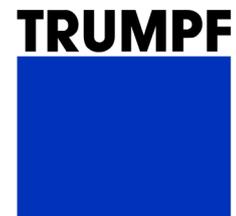
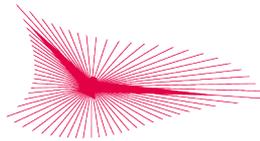




INDUSTRIAL EXHIBITORS/SPONSORS

We were grateful to have 22 industrial exhibitors/sponsors who sponsored the MEDSI2020 virtual conference. They put up a lively exhibition on the MEDSI2020 Whova virtual conference platform with product information, many photos, and videos, and some of them had live-streamed events. Not only did they sponsor us financially, most importantly, their participation made the conference complete. We would like to acknowledge all of our sponsors here. The detailed description of the companies is based on the information entered by the companies on the MEDSI2020 Whova platform.



Details for Exhibitors/Sponsors



Allectra

Description: Allectra is a leading manufacturer and supplier of High Vacuum and UHV components including custom items.

The company was founded in 2002 by two physicist entrepreneurs to bring a new approach to manufacturing high technology components to the scientific instruments market. In the last nineteen years Allectra has seen widespread adoption of its proprietary technology across multiple scientific disciplines. Some of our components have been adopted as a standard by synchrotrons worldwide.

Electrical feedthrough range includes Sub-D and Co-axial types alongside cables and accessories, also viewports and hardware. Allectra has three facilities with scientific and engineering capabilities, one in the UK and two in Germany, and ships worldwide.

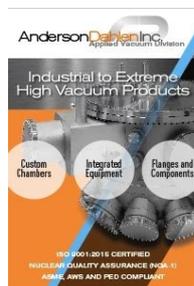
Address: Meridian House, Bluebell Business Estate, Sheffield Park, East Sussex, TN22 3HQ, UK

Phone: 44 (0)1825 721900

Contact person: Kate Rider

Contact email: k.rider@allectra.com

Website: <http://www.allectra.com>



Anderson Dahlen - Applied Vacuum Division

Description: The Applied Vacuum Division of Anderson Dahlen delivers total vacuum solutions including chambers and assemblies, flanges and components, as well as custom integrated equipment. We fabricate custom

chambers and assemblies from rough and high vacuum (HV) for industrial processes to ultra-high (UHV) and extreme-high vacuum (XHV) for critical scientific study. Our engineering and manufacturing resources will help take your requirements from initial concepts, to fully engineered designs, to completed and tested products ready for use. We utilize SOLIDWORKS® 3D design and advanced analysis software, enabling expert review of critical tolerances, port alignment, chamber wall deformations, weld stresses, and other features. We can also assist you with design considerations to meet safety and mechanical concerns, including ratings for ASME/PED pressure and cryogenic requirements. Throughout the build process, extreme cleanliness and attention to finish quality are paramount. All welded assemblies are 100% helium leak tested. We have Certified Welding Inspectors® (CWI) to review critical weld joints. Final dimensional inspection utilizes our Coordinate Measuring Machine (CMM). Applied Vacuum is ISO 9001:2015 Certified, Nuclear Quality Assurance (NQA-1) Certified, ASME, AWS, and PED Compliant.

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Phone: 781-299-0657

Contact person: Scott O'Connell

Contact email: ocos@andersondahlen.com

Website: <https://andersondahlen.com/applied-vacuum-division>



Applied Diamond, Inc.

Description: Applied Diamond supplies products made from single crystal and polycrystalline diamond, including highly transparent windows, ultra high thermal conductivity high spreaders and beam monitoring products. We have expertise in diamond polishing for smooth surfaces, metallization for bonding and mounting of windows to flanges.

Our beam monitoring products range from fluorescent screens to instrumented diamond pixel detectors. We can mount large windows to

UHV flanges, including water cooled flanges for high temperature applications. Diamond's high thermal conductivity and radiation hardness make for effective products in the high power and white beam applications.

Applied Diamond also fabricates a refractive x-ray lens for optics applications.

We make standalone diamond as thin as 20 um and can provide filters mounted on Silicon as thin as 300 nm. We can customize a stack of filters ranging in thicknesses from 1 um to 700 um thick, enabling a beam to use the diamond thickness appropriate for the experimental conditions.

Our single crystal diamond is available in both optical grade and high purity electronic grade. We offer SC plates as thin a 20 um and as thick 1 mm with sizes as large as 8 mm square."

Address: 3825 Lancaster Pike, Wilmington, DE 19805

Phone: 1-302-999-1132

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Contact email: pete@ddk.com

Website: <http://www.usapplieddiamond.com>



added value solutions

AVS Added Value Solutions

Description: AVS is proud to be one of the world's leading companies in the design and development of custom-made equipment for large science and research infrastructure across the globe.

The core activity of AVS is the development, design, manufacture, assemble and delivery of custom instrumentation and equipment for large scientific facilities, supplied under ISO 9001 EN 9100. AVS has specific skills and extensive experience in the development of precision motion systems, micromechanisms and optomechanics, operating under harsh conditions of vacuum (UHV), temperature (cryogenics as well as high temperatures) and high magnetic fields.

AVS designs and develops specific equipment for synchrotrons. AVS has developed and supplied tailored accelerator and storage ring components (Linac transport elements and diagnostics as well as ID's), as well as beamline elements including beam transport, X-ray optics, filters, slits, diagnostics, sample environments

and positioning systems, as well as high-end SAXS flight tubes.

AVS is the proud supplier of the ESRF-UBS storage ring girders. Our extensive expertise and long tradition of high-load, high-precision structures makes us the ideal partner for your next challenging project.

Address: 126 Ridge Rd, Lansing, NY 14882

Phone: 1-607-533-3531

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Description: AXILON is your industrial partner in the international synchrotron, accelerator & photon community. Based on the extensive and long-term experience of our dedicated experts, we serve our customers with excellent and efficient solutions for complete beamlines, beamline components, monochromators, cryo coolers, mirror systems, experimental stations, X-ray microscopes and other special engineering and manufacturing solutions.

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BESTEC GmbH

Description: Bestec GmbH develops, builds and installs customer specific ultrahigh vacuum systems (UHV systems) with focus on two application areas:

- Optical instruments for photon energies from the infrared to the hard X-ray range.
- Fully automated deposition systems for production and optimization of functional layer systems."

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Phone: +49 30 6774376

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Website: <http://www.bestec.de>



CINEL STRUMENTI SCIENTIFICI SRL

Description: CINEL Strumenti Scientifici (<http://www.cinel.com>) is an established supplier of components and integrated systems for synchrotron, XFEL light sources and particle accelerators. We provide innovative and tailored solutions into integrated UHV systems, complete beamlines, beamline components (mirror systems, monochromators, etc.). Our combination of in-house expertise in precision design and engineering, metrology, assembly and integration, vacuum and, last but not least, our precision manufacturing capabilities allowing us to produce every single part of our instruments, make CINEL the right partner to realize challenging and state-of-the-art instruments for your beamlines.

Address: Viale dell'Artigianato 14, 35010, Vigonza (PD), Italy

Contact person: Riccardo Signorato

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Website: <http://www.cinel.com>



Huber Diffractionstechnik GmbH & Co. KG

Description: Huber is a leading supplier for high precision positioning systems and equipment for X-ray- and Neutron scattering.

For more than 50 years, Huber is designing and manufacturing equipment for X-ray laboratories, synchrotron and neutron facilities, ranging from a large variety of standard stages to highly complex multi-axes systems for micro- and nano-positioning.

Huber's products can be custom-tailored for specific requirements to suit all applications, no matter if used in vacuum environment, exposed to high radiation or operated in high magnetic fields."

Address: HUBER Diffractionstechnik GmbH & Co. KG Sommerstrasse 4 D-83253 Rimsting, Germany

Contact person: Alan Hamill

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Website: <http://www.xhuber.com>



IRELEC

Description: Since 1985, IRELEC has been designing and producing high performance opto-mechanical equipment, biomedical robotic systems and precision instrumentation, enhancing the innovation capabilities and operational efficiency of its customers' applications in the scientific and biomedical fields.

Located in a highly dynamic European research and innovation area, IRELEC brings together multi-disciplinary expertise in reliable high technology, easy-to-use and finely tunable equipment for the maximum benefit of a worldwide user community."

Address: 20 Rue du tour de l'eau, 38400 St Martin d'Hères, FRANCE

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Website: <http://www.irelec-alcen.com>



Leybold

Description: As a pioneer of vacuum technology for over 170 years, Leybold offers a wide range of vacuum components, standardized and fully customized vacuum solutions, and many after-market services. With the most extensive worldwide sales and after-sales network in the vacuum technology industry, Leybold ranks among the top leaders in its specific business segments - Process Industry, Information Technology, Analytical Processes, and Research & Development.

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Phone: +1 800.764.5369

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MI-Partners B.V.

Description: "MI-Partners is a high-end engineering company specialized in custom design and realization of accurate and highly dynamic systems such as sample manipulators, nano-end stations and monochromators (DCM). Core competences are: system architecture, dynamics, thermal (cryo) design and calculations, predictive modeling and metrology.

We have a proven track-record in the development of next generation high-end stages and custom developed manipulators that meet their requirements for various synchrotrons. Together with our customers, we translate the scientific requirements into mechatronic specifications and a feasible concept. We define error budgets to predict the performance in an early stage based on thermal, dynamic and metrology models. We are used to work on high-risk development projects and know how to manage these innovative projects in a controlled manner. We have a flexible and customer oriented approach and are very open to discuss your mechatronic challenges. Please contact us!

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Phone: +31 614751371

Contact person: Ronald Schneider

Contact email: R.Schneider@MI-Partners.nl

Website: <http://www.MI-Partners.nl>

PI

PI - PHYSIK

INSTRUMENTE LP

Description: PI manufactures world-class precision motion and automation systems for industry and research, including high performance positioning and alignment systems for beamline instrumentation. PI products include air bearings, 6-Axis hexapods, piezo actuators / motors and high performance motion controllers. PI has design and service centers at locations in North America, Europe, and Asia. Founded 50 years ago and employing 1300+ people with global support, PI's customers are leaders in high-tech industry and research fields including photonics, life-sciences, semiconductors, astronomy, aerospace and basic research.

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Phone: 1-508-832-3456

Contact person: Amy Cravedi

Contact email: amyc@pi-usa.us

Website: <http://www.pi-usa.us>

queensgate

a brand of **PRIOR**

Prior

Scientific/Queensgate

Description: Queensgate offers an extensive product line of UHV compatible sensors, piezo actuators, and piezo stages. Whether standard or custom, our systems typically deliver decades of reliable performance.

What distinguishes Queensgate?

- **Performance:** Experts in high speed, high precision applications.
- **Enhanced control technology:** A tool kit to deliver the best performance for the application.
- **Reliability:** Trouble free installation in beamlines with over decades of use. True plug and play electronics.
- **Experience:** Over 40 years of delivering performance-critical components.
- **Design:** Material selection and FEA design to meet the demands of synchrotron applications
- **Custom solutions:** Over 70% of our products are custom made

Address: 80 Reservoir Park Drive, Rockland, MA 02370

Phone: 1-781-878-8442

Contact person: John Comnesso

Contact email: jcomnesso@prior.com

Website: <https://www.nanopositioning.com>



REUTER TECHNOLOGIE GmbH

Description: REUTER TECHNOLOGIE is specialized in customized solutions for liquid cooling in vacuum. We design and manufacture cooling blocks, cooling plates and specific assemblies made of copper and stainless steel for sophisticated thermal applications in vacuum. Starting with the constructive support of your engineering team, through a precise modern production with qualified joining technologies such as high vacuum brazing, up to qualified tests and inspection procedures.

Contact person: Florian Reuter

Contact email: f.reuter@reuter-technologie.de

Website: <http://www.precision-brazing.com>



SAES Group

Description: The SAES CapaciTorr and NEX Torr pumps continue to be the benchmark compact and powerful UHV/XHV pumps. The recently developed ZAO alloy has allowed for extending the operational pressure of NEG's to the 1e-7 Torr range with CapaciTorr HV and NEX Torr HV pumps as well as for developing the CapaciTorr Z and NexTorr Z pumps that deliver up to 50 % more pumping speed in the same package as the existing CapaciTorr and NEX Torr pumps. The ZAO alloy also exhibits an improved mechanical stability, allowing ZAO-based pumps to be used in the cleanest applications without a risk of particle contamination. Recently, Jefferson Lab has started retrofitting the warm sections between SRF cavities of CEBAF with ZAO-based CapaciTorr HV200 pumps since they are cleaner and provide a better background than ion pumps. The standard NEX Torr pumps are now being implemented in cold waveguides because of their outstanding hydrogen performance..

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Website: <https://www.saesgroup.com>



SmarAct Inc.

Description: SmarAct develops and produces piezo-based, high-accuracy positioning and measuring systems for industrial and research applications in the micro and nanometer scale. Comprehensive positioner systems with numerous degrees of freedom and parallel kinematics, microscopy stages and laser interferometers can be assembled to custom-built, complete robotic systems, and work under extreme conditions, e.g., ultrahigh vacuum, cryogenic temperatures, and non-magnetic materials.

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Contact email: miguel@smaract.com

Website: <http://www.smaract.com>



COMPLEX MEASUREMENTS—CRITICAL RESULTS

Sydor Technologies

Description: Sydor Technologies is a global provider of advanced x-ray detectors and diagnostic instrumentation for the energy, research, and defense industries. We manufacture complex measurement solutions for the world's most advanced applications. Our products are customized to each user's requirements. Our hard and soft x-ray detectors are engineered to provide the best sensitivity, across the widest dynamic range, and are optimized for use at modern and up-and-coming light sources. Our x-ray Diamond Beam Position Monitors (DBPM) are available in a variety of packages for use in ambient to UHV environments. X-ray streak cameras and framing cameras are available to accompany our line of gated imagers and visible streak cameras. Established in 2004, Sydor Technologies is headquartered in Rochester, NY and now supplies systems and support in over 33 countries. For more information, please visit www.SydorTechnologies.com

Address: 78 Schuyler Baldwin Dr. Fairport, NY 14450, USA

Phone: 1-585-278-1168

Contact person: Marychris Arcuri

Contact email: marketing@sydortechnologies.com

Website: <http://www.sydortechnologies.com>



SYMETRIE

Description: SYMETRIE specializes in hexapods, which are 6DOF parallel kinematics systems that bring accuracy, stability and stiffness. SYMETRIE was created in 2001 by two engineers of LNE, the French National Laboratory of Metrology (equivalent to NIST).

The precision positioning hexapods of SYMETRIE are particularly adapted for the specific needs of synchrotrons. They can position components such as samples, mirrors or vacuum chambers with high precision.

SYMETRIE provides a range of standard products and also offers highly customized systems with specific geometry or additional axes.

Software comes with several interesting features, such as virtual pivot point configuration and workspace limits. The hexapod control system can be integrated into a third-party environment (EPICS, TANGO, Labview...).

SYMETRIE hexapods are already used at APS, the Australian Synchrotron, DLS, Elettra, ESRF, IHEP, LBL, LNLS, MAX-lab, PAL, PSI, RRCAT, SLAC, SOLEIL, and SSRF.

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Website: <https://www.symetrie.fr>

TOYAMA TOYAMA Co., Ltd.

Description: Toyama, are regarded as one of the excellent suppliers of whole beamline packages comprising major systems such as grating or double crystal monochromators, mirror chambers, high heat load slits and masks, and also smaller components such as beam diagnostics and beam shutters.

Toyama has rich experience and capability to design and build such hardware components in its own plant located near Tokyo in Japan. We have system integration technologies covering FEA simulation, optical design, vacuum engineering and control systems and software.

Full and precise inspection and testing of equipment can be performed in our special clean rooms in Toyama's plant with many high-precision measurement tools such as laser trackers, laser interferometers, triaxial vibration testing and so on. We have used our clean rooms with fine temperature control and

vibration-free circumstances for many important projects from worldwide customers.

Finally, we proudly announce that we have constructed our new factory and headquarters together with our R&D center. The new factory and headquarters are located at approximately 70 km southwest of Tokyo, where we have a very beautiful view of our world natural treasure of "Mt. Fuji".

Address: Toyama Co., Ltd. 3816-1 Kishi, Yamakita-machi, Ashigarakami-gun Kanagawa, 258-0112, JAPAN

Phone: +81-46-579-1411

Contact person: Hiroya Suzuki

Contact email: h-suzuki@toyama-jp.com

Website: <http://www.toyama-en.com>

TRUMPF



TRUMPF Huettinger

Description: TRUMPF Hüttinger is a leading global manufacturer of process power supplies for plasma applications, induction heating, and CO2 laser excitation. TRUMPF Hüttinger has been part of the TRUMPF Group since 1990.

Address: 4000 Burton Drive, Santa Clara, CA 95054

Phone: 1-408-568-9908

Contact person: Daniel Capostagno

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Website: https://www.trumpf.com/en_INT/products/powerelectronics/



UHV Design Ltd

Description: UHV Design Ltd. specializes in the design, manufacture and supply of high-quality, low maintenance, manipulation and heating/cooling solutions for vacuum applications.

Solutions include: magnetically coupled rotary motion drives; sample transfer solutions; 5-axis sample manipulators with heating and LN₂/LHe cooling; high uniformity heating stages for 1"-8" diameter wafers. Products are sold and supported globally via an extensive distribution network to customers worldwide."

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6BN

Phone: +44 1323 811188

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Website: <https://www.uhvdesign.com/>



Zygo Corporation

Description: For 50 years, Zygo Corporation designs and manufactures noncontact measuring instruments and systems, providing productivity and yield improvement. ZYGO provides a wide range of inspection, surface analysis, and precision displacement measurement solutions, as well as precision optics, optical design, and opto-mechanical assembly.

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