Turnover: 1.0 M€ | 7 employees

www.heinmade.com

HEINMADE
supplier piezo ceramic solutions

Hitec Special Measuring Systems

Hitec Special Measuring systems bv develops and manufactures off-the-shelf and customer specific current measuring systems for AC and DC currents up to 50kA with scientific class accuracy and stability.

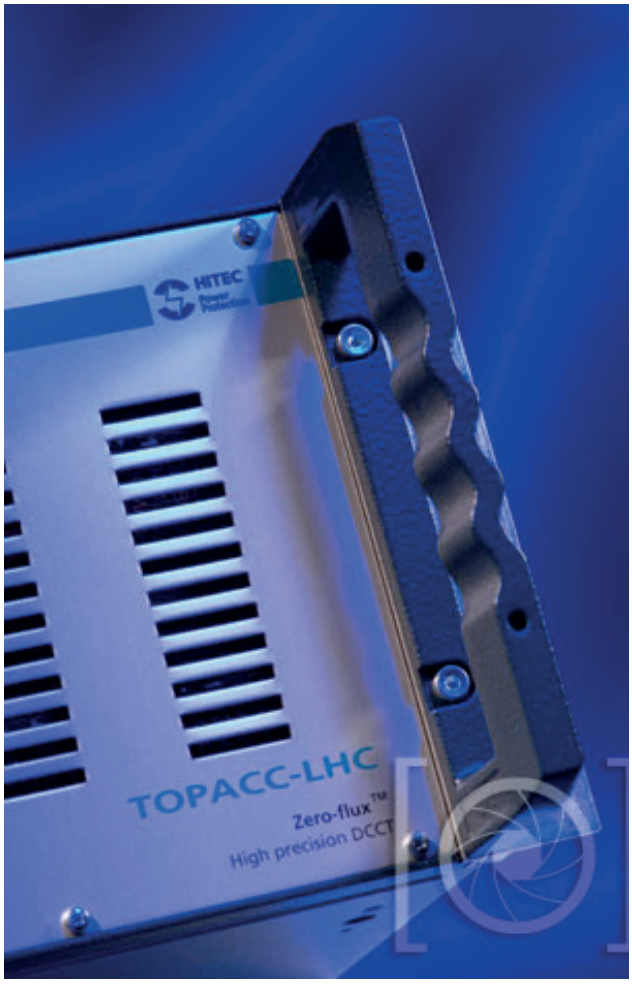
Product information

Hitec Special Measuring System, part of the Hitec Power Protection Group, has a long and impressive history in developing and manufacturing of tailor made current measuring system for AC and DC currents
Hitec was the first to introduce a revolutionary high precision current measuring system based on the Zero-flux principle.

The Zero-Flux principle enables galvanic isolated measurement of AC and DC currents with supreme accuracy, linearity and stability.
Many thousands of our systems have already been applied in High Voltage DC, Scientific and industrial applications.

References

Science: All major scientific research centers
High Voltage applications: Most of the High Voltage Direct Current links
Industry : Power metering/data logging, lithographic systems for semiconductor industry and medical imaging



R. Lachminarainsingh
General manager

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E: info@hitecsms.com

Turnover: 5 M€ | 9 employees

www.hitecsms.com

HITEC Power Protection

Hositrad Vacuum Technology

Hositrad Vacuum Technology combines more than 45 years of experience in vacuum and cryogenic technology. We supply standard vacuum parts CF, KF and ISO components from stock.

Product information

Hositrad Vacuum Technology

- Have capabilities covering all areas starting from a standard flange up to designing a complete vacuum system,
- Manufacturing, repair and after sales service of vacuum equipment
- Experts in TIG-Laser and Microplasma welding en He. leak testing <1x10-10 mbar l/sec.
- Laser welding for medical devices and clean technologies
- Own production and an AutoCad design in Holland and in the Far East
- "Custom made specials" according to customer drawing in our workshop
- Supply the following products: CF-KF and ISO vacuum components – Electrical/Linear/Rotary Feedthroughs - Edge welded bellows – Isolators – View ports – Fiber Optics – Glass to Metal seals – Manipulators - Ferrofluidic feedthroughs – All Metal Valves – Angle Valves – Gate Valves – Diode Ion/Triode pumps and Titanium sublimation pumps – Cryopumps – Cryostats

Hositrad Vacuum Technology represent

Ceramtec: Ceramic-to-metal sealing technology. Hermetically sealed electrical & optical components include D-type/circular feedthroughs, multipin connectors, coaxial connectors, thermocouples, isolators, viewports and accessories.
These components are ideally suited to support optical, gas, liquid, power, instrumentation and sensing applications.
ColdEdge Technologies: provides custom <4K to 1000K closed cycle cryostats with interfaces.
Extrel: Extrel is the world's leading manufacturer of Research and Proces Mass Spectrometers, Residual Gas Analyzers (RGA's), Quadrupole Mass Spectrometry Systems and Components from 1-100 amu to 16000 amu
Thermionics: Manipulators, Valves, E-Guns, Ion Pumps, MBE Systems, Mechanical feedthroughs.

References

CERN, DESY, (XFEL, EMBL, Hasylab Hamburg), Helmholz Zentrum Berlin (Bessy, HMI), FZ Jülich, GSI Darmstadt, KIT Karlsruhe, GKSS, DLR, IPP Garching, PSI Villigen, ESA Noordwijk, ESRF Grenoble, ALBA Barcelona, FOM-Nikhef Amsterdam, FOM Nieuwegein and all Universities and Research Labs in Europe.

J.L.J. (Jurgen) Tomassen
Director

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Turnover: 4 M€ | 10 employees

www.hositrad.nl

VACUUM TECHNOLOGY
Hositrad

H.V.P.C.

H.V.P.C., or High Voltage Potting and Coating, is self-reliant since 2002. We are specialized in winding, assembling, potting, coating and testing of high-tech products. Being experts makes us also the best possible advisors in this field. These products are mainly for the medical- and defense industry, but we also have customers in the aviation industry.
H.V.P.C. is a dynamic production company with few hierarchical lines. These short lines result in quick settlements and a strong workforce. The workforce increased through the years from 8 to 18 enthusiastic employees.

H.V.P.C. sets high demands for its performance. The product quality, service and reliability of the deliveries are among the best in the world. H.V.P.C. logistics uses short channels and therefore purchasing activities are quick, control is good and delivery times are reliable.
Adapting to developments in the market with the help of innovative technologies and shaping an effective organization with flexible processes are characteristic of H.V.P.C. The flexible processes result in the possibilities to produce single pieces or small series.

Products

H.V.P.C. is specialized in single production or small series. H.V.P.C. produces a large variety of products (durable types), both existing as new designs, which can be realized in consultation with the client.
H.V.P.C. is a production company for mainly high-tech inductive components, such as (high voltage) transformers, choke-coils and deflection coils. Also high-tech power supplies and high-tech connectors poured into as well as oil and different synthetic materials (silicones and epoxies).

References

- Thales
- ASML
- FEI
- Selex

Gerard Bruggink
General manager

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Turnover: 2,5 M€
18 Employees

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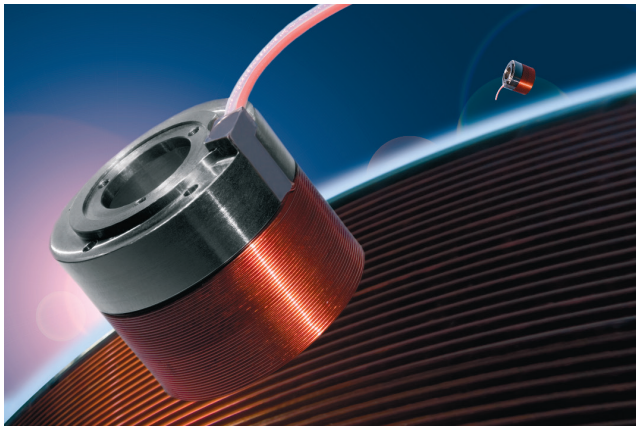
HIGH VOLTAGE POTTING COATING



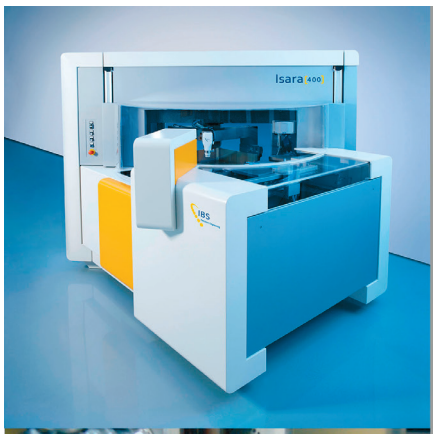
IBS Precision Engineering BV

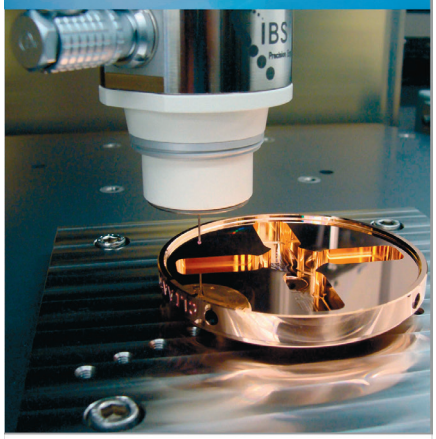
For over 20 years IBS Precision Engineering has been helping its customers to realise their demands for measurement, positioning and motion systems where ultra-high precision is required. With our expert foundation in metrology, we understand the true meaning of precision and how to help our customers achieve it.

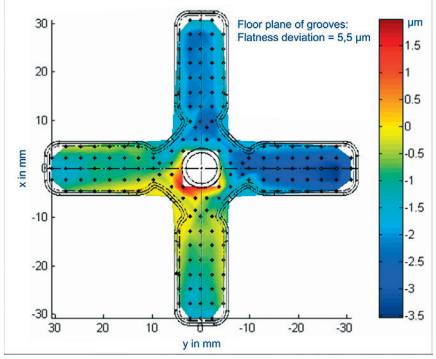
IBS products and solutions can be found at leading companies world-wide serving industries from disk drive to semiconductor equipment, printing and medical systems. In the field of machine tools we serve both builders and users with measurement systems delivering significant bottom-line productivity improvements. For the research community, we provide support from standard ultra-precision components to custom made systems.

At IBS we have a long history in successfully helping our customers address unique problems. We do this through both our standard products as well as our design house. The latter provides support from feasibility through to pilot production for modules through to machines.

From advice on component application to full system design and realisation, our aim is to deliver the innovative solutions required by our clients where leading measurement or high accuracy motion capability is critical.







Hans Ott
Sales & Marketing Director

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IBS Precision Engineering

Imtech Industry International BV

Imtech Industry International BV is an international operating technical service provider with focus on Project Development, Engineering & Contracting, Operation & Service. Imtech Industry International has employed specialism on the Power Electronics, Energy and Oil & Gas markets.

Company information

Imtech's business unit Power Electronics has more than 40 years of experience in the field of Power Electronics and Applications. Activities within Imtech Power Electronics are conceptual- and detailed design, construction, assembly, factory testing, installation and commissioning of tailor made Energy Conversion and Distribution Systems for Scientific and Industrial applications.

Imtech, has gained a strong reputation of tailor made Energy Conversion solutions up to the following figures:

- current: up to 150 kA
- voltages: up to 100 kV
- rated power: up to 20 MW (continuous)
- up to 150 MW (pulsed)
- frequencies: up to 100 kHz
- stability: down to 1 ppm

Our solutions find their way into various applications for:

- Enrichment processes
- Nuclear fusion research
- Particle accelerators / synchrotrons
- Galvanic industry
- Film processes
- Electricity distribution grids
- Electrolysis processes
- Fuel Cell processes
- Renewable energy

Some of our references for scientific institutes

IPP Garching (D) – 145 MVA Modular Conversion System for ASDEX upgrade IPP Garching (D) – Extension of the Pulsed Power Supply Network of ASDEX by a set of Compact Modular Generators (8 MVA, 32 MJ), HFML Nijmegen (NL) – 20 MW DC Converter System – DESY Hamburg (D), Klystron modulator for the XFEL RF station Helmholtz Zentrum Berlin (D) – 8 MW 20 kA Power Converter System, Solvin Antwerp (B) – 1 MW PEM fuel cell conversion system

Erwin Lenten
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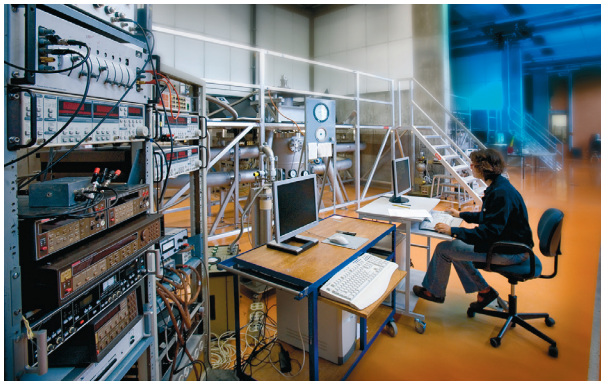

Imtech Industry International is part of the Imtech NV Group | 400 employees.
Turnover: Imtech NV 5.1 Billion € | 29.000 employees (2011)

www.imtechindustryinternational.nl

INCAA Computers

INCAA Computers is a well-established company with over 35 years experience in design and manufacture of professional high-tech electronic equipment for industry, science, and OEM. We provide solutions for technical automation projects and take system responsibility.

Product information

Applications extend from industrial and scientific scalable data acquisition systems through transient recorders, timing systems, superconducting magnet test benches and power supply control modules to alarm and safety systems.

Hardware Development: Modules can be designed from scratch or standard modules can be tailored to customers specific needs. Characteristic product properties are the high quality level and the relatively small to medium production volumes.
Software Development: Due to our in-house hardware expertise we know best to separate projects into hardware and software functions and how to interface them to build innovative fail-safe systems. Specialisations include system software, databases and graphical user interfaces.
System Integration: We not only deliver hardware modules and software packages but also integrate these with third-party components into complete functioning turn-key systems.

References

Our client base includes a wide selection of international organisations and companies:
CERN – Sincrotrone Trieste – GSI – UKAEA – MIT – FZ Juelich – Alstom – ASML

Bart Sijbrandij
Project manager

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7339 BD Apeldoorn
T: +31 555 42 50 01
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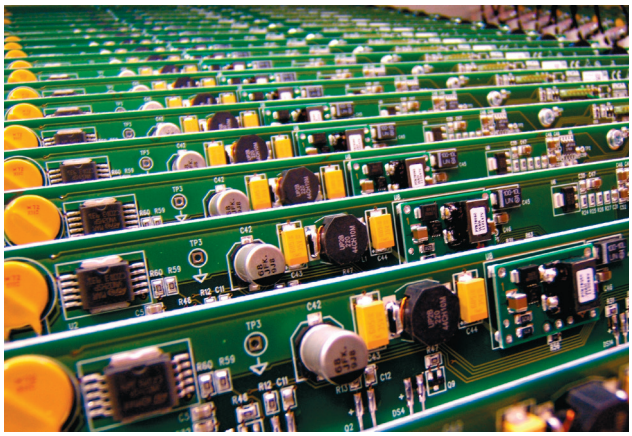
20 employees

www.incaacomputers.com



INCAS³ SOLUTIONS

INCAS³ SOLUTIONS provides high tech innovative Sensing & Monitoring services and solutions. Our technology and expertise is focused on remote monitoring combined with local and smart data processing.

It is our mission to design, develop and employ innovative sensor systems to provide our customers with solutions where standard methods cannot be applied.

INCAS³ Solutions BV is the Dutch subsidiary of the INCAS³ Foundation and facilitates the commercialization of INCAS³'s intellectual property portfolio.

γ-Radiation Monitoring

Fully embedded γ-ray spectrometers that can be tailored to a wide range of (remote) monitoring applications.

Environmental Monitoring

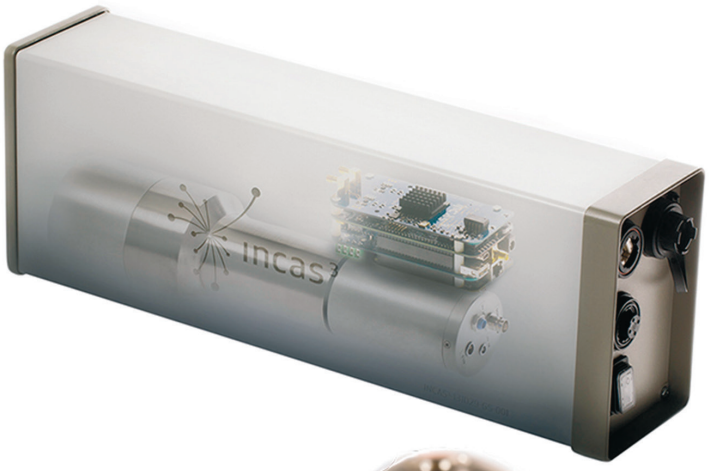
Energy-efficient and robust wireless sensor systems that continuously measure environmental parameters.

Industrial Processes

Miniaturized, mobile sensor systems designed to measure parameters inside production or distribution processes.

Smart Sound Monitoring

Acoustic event detection for ambient assisted living, environmental noise monitoring or surveillance solutions.



dr. Frank Bakker
CEO

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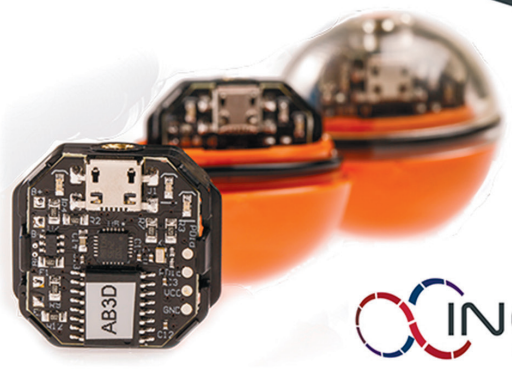

inMaterials

inMaterials is an independent materials consultancy company that provides tailor made solutions for materials testing and materials characterization. inMaterials offers comprehensive materials consultancy services consisting of Materials Science, Materials Testing, Education and Radiation Protection.

Specific expertise

inMaterials offers expertise on structural materials ageing and materials degradation in nuclear environments. Competences are available for commercial power plants, research fission reactors and fusion facilities. We have a long track record and experience in the materials sector for nuclear applications, firstly working for research institutes and later on as an independent materials consultancy company. The inMaterials consultants have dedicated a lot of effort to the materials qualification for fusion application and for structural materials condition assessment for fission reactors.
inMaterials consultants possess a comprehensive understanding of microstructural changes due to neutron radiation and the resulting changes in mechanical materials properties in a combination with in-depth knowledge of various testing standards and nuclear design codes.
inMaterials has extensive experience in the development of new testing methods and complex mechanical testing installations for materials characterization in hot cell laboratories including development of tools that are needed for work in nuclear environments.

Natalia Luzginova
Co-founder/Materials consultant

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www.inMaterials.nl

MATERIALS SCIENCE

MATERIALS TESTING

RADIATION PROTECTION

EDUCATION

iN MATERIALS
independent materials consultants

Inno4Life

Your Engineering-to-order Partner

Inno4Life is gespecialiseerd in complexe, klantspecifieke ''engineering-to-order" projecten voor met name de Life Sciences en andere hoogwaardige technologische industrieën zoals bijvoorbeeld de humane & veterinaire farmacie, de medische, healthcare, voedsel en semiconductor.

Onze kennis zit diep geworteld in de farmaceutische industrie op het gebied van het geautomatiseerde aseptische proces en bijbehorende (primaire verpakkings) machines. Vanuit die achtergrond hebben wij de expertise om in diverse vakgebieden, innovatieve oplossingen te bieden die beantwoorden aan de steeds veranderende behoeften van onze klanten.
Vertrouwende op de combinatie van vele jaren ervaring en vaardigheden op het gebied van het managen van grootschalige internationale projecten, bieden wij een compleet pakket aan oplossingen in de volgende gebieden:

- Equipment & Support
- System Integration
- System Optimization
- Expert Advice

Wij leveren een breed pakket aan equipment en diensten op het gebied van geautomatiseerde hoogwaardige productiemachines:

- System & module development
- System architecture design
- Engineering
- Prototyping
- Test equipment
- System improvement
- Validation
- Assembly
- Installation
- Service support

Inno4Life specialises in complex customer-specific engineering-to-order projects for the Life Science Industries, namely the Pharmaticeuticals (Human and Veterinary), Medical and Food Industries. Requests from other industries will be considered on a case-by-case basis.
Our knowledge is deeply rooted in the automated pharmaceutical packaging industry, we have therefore the in-built expertise, discipline and the very specific know-how to help overcome the evolving challenges constantly faced by our customers in highly regulated markets.

Johan Klootwijk
Managing Director

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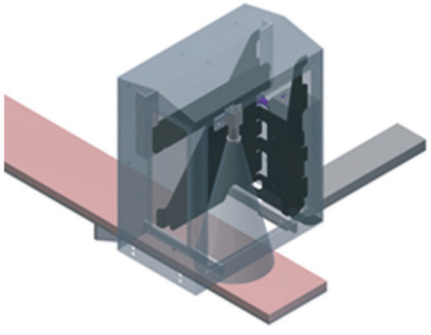
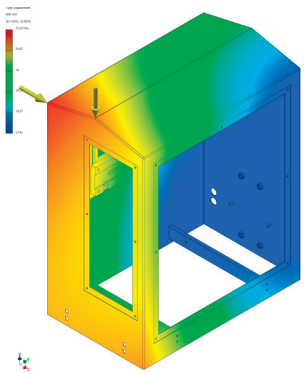
www.Inno4Life.com





Irmco BV

Irmco bv has been formed in 1972.

Irmco bv developed the legendary educational toy **Sjobus.**

Irmco bv takes the lead in co-operation between reliable Dutch companies.
Heeze Mechanics, Schelde Exotech, Innovation Handling, Sunfys, TNO.

Irmco bv gathers the technology experience and know-how to design and manufacture:

- **waveguides**
- **measuring instruments based on accoustics**

Michael Koot
Director

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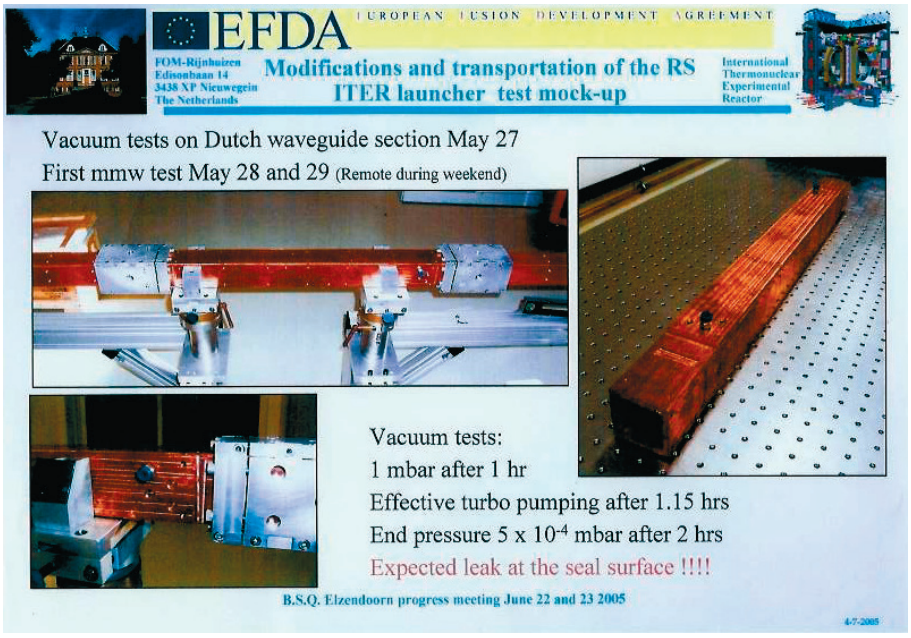
E: michael.koot@irmco.nl



Janssen Precision Engineering

Precision engineering and mechatronic solutions in ambient, vacuum and cryogenic environment.

Company profile

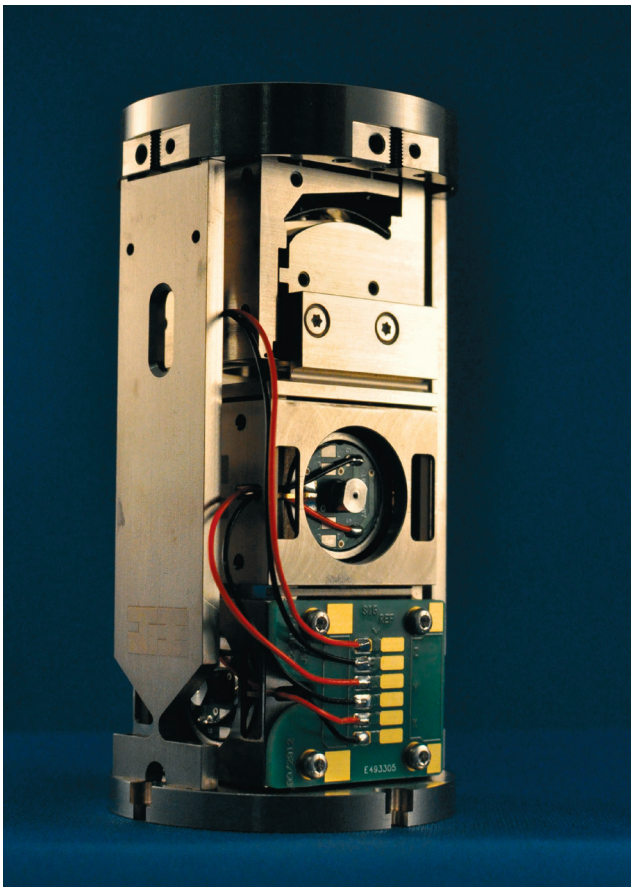
JPE is an independent engineering group for development and realization of high-tech machinery and instruments. Especially where accurate and stable performance is involved in the sub-micron area.
The company was founded by Huub Janssen in 1991 after several years of experience in the high-tech industry of companies like ASML and Philips. Nowadays, we have built up a team of professionals which are able to find and implement solutions for very challenging engineering requests. JPE has gained multidisciplinary knowledge of technical issues at every level. From system level down to component level, from definition and design, up to prototyping and qualification. By following a systematic approach with high involvement, quality and efficiency are guaranteed.

We develop high-end opto-mechanical applications to be used in deep vacuum as well as cryogenic environment. Our developments typically find their way in an international market like:market like:

- semi-conductor industry,
- astronomy and space,
- scientific experimental instruments

Competences

- precision engineering
- mechatronic solutions
- nanometer positioning
- positioning in cryogenic environment



Huub Janssen
Founder & CEO

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20 employees

www.jpe.nl

Kin Machinebouw

System supplier to the industry. Long lasting experience combined with craftmenship. Specialized in certified welding constructions and the machining thereof.

Facts

- Expert in certified welding constructions in various materials; ISO 3834-part 2 and PED module D certified.
- Modern machining capabilities: boring 1.5x 1.5mtr, milling upto 4,5 mtr, horizontal turning up to 8 mtr, vertical upto 6mtr.
- Experienced engineering capable of co-ordinating large projects (up to € 3 mio).
- Experienced in the assembly and project co-ordination of complex machines.
- Extensive network of sub-contractors.

Industry served

Special machines and apparatus for e.g. Defense, Nucleair, off-shore, food and aviation industry. Supplier of pressure vessels, lifting and towing equipment and amusement rides.

Dries Wiersma
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www.kin-machinebouw.com

KIN machinebouw

Lamers High Tech Systems

Lamers High Tech Systems is a leading supplier in the semiconductor, PV solar, aerospace, pharmaceutical, and other technology driven markets for over 25 years.
It is our mission to bring ultra-high purity fluid handling, conditioning, and delivery solutions to our customers that minimize the total cost of ownership while maintaining the highest levels of quality and reliability.

Lamers High Tech Systems B.V. is headquartered in Nijmegen, The Netherlands and has an additional production site in Kerkrade. Both facilities have certified orbital stainless steel welding, plastic welding, and assembly in cleanrooms up to class 10 for high purity manufacturing.

In addition, Lamers High Tech Systems provides R&D, design engineering, and the global installation and commissioning services to ensure our customers sytems startup in the most efficient and productive manner.

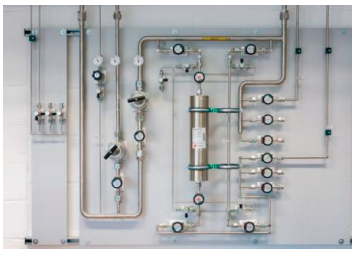
The installation teams have the capabilities to do turnkey installation of complete infrastructures.
These services include: Gases, Chemical and Power supply systems, Cooling, Demi Or process water systems, gas exhaust and scrubbing systems, drainage and waste water treatment systems.
These installations and piping systems are qualified and validated after installations are tested by our in house team that have dedicated equipment depending on the customer's specifications. The teams have done a number of installations wordwide incl "hot" commissioning at the point of use.

Complex piping set up

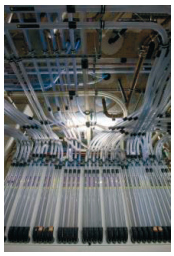
IBC Chemical Cabinets

Chemical distribution

DI Water system

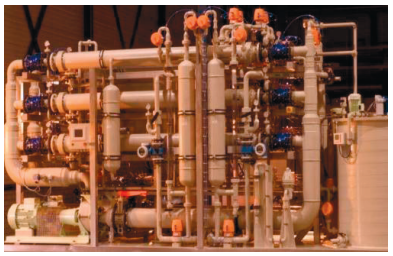


Gas bottle and distribution Cabinets



Toxic Piping

Exhaust Piping



Waste water treatment

Jason van Kuijk

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LAMERS High Tech Systems

AALBERTS INDUSTRIES

Landes High End Machining

Reliable supply of mechanical parts ready for assembly is the core competence of Landes High End Machining. Landes incorporates 30 years of experience in the manufacturing and on-time delivery of complex and/or accurate components for high end industries. Products are realised by means of CNC-turning, CNC-milling and CNC-measuring. This privately owned business was established in 1985 and has demonstrated consistent growth in turnover and technology development over the years. Landes currently employs approx. 50 employees and is both ISO 9001 and AS-9100C certified.

Capabilities

The capabilities within Landes range from the industrialisation of new components and qualification of manufacturing and outsourcing processes as well as high end machining of titanium (all grades), aluminium and high alloy steels. Manufacturing activities may include special processes like heat treatments, surface treatments, finishing and cleaning with the aim to deliver components that are ready for next higher assembly. The dimensions of Landes in-house manufacturing go up to 1000 x 1000 x 1000 mm. Documentation and traceability are an integral part of the quality management system within Landes.

Products

Structural parts, precision components, turbine components, landing gear components, interior components, frames, housings, limiters, rotation parts, pick- and place components, etc.

Markets

Aircraft- and Space industries, Defence (land systems, naval systems, air bound systems), Semicon industries, Optical industries, Medical equipment, Offshore industries, Special machinery.

References

Fokker, Airbus, Marshall Aerospace, General Electric, Stork, Pratt & Whitney, VDL, Siemens, Fresenius etc.

Certification

ISO-9001, AS-9100C

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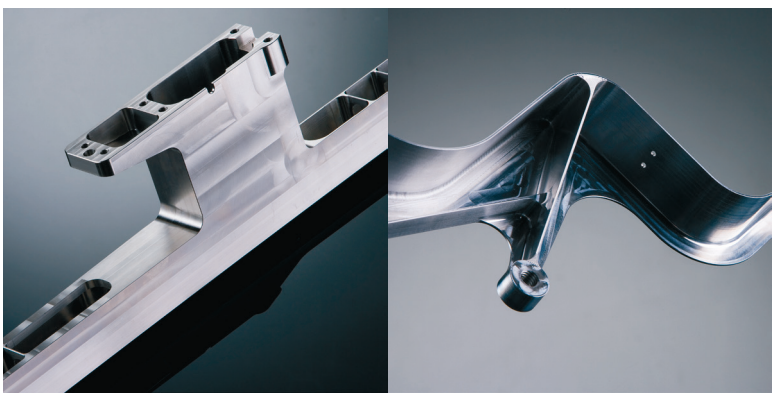
Landes
HIGH END MACHINING



Lencon

Lencon provides high end mechanical engineering. Core competencies are the development and optimization of complex products and systems.

Project based engineering
Lencon is an inspiring partner for engineering projects. Markets are Semiconductor industry, Defence, Space research and Medical.

- Engineering for smart cost reductions
- Reliability optimization
- Precision and optomechanical engineering

Add experienced engineers to your team

For many companies and scientific institutions Lencon is a flexible engineering supplier. Our engineers have acquired a wealth of experience by working on-site at a large variety of customers.

- Highly trained and experienced engineers
- Large support network of professional colleagues
- Added flexibility
- Outsourcing of FEM engineers

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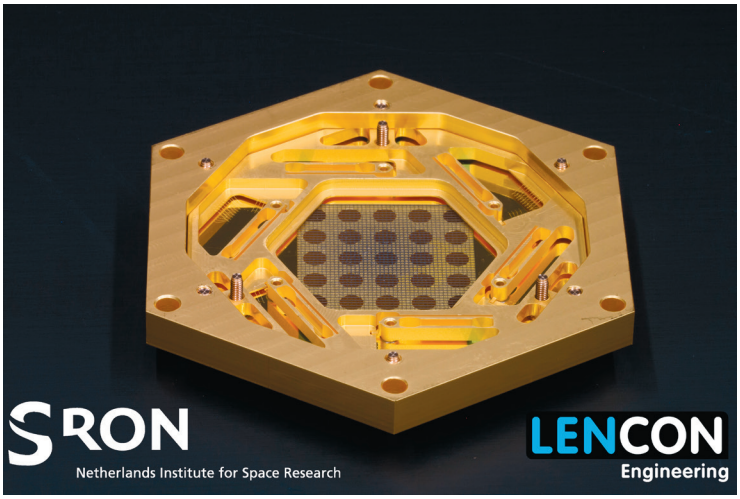
LENCON Engineering



Mat-tech B.V.

Mat-tech B.V. is an innovative metallurgical company with a proven track record as interconnection technology supplier. Mat-tech consists of two business units and focuses on research, development and production of high-tech soldering and brazing.

R&D and Production

Mat-tech Development & Testing has specialized in development, optimization and implementation of innovative joining technologies. Various services such as contract R&D (e.g. application and process development), consultancy (process improvement), testing services (reliability) and failure analysis, prototyping and special alloy production are offered. Mat-tech Production offers the opportunity to outsource your high-tech soldering and brazing production, for large series as well as for single pieces.

Mat-tech is servicing a wide variety of industries, a.o. medical, lab equipment, electronics, electronic components, automotive, machine building, process industry, solar industry and aerospace.

Know-how and Equipment

Both extensive know-how as well as in-house equipment are present at our company and through our trusted network.

A wide variety of equipment, such as Scanning Electron Microscopy equipped with Energy Dispersive X-ray Spectroscopy, Optical Microscopy, Meniscograph (Wetting balance) and furnaces for vacuum brazing, inductive soldering, etcetera.

Industrial applications

Mat-tech is servicing multiple industries, such as medical, lab equipment, electronics, electronic components, automotive, machine building, process industry, solar industry and aerospace.

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mat-tech
innovative soldering & brazing

MI-Partners

Innovative High-End Mechatronic Solutions

Our company

MI-Partners is your contract R&D partner for the development of high-end mechatronic systems. Offering the complete cycle of predevelopment, design, realization and testing of high-tech systems, MI-Partners can assist you in your development efforts. MI-Partners uses a compact and highly educated team which results in fast solutions that work. Operating in a wide variety of market sectors results in solutions that characterize themselves as fresh, innovative and out-of-the-box. Choosing MI-Partners means choosing for open communication throughout your project, profiting from the mechatronic approach and reaching your goals on time.

Our competences

To assist in developing mechatronic total solutions, MI-Partners has a high level of knowledge of the customary mechatronic disciplines and competences at its disposal:

- Design principles for precision engineering
- (Advanced) motion and equipment control
- Predictive modeling (dynamic/thermal)
- Dynamic error budgeting
- Floor vibration isolation
- Air bearing design
- Design for vacuum/contamination
- Magnetically levitated systems
- Optics

and of course:

- Project management
- Customer focus
- Cost awareness

Leo Sanders
Director

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30 Employees

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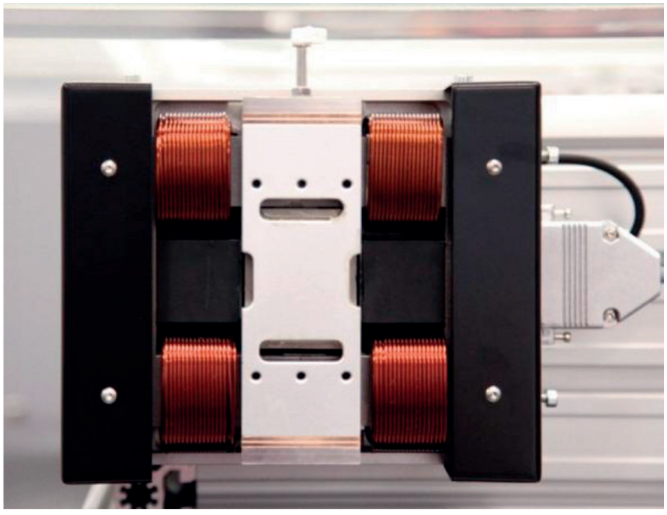
MI PARTNERS
PARTNERS IN MECHATRONIC INNOVATION



Mogema 3.0
The combination makes the difference

Mogema 3.0 is high-tech expert in welding, machining and vacuum technology. This unique combination of activities is what makes the difference: we are your partner right through from development up to and including delivery of the complete module.
We specialise in complex and large vacuum chambers and vacuum systems. Our expertise in welding, machining and assembly comes into its own for the manufacture of vacuum chambers.

Production techniques

Precision welding

- Wide choice of materials
- Broad range of sizes over 9000 mm
- Specialized production

Advanced machining

- Extreme accuracy to within hundredths of a mm
- Acclimatized production
- Enables highly accurate machining

Critical assembly

- Meeting every need

Our commitment to innovation and our belief in the importance of ongoing development is reflected in our investment in new techniques and expertise, as well as our partnerships with scientists and involvement in academic projects.

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mogema3.0

an Aalberts Industries company

Montair Process Technology B.V.

Montair Process Technology B.V., established in 1971, provides customised turnkey solutions on a worldwide basis. Montair Process Technology B.V. is an independent member of the Manders Industries Group with affiliated companies established in the Netherlands, Belgium, Romania, India and the USA.

Product information

The core business of Montair Process Technology B.V. is divided into two categories:
- Air pollution control & thermal treatment systems
- Special process equipment.

Turnkey projects

Montair Process Technology B.V. focuses its activities mainly on realisation of turnkey projects. From the design and engineering phase to the final start-up of the systems, Montair Process Technology B.V. will carefully manage all aspects of a project. All stages of a project are realised under our own administration in our brand new plant.

The manufacturing department of Montair Process Technology has a well-equipped machinery. This department mainly processes stainless steel, high-nickel alloys, aluminium and thermoplastics. The engineering and manufacturing department is also responsible for the development and assembly of complete control systems including HMI and data logging capabilities.

Montair Process Technology B.V. is certified according ISO 9001, SCC** and ISO 3834-2 (under construction).

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Managing Director

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MONTAIR
PROCESS TECHNOLOGY
member of mandersgroup

MTSA Technopower

MTSA Technopower designs and builds customer specific equipment, installations and machines. MTSA Technopower has own products which are used for switching high power at short circuit laboratories and atomic fusion. MTSA Technopower offers production capacity (manufacturing and assembly) and on-site service.

Product information

To initiate the atomic fusion process large amounts of energy need to be applied in a controlled manner. MTSA Technopower developed high power switches to make or break a high current at the right moment. Typical products we supply:
Make Switches – Safety Break Switches – Separators – Rogowski measuring systems

This type of equipment is being applied at KEMA, JET and various other short circuit laboratories, e.g. KPT, Toshiba, EETI, KERI and Ormazabal.

In addition MTSA Technopower designs and builds customer specific equipment, installations and machines. Within the nuclear sector we acquired a great deal of experience by taking over KEMA Techniek in 2003 and close relations we maintain with scientific institutes within the Energy Sector like ECN, NRG and TNO. For the nuclear sector we designed and built for instance:

Special remote handling systems for application in radio active environment – High power switch systems – Gas dosing systems – Special machines – Prototype installations – (Spare) Parts and modules/subsystems

Customer specific projects can be divided into the following stages, whereby we can join at any level:
Concept engineering – Basic engineering – Detail engineering – Procurement and manufacturing of parts – Assembly – Testing – Installation and commissioning – Maintenance

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MTSA TECHNOPOWER

National Instruments

Committed to Engineers and Scientists – Since 1976, National Instruments has equipped engineers and scientists with tools that accelerate productivity, innovation, and discovery. NI's graphical system design approach provides an integrated software and hardware platform that simplifies development of any system that needs measurement and control. Engineers and scientists use this platform from design to production in multiple industries, advanced research, and academia.

Accelerate Development – Researchers accelerate their development using highly productive NI LabVIEW software that integrates and abstracts the complexity of systems at multiple levels, including unprecedented visualization of system timing. They can lower total systems cost, increase flexibility, and integrate new technology easily using off-the-shelf customizable hardware that meets system needs from low power to high performance.

Innovate Fast – The flexibility and scalability of the platform, supported by a growing ecosystem of reusable IP and applications, gives engineers a strong competitive advantage in completing more projects with less time and resources. Thousands of engineers successfully use the NI graphical system design platform today to innovate, discover, and invent their own solutions – fast.

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NATIONAL INSTRUMENTS™

Nedinsco

Nedinsco develops, designs and produces a broad range of photonic technology based systems for high-tech applications.

Nedinsco has many years of experience providing customers sophisticated systems consisting a combination of optical, mechanical and electrical technologies. Strategic partnership is a key concept in Nedinsco's approach to contemporary as well as future business.

Capabilities

With our extensive engineering and production knowledge and our state-of-the-art facilities we are providing customers with state-of-the-art and cost effective photonic based systems enabling them to become more successful.

Goal is to deliver qualified serial products and being able to manage the complete lifecycle of the product starting with a basic idea of the customer until the service and aftersales.

Products

Camera systems, spectrometers, photonic sensors, alignment telescopes, sensor platforms, bore sighting and training systems.

Markets

Diagnostics (medical, pharmaceutical, forensic, recycling and food branches), semiconductor and defence.

References

ASML – TNO – Carl Zeiss – Saab Defence and Security – FLIR

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New Cosmos – BIE

New Cosmos – BIE is a supplier of stationary and portable gas detection equipment, mixing high qualified gas detectors with smart forms of communications suitable for applications in gas and oil as well as any other type of industry.

Started in Europe over 25 years ago with a range of detectors for the Semiconductor Industry, New Cosmos – BIE is effectively since early 2011 a part of the global New Cosmos organization.
Together with our 60 years old parent company, New Cosmos based in Japan, New Cosmos – BIE serves beside Europe also customers in the Middle East and North Africa.
Our mission is to create a safer global environment with a reduced number of accidents.
Whilst continuing the developments of products and combining the excellent technology from both sides we aim to create a safer world with a reduced number of accidents in the industry and living environment.

Our strengths
- Sensor technology in house
- Over 50 years of experience
- Reliability
- Unique Selectivity
- Long life time
- Extended range of sensors for different gasses

Solutions for the following markets:
- New Energy Markets
- Gas & Oil Exploration
- Chemical & Petrochemical
- Automotive Industry
- Laboratories
- Micro Electronics
- PV Industry

Product range:
- Fixed gas detectors (diffusion/suction)
- Portable gas detectors
- Alarm systems
- Software supervision systems
- Grease /oil dust meter
- Odor level indicators
- Residential detectors

Services:
- Maintenance
- Upkeep
- Repair
- Training
- Survey

References

Within the Netherlands: University Twente, University Delft, TNO, University Eindhoven, Smitovens, NXP, Shell, Philips, Fanuc, Yaskawa, Dow, DSM, Glaesum, ECN, Outside the Netherlands: ST Crolles, X-fab, Analog Devices, Helmholz, Fraunhofer, University Sheffield, University Swansea, Toyota, Kawasaki, Zarlink, University Lund, Air-liquide, Praxair, L-foundry, University Madrid

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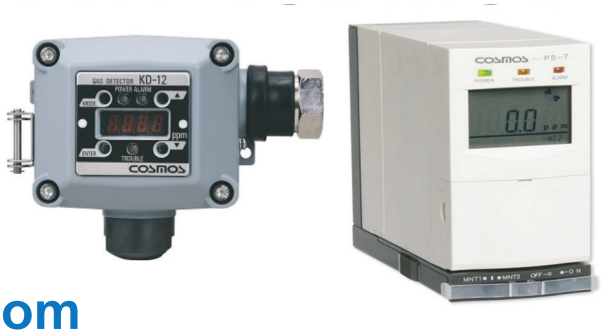

www.newcosmos-europe.com

NEW COSMOS - BIE

NRG

NRG is a high-end service provider. Based in the Netherlands, we provide products and services to nuclear industries, process industries and medical industries around the globe. For more than 50 years we operate the High Flux Reactor along with Hot Cell Laboratories, Decontamination and Waste Treatment facilities and other advanced nuclear infrastructures. We have an established, licensed site track record combining in-depth knowledge on radioactive material with broad operational experience.

We employ 500 world-class scientists, engineers, technologists, operational staff and highly qualified consultants in a wide range of nuclear technology, radiation protection and radioactive waste disciplines. Together we support the nuclear lifecycle from new build and operations to decommissioning and waste management.

Our extensive nuclear infrastructure allows us to offer a wide range of irradiation and post-irradiation services that cover all irradiation needs for industry.

As an independent organization, NRG offers support with confidential processes from product development to material qualification. We provide understanding of material behavior under neutron irradiation through standardized material test programs.

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Project manager Fusion Irradiation Solutions

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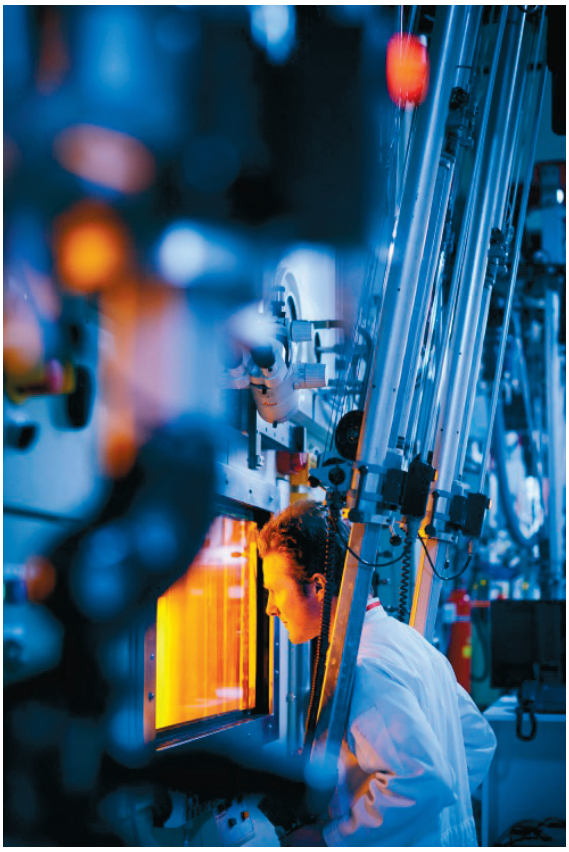

Omics2Image

We offer you the benefits of cutting edge technology developed by the Biomolecular Imaging Mass Spectrometry group of Prof. dr. Ron Heeren at Amolf.
Our customer-focused team consists of scientists and engineers with a vast global experience. We close the gap between innovation at the frontier of science and ready-to-use products for science and industry.

Product Information

With the IonPix camera molecular images are not constructed in a conventional manner point-by-point, but directly detected in the microscope mode.
Inside a mass spectrometer in a 100-200 micrometer area, molecules are isolated, ionized and accelerated with a particle beam or a laser. The new system leaves the spatial distribution of ions intact while they fly through the mass spectrometer. These ionized molecules are detected at the end of the flight tube, where arrival time and location are recorded. With the conventional detectors, this was quite complicated or it simply proved impossible. The camera is based on a chip detector (Timepix) that has been developed for high-energy physics at CERN, for more information see the Medipix Collaboration. This technology produces all molecular images with a single laser flash. Each pixel in such a molecular picture compares to 500 nanometers of tissue, and in one experiment more than 250,000 spectra are simultaneously collected. This is a major improvement in resolution and measurement speed.

The AMOLF group has deployed this new form of molecular photography among others for breast cancer research.

References

Nikhef, NL
AMOLF, NL
Netherlands Proteomics Centre (NPC), NL
Korean Research Institute of Standards and Science (KRISS), South Korea

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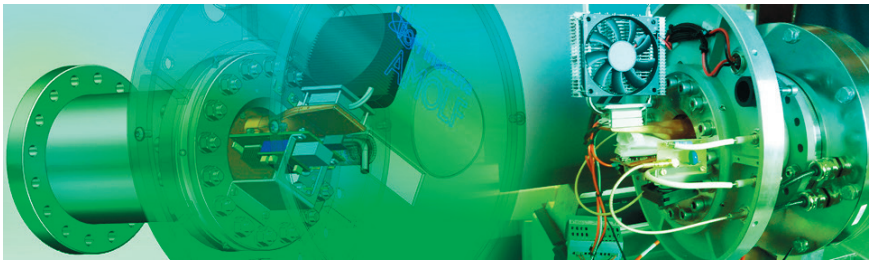


Peter Haak Produktontwikkeling

High Performance Sensors and Instrumentation

Product information

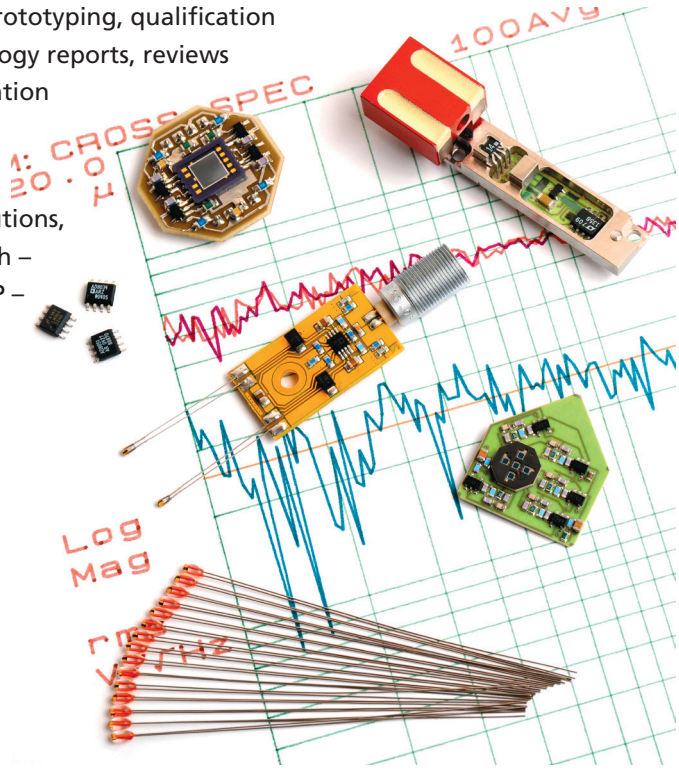
Our core business is the development of high performance sensors and instrumentation for scientific and industrial applications, with over 20 years experience in this field. Our expertise is primarily based in the analog electronics domain, with an emphasis on low frequency and low power. For projects that may require any external expertise, we work with a broad network of specialists, e.g. in the field of physics, data processing algorithms or ASIC design, in order to provide you with an optimal solution.
We spend substantial resources on evaluating new technologies and constantly engage with professionals from neighbouring fields to be prepared for future inquiries. Regular participation in product definition and testing of "early samples" for leading component manufacturers and exchanging the test results and insights, enables us to go "far beyond the datasheet" and push the limits with confidence.
Due to our efficient way of working we can respond quickly to customer requests, and as such we can offer rapid prototyping and notable flexibility when it comes to last minute changes.
Our solutions are used in the semiconductor industry, in scientific research (ultra-precision current measurement, cryogenic reference thermometry), healthcare (EEG, in-vivo measurements) and other sectors. Typical examples include: thermal sensors with µK stability, magnetic and capacitive sensors for sub-µm positioning, highly sensitive hybrid optical detectors, sensors for mHz range noise cancellation.

Core expertise

- high resolution and low noise circuit design: discrete, IC-based or "composite" designs and hybrid circuits
- solutions for signal integrity in a real life environment: think of 1/f noise, popcorn noise, thermal EMF
- extensive knowledge of electronic components, materials and processing, circuits and systems

Services offered

- product development: concepts, analysis, design, prototyping, qualification
- consultancy: component and circuit advice, technology reports, reviews
- training and support with emphasis on implementation



References

From small enterprises to large companies and institutions, including: ASML – CERN – Vistec (Leica) – SKF Research – Philips Healthcare – TNO – Nedap – Heidenhain – NXP – ABB – Shell

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peter haak produktontwikkeling

PM-Group

DISCOVER PRECISION

Company Introduction

As a strategic business division of the PM-GROUP we as PM-BEARINGS are highly specialized in designing and manufacturing high precision bearings and advanced motion systems in ultra high quality. We are providing a complete range of linear bearings, frictionless slides, (piëzo)positioning tables and stages, which guarantees high levels of performances at competitive prices. Thanks to almost 50 years history of experience, new findings in research, combined with innovating linear technology, our products meet the highest accuracy and quality demands of today's industry and are successful in use world-wide. As a proud member of the PM-GROUP we are able to realize turn-key projects for our customers starting with design, project management, machining, assembly and after service.

Our activities

As a strategic business division of the PM-GROUP we are a leading company in the development, integration and manufacturing of linear guides, guiding systems, nano-positioning stages and mechatronical [vacuum] modules for several high-tech markets and Synchrotron initiatives.

Reference Projects

Our experience with particle accelerator projects and synchrotron initiatives started all ready a long time ago. We have good contacts towards the synchrotron activities with Brookhaven National Laboratory(BNL), Diamond Light Source(DLS) and the Paul Scherrer Institute(PSI). For many years PM-BEARINGS delivered complex ceramic bearings and they have already find a way to institutes as PSI. Furthermore we have a close relation with the Diamond Light Source(DLS) initiative in Great Britain. For DLS we deliver turn-key advanced beam-alignment modules combined with piëzo stage technology and sub-micron mechatronical integrated modules.

PM-BEARINGS Competences:

Machining of exotic materials (Composites, Glass, Duplex, Hastelloy, Inconel, Nimonics, Invar, AMC, Titanium, Ceramics and Stelliet) – from R&D to Serial production – Electro Chemical Machining (ECM) – FEM Simulation – Algor – CAD/CAM Design – Siemens NX7.5 – High Precision Machinery (sub-micron range) – Cryo Positioning Stages – Vacuum Positioning Stages – Nano Motion control
– Linear technology – Piëzo technology
– Nano-Positioning Systems – Mechatronical high precision modules
– System Integration – Cleanroom facilities ISO class 5-6 (>1000m^2)
– Vacuum cleaning – (U)HV and UCV knowledge
– Surface Treatment

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Precision Mechanical Production

Precision Mechanical Production is a flexible and innovative supplier, specialized in manufacturing of ultra-precision mechanical components for the High Tech industry.

Competences

- Since its foundation in 1998, PMP works proactively with customers in both the product development and the product realization process.
- Knowledge and Skills at the highest level of;
  - developing product- and process strategy
  - tool design and development
  - CAD/CAM
  - CNC machining
  - Aukom coordinate measuring technology (3D)
- An installed base of the latest machine tools at the forefront of technology;
  - 3-axis (max.2000x800mm) CNC machines
  - 5-axis (max. cube 600mm) CNC machines with loading robot
  - 3D measuring facility.
  - technical climatised production.
- Producing accurate, complex ultra-precision parts, with tolerances in the uM range.
- From prototype, single pieces to small and medium size series.
- Materials; aluminium, titanium and super alloys.
- The active quality assurance policy together with our safeguarded processes and procedures ensure our high quality to be continuously secured.

Markets

Semicon, Analytical, Optical, Medical, Defense and Aerospace.

PMP your "Partner in Precision"

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COO

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PMP
Precision Mechanical Production

PTB Special Equipment

Custom built material handling equipment

PTB Special Equipment is a manufacturer of non-standard mobile material handling equipment. Pallet trucks, pallet stackers and industrial tow tractors up to 50 tons lifting capacity.

References

The company has built special machines for many well-known business partners, including ASML, Mercedes Benz, Philips, NedTrain, APM Terminals, Hitachi and many others.
PTB Special Equipment brings non-existing solutions to reality.

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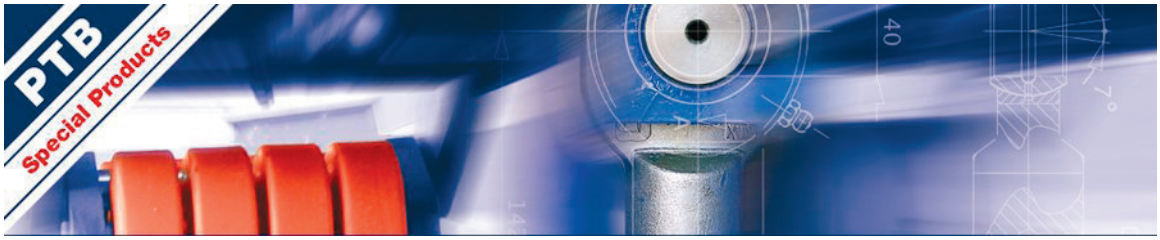

Q-Sys

"Q-Sys offers a unique service to motion system users. Whether your requirement is for a single system for research or development work or you are looking for a supplier of series production motion platforms, you have found the only partner you need. With its extensive experience in the specification, design and build of motion and positioning equipment, Q-Sys can take your basic outline or well defined specification and produce exactly the system you require, instead of trying to force an off-the-shelf product to fit your needs. The motion systems we produce use the very latest technologies to ensure performance to your exact needs, be it accurate motion control, precise positioning, stability, etc.

Q-Sys systems have applications in many varied industries and in every application there are a number of key measurables that defi ne system performance. These include geometric and positional accuracy, acceleration and velocity and, some times most importantly, system eigenfrequencies and bandwidth. By a combination of detailed design, modern CAD tools and experience, Q-Sys offers systems that precisely meet the requirements of the given application in a cost effective and timely manner.

As a manufacturer of systems rather than components, Q-Sys is able to pull together the very best hardware available, including motors, encoders, bearings, drive amplifiers and multi -axis motion controllers. At all stages of the design and build process, Q-Sys engineers can work as closely with you as you require. From the initial concept discussions, through feasibility study, CAD design and on to system build and test, your involvement is encouraged. This will take the form of regular discussions, design reviews and sign-offs and even witnessed acceptance tests to validate system performance to the quoted specification.

As an added service to customers, Q-Sys is able to off er complete turnkey system solutions. This provides a motion platform configured as part of an overall package, that may include, for example, a laser source for welding, scribing or cutting, a safety or controlled environment enclosure, integration to existing inhouse systems, etc. In these cases the overall system is designed with safety and CE conformity in mind and is delivered, installed and commissioned with full certification. This method ensures your process is up and running far quicker than normal and with minimal impact on your own internal resources.

Finally, Q-Sys offers a comprehensive technical support service for many types of motion systems, ranging from telephone support, through system service and repair, to scheduled preventative maintenance contracts for production systems where availability and reliability are paramount."

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Managing Director

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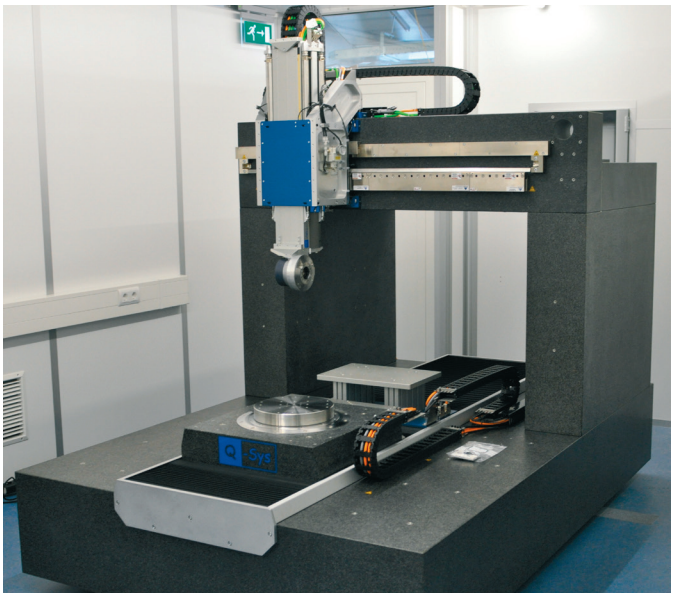

S&T

Science & Technology (S&T) has more than 10 years experience in the development of data analysis software for both engineering- and science data. S&T's expertise is applied in a wide range of domains, including space and earth observation, astronomy, oil and gas industry, navigation, and high-tech machinery.

Product information

The objective of S&T's data processing software is to extract as much information from sensor data as possible. The data processors systems are used to wide range of applications. These applications include (i) the extraction of scientific information from sensors such as Earth Observation sensors for atmospheric research and telescopes for space research, (ii) to derive an accurate estimation of a system's health so that imminent failures are recognized before they actual take place, (iii) to derive the exact positional information using various navigational sensors.
For System Health Management (SHM) applications S&T has developed the Uptime tool. This tool encapsulates the state-of-the-art SHM technology to avoid unnecessary downtime, alarm rate reduction, fault diagnosis, and the prediction of imminent failures.
Our scientific data expertise focuses on the analysis of large science data-sets, data visualisation, simulation, the development of software-pipe-line systems and calibration algorithms. The S&T expertise focuses on the (pre-) processing and visualisation of raw data and the generation of calibration key-data for level 0-1 and 1-2 data processors. In addition we develop user interfaces that allow quick-access to level 2 science and housekeeping data.

References

System health management for the ESA future launcher rocket propulsion – calibration and data-pipeline activities for the LOFAR radio telescope telescope – ITER NL vacuum leak detection and localization – data quality control toolbox (Quadas) used for ground- and space segments for missions such as SWARM, CroyoSat-2, Galileo, Sentinel-1, Sciamachy – on-ground and in-flight calibration activities for various Earth Observation missions such as OMI, GOME, Sciamachy, and Tropomi.

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Turnover: 6 M€ | 80 employees

www.stcorp.nl

s[&]t
dependable solutions

Uptime:
System Health Management
of Complex System

Schelde Exotech

Schelde Exotech offers her clients design, fabrication and testing of high quality and complicated equipment. Schelde Exotech offers a wide range of products of Exotic materials like: Nickel Alloys, Copper Alloys, Cladded Steel, Aluminium, Titanium, Tantalum, Zirconium, etc.

Product information

Schelde Exotech has a rich history, based on last century companies: AKF Goes, Schelde Boiler Division and Schelde MT-Products. Schelde Exotech was founded in 1998 and is a member of the VE Group since 2009.
Schelde Exotech is specialized in the design and manufacturing of 'Special Products'.
Special components – Vacuum systems – Heat exchangers – Reactors – Pressure vessels – Airfin coolers – Gasification burners – Super heaters – Repair and maintenance in Exotech facility – Repair and maintenance at client's site/facility
Schelde Exotech has a fully staffed Design Departement and uses modern design tools like: AutoCad (2D design program); Mechanical Desktop (3D design program); Inventor (3D modeling-design program); PV Elite (ASME Code calculations, PD 5500); Scades (RToD); BabsyWin (EN 13445 Code calculations, AD 2000); Ansys.
Besides special products and services Schelde Exotech is also a reliable partner for repairs and replacement projects. Schelde Exotech has a 24/7 helpdesk when it comes to emergencies. Schelde Exotech will mobilize a repair team at earliest possible convenience, usually available within a few hours.

References

Scientific experiments – Research Institutes / Universities – Nuclear energy – Oil & Gas – Energy – Defence – Particle physics – Chemical and petrochemical industry

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Jos Mols
Managing Director

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Turnover: € 20.000.000,00 |
100 employees; total capacity 240,000 man-hours

www.exotech.nl

Settels Savenije van Amelsvoort

Research, development and engineering of high tech products and equipment. The core of technology within Settels Savenije van Amelsvoort is mechanical engineering, process modelling and process engineering. Our company has in-depth knowledge of and experience in analyzing, specifying, developing and engineering products, processes and equipment. We are experts in translating the specifications of complex physical processes into working mechanical products. In our Strategic Management consultancy practice, we also audit technology enterprises and/or their departments. We implement and manage (organizational) change to improve their performance.

At Settels Savenije van Amelsvoort group of companies, we believe in continuous learning, communicating and inspiring. We value creativity and accurately describing and understanding things. To achieve this, we create a strong fundamental basis in our expertise: physics, mechanical engineering and control systems engineering. We encourage persistence in explaining the unknown and questioning unfounded decisions. Based on these fundamentals, we develop innovative technology, transforming ideas into functional products. We help people and organizations in their continuous improvement, enabling what was perhaps presumed to be impossible.

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settels savenije van amelsvoort
TECHNOLOGY - INNOVATION - INSPIRATION

Single Quantum

Single Quantum provides single photon detector systems for the most demanding scientific and industrial applications in the near and mid infrared. We offer reliable and easy to use complete detection systems, based on superconducting nanowire single photon detectors (SNSPD).

About us

Early 2012, Single Quantum was established as a spinoff from the Delft Technological University and scientific research funded by FOM and NWO. For wavelengths in the near and mid infrared, Single Quantum offers the best single photon detectors in terms of detection efficiency, noise levels, time resolution and reliability. We are the first company offering a complete SNSPD system with a built-in cryogenic cooler, which has the advantage of not requiring any external liquid helium supply.

Product specifications

Timing jitter: 50 ps – Dead time: <10ns – Spectral response range: 0.2-2 µm – No afterpulsing, no gating necessary

Quantum efficiency

Wavelength (nm)	Dark count rate (/s)	Quantum Efficiency (%)
800	<100	18
1310	<100	28
1550	<100	10

Applications

- Single quantum dot spectroscopy
- Photon correlation measurements
- CMOS defect analysis
- Optical quantum computing
- LIDAR
- Free space communication
- Time-resolved fluorescence measurements
- Quantum key distribution
- Optical coherence tomography

References

Heriot-Watt University – Hokkaido University – Stockholm University – Bristol University

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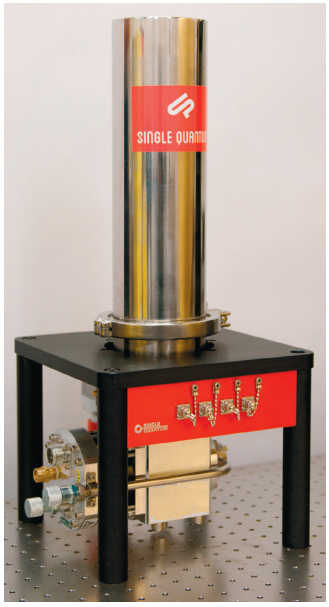
SINGLE QUANTUM



Smink Group BV

We (co-) develop, produce, supply and install components, sub-systems and complete installations in the high-purity industry.

Smink Group follows strict quality protocols accurately and supplies its products and services in accordance with the relevant standards including GMP and FDA.

This, combined with the company's flexible no-nonsense approach and high sense of quality,results in end products that are guaranteed to meet your specific requirements.

When you are a manufacturer, engineer, engineering agency or contractor and you have to take care of the construction or modification of a high-purity installation, why not challenge Smink?

Just tell us what you want.
Experience our problem-solving capacity, our personal commitment,
and our straightforward solution-oriented approach!

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Director

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www.smink-group.com

Smink GROUP
HIGH PURITY IS OUR PASSION

StreamComputing

StreamComputing B.V. is an international software development company based in the Amsterdam that specializes in speeding up software using the power of GPGPU computing. Using algorithmic optimisations and special coding techniques, the above three accelerators can outperform a CPU around 8 times on average. Our team consists of the best GPU-developers out there, conveniently nearby in the Netherlands. We have a track-record of speeding up code several thousands of times.

Experienced in:

- Large collision experiments
- Real-time Big Data processing
- Specialised linear algebra libraries
- Quantum chemistry/physics simulations
- Image and video processing.

Offered services:

- OpenCL, CUDA and OpenMP programming.
- Generic super-computer programming.
- Improving existing code (Python, Perl, C, C++, OpenCL, CUDA and more).
- Low-level programming.

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Director

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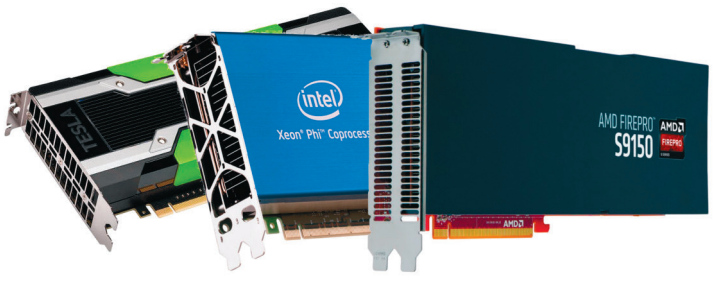

streamcomputing.eu

STREAM COMPUTING
Performance Engineers

Sumipro

For over 15 years Sumipro supplies high precision optics for customers all over the world. Sumipro advises medical, aerospace and defense industries and designs and produces optical products and systems for them.

Product information

Sumipro realizes custom made solutions for your optical challenges: human contact lenses, optics for night vision systems or reflectors for all kinds of light sources, etc.
Consultancy and design – Sumipro offers innovative solutions in design, engineering and rapid prototyping, choosing the right optical components and creating superior optical systems. Our engineers are specialized in designing aspherical and non rotational-symmetric optic components to achieve systems with high per-formance and less components.
Quality optics – Sumipro develops and manufactures optical components and systems with competitive prices and a very high degree of accuracy. Our inserts have tolerances in focus lengths within 0.1% instead of the typical 1 till 5%.
Mirror optics – Sumipro specializes in aspherical and diffrax surfaces for mirrors. Max. diameter 300 mm, Material: various aluminium alloys,copper, Arcap, or other machinable materials. Applications: Space, Imaging optics and Laser applications.
Specifications for mirrors – Geometries realized: Spherical and aspherical surfaces – Fresnel and diffrax patterns – Off axis mirrors – Parabolas and ellipses.

Form accuracies in general reach PV-values smaller than 350 nm with irregularity beneath 1 fringe (633 nm), depending on material and size.
Coatings – gold, silver, alumimium enhanced or protective (non oxidizing) coatings.
Infra red optics – Sumipro specializes in aspherical and diffrax surfaces for lenses, max. diameters 240 mm, most often realized in germanium, silicon and high purity float zone silicon (HPFZ): Applications:
Night vision – Thermal imaging optics – Space applications
Specifications for IR lenses – Spherical and aspherical surfaces; Fresnel and diffrax patterns; Off axis; Parabolas and ellipses. Form accuracies in general reach PV-values smaller than 350 nm with irregularity beneath 1 fringe (633 nm), depending on material type and size. Roughness values (Ra) typically reach values of 5 nm or less.
Coatings – Lenses are commonly supplied with AR coatings, ranging from 3-5 µm or 8-12 µm or variations. Reflectivity R < 0.5% or even smaller upon request. All IR coatings are compliant with most MIL-specifications. Besides AR we can supply front sides with DLCs

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Turnover: 1.5 M€ | 9 employees

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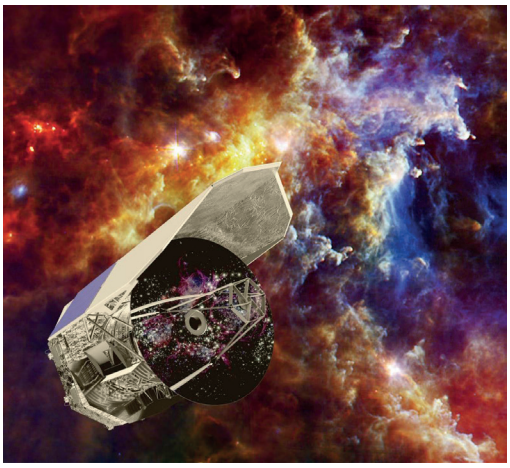

tbp electronics

tbp electronics is a leading Dutch integrated Electronics Manufacturing Services (EMS) company providing end-to-end product lifecycle solutions that include early involvement, Design for eXcellence, for Manufacturing and for Test (DfX, DfM & DfT), product development, procurement, pcb assembly and testing, test engineering, inspection, product- and cabinet building, repair, supply chain management and logistic services. The name tbp defines itself as being in 'the business of perfection' and strives to provide its customers with excellence in all key areas: the race for perfection has no finish line.

Since 1976 tbp has been serving customers in the semiconductor, media, entertainment, ICT, telecoms, graphics, industrial, petrochemical, construction, shipping, broadcast, science, medical and defence sectors. With over 130 employees tbp electronics is a privately owned company with its headquarters in Dirksland in the Netherlands. Our company is officially qualified ISO 9001:2008 and AQAP 2120:2009.

For more information, visit tbp's website at www.tbp.eu

early involvement that's…
one small step for tbp
one giant leap for manufacturing

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Tebulo Engineering BV

Engineering is the main activity of the Tebulo organization. Of the many projects which have been realized by Tebulo Engineering each year, approximately 80% is primarily engineering for the industry where innovation, development, improvement and creativity are key words.

With our engineering activities we serve the Steel-industry, Chemical and Petrochemical, Food, Public utilities, Energy companies, Nuclear-, Pharmaceutical- and the Automotive industry.
The projects relate mostly front-end engineering projects. However, parts thereof, such as studies, risk assessments, basic and detail engineering are important activities.

The projects are multi- or single disciplinary, where mechanical - and electrical engineering play a primary role. Obviously, civil and structural, Energy distribution (medium - and low voltage) Control technology, Measurement and control and Instrumentation as well as Installation technology have a share in our activities.
Beside our own control philosophy, programs are written for different manufacturer control systems and robots. Within our engineering department Turn-Key projects, where complete mechanization is developed and supplied, are of great importance. Our marking -, strapping – and de-strapping machines, which are supplied worldwide, are also part of our engineering activities.
The project-based approach ensures that projects are completed smoothly, with just 'timed' turn to the right disciplines.

Tebulo Engineering stands for:

"Technical experts driven by engineering".

John van Stek
Werving & selectie/business development

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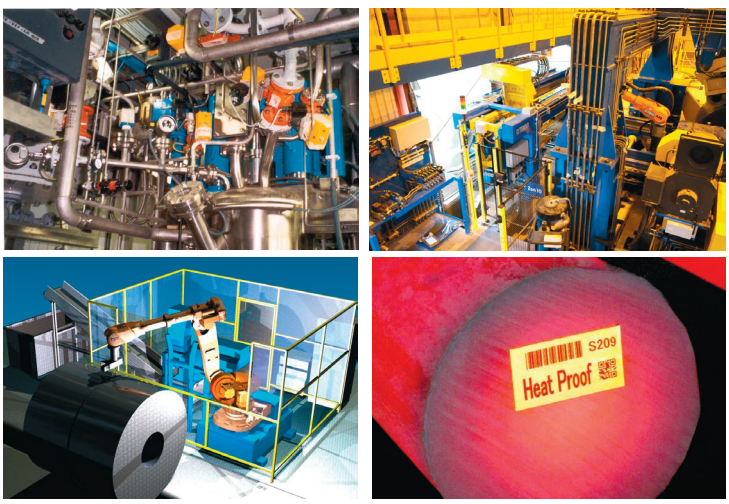
TEBULO

Technische Experts gedreven door Engineering

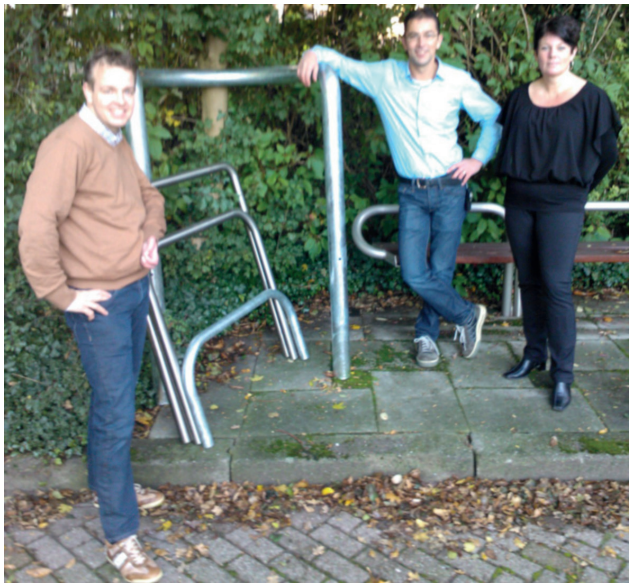


Tebunus Tube Bending

Flexible With Metal vindt u terug in onze gehele organisatie.

Als klant ziet u dat terug in: korte levertijd indien noodzakelijk (veel gangbare materiaalsoorten en afmetingen hebben wij op voorraad) een zeer breed spectrum van materialen welke wij kunnen verwerken waaronder vele kwaliteiten naadloos en gelast koolstof- en roestvaststaal, koper, diverse aluminiumlegeringen en verschillende soorten 'exotische' metaalsoorten diverse andere bewerkingen kunnen in eigen beheer worden uitgevoerd.

Voor u betekent dit dat u één contactpersoon heeft voor uw complete opdracht en dat de uitvoering in betrouwbare handen is. Wij investeren continue in ons machinepark, uitbreiding van onze buiggereedschappen en in de vakbekwaamheid van ons personeel. Zo zorgen wij dat u altijd die kwaliteit krijgt waar u om gevraagd heeft.
Onze specialiteit is bocht met kleine radius wat de ontwerpmogelijkheden vergroot. Een buigradius tot 1 x de diameter van de buis is mogelijk in specifieke pijpsoorten. We buigen buizen en pijpen van 2 tot 114,3 mm diameter in staal en RVS en tot 168 mm diameter in aluminium. Levertijden tot enkele dagen bij kleine partijen behoord tot de mogelijkheden.



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Tebunus
FLEXIBLE WITH METAL

TechMasters BV

About TechMasters b.v.

With many years of experience in the fields of development & engineering of industrial products, test-/ calibration equipment and mechanization/ tooling, TechMasters has been appeared a valueable partner for the industry.

Our company

We are pur sang mechanical/ mechatronical developers/ engineers with a broad experience. We can act from idea up to and including delivery but also for assistance/ sub contracting in projects like (re)design, (value)engineering.

Core competences

- Precision technology
- Fine mechanics
- Vacuum & Medical technology
- Robotics & Mechatronics

Markets

- Analytical & Medical
- Science & Technology
- Semicon
- Research institutes
- Aerospace

References

VSL/NMi – Shell – MAPPER – KROHNE – ESA/ESTEC – Fokker – TNO

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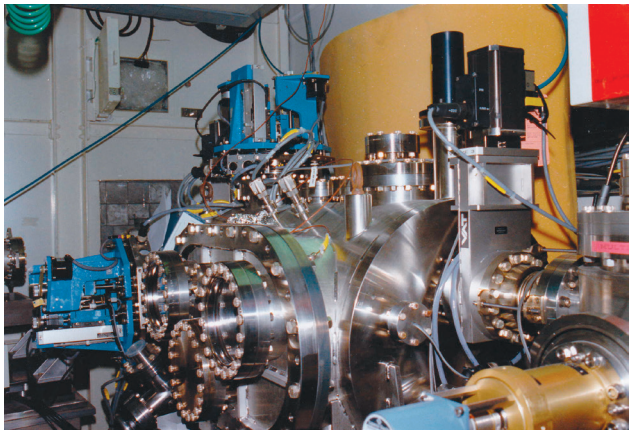
TECHMASTERS



Technobis Group

Technobis Group is a developer and supplier of high-tech instruments and modules for the most dedicated national and international OEM companies.

Core competencies: photonics, mechatronics, assembly and testing

Technobis Mechatronics: Technobis Mechatronics specializes in complete product development projects, from the initial idea to a successful turnkey product, prototype or series product.

The main scope for which we use our technologies and competences are amongst others the complete turnkey delivery of:

- Inspection / measuring systems
  - Probe manipulators
  - Optical inspection systems
- Handling systems
  - Servo driven manipulators
  - Gripper units suitable for harsh environments, remotely operated
  - Vacuum chuck units suitable for harsh environments, remotely operated
- Design and engineering of graphite, carbon reinforced carbon and other ceramic parts used for the handling of products in a harsh environment.
- Life science instruments
  - Crystallization research
  - Confocal fluorescence microscopy

Technobis Fibre Technologies

Technobis Fibre Technologies specializes in the development and supply of total solutions in high-speed, high-resolution and multi-sensor fibre interrogators and sensors.

Optical fibre sensors find widespread use in a multitude of applications due to their small size, light weight, inertness to chemical substances, ability to withstand high temperatures (~900°C) and immunity to electromagnetic interference. As a result, optical fibre sensors are frequently used for applications such as structural health monitoring, condition based maintenance and other specific sensing applications. Technobis Fibre Technologies current interrogator systems allow resolution levels ranging from 1 picometer down to 2 femtometer wavelength shifts, allowing the user to detect nano strains at speeds up to 80 kHz or higher. This is of great benefit in a large number of highly demanding applications. In order to meet growing demand from the market, Technobis Fibre Technologies has initiated a trajectory to develop Photonic Integrated Circuits for the new generation of interrogators capable of meeting at least the same specifications.

References

ASML – Fei – Airbus – Boeing – NLR – Tata Steel – Vistec – Polytec – IHC – RGS development

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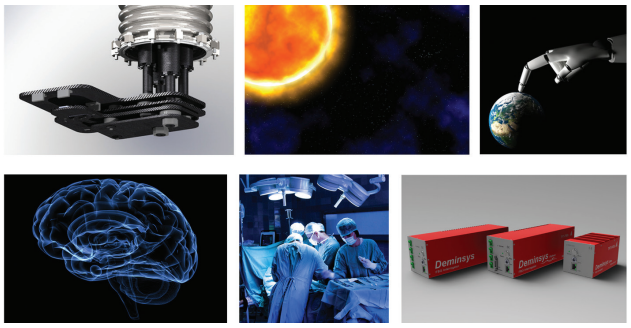
Technobis Group



Ter Hoek Vonkerosie

Ter Hoek Vonkerosie – co-engineers with practical know-how

Completing orders for the construction and machining of tools and components whose complexity demands leading-edge solutions bordering onto the impossible is a challenge that Ter Hoek thrives on. With a high level of technical know-how and high-tech machinery, Ter Hoek has become the European market leader at the very highest level. Through co-engineering, Ter Hoek solves issues in which extreme dimensions, accuracy (to 1 µm) and materials play a major role.

The most important markets are the semiconductor industry, aerospace, medical industry, energy and offshore. For these high-tech industries Ter Hoek has distinguished itself as a 'problem solver' because it is able to translate a client's request into a technically practical solution. Using fully- acclimatised rooms.

Laser MicroJet technology

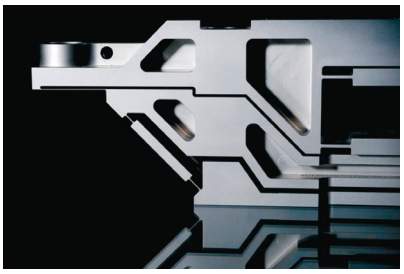
Ter Hoek has invested in an new technique, the Laser MicroJet technology from Synova enables it to machine non-conductive materials to within microns. This laser cutting technology is completely different from conventional lasers. As the laser is surrounded by a 30-µm water jet, no focus point is required and square edges are possible. This new technology substantially reduces the lead times for certain products.

Investments

Ter Hoek has also invested in three new EDM machines. The Form 400, Form 30 and the Cut 1000 from AgieCharmilles. The Form 400 is the largest die-sinking electrical discharge machine produced by AgieCharmilles and has a working range of X-900, Y-700, Z-500 mm; the weight of a workpiece can be up to 4,000 kg. Thanks to the special hole in the machine's clamping bed, which is Ø 650 mm and 750 mm deep, it is possible for workpieces to be machined vertically. The Cut 1000 is a special thin-wire machine for wire diameters of between Ø 0.02 and Ø 0.03 mm. Because traceability is becoming increasingly important for Ter Hoek, it has also invested in a laser engraving machine, which ensures optimum product traceability.

Higher level

In order to take the company to an even higher level Ter Hoek is currently undergoing AS9100 (aerospace) certification and is aiming to be granted its certificate in its 25th anniversary year (2015).



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TER HOEK
vonkerosie

Tessella

Tessella is the international provider of science powered software technology and consulting services. World leading organizations choose our unique blend of science, software engineering and sector expertise to deliver innovative and cost-effective solutions to complex real-world commercial and technical challenges. Our people are high achievers from leading universities and are passionate about delivering value to clients; more than 50% hold PhD qualifications. We are proud that our work makes the world a better place to live in: developing smarter drug trials; preserving the digital heritage of nations across the globe; minimizing risk in oil and gas exploration; controlling the orbit and attitude of satellites; researching fusion energy.

Services

IT Consulting Tessella IT consulting services advise businesses on how best to use information technology to meet their business objectives. We provide a broad range of IT consulting skills that include: business analysis, IT strategy, supplier selection and IT architecture.
Technical Consulting With over 100 PhDs in the company, and a broad experience in academic and industrial research across a wide range of sectors, Tessella constitutes a world class problem solving engine able to bring novel ideas and innovation to your business.
Science Powered Software Development & Systems Integration has been at the heart of what we do for over 25 years. In that time we have designed, built and deployed thousands of successful software systems and IT projects, for hundreds of clients.

References

Tessella customers include: JET fusion research laboratory – ITER – TNO – Deltares – European Space Agency – Dutch Space – Rutherford Appleton Laboratory – Diamond Light Source – AkzoNobel – Unilever – Shell – Koninklijke Bibliotheek

"Tessella's background in science and their professional approach to system design and development means we have been able to significantly increase our overall capacity, efficiency and quality." — Aart Wismeijer, Senior Researcher, High Throughput Experimentation. AkzoNobel

"…Tessella really understands R&D users and processes. This translates into responsive levels of support, and a real appreciation for how each application can be enhanced going forward." — Pete Keeley, Innov8 Programme Manager, Unilever

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Operations Manager

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Turnover: €23M | 240 employees

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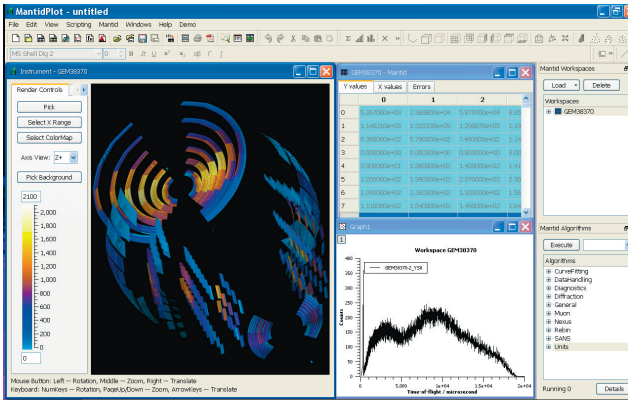
Tessella
Technology & Consulting



Thomas Thor Associates

A brief description of our business and main areas of expertise

Thomas Thor Associates provide Recruitment and Executive Search services to the global nuclear industry. Our clients include governments, regulators, utilities, operators, equipment manufacturers and supply chain organisations across the nuclear industry. With offices in Europe and the Middle East, we are set up to recruit nuclear professionals for our clients on an international scale. Our staff is multinational and multilingual and we have a live network of over 23,000 nuclear professionals globally.

What makes us different to our competitors?

- We are completely focused in the recruitment of professionals for the nuclear industry, both temporary and permanent staff.
- We have a successful track record in recruiting nuclear specialists for international clients and consortia.
- We are specialists in the international relocation of nuclear professionals.
- We represent multinational and multilingual experts in the nuclear industry.

Our network of candidates includes internationally mobile project and engineering specialists in new build, commissioning, operation and decommissioning in the following disciplines:

- Executive and Board Level Positions
- Project and Programme Management (design, construction and commissioning)
- Project Support and Control (Planning, Contract, Cost, Time Schedule)
- Safety (deterministic and probabilistic)
- Quality, Human Factors, Human Performance and Risk Management
- Licensing and Regulatory
- Process and Design Engineering
- Procurement, Supply Chain and Supplier Management
- Senior technical specialists – areas including I&C, HVAC, Thermo hydraulics, Reactor Physics
- Plant Operations and Maintenance
- Waste management and decommissioning strategy

The services that we offer

- Provision of interim/temporary consultants
- Recruitment of permanent staff (contingency, retained search, executive search and campaign management)
- Industry information and survey results

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Marketing and Sales Intern

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Thomas Thor associates

TNO

It is TNO's mission to help the advanced Dutch industry in innovating. One of the focus areas of TNO is Big Science with activities in ground based astronomy, nuclear fusion, CERN/CLIC as well as in space instrumentation and other projects.

Product information

TNO provides system architecture, multi-disciplinary (pre)design, alignment plans and execution, calibration plans and execution, and control of high-end opto-mechanical instruments and mechanisms. Realization and delivery of these systems is preferable done with industrial partners, certainly for larger instruments and for series production. Thus, TNO hopes to open new markets for these industries.
The instruments that TNO develops are characterized by picometer stability and sub-nanometer positioning accuracy; often operating in extremely hostile environments with long life time; and where necessary with intelligent image interpretation.
TNO's expertise in (adaptive) optics, mechanical engineering, control, image processing and contamination control enables the development of a wide range of complex instruments and mechanisms. Our flexure or magnetic bearing-based mechanisms have low friction and zero hysteresis. We produce quality optics with low wave-front error from a variety of materials including Aluminium, Fused Silica, Silicon Carbide and Molybdenum. We know how to prevent, monitor and remove contaminants, ensuring long life times. And our abilities to process and interpret images are worldwide unrivalled.

References

For nuclear fusion, TNO developed endoscopes (CXRS, Lidar), a control system for the plasma, contamination control tools and image processing for *in-situ* repair. For ground based astronomy,
TNO has been playing important roles in the ESO programmes VLTI and E-ELT on delay lines, mirror actuation and laser launchers. TNO has developed tools for extreme precise measurements and control on aspherical optical parts and for rapidly finding particles on wafers. TNO's experience in space is applied in HIFI for Herschel, metrology for Gaia, OMI and soon also TROP-OMI and delay lines for Darwin. Important commercial customers of TNO in the field of high-end optomechanics are ASML and Carl Zeiss.

Bart Snijders
Business Development

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Turnover: 494,6 M€ | 4,400 employees

www.tno.nl

TNO innovation for life

Tree C

Tree C Technology B.V. develops 3D simulation technology and builds advanced simulators for training, procedure design- and validation, remote handling and research. We serve a wide range of international clients in the maritime, offshore construction, oil & gas, heavy lifting, dredging, nuclear and related industries as well as a large number of universities.

Product information

The success of R E M O T E H A N D L I N G will be a key factor in the safe exploitation of fusion energy. VR-4Robots® offers the best combination of interactive visualization and remote handling technology to prepare and execute the demanding RH-tasks in ITER.

VR4Robots® enables you to define, visualize, animate, simulate and interact with robots and manipulators in a virtual world. The environment may include digital mockup's based on 3D CAD data. Complex 'behaviours' of robots, cameras, animations, movement constraints and collision properties can be added to the environment to improve realism. VR4Robots® is capable of handling the largest full scale mock-up facilities with the aim to prepare, demonstrate and execute remote maintenance, and to develop the remote maintenance operating procedures to facilitate development of components.

References

- DIFFER (Dutch Institute For Fundamental Energy Research), NL
- JET (Joint European Torus), UK
- Oxford Technologies, Ltd., UK
- (image Remote Handling Control Room, courtesy of Oxford Technologies, Ltd.)

Gerard Weder
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TREE C
TECHNOLOGY

VR4Robots

Vacutech B.V.

For almost 30 years we have been manufacturing and assembling vacuum technology and precision engineering products at the highest level for various industries. For our clients and ourselves only absolute precision and the highest quality are good enough.

Creative precision solutions

Another characteristic of Vacutech is that we always focus on solutions. The word 'impossible' is not part of our vocabulary. With passion for our specialism as our basis, we see it as a challenge to come up with inventive solutions for complex assignments. Whether it relates to a single component or a complete composition or sub-composition.

Working together the way you prefer

Vacutech has everything it requires to carry out your assignment successfully. From design, purchasing, manufacture and assembly right up to functional testing: we can take care of the whole process for you. But you can also call us in for just one of these specific processes and, if necessary, we will bring in the expertise of third parties. It is up to you to decide how we work together.

Our professional skills make the difference!

We are a reliable and constructive partner for every client due to our know-how and commitment. For manufacture and assembly, we have access to experienced skilled staff and extensive production facilities.

Distinguishing features of Vacutech

- Vacuum technology
- Cryogenic technology
- Manufacture
- Assembly
- Innovative approach
- Solution-oriented help
- Utmost precision
- High quality

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Manager Sales

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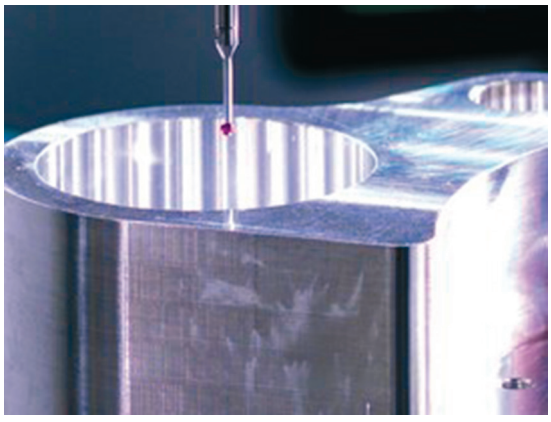
www.vacutech.nl

VACUTECH
VACUUM EN PRECISIE TECHNOLOGIE



Vacuüm Specials

Vacuüm Specials B.V. is specialised in the implementation, construction, manufacturing of components and subsystems and the realisation of complex projects on a turnkey bases regarding Vacuum technology and Cryogenic Applications.
Vacuüm Specials prefers to work in a "Partnership" relation rather then in a strict Customer - Supplier relation.

Vacuüm Specials B.V. originated from the Vacuüm Specials branch of Leybold B.V. in The Netherlands and obtained independent status from 1 July 1997.

From its establishment in 1975, Vacuüm Specials has delivered – both in Holland and abroad and to the fullest satisfaction of its customers, a variety of projects, resulting in an expertise in the field of vacuum technology and cryogenics applications.

All company processes take place following fixed procedures in accordance with ISO 9001:2008. After having prepared a tender followed by the acceptance of a purchase order, project progress is set out in consultation with the customer in a project planning.
Hereafter engineering takes place, in close cooperation with the customer, using SolidEdge or AutoCAD. Exchange of drawing files and project communication takes place by means of E-mail.

After the drawings have been approved by the customer, production commences where quality monitoring is an ongoing process.

References

Nuclear Gas Industry (pump sets, leak testers, production machines, automatic LN2 fillings systems), ESA/ESTEC and TNO (space simulation cambers, thermal vacuum systems and LN2 filling systems), ASM (special spool pieces and traps), Omicron (Liquid Helium Cryostats for low temperature scanning Probe Microscopes), Oerlikon Leybold Vacuüm (Chambers and special products), Mapper Lithography (chambers and special products) , Zeiss (special products), Linde (LHe transfer lines) and DCA Finland (UHV Chambers up to 1000COF.

Jan Bos
Managing Director

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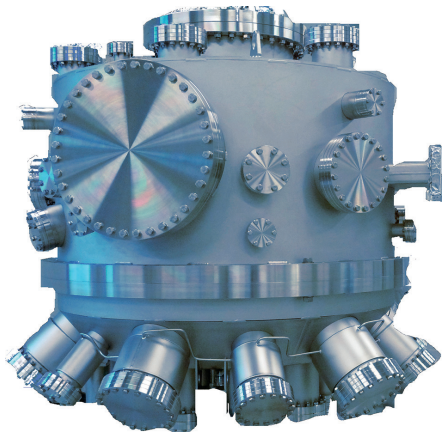
Turnover 2.1M€ | 13 employees



www.vacuumspecials.nl

VACUÜM SPECIALS

Van Halteren BV

Company profile

Van Halteren Special Projects (VHSP) is part of the Van Halteren Group which has the following business activities: High Voltage Products, Defence and Industrial Services. The group is and independent family owned business with production facilities in The Netherlands, Poland and India.

VHSP aims for multidisciplinary projects where competences as advanced heavy machining, certified welding, assembly and commissioning are a requirement. Our production facilities in Bunschoten comprises 12.000 Sqm. equipped with state-of-the-art machinery, a modern construction shop and conditioned measuring facilities. Our staff is motivated, skilled and very experienced.

Markets

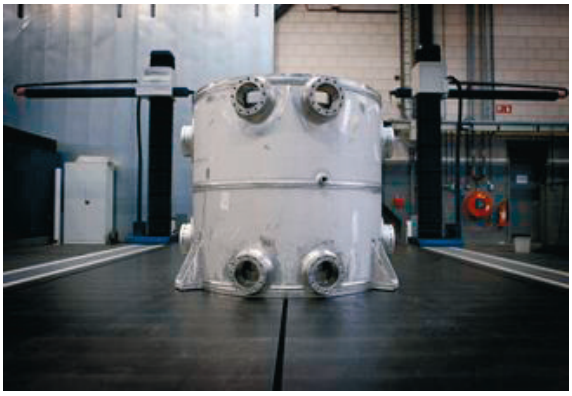
- Offshore
- Oil, gas and mining
- Applied science
- Shipbuilding
- Defence
- Sustainable Energy

Competences

- Advanced heavy maching
- Certified welding
- Project management
- Assembly, Integration & Commissioning
- Engineering
- Measuring up to 6 meter

Products

- Road wheels
- Simulators
- High voltage switches



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VAN HALTEREN

VDL Enabling Technologies Group

VDL Enabling Technologies Group is a globally operating tier one contract manufacturer of parts, mechatronic modules and systems. VDL ETG focuses on long term / strategic partnerships with its customers.

Product information

VDL ETG provides solutions based on its core competences: Precision Technology, Vacuum, Material Handling, Material Positioning, and Industrialization. This throughout the entire product life cycle: basic research, proto typing, ramp-up, volume, and end-of life.

Products

Mono parts, complex high-end modules, complete (mechatronic) systems.

Markets

VDL ETG serves a number of OEM industry key segments: Semiconductor Equipment, Analytical, Medical, Solar, LED, and Science & Technology.

Science & Technology

VDL ETG is specialized in the (co)development and manufacturing of high precision parts, sub-assy's, complex modules. All products require high / ultra precision turning & milling, high-end metrology, bonding, RF testing, and heat & surface treatments. The defined production strategy determines yield, cycle time, and cost of ownership. Our strength is to rapidly translate highly innovative, complex product designs into tangible products ready to enter small series production. Typical key markets within Science & Technology: accelerator, FEL, aerospace, and instruments.

References

Semiconductor Equipment: ASML, AMAT, KLA Tencor, CymerAnalytical: KLA Tencor, FEI – **Medical**: Philips, Elekta, Waters – **Solar & LED**: AMAT, Veeco – **Mechanization Projects:** P&G, Kellogg's, Bosch – **Science & Technology**: ESO, ESA, ESRF, TNO, PSI, CERN

Cees Coolen

Business Manager Science & Technology

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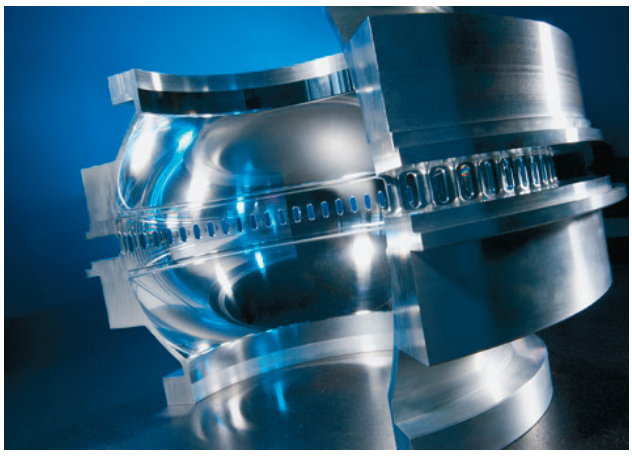
Turnover 2011 E500M | 1750 employees

www.vdletg.com



VDL Fibertech Industries

"VDL Fibertech industries is your partner in providing large series of state-of-the-art composites for high tech demanding solutions. Our fully equipped engineering team builds on decades of experience combined with efficient and the latest composite production technologies."
"VDL Fibertech industries is your partner in providing large series of state-of-the-art composites for high tech demanding solutions. Our fully equipped engineering team builds on decades of experience combined with efficient and the latest composite production technologies."
VDL Fibertech Industries is one of the oldest composite companies in the Netherlands. Through cooperation with the customer we look at countless of possibilities that composites offer to create a product that offers a substantial added value to a variety of products.
Our production facilities make it possible to produce both very small and very large sizes (3 x 5 m), combined with a typical series size from a few dozens per year to ongoing large series. The end result is a product that we are proud of and from which you can achieve enormous benefits in your application. ISO14000, ISO13485 and UL certificates guarantee our high and constant quality of work.
As part of VDL Group and building on 40 years of experience we have a lot of experience within our walls. Combine this experience with our state-of-the-art production facilities and team of experienced engineers and the outcome will be a composite that we can be proud off. A composite product that will bring you added value.

Engineering

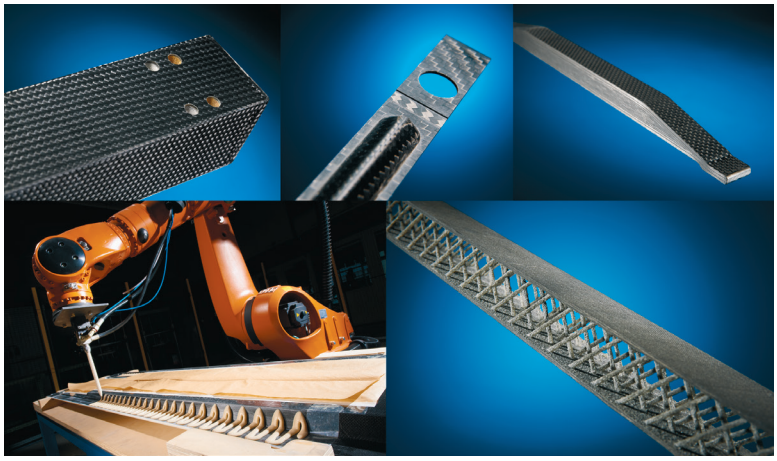
- >90 jaar cumulative experience
- Pro-E
- Abaqus FEM

Production

- 12.400 m2 Production surface including cleanroom
- 2D Fiber Cutter
- Gelcoat/Paint Cabins
- Robotized pre forming
- Hot pressing
- RTM up to 2x4 meter
- VAR RTM up to 3x5 meter
- Continue Sandwich Panel production (Acrosoma®)
- RIM
- 5-axis CNC + Robotized contouring
- Robotized Assembly

Quality

- ISO13485, ISO14001
- 3D CMM
- X-Ray/NDT
- Pullbench
- 3D Laser radar



Michiel Wassink
Managing Director

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VDL Fibertech Industries

Velmon Lastechniek

Velmon Lastechniek BV is a company for all kind of stainless steel tubes solutions. Many years of experience with cryogen-, food- and pharmacy industries. Assembly and welding in workshop and on site!

Product information

Manufacturing and orbital welding of stainless steel pipe sections and pipe joints. Orbital welding with closed chamber and open weld head, range from ø6mm until ø168.3mm. Series from 1 – 1000+, X-rayed, pressure test, helium leak-tests (max. $1x10^{-9}$ Pa m^3s^{-1}) and oxygen clean treatment. ISO 9001 and ISO EN3834 (under construction) MIG-welding (GMAW), TIG (GTAW) certificated EN287-1 and EN1418.

References

CERN – Corus steel – TEVA Pharmachemie – Trelleborg – Klinger-Picoff – Kenz-Figee – Tekoma – Cofely

Bert van der Velden
Managing director

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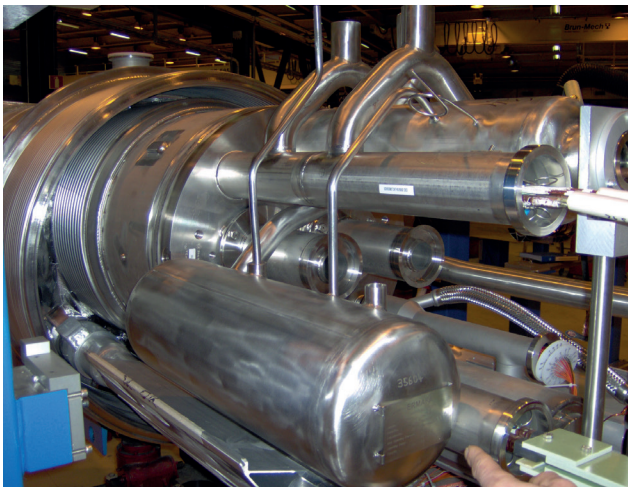
Turnover: Velmon Lastechniek BV1,3 M€ | 10 employees
Turnover: Velmon Group 4,5 M€ | 38 employees

www.velmon.nl



Vernooy

Vernooy is a distinguished specialist in vacuum technology and in developing and manufacturing vacuum parts and equipment.

Product information

Vernooy is specialized in vacuum engineering - process control, from design to final execution. Products are made according to customer's specifications or according to designs by Vernooy's engineers. For more than 60 years, VERNOOY Vacuum Engineering has developed and fabricated high quality vacuum- and vacuum related components for research, semiconductor, display and solar industry.

Vernooy has a balanced and sophisticated machine shop with CNC lathe and milling machines, in combination with TIG- welding and robotic welding. It offers the following capabilities:
– Milling up to 6000mm × 1600mm × 2000mm – Turning swing of 1500mm × 2000mm length – TIG Welding by hand en robot – Vacuum Leak testing – Clean room packing

All activities are executed by highly trained vacuum engineers. Flexibility and quick response are held in high esteem in the company. As a consequence of the great experience in designing, manufacturing, vacuum testing, clean room building and packaging of various vacuum components, Vernooy can be your valuable partner.

References

Vernooy realized and completed the delivery of most of the mechanical parts for Magnum-PSI for the FOM-institute DIFFER (the Netherlands). They are completely produced by Vernooy Vacuum Engineering.

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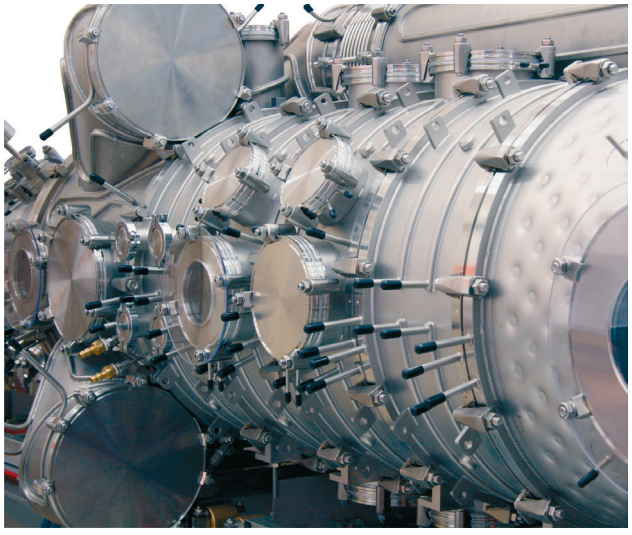
Turnover Vernooy: 4 M€ | 23 employees
Turnover Triumph Group: 20 M€ | 120 employees

www.vernooybv.nl



VIRO

VIRO for full scale engineering solutions

VIRO is a Dutch, private owned international engineering company with +600 FTE and offices in the Netherlands, Germany and Austria. We develop complex high-tech machinery and (chemical) plants for major international companies.

Specific expertise

- Mechanical engineering
- Engineering analysis
- Multi-disciplinary projects
- Project management
- Systems engineering

Design tools: Catia (V4 and V5), Inventor, Unigraphix NX, Pro/E, AutoCAD, and others

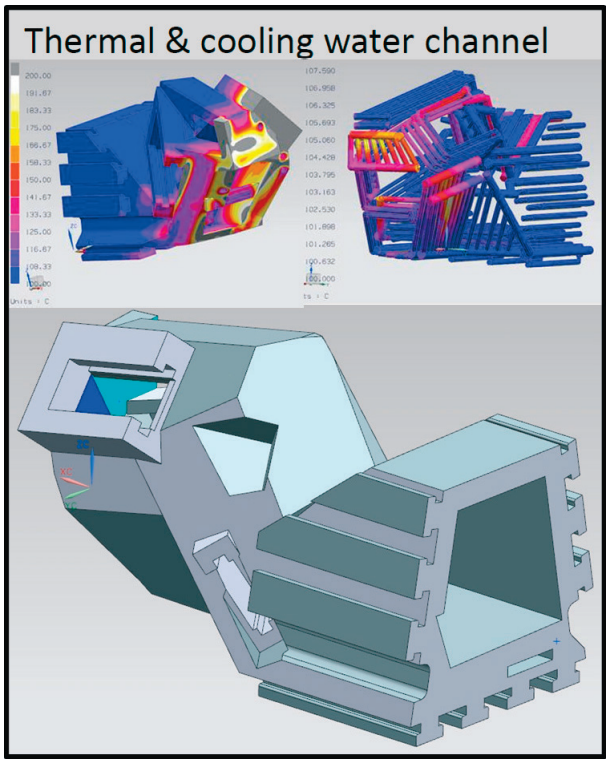
Analysis tools: MSC.Patran& MSC.Nastran, FEMAP, ANSYS, I-Deas, NX advanced Flow and Simulations, and others

Customers include: ASML, NXP, DAF, Airbus, MAPPER, Astron for which we design anything ranging from modules to complete machines including project management.

Quality: NEN-EN-ISO 9001:2008 and VCA++

Reference projects

- ITER NL concept design front dynamic shield module (see image)
- Vacuum chamber design (> 2 m^3) for a semiconductor company
- Various high precision verification / test / integration machines and tools including procedures for assembly; verification and operation.
- Development of "Glass". This system is used as a laser beacon to correct atmospheric interference on the WHT (William Herschel Telescope)
- Many other high tech and multi-disciplinary projects



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VIRO

the performance of technology

Wijdeven Group

WijdevenGroupisaleadingDutchcompanyindeveloping,engineeringandmanufacturingcutting-edgemagneticfields forbothmotionandpowergenerationforhigh-endapplications.

Productinformation

WijdevenGroupprovidesinnovativecompletemagneticsolutionsbuildingonmorethan70yearsofknow-howandexpertisesinthefieldofadvancedmagnetictechnologies.

WijdevenGroupdevelopsandmanufacturesmotionandpowermagneticcomponents,(sub-)assembliesandsystemsthatincludevariouscoils,permanentmagnetsandpassivecomponentsliketransformersandinductors.

WijdevenGroupisaglobalcompanywithherheadquarterslocatedinOirschot(theNetherlands)andajointventureinChina,offeringleadershipbothincostreductionandtechnology.Indoingsowestrivetoprovideexceptionalvaluesforourcustomers.

Wijdevengroupisaqualitycompanywithgreenmindsetforourenvironment,withbothISO9001andTS16949certified.

References

ASML–Philips–NXP–GEsecurity–Thales–Honeywell–BOSCH–XEROX

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Account Manager – Business Unit Motion

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Turnover: 20M€ | 110 employees

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WIJDEVEN

Wilting

Wilting is your international partner for the industrialisation and production of high-quality precision components, assemblies, and assembled components. Wilting has been a supplier in the high-tech industry for over 30 years. Our customers are European OEMs that compete globally, Universities and knowledge institutions.

Based on our vast experience in machining Wilting developed into **"Specialists in Manufacturability"**. Therefore, we want to be involved during the engineering phase of your products. In order to be committed during the industrialisation and production of your high precision complex components and/or modules. This enables our customers to focus on innovation & development, and sales & service.

Wilting's Core competences

- **Specialists in high-precision components**
  Outsourcing the production of your high-precision components to Wilting means quality assurance during production and competitive prices due to 24-7 low-manned production.
- **Specialists in assembly and supply chain management**
  Have Wilting take care of your assemblies and supply chain management and you will experience flexibility thanks to project-driven or process-driven assembly (if required in a well-equipped cleanroom).
- **Specialists in value chain management**
  Let Wilting take responsibility of your assembled parts (parts that require a series of different production technologies like milling, welding, brazing, cleaning, etc) and you will benefit from unique innovative solutions through cooperation with a strong network of compatible partners. Furthermore Wilting will engineer an optimal production chain due to a multidisciplinary approach in the process design.

Markets

Semicon Equipment, University and science, Aerospace, Food processing equipment.

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Sales director

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Xpress Precision Engineering BV

Xpress Precision Engineering develops and commercializes ultra-precision metrology solutions. Our core business consists of two product lines.

First, we develop and sell products for precision coordinate metrology. This includes 3D tactile probes, controllers and nano CMMs. Secondly, we offer ultra-precision engineering services where we develop solutions for a wide range of customers, e.g. (metrology) institutes, universities, high-tech industry and manufacturers of metrology equipment. Projects usually are a combination of precision engineering and metrology / sensors / measurements.

Ultra precision metrology solutions

A good example of our capabilities is our TriNano coordinate measuring machine (CMM). The N100 model achieves a repeatability of 2,4 nm and a volumetric 3D uncertainty of 100 nm, making it one of the most accurate 3D metrology tools available. The innovative design results in a cost-efficient and highly stable machine that is capable of high speed scanning measurements. This makes TriNano the first nano CMM that is ready for industrial applications.

Furthermore, we offer various 3D scanning tactile probes. Our flagship probe, the Gannen-XP, has a 2 nm repeatability in any direction and a combined 3D uncertainty of 50nm, which makes it the most accurate 3D probe on the market. Additionally, Gannen probes can measure with spheres as small as 50 micrometer in diameter and can achieve micro Newton probing forces. The latter enables a user to measure even soft materials in true 3D without damaging them. All our probes are compatible with various CMM brands.

Ultra precision engineering services

Xpress provides advanced design and engineering services related to metrology and high-precision positioning for our customers. Customers range from global companies to start-ups and small businesses. We solve your challenge, from initial concept to prototyping, calibration and turn-key delivery.

We are specialized in: metrological design, precision mechatronics, kinematic design, opto-mechanical design and controller design.

Ernst Treffers
Director Business Development

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XPRESS
Precision Engineering

ultra precision metrology solutions & engineering services

ILO's for Big Science

Name ILO / Affiliation	Email	Facility / organisation	Theme
Eric W. Boom	ericboom@upcmail.nl		Representing the Dutch Industry
Toon Verhoeven (FOM-DIFFER/ITER NL)	A.G.A.Verhoeven@differ.nl	ITER (F4E) – FR ESS/RID – SE JET (EFDA) – UK Asdex-U* – DE Wendelstein-7X* – DE IFMIF* (IEA)	Fusion facilities
Rob Klöpping (FOM-Nikhef)	klopping@nikhef.nl	CERN – CH ESRF – CH ILL* – FR EMBL – DE DESY* – DE Neutrino Telescopen	Accelerator, neutron and X-ray facilities
Wilfried Boland (NOVA + ESO)	boland@strw.leidenuniv.nl	E-ELT ALMA	Optical telescopes
Emiel van der Graaf (KVI)	vandergraaf@kvi.nl	ZFEL – NL, Groningen XFEL* – DE	Free electron laser facilities
Ronald Halfwerk (ASTRON) **Michiel van Haarlem**	Halfwerk@astron.nl Haarlem@astron.nl	LOFAR – NL SKA SKA	Radio Telescopes
Gerard Cornet (SRON en NSO) **Paul Hieltjes**	G.Cornet@sron.nl P.J.Hieltjes@sron.nl	ESA ruimtemissies	Space observation satellites
Daniel van Beekhuizen (NSO)	d.vanbeekhuizen@spaceoffice.nl	NSO	Space
Alex Schoenmakers a.i. (Pallas))	sAlex.Schoenmakers@pallasreactor.com	Pallas	Pallas reactor, medical isotope production and energy
Martin van Breukelen (HFML)	M.vanBreukelen@science.ru.nl	HFML – NL, Nijmegen EMFL – NL, FR, DE	Magnets with ultrahigh fields
Walther Lenting (NIOZ)	Walther.Lenting@nioz.nl		Coastal and Marine Research (including deep sea research and technology)
Rob van der Mei (CWI)	R.D.van.der.Mei@cwi.nl		National research institute for mathematics and computer science in the Netherlands

NOTES

Overview of companies

	*	Speciality		Management /syst eng	Development	Engineering	Production	Test & measurement	Technical concultancy	Area						
										Metal		Mechatr.	Cryo	Vacuum	Electronics	Software
		Discipline	Technique							Large	Small					
3D Metal Forming		*metal forming*	*explosion*							x						
3D Worknet	S		*3D printing*													
4DSP BV		*Analogue & dig. electr.*	*FPGA*			x			x						DSP and data acq.	embedded
ACE		*Mech. Engineering*		**x**	**x**	**x**										
ACQ Inducom	S		*FPGA*	**x**	**x**	**x**	**x**	**x**							*Digital*	*embedded*
Actemium E&A	L	*Elect. Engineering*	*PCB; controllers*		**x**	**x**	**x**	**x**				**x**			*High volt. power supp.*	
Active Space Technologies																
Admatec		*Ceramics*	additive manufacturing				**x**									
Advanced Electromagnetics BV		*magnets; motors*			x	x	x	x								
Advanced Solutions NL	V	*electr. hardware*	*simulation*		x	x									*DSP*	*embedded*
Airbus Defence and Space Neth.		*aerospace*	*mechatronics*	x	x	x	x	x	x			x		x	x	x
Amstel Engineering BV	M	*Mech. Engineering*	*3D Design&Drafting*		x	x	x	x	x		x	x				x
Amsterdam Scientific Instr.	S	*detectors*	*particle and X-ray*		x	x	x								x	
AR Benelux BV		*test&measurement*				x		x							x	
ATG Europe		*simulation/analysis*	*Finite elements meth.*		**x**	**x**										
Atkins BV	L	*aerospace*	*engineering; analysis*	x	x	x		x								
Bakker Fijnmetaal	S	*precision mechanics*	*machining*				x				x		x	x		
Bayards Aluminium	M	*aluminium structures*	metalforming		**x**	**x**	**x**			**x**	**x**					
BKB Precision		*high perfrmnce plastics*	*gen. machining; assmbly*				x									
BOA Nederland BV	L	*metal hoses, bellows*	*compensator assemblies*				x	x					x	x		
Bodycote Vacuum Brazing	M	*heat treatmnt/joinin*	*vacuum brazing*		x	x	x			**x**	**x**					
Boessenkool	S	*Machinery/structures*	*machining*	x		x	x			x	x			x		
Butraco	S	*precision mechanics*	*custom production*	x	x	x					x					
CAPABLE BV	S	*cables & connectors*		x	x	x	x									
Carl Zeiss Industrial Metrology		*Measuring machines*	*3D measuring*		x	x	x	x	x			x				
CCM	M	*product development*		**x**	**x**	**x**	**x**	**x**				**x**			*x*	**x**
Ceratec Technical Ceramics BV		*Ceramics*	*machining/casting*		**x**	**x**	**x**									
Cosine		*sensors; X-ray optics*	optical measurement	**x**				**x**							*x*	*x*
Cryoworld		*Cryogenics*	*process equipment*			**x**	**x**	**x**					**x**			
DARE!! Development	M		*EMC*		x	x	**x**	**x**							*RF Analog*	
Delft Neutron Instruments BV	S	*neutron instruments*			x	x		x								
Delta Elektronika BV	S	*DC power supplies*			x	x		x							*power supplies*	
DeMaCo Holland BV	M	*Vacuum & Cryo*			x	x	x						**x**	**x**		
Demcon Advanced Mechatronics	M	*mechatronics*	*robotics; vision*	x	x	x	x	x				x			*x*	**x**
DeRoovers Vacuum & Precision		*Vacuum & Precision*	*Technology*	x	x	x		x	x				x	x		
DH Industries BV		*Cryogenetics*			x	x	x	x	x		x		x			
DotX Control Solutions BV	V		*Control*													
ECM Technologies BV	S	*electrochemical*	machining/ECM		x						x					
ECN	L	*Engineering/3D CAD*	*neutronics*	x	x	x		x	x							
Ecomatters		*chemical safety*	*sustainability*						x							
EKB	M	*Industrial Automation*	*system integration*	x					x							
elQuip - Issis bv		*electronic engineering*		x		x		x							*x*	*embedded*
Etchform BV	S	*metal precision*	*etching/electroforming*		x	x		x								
Futura Composites BV	M		*composites*		x	x	x	x						x		
Germefa B.V.	L	*precision components*	*general machining*		x	x	x				x					
Grontmij	L		*building management*	x	x	x	x	x								
H.V.P.C.	S	*High Voltage*	*Potting and Coating*				x		x							
Harsveld Apparatenbouw BV		*plant engineering*	piping& construction													
Heat & Surface Treatment B.V.	L	*Surface treatment*	*brazing; CVD/PVD coating*				x		x		x			x		
Heemskerk IT	S	*systems engineering*	*Remote handling*		x	x										x
Heeze Mechanics	S		*Waveguide*		x	x	x					x				
Heinmade	S		*Piezo*		x	x	x	x				x				
Hitec Measuring Systems	S		*Current measuring*		x	x	x	x								
Hositrad Vacuum Technology	S	*Vacuum*	*Ceramics*		x	x	x	x					x	x		

Overview of companies

	*	Speciality		Management /syst eng	Development	Engineering	Production	Test & measurement	Technical concultancy	Area						
										Metal		Mechatr.	Cryo	Vacuum	Electronics	Software
		Discipline	Technique							Large	Small					
IBS Precision Engineering		*systems engineering*		x	x	x	x	x	x			x			x	x
Imtech Industry Int.	L	*power conversion syst.*	*Tailor Made power*		x	x	x	x							*Power*	
INCAA Computers	S	*data acq. power ctrl*			x	x	x	x							*Anal/Digital*	x
Incas3 Solutions		*Sensing & Monitoring*	sensors & data processing		x	x	x								x	x
inMaterials		*materials consultancy*	*irradiation/materials*					x	x							
Inno4Life	S	*life sciences*		x	x	x		x							*automation*	x
Irmco BV	V		*Accoustic&Waveguide*		x	x	x	x								
Janssen Precision Engineering	S	*Precision Engineering*			x	x	x	x			x	x				
KIN Machinebouw	M	*Machinery/equipment*	*general machining*			x	x				x					
Lamers High Tech Systems	L	*fluid handling equipmnt*	*high purity manufacturing*	x	x	x	x	x	x						*automation*	x
Landes High End Machining BV	M	*precision parts*	*general machining*			x	x			x	x					
Lencon	S	*mechanical engin.*			x	x					x	x				
Mat-tech BV	S		*metallurgy*		x	x		x								
MI-Partners	S				x	x	x					x				
Mogema BV	M		*Welding*			x	x			x	x			x		
Montair Proces Technology BV	M	*Nuclear*	*waste handling*		x	x	x				x					
MTSA Technopower	S	*Nuclear*				x	x	x				x			*Power*	
National Instruments	L															
Nedinsco	M	*Photonic*				x	x	x								
New Cosmos -BIE		*process equipment*	*gas detection/mixing*		x	x	x	x							*controlling*	x
NRG	L		*neutronics*		x	x		x								
Omics2Image	V	*imaging*	*mass spectrometer*		x	x	x	x								
Peter Haak Productontwikkeling	V	*Sensor Design*			x	x						x			*x*	
PM-Group	S		hi-precision bearings		x	x	x				x	x				
Precision Mechanical Prod.	S	*Ultra precision*	*precision machining*				x				x					
PTB Special Equipment		*Special Equipment*	*material handling*													
Q-sys	S		*motion control*		x	x	x	x				x			*x*	*x*
S&T	S	*test and measurment*	*data analysis*		x	x		x								*Modelling*
Schelde Exotech	M	*Scientific equipment*				x	x			x						
Settels Savenije van Amelsvoort		*projects*	*mechanical & process*	x	x	x										
Single Quantum	V	*Photonic*	*Single photon detector*													
Smink Group BV		*high-purity equipment*	*supply and install*		x	x	x									
StreamComputing BV		*GPGPU computing*	*chem./phys. simulations*		x	x										adv. computing
Sumipro	S	*Optics*	precision machining		x	x	x	x								x
tbp electronics b.v.		*product lifecycle solut.*	*EMS*		x				x							x
Tebulo Engineering BV	M	*Engineering*	*Prod. machinery*		x	x	x					x			*An/Dig/Power*	
Tebunus Tube Bending	S		*Tube bending*		x	x	x									
TechMasters BV	S				x	x						x				
Technobis Group	S		*Fiber*		x	x	x					x				
Ter Hoek Vonkerosie Rijssen		*precision machining*	*EDM/Laser MicroJet mach.*			x	x		x		x					
Tessella	M	*Space*				x	x	x								x
Thomas Thor Associate		*nuclear Recruitment*	*Executive Search*						x							
TNO	L	*Space*	*Optics*		x	x	x	x				x				
Tree C	S		Virtual reality		x				x							*Simulation*
Vacutech		*Vacuum & Precision*	*gen. machining; assmbly*				x						x	x		
Vacuüm Specials	S	*Vacuum*			x	x	x							x		
Van Halteren BV	M	*projects*	*general machining*			x	x	x		x	x	x				
VDL Enabling Technologies	L	*Development/Projects*	*precision machining*			x	x	x		x	x	x				
VDL Fibertech	L	*Composite plastics*	*large series/hot pressing*			x	x									
Velmon Lastechniek	S		*Welding/joining*		x	x	x	x								
Vernooy	M	*Vacuum*				x	x	x						x		
VIRO	L	*mechanical engin.*		x	x	x		x								
Wijdeven Group		*magnets*			x	x	x					x				
Wilting	S		*high precision*		x	x		x								
Xpress Precision Engineering BV	S		*Hi precision metrology*		x	x	x	x								