

AM FOR PRECISION, AND MUCH MORE

This year will see the 22nd edition of the Precision Fair, on 15 and 16 November in the Brabanthallen in Den Bosch (NL). The event features over 325 exhibitors and some 50 inspiration sessions, including the traditional Big Science programme, as well as young talent pitches, award ceremonies, and a meet & match event. AM for Precision is the central theme of the 2023 edition.

With more than 325 exhibitors, the Precision Fair 2023 shows significant growth compared to last year. At this meeting place for the entire precision engineering value chain, the exhibitors specialise in areas such as mechatronic engineering & systems engineering, metrology, vacuum & clean, micromachining & motion, laser & photonics and high-precision manufacturing.

Bigger network arena

Also, the network arena will be bigger than ever this year. There, visitors can get in touch with some 25 network organisations and attend live radio broadcasts from *BNR Nieuwsradio*, short presentations, workshops, award ceremonies and panel discussions. It will also be the venue for the launch of the first copy of the PIT magazine about the Dutch key enabling technologies; the magazine is published by the Dutch taskforce for applied research SIA.

Highlights

Other highlights that have already been confirmed, include the presentation of the Ir. A. Davidson Award and the Wim van der Hoek Award by DSPE, project pitches by young talents (Ph.D. students, student teams and start-ups), a panel discussion hosted by the Mikrocentrum High Tech Platform in collaboration with DSPE, and a workshop by PhotonicsNL.

Focus on AM for Precision

This edition, AM for Precision is in the spotlight, with a dedicated theme square where 14 additive manufacturing (AM) specialists will present their applications. Moreover, an entire lecture track will be devoted to additive technologies that are used for the manufacture of end-products. Topics include manufacturing tolerances, deformation prediction, and industrialisation of (metal) AM.

Big Science

Since 2012, ILOnet, the Dutch network of industrial liaison officers for big-science projects, has organised the presence of the big-science programmes at the Precision Fair.



Impression of the Precision Fair 2022 in the Brabanthallen in Den Bosch, with the Network Arena and the exhibition floor.

This year, they will have a stand in the Network Arena and give lectures on the progress, plans and purchasing needs of these major international projects. The Einstein Telescope, ESA, CERN, DIFFER and ITER, among others, will be represented, to make the connection between big science and precision engineering business.

EDITORIAL NOTE

This article is based on information from Mikrocentrum, the long-time organiser of the Precision Fair and an independent knowledge and network organisation that has been supporting the technical manufacturing industry for over 50 years with training, events and business.

www.mikrocentrum.nl

INFORMATION

Precision Fair
15-16 November 2023
Brabanthallen, Den Bosch (NL)
Information and visitor registration on the website.

WWW.PRECISIEBEURS.NL





Attocube

T 0049 89 420 7970
E info@attocube.com
www.attocube.com

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YOUNG PRECISION NETWORK
PART OF DSPE

Julie Van Stiphout
T +31 (0)6 54 30 87 03
E julie.vanstiphout@dspe.nl
www.dspe.nl

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VDL ETG

T +31 (0)40-263 8666
E info@vdletg.com
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T +31 (0)6 54 30 87 03
E julie.vanstiphout@dspe.nl
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T +49 (0)711-700 60
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Groneman B.V.

André Lammertink
T+31 (0)74-255 1155
E info@groneman.nl
www.groneman.nl

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HEIDENHAIN NEDERLAND B.V.

T +31 (0)318-581 800
E info@heidenhain.nl
www.heidenhain.nl

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IBS Precision Engineering

Dirk Smits
T +31 (0)40-290 1270
E info@ibspe.com
www.ibspe.com

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Precision Fair 2023

Wednesday 15th and Thursday 16th November 2023

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Exhibitors

For the current list, including late registrations, please check www.precisiebeurs.nl/plattegrond/plattegrond-interactief



Stand number

362	2-S B.V.	169	DCD	307	Gibas Group
541	Aalberts Surface Technologies	332	De Ridder precisie machines	326	Gimex technische keramiek
532	Aalberts Surface Technologies Eindhoven B.V.	474	De Rooy Slijpcentrum B.V.	467	GMT Europe GmbH
206	Acclon Technologies B.V.	119	De Valk additive	534	Goorsenberg
335	ACE	536	Debets Mechanical Support B.V.	455	Granges Powder Metallurgy
349	Acktar Ltd	197	Debracoat BV	450	GROB Benelux B.V.
538	Adruu, the metal refinement company	570	Dematech B.V.	219	Groneman BV
433	Advanced Chemical Etching Ltd	553	Demcon	189	Guhring Nederland BV
365	Agilent Technologies Netherlands B.V.	244	DIXI Polytool B.V.	419	Harald Pihl the Netherlands
529	AJB Instrument BV	231	DKAT - De Koningh Advanced Technology	439	Harry Hersbach Tools BV
248	Alimex Benelux B.V.	574	DMG MORI Netherlands	456	Hawo BV
473	Alumeco NL BV	504	Doeko	209	Hegin Metallfinishing BV
316	Aluro CNC	202	Draadvonk.nl	300	Heidenhain Nederland BV
226	Analisis	544	Draline B.V.	132	HEKU Tools BV
572	Anderson Europe GmbH	373	Dratec Vonkerosie	468	Helmut Fischer Meettechniek BV
144	Andes Meettechniek B.V.	49	DSPE	531	Hemabo Precisie Kunststoffotechniek
502	Andra Tech Group	340	Dymato B.V.	442	Hembrug Machine Tools
112	Andratech Group	454	E&E Cable Solutions	458	Hemimex Group
180	Appius+ RTD	484	Eagle Simrax	143	HepcoMotion
522b	ART-CCG Caulil Cylindrical Grinding BV	321	Ecoclean GmbH	174	Hexagon
352	ATM Oirschot	447	Edmund Optics	48	High Tech Systems Center
245	attocube systems AG	206	Edwards Vacuum	233	High Vacuum Company B.V.
198	Axxicon	518	Eitzenberger GmbH	370	HighTech made in NRW
351	B&S Technology B.V.	182	Eltrex Motion	333	Hittech Group
466	Basco Verspaningstechniek BV	150	EMS Benelux	325	HIWIN GmbH
460	Bearing Design and Manufacturing B.V.	500	Encoma BV	205	Hoffmann Group
234	Bendertechniek B.V.	417	Engels Logistiek B.V.	117	Hogeschool Windesheim
564	Bestronics	566	Erowa	47	Holland Expat Center South
161	Beutter Präzisions-Komponenten GmbH & Co. KG	259a	Ertec BV	50	Holland High Tech
137	Biersack Group	521	Etchform B.V.	425	Holland Innovative
53	BigScience.NL	402	Etteplan BV	568	Horstra Technology B.V. / T.M.C. B.V.
217	Bikar Metalle GmbH	145	Euro-Techniek B.V.	236	Hositrad Vacuum Technology
440	BKB Precision	46	euspen Ltd	438	HQ Precision Cleaning
448	BKL Engineering BV	337	Evident Europe GmbH	413	IBS Precision Engineering
139	Blum-Novotest GmbH	357	Ewellix Benelux B.V.	524	IKO Nippon Thompson Europe BV
222	Bodycote Hardingscentrum BV	138	Exakt	186	ILT Fineworks BV
428	Boers & Co Precision Solutions	506	Exergy LLC	420	IMPA Precision BV
146	Bosch Rexroth	210	Exeron GmbH	436	IMS Nederland
507	Bossard Nederland B.V.	135b	Faes	345	Indoles Precision
229	Bouman High Tech Machining	510	Faulhaber Benelux B.V.	567	InfraTec GmbH Infrarotsensorik und Messtechnik
363	Brabant Engineering - Neitraco Groep	253	Feinmess Suhl GmbH	44	InnAut
55	Brainport Industries Coöperatie U.A.	514	Femto Engineering BV	237	Innovar Cleaning Control
547	Brans Metaalbewerking B.V.	444	FenS bv	133	Inscope B.V.
561	Bronkhorst Nederland	361	Feronyl	237	IPS Technology
375	Bruker Nano Surfaces & Metrology	519	Festo	465	Jans Control
165	Bufab Flos B.V.	260	Fibotec Fiberoptics GmbH	246	JAT - Jenaer Antriebstechnik GmbH
109	Buhlmann N.V.	452	FMI	518	Jenoptik
165	BUMAX AB	115	FMI	338	JEOL (Europe) BV
555	Burkhardt+Weber	57	Fontys CoE HTSM	260	Jevatec GmbH
559	Büttner Ltd.	118	Formatec Technical Ceramics B.V.	448	JOB Precision
153	BV Gereedschapmakerij G.M.I.	223	Frerotech B.V.	513	Johann Fischer Aschaffenburg
540	Capable BV	569	Galvamé Metaalveredeling B.V.	407	JPE
359	CCC Projects & Engineering B.V.	553b	Gdo B.V.	446	Keyence International
194	Ceratec Technical Ceramics	190	Germefa BV	517	KeyTec Netherlands B.V.
252	Cleanroom Systems International	546	GETON BV	320	Kistler BV Nederland
426	Connect 2 Cleanrooms	259a	GF Machining Solutions Sales Benelux	114	KMWE
225	D&M Vacuümsystemen BV	350	GFH GmbH	130	KMWE Precision
442	Danobat	460	Gibac Chemie BV	511	KNOLL Maschinenbau

52	Koninklijk Instituut Van Ingenieurs (KIVI)	523	Oerlikon Balzers Coating Benelux N.V.	472	Swagelok Nederland
61	KSC (Knowledge Sharing Centre)	563	Okuma Benelux B.V.	518	Te Lintelo Systems B.V.
239	KSM BENELUX BV	346	OMNEO Systems	51	Tech2B
187	KSS / Dynetics B.V.	437	Optotune	435	Tecnotion BV
475	KUK Wijdeven	486	Oude Reimer B.V.	341	Teesing
196	Kusters Goumans B.V.	227	Outsourcing Parts Supplies B.V.	431	Telerex
230	Kuzuflex flex hoses & bent pipes for Semiconductor	442	Overbeck	170	Telmastaal NV
558	Laagland B.V.	141	Parker Hannifin BV	364	Tepas Clamping Systems B.V.
220	LAB Motion Systems	216	PCB Piezotronics	427	Ter Hoek - precision solutions since 1990
311	Larsen & Buhl	480	PEO Photonics	309	Tevel Techniek
418	Lasertec	358	Pfeiffer Vacuum Benelux B.V.	255	Thalens PPS bv
328	LaserTechnology Janssen BV	347	Phynix Metallurgy	43	The House of Technology
522	Laumans Techniek B.V.	471	PI Benelux	200	TNO
260	LEG Thüringen	518	piezosystem jena	254	TotalEnergies
60	Leidse instrumentmakers School	367	Pink GmbH Vakuumtechnik	191	TREAMS GmbH
353	Lemmens Metaalbewerking BV	199	PM bv	251	Trescal Benelux
157	LEMO connectors	207	PMP Lichtenvoorde BV	355	TSD - Tooling Specialist Derksen
331	Leybold Nederland	539	Poelman Precision B.V.	315	TSG Group
250	LM Systems BV	260	POG Präzisionsoptik Gera GmbH	59	TU Delft Aerospace Engineering
533	LMI Technologies	195	Polyworks benelux bv	242	Tuinte.com
178	LOA Full Surface Group	177	Precision Micro Ltd	142	Tumag BV
134	LouwersHanique	135	ProCleanroom	520	Two 4 Steel B.V.
259b	LPW Reinigungssysteme GmbH	21	Products4Engineers	321	UCM AG
183	Lucassen Groep BV	528	Reliance Precision	445	UCT
305	M.G. Twente B.V.	116	Renishaw	360	V.A.C. Machines N.V.
537	Macada Innovation B.V.	192	Renishaw	171	Vacutech BV
535	Machining Innovations - Machinno	241	Rhenus Lub BV	312	Vacuubrand
265	MAFAC E.Schwarz GmbH & Co KG	465	Romex BV	339	Van der Ende Group
573	Magnescale Europe GmbH	344	Rotero Holland BV	232	Van Hoof Groep B.V.
221	Magnetic Innovations	552	RVS Clean	482	Van Mierlo BV Technische handelonderneming
505	Manufacturing Technical Assemblies (MTA) B.V.	551	RVS Finish BV	327	Variodrive Aandrijf- en Besturingstechniek BV
432	Marposs GmbH	520	S+D METALS GmbH	148	VAT Vakuumventile AG
483	Masévon Group	257	SABO Boxtel Härtha Group	41	VCCN
213	MathWorks	481	Salomon's Metalen B.V.	512	VDL Enabling Technologies Group
414	Mat-Tech BV	336	SBN Nederland	369	VDL TBP Electronics
168	Maxon	310	Scerox	45	VDMA e.V.
246	MCA linear motion robotics	131	Schneeberger GmbH	23	Vereniging PhotonicsNL
556	MCB Specials BV	542	Schott AG	404	VI Technologies B.V.
154	Mecal HTS	129	Schut Geometrische Meettechniek	545	Via Engineering
422	Melotte N.V.	211	Schwer Fittings BV	478	Vink Kunststoffen
424	Meopta - optika, s.r.o.	354	Sempro Technologies	152	VIRO
113	Metal Technics 3D	508	Sentech B.V.	188	Vossebelt precisiebewerking B.V.
128	MetaQuip B.V.	463	Settels Savenije Group of Companies	240	VSL B.V.
543	Mevi FMI B.V.	562	SFC Energy	136	W. L. Gore & Associates GmbH
516	Micro-Epsilon Messtechnik GmbH & Co.KG	260	ShapeFab GmbH & Co. KG	303	Weiss Nederland bv
164	MIFA Aluminium BV	173	SigmaControl B.V.	126	Weiss Technik Nederland B.V.
25	Mikrocentrum opleidingen	518	SIOS Meßtechnik GmbH	526	Werth
134	Millux B.V.	140	SLB Hightech	20	Wevolver
342	MI-Partners	409	SmarAct GmbH	565	Witec Innovating Together
127	Mitutoyo Nederland BV	453	SMC Nederland BV	371	Wittenstein bv
403	Molenaar Optics	554	Smink Group BV	313	Witzenmann GmbH
548	MSG Precision & Tooling	449	Solid Point	58	Young Talent Poster Presentations
372	Muller Machines SA	149	Sommen-EDM B.V.	429	Z3dlabs B.V.
468	Multivalent Plating & Etching	549	SpartnerS Organisatieadvies	332	Zecha
134	Muon group	319	Special Tools Benelux / Innotools Benelux	160	ZEISS
266	Mutes	416	Spikker Specials B.V.	40	ZENIT GmbH
155	NB Europe BV	348	SRBA Controlled Environment	376	Zest-Innovate
42	NEVAC	464	Stappert Noxon B.V.	462	ZME Fijnmechanisch Atelier
176	Nijdra	158	Steen Metrology Systems		
54	Nikhef	489	STT Products B.V.		
411	NTS	56	Summa Techniek		
22	Octrooicentrum Nederland (OCNL)	557	Surface Treatment Nederland		

INNOVATIONS ON DISPLAY

Molenaar Optics (stand number 403) New laser beam expanders

Laser beam expanders are optical devices used to collect a collimated beam of laser light to expand or reduce its size, depending on the orientation used. They are used for reducing power density, minimising beam diameter, and reducing laser spot size. Beam expanders are useful in a variety of applications including interferometry, laser scanning, remote sensing, laser machining, laser ranging, high-power lasers and more. Molenaar

Optics offers both variable (zoom) and fixed magnification laser beam expanders from OptoSigma. Off-the-shelf standard high-power laser beam expanders are available for wavelengths around the four YAG-laser harmonics and in a large selection of fixed and variable magnifications.

WWW.MOLENAAR-OPTICS.NL
WWW.OPTOSIGMA.COM



Oude Reimer (stand number 486) Accurate and slip-resistant installation of machines

Picture this: you need to install heavy machinery in specialised environments where precision, stability and material quality are paramount. The process is complex, the environment demanding, and the margin for error razor-thin. Enter Bilz – a name well-known in engineering circles for its perfect vibration isolation systems – with newly developed levelling wedges designed specifically for these situations.

Oude Reimer is proud to introduce the first stainless-steel, cast-iron or hardcoated-aluminium Bilz levelling wedges. They are designed for the finest precision levelling

when installing machinery, especially under high loads. These wedges are intended for use in specific industries such as chemical, hygiene, and outdoor environments, with a particular focus on the food and beverage, packaging, chemical, and recycling sectors.

The stainless-steel variant (1.4301) comes in PKA-VA (bolt-on) and PKD-VA (bolt-through) options. The bolt-on levelling wedges remain securely in place even when the machine is lifted, simplifying the installation process significantly. Additionally, all sizes are available with a spherical seat. Vibration isolation can be achieved by adding Bilz



isolation pads, available in EPDM or Viton. For cleanrooms, special solutions are offered that do not require lubricants.

WWW.ODEREIMER.NL
WWW.BILZ.AG

Ter Hoek Vonkersosie (stand number 427) Enhancing aerospace excellence: AS9100 certification

In the realm of cutting-edge technology and precision engineering, the aerospace industry stands as a beacon of innovation and advancement. With the complexities of designing and manufacturing aerospace components, the importance of maintaining impeccable quality cannot be overstated. This is precisely where AS9100 certification emerges as a vital cornerstone for success. As AS9100 is specifically focused on engineering processes, this tool does help

companies like Ter Hoek Vonkersosie to be a reliable partner in business. Not just for the aerospace industry. It all begins with a quality mindset. To excel, one must think and breathe excellence, and AS9100 supports this journey.

Defining AS9100 certification

AS9100 is not just another industry buzzword, but rather a rigorous quality management standard tailored explicitly for the aerospace sector. This certification sets the benchmark

for quality management systems, encompassing a comprehensive set of requirements that go beyond the scope of the general ISO 9001 standard. Engineers and technical experts form the backbone of aerospace excellence, and AS9100 certification ensures that their efforts are streamlined, optimised, and held to the highest standards.

Elevating quality assurance

Aerospace engineering is synonymous with



AS9100 certification establishes a robust framework for quality assurance in every phase of the manufacturing process.

uncompromising quality. The tiniest flaw or error can cascade into catastrophic consequences, making the aerospace industry unforgiving of mistakes. AS9100 certification establishes a robust framework for quality assurance, enforcing meticulous attention to detail in every phase of the manufacturing process. From design and development to production and testing, every step is subject to rigorous scrutiny. This meticulous approach not only reduces the likelihood of defects but also fosters a culture of continuous improvement.

Sander Verloop, process development manager at Ter Hoek: “When thinking about AS9100, it’s crucial to emphasise a risk-based decision-making approach that values meticulous planning over reactive measures. This involves early involvement, detailed risk analysis through failure modes and effects analysis (FMEA), and fosters a culture of risk awareness and mitigation within the organisation.”

Fostering risk management

Engineers thrive on calculated risks, but when it comes to aerospace, these risks must be identified, analysed, and mitigated with precision. AS9100 certification mandates a structured approach to risk management. By evaluating potential vulnerabilities and devising strategies to address them, manufacturers can enhance their ability to deliver products that meet or exceed stringent industry requirements. This not only safeguards the end-users but also fortifies the reputation of manufacturers as trustworthy industry leaders.

Verloop: “The impact of this risk management is directly reflected in our key performance indicators (KPIs), specifically on-time delivery and achieving the ‘first time right’ goal. The non-conformity report process is instrumental in refining our FMEA, aligning with one of our core values, which is ‘Focus.’”

The quality issues observed in construction practices are addressed in the non-conformity report (NCR). An NCR explains the deviation of a specific construction work or task from the required standards and specifications. At Ter Hoek, the NCR is an integrated part of the AS9100 quality control processes. It explains in detail the problem, its occurrence, and the preventive measures for the future. It is a document that states any resolution made with the customer. It also records the corrections made to the activities.

Encouraging collaboration and communication

The aerospace industry operates within a complex ecosystem involving numerous stakeholders, including suppliers, partners, and regulatory bodies. Effective communication and collaboration are pivotal to ensuring seamless operations. AS9100 certification emphasises clear lines of communication, transparent documentation, and efficient information exchange. These aspects enable engineers and technical experts to work harmoniously across organisational boundaries, ultimately contributing to the creation of superior aerospace products.



Product wire-eroded with the aid of a fourth axis.

At Ter Hoek, they learned the approach should not solely concentrate on technical aspects but also encompass all processes prone to risks, including planning, resource allocation, and interdepartmental interfaces, as integral components of the pursuit of operational excellence. It’s not a sideline effort; achieving success in this endeavour demands dedicated focus, attention, and resource allocation.

Conclusion

In the fast-paced world of technology, where precision and quality reign supreme, AS9100 certification is not just an option – it’s a necessity. This certification empowers engineers and technical experts to transcend conventional boundaries, crafting aerospace products that are safer, more reliable, and technologically advanced. By fostering a culture of quality, risk management, collaboration, and compliance, AS9100 certification propels the aerospace industry towards ever-greater heights of excellence. AS9100 certification remains the cornerstone upon which achievements are built as Ter Hoek continues to push the boundaries of innovation.

Sander Verloop: “AS9100 aligns perfectly with our commitment to excellence, ultimately leading to benefits for our customers. Remarkably, also in industries like semicon and medical.”

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