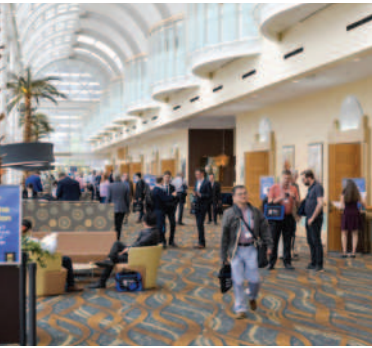




TechCon 2025 Nashville

68th Annual SVC Technical Conference • May 17 – 22, 2025
Gaylord Opryland Hotel, Nashville, Tennessee, USA



Scan to see the latest pictures from the 2025 TechCon

Final Program and Exhibit Guide



SVC TechCon
Co-Sponsor

The Largest Expo and Conference Dedicated to Vacuum Coating Technologies

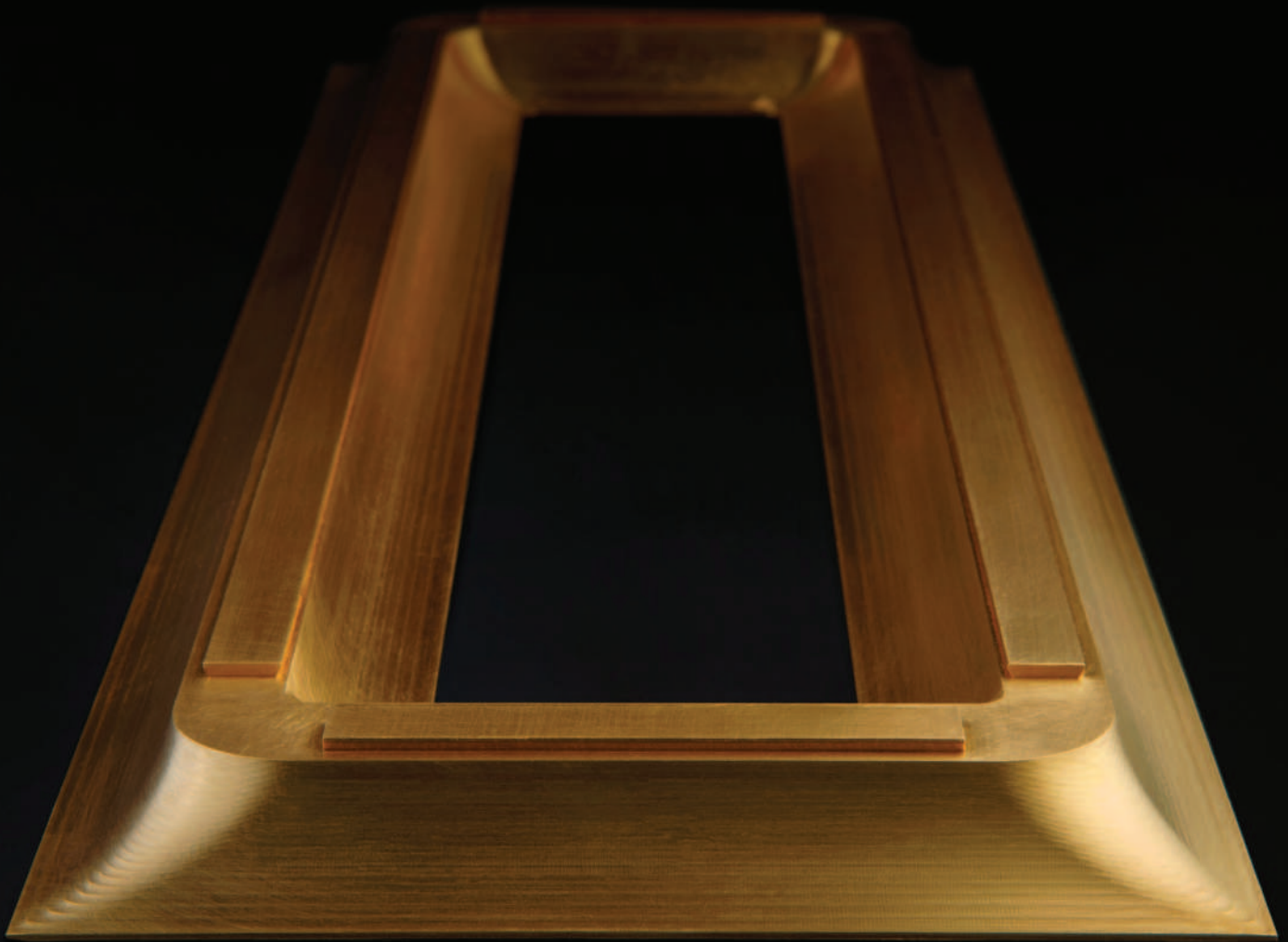


EMERALD TECHCON SPONSOR:



Scan to register for the 2025 TechCon





**The precious metal targets you've been waiting for.
Without the waiting.**

Need the gold, silver, platinum and palladium targets of tomorrow, today? Our innovative target designs, lightning fast spent target recycling programs and 99.5% on time delivery help lower your cost of ownership and keep more working capital working for you. See what makes us the precious metal target experts at booth 1003 or visit dhftargets.com.

ALD One™ | Advanced atomic layer processing.
Built for research & commercial manufacturing.



Substrate sizes up to $\varnothing 300$ mm &
210 mm x 210 mm.

Available with a hollow cathode
plasma source.

Integrated ellipsometry & QCM control.

$\pm 1\%$ (1σ) for thermal ALD of Al_2O_3 on
a $\varnothing 200$ mm wafer.

Standalone system, cluster or
glovebox integration.

About Our Venue

Gaylord Opryland Resort & Convention Center, Nashville, Tennessee

Situated in the heart of Nashville, the Gaylord Opryland Resort & Convention Center allows you to hit all the high notes of Music City. The landmark Nashville hotel is just minutes from Nashville International Airport and a short drive or riverboat cruise from downtown Nashville. The resort invites you to experience a host of entertainment and fun while in Nashville. Marvel at the gorgeous gardens, sparkling waterways and cascading waterfalls. The hotel is easily accessible to Music City's legendary attractions, including the Grand Ole Opry®, Ryman Auditorium®, Wildhorse Saloon® and the General Jackson® Showboat.

The Grand Ole Opry®, the show that made country music famous, features a wide array of chart-toppers, newcomers, and living legends. The General Jackson Showboat offers cruises for special occasions and afternoon shows spiced up with authentic Southern specialties. The Wildhorse Saloon is home to Nashville's largest dance floor and the cover charge is waived for guests of Gaylord Opryland Resort. Other local attractions include: Madame Tussauds Nashville, Ryman Auditorium, Country Music Hall of Fame, Nashville Zoo at Grassmere, Cheekwood Botanical Garden & Museum of Art, Cooter's Museum and Store Nashville, Texas Troubadour Theater, The Redneck Comedy Tour, Opry Mills, Nashville Nightlife Theater, Music Valley Antiques and Marketplace, The Cowboy Church, Adventure Science Center, Andrew Jackson's Hermitage, and Lane Motor Museum.

Whether you are interested in music, history, shopping, or dining, Nashville has much to offer.

- \$269.00 USD/night (resort fee included).
A limited number of Premium rooms are available for \$319.00 USD/night (resort fee included).

Gaylord Opryland Resort & Convention Center,
2800 Opryland Drive, Nashville, TN 37214
615-889-1000



Exhibit Floor Plan

Exhibit Dates and Hours

Tuesday, May 20

11:00 a.m. to 6:00 p.m.

Wednesday, May 21

10:00 a.m. to 4:00 p.m.

Booth Set-Up Hours

Monday, May 19

1:00 p.m. to 6:00 p.m.

Tuesday, May 20

7:00 a.m. to 9:00 a.m.

Booth Tear-Down Hours

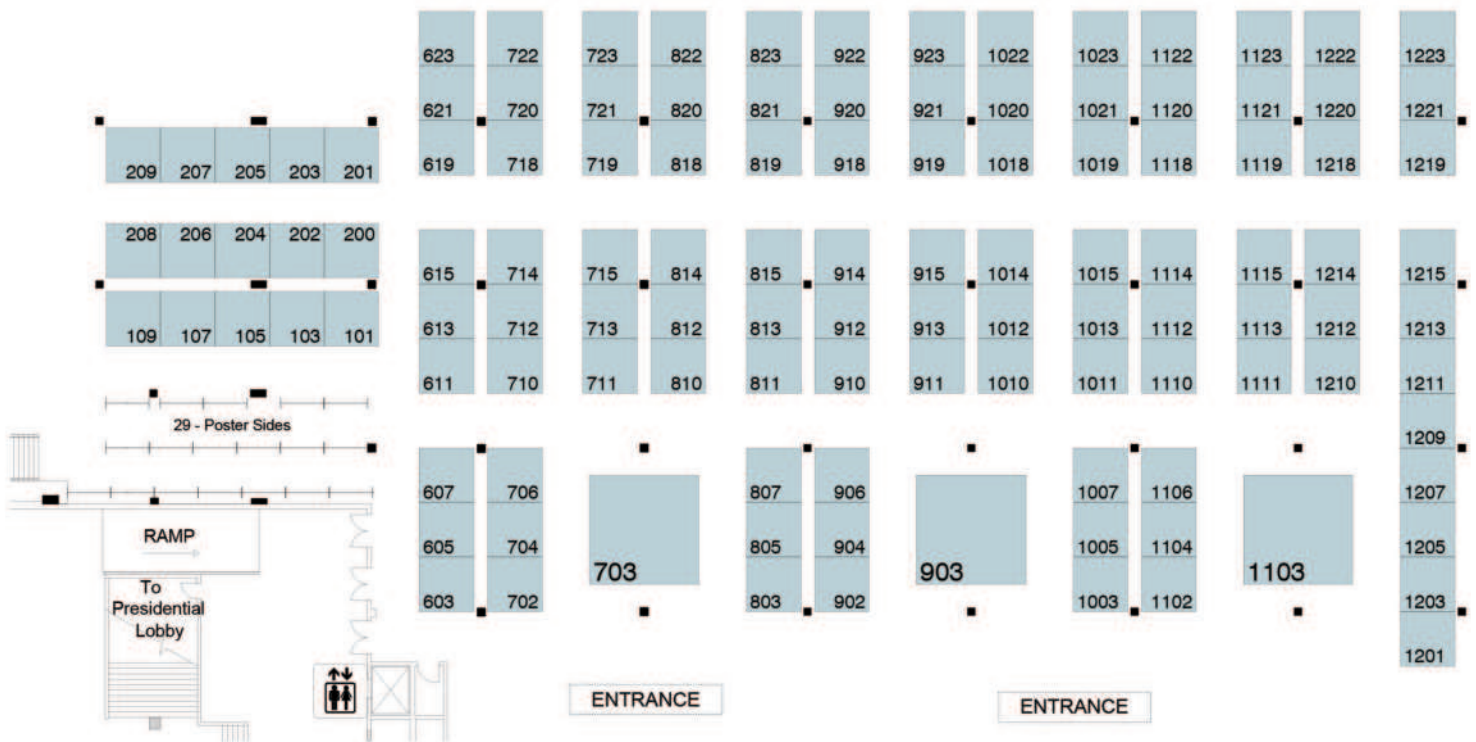
Wednesday, May 21

4:00 p.m. to 8:00 p.m.

Thursday, May 22

7:00 a.m. to 10:00 a.m.

Note: The Welcome Reception will be held on Tuesday, May 20, in the Exhibit Hall from 5:00 p.m. to 6:00 p.m.!



Networking

Opportunities at the 2025 TechCon



Make Connections

The TechCon is packed with networking events designed to connect vacuum coating and surface engineering professionals with the global SVC community. Each technical and social networking event provides a different forum for invaluable face-to-face interactions and the opportunity to collaborate with technical experts.



Exhibit Networking

Enjoy more opportunities than ever to visit the Exhibit Hall on May 20-21, 2025.

- Welcome Reception
- Poster Session
- Beer Blast

Additional Networking:

- Technical Program Keynote Presentations
- Exhibitor Innovator Showcase
- Roundtable Discussions



Technology Forum Breakfasts

Vacuum coating technology spans multiple applications and processes. Join a discussion group focused on a topic that's important to you. Enjoy the conversation over breakfast before the start of the technical program Monday, Tuesday and Thursday.

To all of our SVC Stakeholders:

The **Technology Forum Breakfasts** have emerged as one of the most significant networking events at the TechCon. These breakfasts, held from 7:00 a.m. to 8:30 a.m. during the TechCon are "loosely" organized around a specific topic where we provide a moderator, a continental breakfast, plenty of seating, and an opportunity for free form discussion to take place. In the TFBs problems are solved, new ideas are vetted, relationships are made and rekindled; all in the spirit of camaraderie that has made the SVC the most unique technical conference in our field. This year we are expanding the program even further and will offer more than 20 meetings during the TechCon. Please be sure to check the daily schedule (the TFBs are offered on Monday, Tuesday, and Thursday of the TechCon) to find those topics that interest you! And remember, we are always looking for new topics as well as moderators to get the discussion going in the mornings. Good luck and have fun!

– Frank Zimone, Executive Director

SVC Foundation Networking Events

CASINO NIGHT

Come and join us for an evening of fun and networking, all to help a great cause at the Sixth Annual SVC Foundation Casino Night on Monday, May 19, 2025. *Additional Casino Night tickets can be purchased on-line during TechCon registration or at the TechCon. This is a wonderful opportunity to entertain friends and customers who may not be registered for the conference.*

RUN FOR A CAUSE!

The race will be held virtually this year.



Networking Opportunities at the 2025 TechCon



2025 SVC TechCon Farewell Social

Date: Thursday, May 22, 2025

Everyone is invited to attend

The **Farewell Social** will be the last networking event of the TechCon and will commemorate what promises to be the most successful TechCon yet! Come join us as we celebrate our Young Members and all the new connections that were made after a densely packed four day program.

Job Board

There will be a Job Board in the lobby adjacent to the TechCon registration desk. Open positions as well as resumes of those looking for a position can be posted. Messages for interested parties, either potential employer or employee, can also be posted on the board.



2025 SVC Awards Ceremony and Welcome Reception

Date: Tuesday, May 20, 2025

Everyone is invited to attend

The **Awards Ceremony** will introduce and recognize the Nathaniel Sugarman Memorial Award recipient, SVC Fellow-Mentor Award recipients, and Sponsored Student awardees.

The **Welcome Reception** is a popular networking event at the TechCon. It offers a relaxed venue to meet friends and colleagues and provides the opportunity to make new connections.



Equilibrium Versus Non-Equilibrium Heating to Control the Microstructure of Coatings and Thin Films

André Anders^{1,2}

¹Leibniz Institute of Surface Engineering (IOM), Leipzig, Germany

²Leipzig University, Leipzig, Germany

Properties of coatings and thin films are primarily determined by their chemical composition and microstructure. In the simplest case, one uses substrate heating to affect the density (porosity) and crystallinity (i.e. amorphous vs. crystalline phases, possibly with a preferred orientation or texture). The involvement of plasmas and/or ion beams opens the possibility for non-equilibrium or atomic-scale heating, which can be very beneficial from several points of view, including, but not limited to, a reduction of the requirements on conventional substrate heating and cooling, the possibility to use temperature-sensitive substrates, the formation of otherwise unattainable phases, and the combination of deposition and etching effects. The key to non-equilibrium heating is specifically the kinetic ion energy, which can be controlled by the difference between surface potential and plasma potential, i.e., using suitable substrate and/or plasma biasing. When the kinetic ion energy exceeds the displacement energy, film growth can occur under the surface (very shallow ion implantation or "subplantation"), which is utilized, for example, in the deposition

of diamond-like carbon. Biasing is often pulsed, which in combination with pulsed plasmas can be used for phased or species-selective control of ion energies, allowing us to synthesize non-equilibrium phases with new and interesting materials properties. In this talk, I will present in a systematic manner the concepts of non-equilibrium heating, the contributions of kinetic and potential energies of particles arriving at the surface of the growing film, and practical approaches to utilize the concepts for materials design in thin films and coatings.



Dr. André Anders has a joint appointment as the Scientific Director and CEO (Vorstand) of the Leibniz Institute of Surface Engineering, Leipzig, Germany, and Professor of Applied Physics at Leipzig University. From 1992 to 2017 he worked at Lawrence Berkeley National Laboratory in Berkeley, CA, USA, and from 1987 to 1991 at the Academy of Science in East Berlin, Germany. He studied physics in Wrocław, Poland, Berlin, (East) Germany, and Moscow (Russia, then Soviet Union), to obtain his PhD degree from Humboldt University in Berlin in 1987. André is a specialist in applied plasma physics and materials sciences, especially on thin film deposition by plasma-based methods. He has authored 3 books and more than 350 peer-reviewed journal papers (over 23,000 citations). For ten years (2014-2024) he was the Editor-in-Chief of Journal of Applied Physics, published by AIP Publishing, Melville, NY. His work was recognized by several awards, including the 2016 Nathaniel Sugerma Memorial Award of the SVC, and election to Fellow of APS, AVS, IEEE, and InstPhys (UK).

Materials Science-Based Guidelines to Develop Robust Hard Coatings

Paul H. Mayrhofer

Technische Universität Wien, Vienna, Austria

For mechanically dominated load profiles, nitrides are preferred as the base material for structural and functional hard coatings, while oxide-based materials offer better protection against high-temperature corrosion (such as oxidation). Thus, when mechanical and thermal loads are combined, the nitrides used should also have excellent stability against temperature and oxidation. How to develop such nitride materials that can withstand both high mechanical and thermal loads is the focus of this review article. This is done primarily with the help of experimental and theoretical investigations of the Ti-Al-N system. On the basis of transition metal nitride coatings, we discuss important material development guidelines for improved strength, fracture toughness as well as thermal stability and oxidation resistance. Using various superlattice coatings, we further discuss how such nanolamellar microstructures can improve both the strength and fracture toughness of hard coating materials. In addition, other concepts for improving fracture toughness are discussed, with a focus on those that can increase both fracture toughness and hardness. The individual concepts allow to design materials to meet the ever-growing demand for coatings with a wide range of excellent properties and outstanding property combinations.



Dr. Paul Mayrhofer is a University Professor of Materials Science at the Institute of Materials Science and Technology, and chairs the Materials Science Division at TU Wien, Vienna, since 2012. He earned his Ph.D. in 2001 and Habilitation in 2005 in Materials Science at the University of Leoben. His post-doctoral work and Erwin-Schrödinger Fellowship took him to the University of Illinois, RWTH Aachen, and Linköping University. Paul pioneered age hardening in hard ceramic thin films based on ternary nitrides and borides and has a deep interest in phase transitions.

His research focuses on developing and characterizing vapor-phase deposited nanostructured protective and functional materials through a combination of computational and experimental approaches. He has received numerous prestigious awards, including the START Prize from the Austrian Science Fund in 2007, the Christian Doppler Laboratory in 2011, appointed Fellow of the American Vacuum Society (AVS) in 2018, the Bill Sproul Award and Honorary Lecture from AVS in 2023, and the Dr.-Wolfgang-Houska-Preis in 2024. Paul is an elected member of the Austrian Academy of Sciences and served/serves the community in numerous appointed and elected positions including: Advanced Surface and Engineering Division (ASED) of AVS Long Range Planning Committee Chair; ICMCTF Symposium, Program, and General Chair; ASED Symposium Chair; ASED Chair; President of the Austrian Vacuum Society; Councilor to IUVSTA; Board of the Austrian Science Fund; Scientific Advisory Board of the Theodor Körner Fonds; Dean of Academic Affairs at TU Wien.

Crystals Generated in a Microgravity Environment

Kenneth Savin

Redwire, Indianapolis, IN

Redwire's heritage efforts have included manufacturing prototypes and science enablers for individuals doing work in orbit and can find their foundation in work performed on Space Shuttle missions starting over 30 years ago. A recent focus for us has been the systems that facilitate the development of pharmaceutical crystals.

In general, both small and large molecule drugs, are often best formulated as crystals. The crystalline state is more easily handled, isolated and is relatively stable but can suffer from polymorphism and size coefficients of variation that are too large. A potential solution to these problems was impressed upon us by the result found in the microgravity enabled crystal growing experiment of the monoclonal antibody, Pembrolizumab marketed by Merck as the product, Keytruda. Creating new forms and potentially improving the existing forms of drugs in microgravity with greater crystalline uniformity and less variation in size allows for new polymorphs could lead to faster development times, less waste in the process of making the drugs, and possibly lead to new modes of delivery.

We will present results demonstrating the difference in crystals formed terrestrially vs those generated on the International Space Station Platform and describe the use of those crystals for future terrestrial production of pharmaceuticals.

Machine Learning for Atomic Layer Deposition: Accelerating Optimization and Predicting Scale Up of Thin Film Growth Processes

Angel Yanguas-Gil

Argonne National Laboratory, Lemont, IL

Fast process optimization is critical to help reduce the cost of development and adoption of novel thin film-based technologies. Examples include energy technologies, where low cost manufacturing is key to ensure commercial viability, and microelectronics, where longer processing times, with substrates sometimes spending weeks in a fab before reaching a specific step, higher complexity, and ever stringent requirements compound the cost of innovation at the leading technology nodes. Current approaches to transfer technologies from lab to manufacturing often require extensive tool time and characterization or, when assisted by simulations, accurate models carefully tuned to each specific process.

In this presentation I will explore how machine learning can be leveraged to help accelerate the optimization of atomic layer deposition. In particular, I will highlight two different approaches: the first one explores the use of surrogate models to connect experimental metrology data with optimal processing conditions. We have explored two different cases: optimizing a process within a reactor and optimizing process transfer to a different reactor. In both cases, we show that, for thermal ALD processes, the information contained in thickness profiles in undersaturated



After receiving his PhD from the University of Utah in synthetic organic chemistry, **Dr. Kenneth Savin** did a post doc at the Memorial Sloan Kettering Cancer Center before going on to work for Eli Lilly and Co. as a senior research scientist. During his 20-year career in the pharmaceutical industry, Ken led discovery chemistry research teams, discovery operations, radiochemistry, drug disposition, chemistry development and product teams as well as being an adjunct faculty member at Butler University.

During the last four years of Ken's industrial career, he led an effort that resulted in five separate flight experiments flown on the International Space Station. After retiring from Lilly, he joined the team at The Center for the Advancement of Science In Space (the operators of the International Space Station US National Lab) working in both Business Development, as a science lead and ultimately as the Sr. Director of In Space Production Applications. During his time at CASIS Ken worked with a team at NASA to develop the In Space Production and Applications program that is run out of NASA as an effort to develop products in space that will benefit life on the Earth. Ken joined the Redwire team in early 2022 to be the Chief Scientific Officer at Redwire. His focus at Redwire has been on the commercialization of work performed in the labs at Redwire and in developing partnerships that will lead to better products and easier access to the value that space based products can have to humanity.

conditions is enough to help predict optimal dose times both within and across different reactors. We also extended this methodology to the case of plasma-assisted deposition processes. The second approach relies on the use of in-situ characterization techniques to design self-driving deposition tools that can automatically search and identify optimal process conditions. For this approach, we developed a two step process where algorithms are tested first using simulations and digital twins of the reactors before being experimentally deployed. This methodology can lead to x100 faster process optimization compared to standard growth-vent-characterize optimization cycles.



Dr. Angel Yanguas-Gil is Principal Materials Scientist at Argonne National Laboratory, where his research focuses on the fundamentals of thin film growth and semiconductor processing, neuromorphic computing, and AI. He is particularly interested in chemistry-based techniques such as atomic layer deposition. With a background in theoretical physics, Angel obtained his PhD at the University of Seville, Spain in 2006. Before joining Argonne in 2009, he was a postdoctoral researcher at Ruhr Universitaet in Germany and at the University of Illinois at Urbana-Champaign. Angel currently

serves in the program committees of the Electronic Materials Conference and the International Conference on Atomic Layer Deposition and is part of Argonne's Microelectronics Institute and a board member of the Argonne Quantum Institute. He was also the 2022 chair of the AVS Thin Film Division and a member of the program committee of the International Conference on Neuromorphic Systems. Beyond his research interests, he is an advocate of open source software and its application to materials, chemistry, and manufacturing.

Atomic Layer Processing (ALP)



Spatial Atomic Layer Deposition: A New Revolution in Ultra-Fast Production of Conformal and High-Quality Thin-Film Coatings

John Rönn, Sauli Virtanen,
Philipp Maydannik, Sami Sneck
Beneq Oy, Espoo, Finland

Electron Beam Processes



Innovative Approach to Low-Temperature Deposition of Ceramic TBC Coatings Using Hollow Cathode Plasma in the EB-PVD Process

Andrzej Nowotnik, Grzegorz Maciaszek,
Damian Nabel, Krzysztof Cioch
Rzeszow University of Technology, Rzeszow, Poland

Coatings and Processes for Biomedical Applications



Hierarchical Surface Restructuring: The Technology of the Future for Sustainable, High Performing and Multifunctional Neural Interfacing Electrodes and Microelectrode Arrays

Shahram Amini
Pulse Technologies Inc., Quakertown, PA

High Power Impulse Magnetron Sputtering (HIPIMS)



HIPIMS Technology in Industrial Applications

Klaus Boebel¹, Julien Keraudy¹,
Konrad Fadenberger², Denis Kurapov¹, Jörg Vetter³

¹Oerlikon Surface Solutions, Balzers, Liechtenstein
²Oerlikon Balzers Coating Germany GmbH, Bergisch Gladbach, Germany
³J.Vetter-S3-Consulting, Bergisch Gladbach, Germany

Coatings for Energy Conversion and Related Processes



Thin-Film Technology Innovations for Silicon Heterojunction Solar Cell

Kaining Ding, Karsten Bittkau, Alexander Eberst,
Andreas Lambertz, Uwe Rau
Forschungszentrum Jülich GmbH, Jülich, Germany



Reactive Sputtering of High Entropy Alloy Nitride, Carbide, and Oxide Thin Films by HiPIMS: Effect of Reactive Gas Flow Rates

Jyh-Wei Lee^{1,2,3,4}, Bih-Show Lou^{2,5}

¹Ming Chi University of Technology, New Taipei, Taiwan
²Chang Gung University, Taoyuan, Taiwan
³National Tsing Hua University, Hsinchu, Taiwan
⁴National Taiwan University of Science and Technology, Taipei, Taiwan
⁵New Taipei Municipal TuCheng Hospital, Chang Gung Memorial, Taiwan

Digital Transformation through Artificial Intelligence, Machine Learning, Simulation, and Data Science in the Thin Film Industry



Physics-Informed Data-Driven Approaches to Plasma Processing Technologies

Satoshi Hamaguchi
Osaka University, Osaka, Japan

Large Area Coatings



Trends in Large Area Coating for Glazing Applications

Paul C. Mogensen
Saint-Gobain Glass France, Courbevoie, France

Emerging and Translational Technologies and Application



Flash Lamp Annealing – A New Approach to Surface Engineering Challenges

Jörg Neidhardt¹, Thomas Preußner¹,
Marcel Neubert²

Optical Coatings



Effect of Copper Doping on the Optical and Electrical Properties of Aluminum-Chlorophthalocyanine (AICIPc) Thin Films for Photovoltaic Applications

Zakaria Kabore, B. Abdel Samad
Université de Moncton, Moncton, NB, Canada



Plasma Nitriding and PACVD Coating As Complementary Technology for PVD for Big Industrial Applications

S. Haas¹, A. Gebeshuber¹, Christian Übleis¹, Christoph Lugmair¹, D. Heim², C. Forsich²
¹Rübig GmbH & Co KG, Wels, Austria
²University of Applied Sciences, Wels, Austria



Optical Coatings and Plasma Processes for Quantum Computing Hardware

Ulrike Schulz¹, Astrid Bingel¹, Anne Gaertner¹, Nancy Gratzke¹, Thomas Fricke-Begemann², Gregor Matz², Friedrich Rickelt¹

¹Fraunhofer Institute of Applied Optics and Precision Engineering IOF, Jena, Germany
²Qioptiq, Goettingen, Germany

Process Monitoring, Control, and Automation



AI and In Situ Diagnostics Enabled Autonomous PLD System for Fast Thin Film Material Fabrication

Sumner B. Harris¹, Arpan Biswas², Daniel T. Yimam¹, Ruth Fajardo³, Feng Bao³, Christopher Rouleau¹, Alexander Puretzy¹, Kai Xiao¹, Rama Vasudevan¹

¹Oak Ridge National Laboratory, Oak Ridge, TN
²University of Tennessee – Oak Ridge, Oak Ridge, TN
³Florida State University, Tallahassee, FL

Organic and Perovskite Electronics



Vacuum Coating of Metal Halide Perovskite Thin Films for Photovoltaic Applications: Challenges and Opportunities

Zhaoning Song, Yanfa Yan
The University of Toledo, Toledo, OH



Critical Subsystem Suppliers: Enabling Technologies for the Next Generation of Advanced Vacuum Processing Equipment

John West, Stefan Chitoraga
Yole Group, Villeurbanne, France



Engineering Organic and Metal-halide Perovskite Thin Films and Devices via Vapor Processing

Russell J. Holmes
University of Minnesota, Minneapolis, MN

Protective, Tribological and Decorative Coatings



CVD-Diamond Coatings for High Performing Tools and Components

Christian Stein, Markus Höfer, Sarah Baron, Markus Armgardt, Daniel Schulze, Tino Harig, Volker Sittinger

Fraunhofer Institute for Surface Engineering and Thin Films IST, Braunschweig, Germany

Plasma Processing and Diagnostics



Data-Integrated Modeling for Memristive Device Processing

Jan Trieschmann¹, Rouven Lamprecht¹, Tobias Gergs¹, Christian Stüwe¹, Luca Vialetto^{1,2}, Sahitya Yarragolla^{1,3}, Finn Zahari¹, Richard Marquardt¹, Thomas Mussenbrock³, Hermann Kohlstedt¹

¹Kiel University, Kiel, Germany
²Stanford University, Stanford, CA
³Ruhr University Bochum, Bochum, Germany



PVD Coatings for Cutting Tools: Trends and Visions

Jeffrey Barlow¹, Ryan Lake¹, Christoph Schiffers²
¹CemeCon Inc., Horseheads, NY
²CemeCon AG; Würselen, Germany

Quantum Computing



Understanding and Surpassing Materials Challenges in Superconducting Quantum Devices

Adam Schwartzberg, Shaul Aloni, Sinéad Griffin, Yashwanth Balaji, Mythili Surendran
Lawrence Berkeley National Laboratory, Berkeley, CA



High Quality Superconducting Resonators from a Magnetically-Contaminated Sputter System

Maciej W. Olszewski¹, Jadrien T. Paustian², Tathagata Banerjee¹, Haoran Lu¹, Aleksandra Biedron¹, Jorge L. Ramirez^{4,5}, Zhaslan Baraissov¹, David Muller¹, Ivan V. Pechenezhskiy², Daniel Ralph^{1,6}, Gregory D. Fuchs¹, Corey Rae H. McRae^{4,5}, Britton Plourde⁷, Valla Fatemi¹
¹Cornell University, Ithaca, NY
²Syracuse University, Syracuse, NY
³NY CREATES, Albany, NY
⁴University of Colorado Boulder, Boulder, CO
⁵National Institute for Standards and Technology, Boulder, CO
⁶Kavli Institute at Cornell for Nanoscale Science, Ithaca, NY
⁷University of Wisconsin-Madison, Madison, WI

Selective Atomic Scale Processes



Area Selective Atomic Layer Deposition for Future Microelectronics

Stacey F. Bent
Stanford University, Stanford, CA

Thin Film Sensors



Development of Highly Sensitive Short-Wavelength Infrared Avalanche Photodiodes

Seunghyun (Jacob) Lee
University of Texas at Arlington, Arlington, TX

Two-Dimensional (2D) Materials and Heterostructures – Applications, Large-Scale Growth and Advanced Characterization



2D Materials for Next-Generation Electronics: From Low-Power Logic to Monolithic Memory

Deep Jariwala
University of Pennsylvania, Philadelphia, PA



The modern SVC era has been the most intense period of innovation, member engagement, event management, and technology focus in the SVC's sixty-seven year history. The SVC is completely focused on our stakeholders, developing an inclusive culture of listening, adopting, refining, and improving approaches that enhance the unique networking and problem solving culture that sets the SVC apart from all other professional organizations. In the spirit of this culture, we are proud to announce, "Colloquium at the TechCon"; a series of focused, technical conversations that address critical industrial needs. This meeting format was first introduced at the 2022 TechCon in Long Beach and based on the extremely positive feedback, we are bringing it back yet again in 2025!

Each topical workshop will be anchored by a technical presentation or series of presentations that will frame a follow-on roundtable discussion. Subject matter experts will be acting as moderators to facilitate discussions and promote interaction and networking between the attendees. As part tutorial, part problem solving, and part networking, the "Colloquium at the TechCon" represents the vanguard of the SVC's efforts to enhance and redefine the technical conference experience. These workshops will be open to all of our conference attendees and exhibitors.



Thursday, May 22, 2025

12:40 PM • Tennessee B Ballroom

Sponsored by the Technical Advisory Committee

HIPIMS – Facts and Fiction

Moderator: Herbert Gabriel (PVT)

Event Description: High Power Impulse Magnetron Sputtering (HIPIMS) was discovered 25 years ago and has become a disruptive technology within the vacuum coating field. Although HIPIMS has become a mainstay in the semiconductor and in several other industries, there are still many misconceptions regarding its benefits and limitations. The purpose of this colloquium is to pragmatically separate fact from fiction. As a disruptive technology the promise is tempered by perception and expectation. Our panel will address the following areas to concretely bring to light the potential and reality of HIPIMS.

- 1) Deposition rate
- 2) Ion energy/selection and plasma density
- 3) Productivity
- 4) Scalability challenges
- 5) Applications

We will dedicate 25 minutes to each area led by a short presentation followed by a roundtable question and answer period. At the end of the session, we'll ask for further questions and comments.

Panelists:

- Ion energy/selection and plasma density
– **Arutiun Ehasarian** Sheffield Hallam University
- Deposition rate of HIPIMS processes
– **Ralf Bandorf** Fraunhofer IST
- Productivity of HIPIMS processes
– **Frank Papa** GP Plasma
- Scalability of HIPIMS processes
– **Daniel Loch** Trumpf Huettinger
- Industrial applications and products available today
– **Ivan Shchelkanov** Starfire Industries



Herbert Gabriel
PVT



Arutiun Ehasarian



Ralf Bandorf



Frank Papa



Daniel Loch



Ivan Shchelkanov



Monday, May 19, 2025
2:10 PM • Tennessee B Ballroom

Systems for Industrial, Functional, and Decorative Coatings TAC

2025 TechCon

A Large Success Factor of Vacuum Coating: The Right Cleaning!

Moderator: Dr.-Ing. Martin Engels (Ionbond Group)

Event Description: Pre-cleaning is a highly critical and important step before PVD (Physical Vapor Deposition) processes in order to ensure that the substrate surface is free of contaminants, oxides, and organic materials that could significantly reduce the adhesion of the deposited thin film to the substrate. Adhesion of coatings is a crucial aspect in order to obtain reproducible production quality, especially for mass production of coated parts, like automotive or decorative components.

For PVD mass production, the pre-cleaning is generally performed with either aqueous or solvent cleaning lines, which can be designed as so-called multi-tank systems or monoline chambers. Furthermore, hybrid systems which combine these approaches are available for end users as well. Generally, the chosen design, technology and chemistries in a cleaning line highly depend on the products to be washed and coated. For example, automotive components like piston pins are normally oiled and the oil needs to be removed, whereas the parts must be protected against corrosion between washing and coating. In addition, cleaned surface finishes of decorative parts need full attention on rinsing and drying to avoid any visual contamination like water stains. To meet these requirements, a high level of experience and understanding of cleaning machine designs, cleaning chemicals, and the related processes is needed to provide the best solution to coating operations.

In order to give the TechCon participants a deeper insight into this very important factor of vacuum coating related processes, we have gathered a team of experts, who will cover the different cleaning technologies as well as chemicals which are used to reach effective and efficient cleaning solutions:

Panelists:

Ken Allen Novatec S.r.l. (Executive Director North America)

35 years experience in ultrasonic cleaning; primary expertise in developing precision cleaning processes in Aerospace, Textile, Medical, PVD/CVD Coating, and general metal finishing applications.

Dr. Henry Ederle Borer Chemie AG (International Sales Manager Industry)

18 years experience in sales and consulting for industrial cleaning tasks, especially also for cleaning of metals prior to PVD applications.

M.Sc. Stefan Lukowski SAFECHEM Europe GmbH (European Sales Manager)

15+ years of industry experience in advising companies across diverse sectors, including the safe and sustainable use of solvent cleaning, but also aqueous based cleaning in demanding applications.

Beth Bivins KYZEN CORPORATION (Global Products Line Manager – Solvents)

35 years experience in the cleaning industry, including product formulation, process development, technical service, and product management. Developed patented solvent formulations, serves on technical committees, and has presented hundreds of papers at conferences over the years.

Dipl.-Ing. Karl Trautz HEMO GmbH (Project Engineering and Sales)

25+ years experience in the field of industrial cleaning technology; focus on special applications, challenging industries and unexplored regional markets worldwide; unique cleaning processes such as Hybrid and Beyond.



Martin Engels
Ionbond Group



Ken Allen



Henry Ederle



Stefan Lukowski



Beth Bivins



Karl Trautz

For more information
contact the SVC
at 505-897-7743
or [CLICK HERE](#)

2025 TechCon | May 17 – May 22, 2025

Monitor Deposition in Real Time

Ellipsometry offers solutions that improve your process with live feedback.

+OPTIMIZE DEPOSITION PROCESS

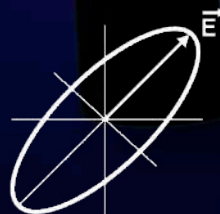
Determine thickness and optical properties of films and multi-layer stacks for metals and dielectrics

+IMPROVE QUALITY CONTROL

Detect variations as they occur with live feedback during the deposition process

+MONITOR GROWTH KINETICS

Sub-angstrom thickness sensitivity provides additional information about film nucleation, surface conditions and other process conditions



J.A. Woollam Co.

Technical Program

DAYS AT A GLANCE

SATURDAY • MAY 17 | SUNDAY • MAY 18 | MONDAY • MAY 19

Saturday At A Glance

Education Program

Full Day Tutorials 9:30 AM – 5:30 PM

- C-310 Sputtering (Bandorf) **Cheekwood F**
- C-333 Practice and Application of High-Power Impulse Magnetron Sputtering (Ehiasarian/Gerdes) **Cheekwood A**

Sunday At A Glance

Education Program

Full Day Tutorials 9:30 AM – 5:30 PM

- C-212 Troubleshooting for Thin Film Deposition Processes (Miller) **Cheekwood A**
- C-218 Advanced Design of Optical Thin Films (Willey) *Pre-recorded tutorial/Virtual*
- C-323 Fundamentals of High-Power Impulse Magnetron Sputtering – HIPIMS (Ehiasarian) **Cheekwood F**
- C-338 Application of Reactive Sputtering (Bandorf/Gerdes) **Cheekwood C**

Half Day Tutorial 2:00 PM – 5:30 PM

- M-240 Basics and Applications of Electron Beam Technology for Manufacturing Processes (Saager) **Cheekwood D**

Special Events

- **SVC Board of Directors/Committee Chairs Meeting** 10:30 AM – 12:00 PM **Belle Meade A/B**
- **Moderators Training Session** 3:30 PM – 4:00 PM **Tennessee C Ballroom**
- **SVC Board of Directors Meet and Greet** 6:30 PM – 7:30 PM **Tennessee Ballroom Foyer** (invitation only)
- **Young Members Meeting** 7:30 PM – 8:30 PM **Tennessee C Ballroom**

Monday At A Glance

Education Program

Full Day Tutorials 9:30 AM – 5:30 PM

- C-110 Materials for PVD Applications (Pernagidis/Ghailane) **Cheekwood H**
- VT-240 Practical Elements of Leak Detection (Deluca) **Cheekwood B**

Half Day Tutorials 9:30 AM – 1:00 PM

- C-220 Introduction to Two-Dimensional Materials (Muratore) **Cheekwood C**
- M-110 Introduction to X-Ray Photoelectron Spectroscopy (Linford) **Cheekwood F**
- M-140 Mass Flow Controllers: Fundamentals, Troubleshooting, and Calibration (Lewey) **Cheekwood G**

Half Day Tutorials 2:00 PM – 5:30 PM

- M-201 Flexible Electronics (Muratore) **Cheekwood C**
- M-210 Introduction to Solid-State Thin Film Batteries (Gaines) **Cheekwood G**
- M-250 Deposition Process Simulation (Gerdes) **Cheekwood F**

Special Events

- **Technology Forum Breakfasts** 7:00 AM – 8:30 AM
 - Manufacturing in Space **Cheekwood A**
 - Protective, Reflective, and Decorative Coatings **Cheekwood B**
 - Transparent Conductive Materials (TCM) **Cheekwood C**
 - Atmospheric Plasma Technology **Cheekwood F**
 - Post-Processing of Vacuum-Coated Roll-to-Roll Products **Cheekwood G**
 - Surface Engineering for the Hydrogen Economy **Cheekwood H**
 - Supply Chains, Manufacturing Processes, and Sustainability for Materials Enabling PVD Processes **Belmont A**
 - Durability Evaluation of Thin Film Coatings: Testing Methods and Practical Implications **Belmont B**
- **SVC Annual Business Meeting** 8:40 AM – 9:10 AM **Tennessee C Ballroom**
- **SVC 2025 TechCon Conference Introduction** 9:20 AM – 9:30 AM **Tennessee C Ballroom**
- **Colloquium: A Large Success Factor of Vacuum Coating: The Right Cleaning!** 2:10 PM – 4:10 PM **Tennessee B Ballroom**
- **Women in the SVC Meeting** 6:00 PM – 7:00 PM **Tennessee C Ballroom**
- **SVC Foundation Casino Night** 8:00 PM – 10:00 PM **Magnolia Ballroom**

Technical Sessions

- **Keynote Speaker Paul Mayrhofer** Materials Science-Based Guidelines to Develop Robust Hard Coatings 9:30 AM – 10:10 AM **Tennessee C Ballroom**
- **Optical Coatings – AM/PM** **Tennessee A Ballroom**
Protective, Tribological, and Decorative Coatings – AM/PM **Tennessee B Ballroom**
- **Digital Transformation of Industrial Deposition Processes – AM/PM** **Tennessee C Ballroom**
- **Electron Beam Processes – AM** **Tennessee D/E Ballroom**
- **Donald Mattox Tutorial Speaker Kenneth Savin** Crystals Generated in a Microgravity Environment 1:20 PM – 2:00 PM **Tennessee C Ballroom**
- **Thin Film Sensors – PM** **Tennessee A Ballroom**
- **Coatings for Energy Conversion and Related Processes – PM** **Tennessee C Ballroom**
- **WebTech Roll-to-Roll Coatings for High-End Applications – PM** **Tennessee D/E Ballroom**

Technical Program

DAYS AT A GLANCE

MONDAY • MAY 19 | TUESDAY • MAY 20 | WEDNESDAY • MAY 21

Tuesday At A Glance

Education Program

Full Day Tutorials 9:30 AM – 5:30 PM

- C-337 ITO and Alternative TCO: From Fundamentals to Controlling Properties (Bright) **Cheekwood B**
- VT-230 Design and Specification of Vacuum Deposition Systems (Belan) **Cheekwood A**

Half Day Tutorials 9:30 AM – 1:00 PM

- C-210 Introduction to Plasma Processing (Baránková/Bardos) **Cheekwood C**
- C-214 Thin Film Deposition Optimization (Willey) *Pre-recorded tutorial/Virtual*
- C-230 Processing of Plastics for Better Protection, Reflection, and Decoration (Soper/Vergason) **Cheekwood G**

Half Day Tutorials 2:00 PM – 5:30 PM

- C-306 Non-Conventional Plasma Sources and Methods in Processing Technology (Baránková/Bardos) **Cheekwood C**
- M-102 Introduction to Ellipsometry (Hilfiker) **Cheekwood F**

Special Events

- **Technology Forum Breakfasts** 7:00 AM – 8:30 AM **International Ballroom North**
 - Industrial Challenges: Uptime, Yield, and Consistency **Cheekwood A**
 - Coatings and Surface Engineering for Medical Applications **Cheekwood B**
 - Magnetron Sputtering **Cheekwood C**
 - Leak Detection - Issues and Practices **Cheekwood D**
 - Energy Conversion and Storage **Cheekwood F**
 - Electron Beam Processes **Cheekwood G**
 - Process Monitoring and Control **Cheekwood H**
 - High Power Impulse Magnetron Sputtering (HIPIMS) **Belmont A**
 - Tribological and Diamond-Like Coatings **Belmont B**
- **Awards Ceremony** 8:40 AM – 9:20 AM **Tennessee C Ballroom**
- **B2B Exhibitor Coffee Hour** (closed event) 10:00 AM – 11:00 AM **Exhibit Hall Ryman B1-B3**
- **Exhibit Hall Open** 11:00 AM – 6:00 PM **Exhibit Hall Ryman B1-B3**
- **Welcome Reception** 5:00 PM – 6:00 PM **Exhibit Hall Ryman B1-B3**

Technical Sessions

- **Protective, Tribological, and Decorative Coatings** – AM **Tennessee A Ballroom**
- **Emerging and Translational Technologies and Applications** – AM **Tennessee B Ballroom**
- **Process Monitoring, Control, and Automation** – AM/PM **Tennessee C Ballroom**

- **Exhibitor Innovator Showcase** – AM **Tennessee D/E Ballroom**
- **Selective Atomic Scale Processes** – AM **Tennessee A Ballroom**
- **Two-Dimensional Materials and Heterostructures** – PM **Tennessee A Ballroom**
- **Poster Session** 2:30 PM – 4:30 PM **Exhibit Hall Ryman B1-B3**

Wednesday At A Glance

Education Program

Full Day Tutorials 9:30 AM – 5:30 PM

- C-217 Practical Production of Optical Thin Films (Willey) *Pre-recorded tutorial/Virtual*
- C-316 Introduction to Atomic Layer Deposition (ALD) Processes, Chemistries, and Applications (Biyikli) **Cheekwood A**

Half Day Tutorial 9:30 AM – 1:00 PM

- C-204 Basics of Vacuum Web Coating (Simmons) **Cheekwood B**

Half Day Tutorial 2:00 PM – 5:30 PM

- C-320 Diamond-Like Carbon Coatings-from Basics to Industrial Realization (Keunecke/Savva/Haubold/Stein/Petzold) **Cheekwood B**

Special Events

- **Technical Advisory Committee Breakfast Meetings** 7:00 AM – 8:30 AM
 - (1) Digital Transformation through Artificial Intelligence, Machine Learning, Simulation, and Data Science in the Thin Film Industry, and (2) Process Monitoring, Control, and Automation **Cheekwood A**
 - Atomic Layer Processing (ALP) **Cheekwood B**
 - (1) High Power Impulse Magnetron Sputtering, and (2) Thin Film Contributions for the Hydrogen Economy **Cheekwood C**
 - Coatings and Processes for Biomedical Applications **Cheekwood D**
 - Optical Coatings **Cheekwood E**
 - Coatings for Energy Conversion and Related Processes **Cheekwood F**
 - Protective, Tribological and Decorative Coatings **Cheekwood G**
 - Large Area Coatings **Cheekwood H**
 - (1) Quantum Computing, and (2) Organic and Perovskite Electronics **Belmont A**
 - Plasma Processing and Diagnostics **Belmont B**
 - (1) Thin Film Sensors, (2) Emerging and Translational Technologies and Applications, and (3) WebTech Roll-to-Roll Technologies and Innovation **Belle Meade C/D**

Technical Program

DAYS AT A GLANCE

WEDNESDAY • MAY 21 | THURSDAY • MAY 22 | FRIDAY • MAY 23

- (1) Electron Beam Processes, (2) Two-Dimensional (2D) Materials and Heterostructures - Applications, Large-Scale Growth and Advanced Characterization, and (3) Selective Atomic Scale Processes **Magnolia Boardroom B**
- **Exhibitor Meeting** (closed event) 9:00 AM – 10:00 AM **Exhibit Hall Ryman B1-B3**
- **Exhibit Hall Open** 10:00 AM – 4:00 PM **Exhibit Hall Ryman B1-B3**
- **Beer Blast** 2:00 PM – 4:00 PM **Exhibit Hall Ryman B1-B3**
- **Announcement of Best Poster Winner** 3:00 PM **Exhibit Hall Ryman B1-B3**
- **Program Committee Meeting** 5:30 PM – 7:30 PM **Tennessee Foyer/Tennessee C Ballroom** (invitation only)

Technical Sessions

- **Keynote Speaker André Anders** Equilibrium versus Non-Equilibrium Heating to Control the Microstructure of Coatings and Thin Films 8:40 AM – 9:20 AM **Tennessee C Ballroom**
- **Organic and Perovskite Electronics** – AM **Tennessee A Ballroom**
- **Process Monitoring, Control, and Automation** – AM **Tennessee C Ballroom**
- **Exhibitor Innovator Showcase** – AM **Tennessee D/E Ballroom**
- **Thin Film Contributions to the Hydrogen Economy** – AM **Tennessee B Ballroom**
- **Quantum Computing** – AM **Tennessee C Ballroom**

Thursday At A Glance

Education Program

Full Day Tutorials 9:30 AM – 5:30 PM

- C-212 Troubleshooting for Thin Film Deposition Processes – Session 2 (Miller) **Cheekwood C**
- C-322 Characterization of Thick Films, Thin Films and Surfaces (Christensen) **Cheekwood A**
- M-120 Design of Experiments for R&D (Grace) **Cheekwood B**

Special Events

- **Technology Forum Breakfasts** 7:00 AM – 8:30 AM **International Ballroom North**
 - Digital Transformation of Industrial Deposition Processes **Cheekwood A**
 - Aligning Deposition Process Requirements with Vacuum System Layout and Design **Cheekwood B**
 - Optical Thin Film Design and Fabrication **Cheekwood C**
 - Advanced Deposition Coating Hardware **Cheekwood F**
 - Coatings for Thin Film Photovoltaics **Cheekwood G**
 - CVD and ALD Processing **Cheekwood H**
 - Thin Film Sensors **Belmont A**
 - Ultra-Thin Flexible Glass - The Next Big Thing? **Belmont B**

- **Colloquium: Success Stories and Positive Adoption of HIPIMS** 12:40 PM – 2:40 PM **Tennessee B Ballroom**
- **Young Members Group/Farewell Social** 6:00 PM – 7:30 PM **Water's Edge**

Technical Sessions

- **Keynote Speaker Angel Yanguas-Gil** Machine Learning for Atomic Layer Deposition: Accelerating Optimization and Predicting Scale Up of Thin Film Growth Processes 8:40 AM – 9:20 AM **Tennessee C Ballroom**
- **Large Area Coatings** – AM/PM **Tennessee A Ballroom**
- **High Power Impulse Magnetron Sputtering (HIPIMS)** – AM/PM **Tennessee B Ballroom**
- **Plasma Processing and Diagnostics** – AM/PM **Tennessee C Ballroom**
- **Coatings and Processes for Biomedical Applications** – AM **Tennessee D/E Ballroom**
- **Atomic Layer Processing** – PM **Tennessee C Ballroom**

Friday At A Glance

Special Events

- **Board of Directors TechCon Wrap Up Meeting** 9:00 AM – 12:00 PM **Belmont C**



Exhibitors-At-A-Glance

| | | | |
|---|------|--|------|
| AGC Plasma Technology Solutions..... | 1104 | DHF Technical Products..... | 1003 |
| Agilent Technologies | 1207 | Dynavac..... | 813 |
| Ampres, Inc. | 1022 | E+R Group..... | 713 |
| Anderson Dahlen..... | 1106 | EBARA Technologies Inc..... | 1218 |
| Angstrom Sciences, Inc..... | 1019 | European Society of Thin Films | 1120 |
| Apex Measurement Systems..... | 208 | Exotech, Inc | 1201 |
| Arzuffi PVD | 1020 | Ferrotec | 615 |
| AVALUXE | 1118 | Film Sense..... | 923 |
| boltzplatz - numerical plasma dynamics GmbH | 922 | Fil-Tech, Inc. | 807 |
| Bricada, Inc. | 204 | Fraunhofer USA Inc. | 201 |
| Brooks Instrument..... | 706 | Genco Ltd..... | 1011 |
| Bühler Leybold Optics | 911 | GfE Fremat GmbH | 702 |
| California Nanotechnologies..... | 820 | GNB King Lai Group | 906 |
| CCR Technology GmbH..... | 1203 | GP Plasma LLC..... | 703 |
| CemeCon, Inc..... | 1114 | Guangdong Huicheng Vacuum Technology Co., Ltd..... | 1112 |
| Changzhou Iemn pressure vessel Co., Ltd | 206 | HEMO Cleaning Systems..... | 912 |
| Coastal Instruments | 1213 | HHV Ltd | 205 |
| Delcom Instruments, Inc. | 209 | HIGHVAC | 920 |

Throttlemaster Gen III Vacuum Valves Isolation and Throttle with One Valve

If you want to optimize flow rates, maximize conductance, and reduce energy costs of your system, the Throttlemaster Gen III is your answer.

- Position gate with 4-20mA or 0-10 VDC from your PLC or Control Program. No external positioner needed.
- Seals Up To 2 atmospheres differential in either direction
- Upstream and downstream pressure control
- Manual override if power fails
- Available on aluminum or stainless steel valves
- Select 115 or 220, 50/60 Hz or 24 VDC

See it in
Booth
#910



Vacuum Research Corp. • 100 Chapel Harbor Drive, Ste. 4 • Pittsburgh, PA 15238 USA
www.vacuumresearch.com • 800-426-9340 • email: VRC@vacuumresearch.com

©2025 Vacuum Research Corp.

| | | | |
|---|------|---|------|
| Hine Automation | 814 | Manitou Systems Inc. | 822 |
| HORIBA Instruments, Inc. | 1007 | Materials Science International Inc. | 619 |
| HVA, LLC. | 915 | Megacold LLC | 1021 |
| IHI Hauzer Techno Coating BV | 607 | Midwest Tungsten Service | 611 |
| INFICON | 1102 | MKS Instruments, Inc. | 918 |
| InstruTech | 1023 | Moorfield Nanotechnology Ltd | 1212 |
| INTELLIVATION | 1210 | MPF Products | 621 |
| Intlvac Thin Film | 903 | MSP, A Division of TSI | 109 |
| Ionautics | 718 | Mustang Vacuum Systems, Inc. | 613 |
| Ionbond - IHI Group | 810 | Nano4Energy SL | 703 |
| J.A. Woollam. | 811 | NAVAC Inc. | 714 |
| Kaufman & Robinson, Inc. | 710 | Nova Fabrica Ltd. | 1209 |
| KOLZER | 103 | Oerlikon Balzers | 1219 |
| KSM Co., Ltd. KSM Vacuum Products Inc. | 1223 | Osaka Vacuum USA, Inc. | 723 |
| Kurdex Corporation - Thin Film Systems. | 1014 | Pfeiffer Vacuum. | 603 |
| Kurt J. Lesker Company | 1113 | Plasma Process Group, Inc. | 1110 |
| Lotus Applied Technology | 1215 | PlasmaSolve. | 720 |
| Magnum Steel Works | 712 | PLASUS GmbH | 818 |



Ultra Compact Dry Pump Model EV-PA

The perfect solution for your load locks and backing turbo pumps!

-  **Oil Free**
Zero-contamination and no more oil changes
-  **Maintenance Free**
Contactless design
Eliminates tip seal replacement
-  **Air Cooled**
Low vibration. Low-noise operation
-  **Energy Efficient**
Power consumption less than 300 watts @ ultimate pressure
-  **Performance**
Models range from 230 l/min [8cfm] to 500 l/min [18cfm]
Variable voltage = 100-240V





MagLev Turbo Pump Model MK-R

Looking for more performance in your vacuum coating chamber?

-  **Reliability**
5 active axis MagLev technology
-  **Flexibility**
Installation in ANY orientation
-  **Process Capable**
Durable rotor design for high gas loads
-  **Ease Of Use**
Automatic calibration
-  **Performance**
Pumping speeds from 1650 l/sec to 4200 l/sec
Many flange types available from ISO-F200 to ISO-F400



**Come see us at SVC TechCon
Booth 1218**

Special discount for attendees

**For more specifications or quotations
Visit us at**

www.ebaratech.com

Exhibitors-At-A-Glance

| | | | |
|--|------|---|------|
| Process Materials, Inc | 711 | TDK Lambda Americas..... | 1205 |
| Protec Surface Technologies SRL..... | 1018 | Tech-X Corporation..... | 1121 |
| Protech Materials..... | 803 | Tecport Optics, Inc..... | 207 |
| PVT Plasma und Vakuum Technik | 1211 | Teledyne Hastings Instruments | 1214 |
| R. D. Mathis Company | 919 | Telemark | 902 |
| Rocky Brook Associates, Inc..... | 1010 | Testbourne Limited..... | 107 |
| RSC - Reliable Silver Corporation..... | 904 | Texas Capitol Semiconductor (Turbo and Cryo Repair) ... | 823 |
| RUBIG Industrial Furnaces | 815 | Thermal Conductive Bonding, Inc..... | 605 |
| SCI Engineered Materials | 1012 | Thermionics Laboratory, Inc..... | 105 |
| Semicore Equipment, Inc..... | 715 | TRUMPF Hüttinger, Inc..... | 200 |
| Sierra Applied Sciences..... | 812 | TWC INC..... | 1119 |
| SOLBERG Filtration | 805 | UC Components Inc..... | 101 |
| Soleras Advanced Coatings..... | 1015 | Vacuum Products Corp | 1220 |
| Spectrometer Experts USA..... | 1221 | Vacuum Research Corporation..... | 910 |
| Sputtering Components..... | 914 | VaporTech..... | 819 |
| Starfire Industries LLC | 703 | VAT Group..... | 1013 |
| Swiss Cluster AG..... | 703 | Vergason Technology, Inc..... | 1111 |
| Tarfilm Hi-Tech Co., Ltd..... | 821 | Vital Materials & FHR..... | 719 |





GfE COATING MATERIALS



AMG TITANIUM
GfE Fremat GmbH
Brand-Erbisdorf,
Germany

SPUTTER TARGETS

www.amg-titanium-de.com

Elevate Plasma Process Innovation with Comprehensive DC and Pulsed-DC Systems

BENEFITS

Configurable waveform
controls

Enhanced deposition rates

Improved film flatness

Minimized arcing

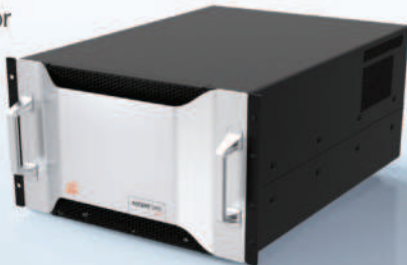
ASCENT® AMS II

Fully water-cooled for stable,
repeatable power



ASCENT® DMS SERIES

Unmatched ease and control
in power delivery for
dual-magnetron
sputtering



ASCENT® AP SERIES

Single- and dual-magnetron
sputtering with advanced
pulse shaping



powersales@aei.com
techsupport@aei.com
+1 866.865.5180

 **Advanced
Energy**

AGC Plasma Technology Solutions 1104

Silver+ Corporate Sponsor <https://www.agc-plasma.com/>
AGC Plasma Technology Solutions is a world-leading plasma coating equipment and technology supplier. We are the industrial vacuum coatings division of the world's largest glass producer, Asahi Glass Company (AGC), with manufacturing and R&D sites across the United States and EU. Our core technologies are Magnetron Sputtering and Plasma Enhanced Chemical Vapor Deposition (PECVD). We design, manufacture, and upgrade complete vacuum coating plants for a wide range of commercial applications.

Agilent Technologies 1207

Silver+ Corporate Sponsor <https://www.agilent.com/en/product/vacuum-technologies>
Agilent Technologies provides a wide array of robust, cost-effective, and easy-to-use vacuum pumps and systems for demanding industrial uses. From high throughput HS Diffusion Pumps to cost-effective DS, MS, and RPS Rotary Vane Pumps, and from reliable, high performance TwisTorr FS Turbo high vacuum pumps to clean, quiet IDP Dry Scroll primary pumps to precise, easy to use HLD Leak Detectors, Agilent delivers the tools you need to achieve your vacuum system productivity.

Ampres, Inc. 1022

<https://www.ampres-inc.com>
Ampres manufactures the world's most advanced scalable linear plasma sources. When the source is used with reactive gas it enables very high rate sputtering of metal oxides and nitrides. With inert gas the source can be used for ion beam assisted sputtering. Ampres linear plasma sources are ideal for large area glass, display, web, solar and tribological thin film coating.

Anderson Dahlen 1106

<https://andersondahlen.com/industries/vacuum-science>
The Applied Vacuum Division of Anderson Dahlen has over 30 years of manufacturing premium vacuum products, custom vacuum chambers and custom vacuum systems for use in the most demanding processes, including UHV & XHV. Our customer base ranges from National Labs and Universities, to world-class equipment manufacturers in several industries. While we primarily work in stainless steel we have the capability to work in Aluminum, Titanium and many other exotic metals.

Angstrom Sciences, Inc. 1019

Gold Corporate Sponsor <https://www.angstromsciences.com>
ANGSTROM SCIENCES manufactures High Performance Magnetron Sputtering Cathodes and PVD Materials for all thin film coating applications. Patented design features such as profiled magnets, turbulent water flow, and threaded target clamping permit high target utilization, fast target change, and fast deposition rates while producing uncompromised film quality. We also represent Plasus – EMICON, Spectroscopic Plasma Monitor Systems that provide real time plasma analysis and end point detection.

Apex Measurement Systems 208

<https://www.apexmeasurementsystems.com/>
Apex Measurement Systems is a Sales and Service distribution company specializing in quality control and process analytics. Core technology is spectroscopy, XRF, UV/Vis, NIR and IR; and sheet resistance. This includes spectrometer systems from Carl Zeiss Spectroscopy: color, coating thickness measurements, as well as bulk measurements.

Arzuffi PVD 1020

<https://www.arzuffisrl.it/en/>
Arzuffi is a worldwide leader in metallization processes and high-vacuum coating systems. For over 30 years, we have been developing systems capable of ensuring cost-effectiveness, increased productivity and finished products of outstanding quality.

AVALUXE 1118

<https://www.avaluxe.de/>
ADDED VALUE THROUGH AVALUXE :
Material Know-How and Material Development | Bonding Service | Magnetrons and Process Control | Power Supplies | Precision Cleaning | Process Consulting | Recycling
Development of user-specific coating processes on customer-specific systems and / or future PVD machines.
Experience and know-how with PVD coatings and of course also PACVD, PECVD coatings.

- Advice on all PVD processes
- Assistance in the selection of the associated materials
- Optimizing the performance of PVD coating systems
- Increase in performance in the production processes
- Development of the necessary test procedures for quality control

boltzplatz - numerical plasma dynamics GmbH 922

<https://boltzplatz.eu/>
boltzplatz is an engineering service provider, offering numerical simulations of rarefied gas and plasma dynamics. These reduce the need for costly prototypes and extensive testing, saving both time and expenses. Potential applications include the prediction of the performance of vacuum pumps, determination of the gas and plasma distribution in vacuum coating equipment, and the characterization of electron and ion beam properties. Beyond complete simulation projects, we offer technical support and software development for PICLas.

Bricada, Inc. 204

<https://www.Bricada-Inc.com>
Bricada Incorporated specializes in high-precision vacuum design and fabrication, offering manual and automated wafer loading devices, magnetically coupled precision manipulators for UHV, and custom vacuum hardware. We provide chamber fabrication, system integration, and precision machining. Our engineered solutions deliver reliability, precision, and longevity in demanding environments. Visit us at SVC TechCon 2025 to learn more!

Brooks Instrument**706**<https://www.BrooksInstrument.com>

Since 1946, Brooks Instrument has been a leader in precision fluid measurement and control technology. Providing instrumentation for flow, pressure and vapor delivery, the company serves customers in semiconductor manufacturing and other high-tech industrial manufacturing and process industries.

With manufacturing, sales and service locations in the Americas, Europe and Asia, Brooks Instrument has the world's largest installed base of mass flow controllers.

Bühler Leybold Optics**911****TECHCON SPONSOR***Gold Corporate Sponsor*<https://www.buhlergroup.com/leyboldoptics>

Bühler Leybold Optics is a global leader in advanced thin-film coating solutions across numerous industries. Renowned for its pioneering spirit and technological excellence, Bühler Leybold Optics continually pushes the boundaries of innovation to meet the evolving needs of a diverse market. The extensive product portfolio includes state-of-the-art equipment designed for the Opto-electronics, Optics, Ophthalmics, Automotive, Display, Glass, Packaging, Electronic, and Aerospace sectors, ensuring unparalleled product quality and performance. With a commitment to excellence, Bühler remains at the fore-

front of technological advancements, driving progress and setting industry standards.

California Nanotechnologies**820**<https://www.calnanocorp.com>

California Nanotechnologies (Cal Nano) specializes in cryogenic milling and FAST/SPS sintering, enabling next-generation materials for coatings, thin films, and surface engineering. We provide nanostructured powders and advanced sintered materials/targets for improved wear resistance, thermal stability, and mechanical performance. Visit us to explore custom material solutions for PVD, CVD, plasma coatings, and energy applications.

CCR Technology GmbH**1203***Silver+ Corporate Sponsor*<https://www.rf-icp-plasmasources.com/>

CCR Technology is a worldwide leading and independent Plasma Source producer for E-Gun and Sputter Assist Sources as well as suitable for PECVD and Etching applications. Our COPRA-Technology trademark DN-, LS-, RS- and IS-Series are RF-ICP-plasma sources who are working gas independent, reliable and maintenance poor perfectly suited for industrial production. An integrated Matching-Network as well as the possibility of customization and the freedom of scalability completes our portfolio.

CemeCon, Inc.**1114**<https://www.cemecon.com>

Coating services and systems from the technology leader in HiP-IMS and Diamond coatings.

Changzhou lem pressure vessel Co., Ltd**206**<https://www.lemncn.com/>

Changzhou LEMN pressure vessel company specializing in the manufacture of various reaction tanks, extraction tanks, concentration and evaporation equipment, crystallization tanks, fermentation tanks, heat exchangers, towers, extraction equipment, non-standard tanks, spray drying, flash steaming, and other types of drying equipment

We also specialize in the manufacture of all kinds of CVD, PVD coating machine vacuum chambers, crystal growth furnace body and other vacuum chambers.

Coastal Instruments**1213**<https://www.mfchelp.com>

Coastal Instruments is a North Carolina based Mass Flow Controller service company started in 1980. We are a service oriented company, dedicated to developing long term partnerships with our customers throughout the world. Our technology, reliability and integrity, have made us the recognized leader in the calibration of flow and pressure measurement devices.

Delcom Instruments, Inc.**209**<https://delcom.com/>

Delcom Instruments:

- Manufacturers NONCONTACT metrology systems
- Our sensors measure SHEET RESISTANCE, THICKNESS,

GP PLASMA
PROCESS ENGINEERING

INLINE COATING SERVICES
CUSTOM SYSTEM BUILD
ROOT CAUSE SUPPORT
SYSTEM RETROFITS
COATING DESIGN
CONTRACT R&D

www.gpplasma.com
JUST A KICK IN THE JOINS!

SEE US AT BOOTH 703

Customized Solutions for Complex Needs



Process Equipment for Research and Production

- **Design**
- **Collaborate**
- **Develop**



Partners in Innovation
SEMICORE

EMISSIVITY

- For benchtop and inline IN-SITU
- Measures ANY CONDUCTIVE COATING
- Measures on ANY SUBSTRATE to include thin film, glass, and wafers

Contact us at Delcom@@delcom.com.

DHF Technical Products 1003

Platinum Corporate Sponsor <https://www.dhftargets.com>

Presenting DHF Tech Products, the gold, silver, platinum and palladium standard of sputtering targets. DHF Technical Products helps make the most of your precious metal investment with innovative sputter target designs, manufacturing and financing that keeps more of your working capital working for you. This includes a target recycling program that turns your spent targets into cash or immediate credit toward a new target. Coupled with world class customer service DHF is the leader in PM targets.

Dynavac 813

Gold Corporate Sponsor <https://dynavac.com/thin-film-deposition-systems>

Dynavac designs and manufactures world-class thin film deposition systems that utilize evaporation, sputtering, and plasma technologies. We build both batch and inline coating systems of all sizes. From precision optical and decorative coatings to high-reflective films for astronomical mirrors, our physical vapor

deposition (PVD) and plasma-enhanced chemical vapor deposition (PE-CVD) solutions optimize the quality and performance of your end product while helping you reduce costs.

E+R Group 713

Silver+ Corporate Sponsor <https://www.eandr.com>

Combining our engineering knowledge from machinery build and substrate handling, we offer vacuum machinery coating platforms expertly designed to the application – meeting and surpassing our customers’ needs.

These platforms include pilot scale vacuum coaters for R&D purposes or small-scale production, through to matched production machinery for customers looking to expand the width and productivity of an application with market potential.

This equipment offers higher productivity rates, lower costs, plus differentiating specifications and apps.

EBARA Technologies Inc. 1218

Gold Corporate Sponsor <https://www.ebaratech.com>

EBARA Technologies Incorporated operates two divisions (Components Division/Semiconductor Equipment Division) and is the North American subsidiary of EBARA CORPORATION, Precision Machinery Company, a global, world-leading manufacturer of vacuum pumps and advanced technology products front-end and back-end manufacturing.

European Society of Thin Films 1120

Gold Corporate Sponsor <https://efds.org/en/>

Innovation is the fuel for the future. In order to generate economic success from research results, small and medium-sized enterprises need access to technological progress. Research and innovation thrive on intensive exchange and cooperation between all players. In order to achieve this goal, we support innovative ideas from industry and science. EFDS brings people together, gives people with good ideas a platform and supports innovative companies in their cooperation with competent partners.

Exotech, Inc 1201

<https://www.exotech.com>

Exotech is a global recycler of Specialty Metals and has been a world leader in the recycling of Specialty Metals from a variety of different industries for over 30 years. These Specialty Metals include Ta, Nb, Hf, Zr, W, Mo, Ge, Ru, In, V, Ni, Co & many alloys containing them.

Exotech has a major focus on the recycling of sputtering targets, chamber scraps & the scraps generated in the production of targets. We are ISO 9001:2015 registered and have been family owned & operated since 1990.

Ferrotec 615

Silver Sustaining Corporate Sponsor <https://www.ferrotec.com>

Ferrotec is a world leader in advanced material, component, and system solutions. Ferrotec manufactures precision electron beam evaporation, sputtering and thin film coating solutions including complete systems, integrated component packages for system builders, or components and accessories for system

ionbond
THE SURFACE ENGINEERS™

Provider of innovative PVD, CVD & PACVD coating services

- Cutting Tools
- Forming & Molding Tools
- Components
- Aerospace
- Automotive
- Decorative
- Medical
- Food Contact
- Fuel Cells & Electrolyzers

IHI GROUP

SEE US AT BOOTH 810

Exhibiting Companies

users who need replacements or upgrades. Our booth features our Temescal e-beam products, MeiVac components, and our Vacuum Feedthrough products. For more information, visit www.ferrotec.com.

Film Sense 923
<https://film-sense.com/>

Film Sense Multi-Wavelength Ellipsometers are well suited for ex situ, in situ, and automated mapping measurements of thin films. Film Sense ellipsometers are an affordable, easy to use, non-destructible solution that can measure the thickness and index of refraction of most ideal transparent films in the 0 - 5000 nm thickness range, and many absorbing thin films in the 0 - 200 nm (depending on the material).

Fil-Tech, Inc. 807
TECHCON SPONSOR
Platinum Corporate Sponsor <https://www.filtech.com>

Quality & Savings From Stock! We offer ebeam multi pocket and high performance emitters, crucibles, and liners. See our Mark I and II ion source parts. Try our sensor heads, feedthroughs & custom hardware. Quality Crystals in Gold, Silver & Stress Relieving Alloy 6MHz & 5MHz. Authorized distributor for INFICON rate monitors/controllers. We have Fil-Tech FT704 and FT705, hydrocarbons, Krytox fluids and greases. Vacuum gauges including ionization, thermocouple, InstruTech & INFICON gauges.

Fraunhofer USA Inc. 201
<https://www.fraunhofer.org/en/media/events/2025-svc-.html>

Fraunhofer's products are engineering services in the area of vacuum surface and coating technologies. At state-of-the art research facilities in Germany and the USA we offer thin film coating material, process and technology development, characterization and testing, technology and know-how transfer, prototyping, pilot series and product launching. Our mission is to provide customized thin film solutions, mitigate investment risks for vacuum technology and support skilled workforce development.

Genco Ltd 1011
Platinum Corporate Sponsor <https://www.genco.com>

Genco provides components and expert solutions for all applications in the field of vacuum coating. All stages of the plasma deposition process are covered by the range of products and services supplied, from plasma pre-treatment and ion sources, to planar and rotatable magnetron sputter cathodes, and instruments for process control and gas analysis. A comprehensive range of services cover magnetic field design, remote or onsite process assistance, and tailored support for specific applications.

GfE Fremat GmbH 702
TECHCON SPONSOR
Silver+ Corporate Sponsor <https://www.amg-titanium-de.com>

GfE Fremat GmbH is a world leading manufacturer and supplier of high quality coating materials for PVD thin film applications. With more than 100 years of experience in materials science, technology, engineering and manufacturing, our core

competencies include various thermal spraying technologies, vacuum melting and powder processing. These capabilities enable us to supply elemental metals, metal alloys, oxides and mixtures thereof as planar and rotatable sputtering targets Made in Germany.

GNB King Lai Group 906
<https://www.gnbvac.com>

GNB is a world-class vacuum hardware manufacturing organization and a market leader for large-sized, high-temperature gate valves, valves for highly contaminated environments, valves integrated into systems, and valve customization. With ISO 9000 certification and ASME U-stamp certification, GNB specializes in vacuum valves, angle valves, ball valves, vacuum chambers, and vacuum hardware accessories, including: KF flanges, CF flanges, ISO Flanges and vacuum fittings.

GP Plasma LLC 703
TECHCON SPONSOR
Silver+ Corporate Sponsor <https://www.gpplasma.com>

GP Plasma's holistic approach to problem solving takes the big picture view before focusing on what is right for you. Solving complex functional surface problems from design to manufacture, our expertise guides you through the pitfalls to arrive at the best solution for your manufacturing needs. Via our network of specialists, we offer a short path to new markets, PVD/PACVD

Electron Beam Source Components



***Service, Production, and Endurance
Regaussing, Rebuilding, or Repairing
Eguns, Standard, Modified or Custom***



www.ebsources.com



design, selection, and manufacturing optimization. At the heart of innovation is collaboration and education, we'll work together with you to find a solid path to success.

Guangdong Huicheng Vacuum Technology Co., Ltd 1112

<http://www.hcvacuum.com>

Guangdong Huicheng Vacuum Technology Co., Ltd. (HCVAC), established in 2006, specializes in advanced vacuum coating solutions. Offering a wide range of equipment, including optical, functional, decorative, and roll-to-roll systems, HCVAC excels in magnetron sputtering, cathodic arc, thermal evaporation, PECVD, ALD, and other technologies. Focused on R&D, HCVAC provides high-precision coatings for industries such as optics, photovoltaics, and semiconductors.

HEMO Cleaning Systems 912

<https://www.hemogmbh.de>

Decades of experience, state-of-the-art machines, and innovative processes – at HEMO, we strive to come close to the void. As close as our demanding customers desire.

As one of the technology leaders in surface technology, we at HEMO are specialists in component cleaning according to precisely defined residual dirt specifications.

HHV Ltd 205

<https://www.hhvlt.com>

HHV Ltd, part of HHV Group, is a thin film vacuum technology and optical coatings company with extensive expertise spe-

cialising in design and manufacture of high vacuum thin film equipment for research and industrial applications. Products include a range of laboratory and R&D development systems as well as industrial vacuum coating systems for optical, decorative and functional coatings. PVD processes include evaporation, sputtering, ion-assisted deposition, as well as CVD, PECVD, RIE and UHV.

HIGHVAC 920

<https://www.highvacgroup.com>

With our extensive vacuum experience, personalized service, and innovative solutions, HIGHVAC is your best choice for vacuum pump needs. As a leading independent supplier of vacuum pumps and rebuilds in North America since 1993, we strive to find you the best product for your application. Our portfolio includes oil sealed rotary vane, dry screw, air cooled multi-stage roots, booster, and scroll pumps. We know vacuum.

Hine Automation 814

<http://www.hineautomation.com>

At Hine Automation, we strive to provide the most cost-effective automation solutions while also delivering unparalleled customer service and support.

Hine Automation sets the precedence of uncompromised quality and versatility in design and manufacturing for state-of-the-art robotic components and automation systems in the semiconductor, solar, flat panel display, and related industries worldwide.

HORIBA Instruments, Inc. 1007

TECHCON SPONSOR

Silver+ Corporate Sponsor https://www.horiba.com/en_en/

The HORIBA product line-up consists of Mass Flow Controllers and Mass Flow Meters including High Temperature Mass Flow and Liquid Mass Flow. Liquid Automatic Refill Systems, Liquid Vaporizers, Mixed Injection Systems and Gas Concentration Monitors. In all stages, from materials evaluation through to final inspection, HORIBA products maintain precision control in your process.

HVA, LLC 915

<https://www.vacuumvalves.com>

Vacuum valve manufacturers located in Reno, Nevada, USA.

IHI Hauzer Techno Coating BV 607

<https://www.hauzer.nl>

Hauzer Techno Coating is an expert in PVD coating technology in decorative, automotive and tool markets. Hauzer Flexicoat® equipment offers the possibility to combine different technologies in one process; e.g. ARC, UBM, and HIPIMS. In their Competence Centre customers are served with coating development, process qualification and pilot production.

INFICON 1102

Gold Corporate Sponsor

<https://www.inficon.com/>

INFICON offers vacuum measurement, components, gas analysis, measurement and advanced process control through resid-







**STRONG METALS.
STRONG PRODUCTS.**

- Planar & Rotary Sputtering Targets
- Arc Cathodes
- Grids for Ion Beam Sources
- Evaporation Boats & Coils
- Spray Nozzles

Mo

W

Cr

TiAl

TiB₂

and many more.

Find out more about us:
www.plansee.com



Exhibiting Companies

ual gas analyzers (mass spectrometers), helium leak detectors, multi-gas leak detectors, thin film deposition controllers and monitors, RF sensors, sensor integration and analysis software.

InstruTech 1023
<https://www.instrutechinc.com>

InstruTech's product portfolio of vacuum gauges and vacuum measurement controllers includes convection enhanced pirani, hot cathode Bayard-Alpert ionization, cold cathode inverted magnetron, full range vacuum gauges, capacitance diaphragm gauges and vacuum switches. InstruTech vacuum gauges offer built-in or remote controllers and displays with pressure measurement capability from 2.00E-11 Torr to atmosphere.

INTELLIVATION 1210
TECHCON SPONSOR
Gold Corporate Sponsor <https://www.intellivation.com/>

Intellivation is a leading manufacturer of vacuum web coating systems featuring innovative design and powerful automation. Our products serve high tech application areas including flexible electronics, thin film battery, superconductors, solar, optical coatings, medical devices, defense, biosensors and more. Our on-site application laboratory equipped with an R2R600 and an R2R330 roll-to-roll coater enables us to provide thin film coating development services on flexible substrates.

Intlvac Thin Film 903
Silver Sustaining Corporate Sponsor <https://intlvac.com/>

Intlvac are experts in thin film deposition and etch using techniques such as reactive magnetron sputtering, ion beam sputtering, evaporation, and chemical vapor deposition. Our production films are used for metallization, AR and HR optical coatings from UV to the far IR, for the hydrogen economy, for active layers for photon conversion, and as protective coverings. We consistently develop state of the art techniques with our large scientific team, demo lab and in house metrology facility.

Ionautics 718
<https://www.ionautics.com>

Ionautics is the leading provider of High-Power Impulse Magnetron Sputtering (HiPIMS) technology and process know-how. We offer high-performance HiPIMS power supplies, bias supplies, synchronization units, reactive process control system, etc., that will enable successful and user-friendly thin film deposition processes. We always go the extra mile to provide not only an excellent product, but also the guidance on how to best use the HiPIMS technology.

Ionbond - IHI Group 810
TECHCON SPONSOR
Silver Sustaining Corporate Sponsor <https://www.ionbond.com>

Ionbond provides advanced coating solutions for applications in the aerospace, medical, food contact, automotive, decorative and tooling industries. We offer a broad range of hard, low-friction, wear-resistant coatings based on PVD, PACVD and CVD technologies.

With more than 30 contract coating centers in Europe, North

America and Asia, Ionbond has one of the largest coating networks in the world. Ionbond is part of the renowned Japanese industrial consortium, the IHI Group.

J.A. Woollam 811
TECHCON SPONSOR
Platinum Corporate Sponsor <https://www.jawoollam.com>

J.A. Woollam is the most trusted brand in spectroscopic ellipsometry. We offer a wide range of spectroscopic ellipsometers for nondestructive materials characterization including thin film thickness, optical constants, growth/etch rates, and more. We pride ourselves in offering the most advanced, high quality and reliable ellipsometers. Visit our booth #811 today to discuss your application with us.

Kaufman & Robinson, Inc. 710
Gold Corporate Sponsor <https://www.ionsources.com>

Kaufman & Robinson, Inc. engineers a wide range of ion & plasma sources, electron neutralizers, and power supplies. KRI's innovative vacuum-based process tools interact with materials on the atomic level. Their products and employees can assist with thin film depositions, etching processes, and material modifications.

With over 40 years of leadership, knowledge, and experience within the industry, KRI is the Ion Beam Authority that you can trust and depend on.

Sputtering Systems for R&D and Pilot

Kurdex Discovery is the latest small Sputter system by Kurdex Corp Thinfilm Systems, specifically designed for versatility and flexibility to process a variety of substrate materials, sizes and shapes. These systems are offered with; Sputter Etch, Pre-heat, Ion Source, multiple high efficiency planar sputter sources for RF, DC, or MF sputtering, and provision for addition of EVAPORATION well for Thermal or E-Beam evaporation. These systems are the smallest systems that Kurdex manufactures for R&D and Pilot production for processing batches of small substrates or single sheets of up to 12"x 18". These systems are highly reliable, cost efficient, simple to operate, easy to install and maintain, have a small footprint and are equipped with user friendly HMI for recipe based operation for multi layer deposition in reactive or non reactive sputtering.



www.kurdex.com

Kurdex
Corporation
Thinfilm Systems

KURDEX CORPORATION
343 GIBRALTAR DRIVE
SUNNYVALE, CA 94089
info@kurdex.com

SEE US AT BOOTH 1014

KOLZER 103
 TECHCON SPONSOR
 Silver+ Corporate Sponsor <https://www.kolzer.com>

KOLZER – PVD Coating Solutions Since 1952
 With over 70 years of experience, KOLZER is a global leader in the design and manufacturing of vacuum coating systems for PVD and PECVD technologies.

We serve a wide range of industries, from automotive and aerospace to fashion and consumer electronics, delivering high-performance, sustainable surface finishing solutions. At KOLZER, we combine innovation with customer partnership, offering not just machines but complete, customized coating expertise worldwide.

KSM Co., Ltd. | KSM Vacuum Products Inc. 1223
<https://www.ksm.co.kr>

KSM Co., Ltd. | KSM Vacuum Products Inc. (KSM USA) are Global Leaders in the Custom Design & Manufacturer of Welded Metal Bellows, Heaters, SiC Fine Ceramics & More. For 40+ Years KSM has custom designed & manufactured Critical Vacuum-Seal & Heating Products for UHV / Semiconductor Equipment. Key strategic supplier to global leading SEMICONDUCTOR OEM's (WFE, Solar + Flat Panel Display Markets).

- Welded Metal Bellows
- Pedestal Heaters (SST, Aluminum, Ceramic)

- SiC Fine Ceramics (Silicon Carbide)
 - Mechanical Seals
- We are honored that long-term key customers have recognized KSM for our innovative engineering and trust us to support their projects with outstanding quality and delivery.

Kurdex Corporation - Thin Film Systems 1014
 Gold Corporate Sponsor <http://www.kurdex.com>

Supplier of Large Area Vacuum Deposition and Etch Equipment for R&D, Pilot and High Volume Manufacturing. Products include Sputtering, Evaporation, PECVD, Spatial ALD, ARC-CVD, and Plasma Etch Tools. Standard and Custom Systems configured for In-Line, Cluster and R2R with Full Automation. Substrates sizes up to 2300MM Rigid or Flex, Wafers, Glass Sheets or Roll of Flexible Materials. Applications Lab for Contract Coating Services, DOE and Technology Development.

Kurt J. Lesker Company 1113
 Silver+ Corporate Sponsor <https://www.lesker.com>

We are on the cutting edge of thin film technology and innovation, while offering unparalleled customer support. R&D and Production automated PVD and ALD thin film deposition tools for the optical, photonics, and photovoltaic industries. Chambers; thin film deposition sources; pure targets & materials; R&D circular and production linear sputter sources; pumps and oils; vacuum valves. Ask about our PRO Line PVD Series of thin film deposition systems and our HIPIMS power modules.

Lotus Applied Technology 1215
<https://www.lotusat.com>

Lotus Applied Technology provides Atomic Layer Deposition process development and coating services using conventional temporal ALD, as well as access to our proprietary Spatial PEALD technology (batch, sheet-to-sheet, and roll-to-roll platforms). Our 30+ years in ALD research and production, combined with versatile deposition equipment and available chemistries let you access more than 100 unique processes on substrates from small coupons to 300mm wafers, to large 3D objects.

Magnum Steel Works 712
<https://magnumsteelworks.com/>

Vacuum Chambers—We keep it Simple
 The critical path item in many vacuum coating systems is the vacuum chamber. Vacuum chambers seem complex because numerous details must be exactly right such as:

- Material stresses,
- Deflections,
- Surface finishes,
- Critical dimensions, and
- Helium leak-tight seals and welding.

We are introducing Magnum Steel Works—the new vacuum chamber manufacturer who is simplifying this process. With lower prices, shorter lead times, and the high-quality workmanship a vacuum chamber requires, our process is designed to help our customers get a cost-effective chamber on their floor in record time. Magnum Steel is here to keep it simple for you.


A SERIES OF BUSINESS OBSERVATIONS:

Applied Thinking:

Integrity matters

A company is made or broken on its reputation. Which is why, at Sierra Applied Sciences, we've built our reputation on integrity. Rather than specsmanship, we deliver proof. When we make a promise, you get results. And when we say you can rely absolutely on our products and services, be assured that you'll get the most advanced high-performance planar magnetron cathodes for the thin-film industry. Period.

SOLAR / OPTICS / DATA STORAGE / MEDICAL / FLAT PANELS / TOUCH SCREENS / ELECTRONICS



Sierra Applied Sciences, Inc.
www.sierraapplied.com Tel: 303.440.0861
 © 2011 Sierra Applied Sciences, Inc. All rights reserved.

SEE US AT BOOTH 812

Exhibiting Companies

Manitou Systems Inc.

822

<https://www.manitousys.com>

Manitou Systems Inc. supplies plasma processing components. On display will be our Matrixx RF/DC/HiPIMS switching modules, Eliminator RF blocking filters for thermocouples, heaters and power supplies and Delta Glow high density RF plasma sources for chamber clean & deposition processes. Our new products include 300KHz pulsed DC sputtering power supply and internal, flat inductive plasma sources. Speak to us about how our Glow discharge, 13.56MHz RF generators will work with your plasma system.

Materials Science International Inc.

619

Silver Sustaining Corporate Sponsor <https://msitarget.com/>

Materials Science International, Inc. (MSI) is a world class manufacturer of high-quality sputtering targets. MSI's growth in the industry is due to our commitment of providing customers with exceptional value and service. MSI was founded in 1981 and has maintained an ISO 9001:2015 Certification. MSI's mission is to become the leading manufacturer of quality sputtering targets worldwide.

MSI Services many industries:

- Architectural and Industrial glass
- Automotive
- Photo-voltaic
- Optical coatings
- Hardware and Tooling

Megacold LLC

1021

<https://www.megatech.com/>

We are the market leader for process cooling equipment in critical applications across the UK and America with service engineers strategically placed across the globe to perform cryopump installation the year round. Megacold are proud to have been expertly servicing and advising the cryogenic sector for 50 years and are trusted by OEM's operating with high precision vacuum systems. Our global servicing capabilities give us the competitive edge when reacting to customer faults.

Midwest Tungsten Service

611

Silver Sustaining Corporate Sponsor

<https://www.tungsten.com>

Midwest Tungsten Service manufactures a wide variety of vacuum evaporation sources including filaments, boats, electron beam and ion beam sources from tungsten, molybdenum and tantalum. MTS also supplies tungsten, molybdenum, and tantalum raw material and custom machines parts from these metals. MTS offers its own brand of silicone diffusion pump fluid and TIG welding electrodes. We carry an extensive inventory to assure prompt delivery.

MKS Instruments, Inc.

918

TECHCON SPONSOR

Silver Sustaining Corporate Sponsor <https://www.mks.com>

MKS Instruments is a global provider of instruments, systems, subsystems and process control solutions that measure, mon-

itor, deliver, analyze, power and control critical parameters of advanced manufacturing processes to improve process performance and productivity for our customers. Additional information can be found at www.mksinst.com.

Moorfield Nanotechnology Ltd

1212

<https://www.moorfield.co.uk>

Moorfield Nanotechnology is a leading provider of advanced thin-film deposition and etching systems designed for scientific research and industrial applications. With decades of expertise, we specialize in high-performance vacuum deposition tools, including physical vapor deposition (PVD), chemical vapor deposition (CVD), and plasma processing technologies.

With a commitment to innovation and precision, Moorfield Nanotechnology continues to empower researchers and engineers worldwide.

MPF Products

621

<https://www.mpfpi.com>

Manufactured Precision Feedthrough Products, Inc (MPF Products, Inc.) specializes in the design and manufacture of electrical feedthroughs and viewports, utilizing the latest in ceramic-to-metal seal technologies.

Passion. Precision. Purity.



High performance vacuum valve and system solutions

We change the world with vacuum solutions – that is our purpose as the world's leading supplier of high-end vacuum valves.

Heading into the unknown to open new horizons demands reliable tools. Vacuum valve and system solutions from VAT provide unfailing reliability and enhanced process safety – under all conditions.

vatgroup.com

SEE US AT BOOTH 1013

MSP, A Division of TSI**109**<https://tsi.com/focus/msp,-a-division-of-tsi/>

MSP, a Division of TSI, is a leader in the industry, providing a full suite of particle deposition and metrology products including equipment, services, and particle suspensions.

Mustang Vacuum Systems, Inc.**613**

Silver+ Corporate Sponsor <https://www.mustangvac.com>
Global leader in Thin-Film equipment design/ manufacturing and process development.

Nano4Energy SL**703**<https://www.nano4energy.eu>

Nano4Energy provides state-of-the-art PVD coatings and HiPV® bipolar HiPIMS power supplies strongly focused on R&D and tailor-made solutions to attain optimum performance in our customers' products. Coatings for cutting tools, molds, dies, Hydrogen tech. & 3C products leverage our pioneering HiPIMS tech from 6-20kW. We have an applications lab, characterization equipment and deposition systems from lab to industrial scale in 4000sq.ft facilities in Madrid, Spain. We guide you from idea to design & implementation in full scale industrial systems.

NAVAC Inc.**714**

TECHCON SPONSOR <https://navacvacuum.com/>
NAVAC is the global leader in rotary vane vacuum pump manufacturing. With a legacy of over three decades at the forefront

of technological advancements in vacuum pumps, NAVAC has consistently set the industry standard for innovation and quality. As the world's largest rotary vane pump manufacturer, we take pride in empowering our customers in perfecting their systems with cutting-edge vacuum technology.

Nova Fabrica Ltd.**1209**<https://www.novafabrica.biz>

Nova Fabrica provides solutions that enable production yield optimisation through advanced process characterisation, monitoring, control and automation.

Nova Fabrica products include plasma emission monitoring systems, reactive gas control systems, residual and process gas analysis systems, deposition rate measurement systems, optical and sheet resistance measurement systems, plant-wide supervisory process control system, optical monitoring assemblies, fibre-optic components.

Oerlikon Balzers**1219**<https://www.oerlikon.com/balzers/us/en/>

Oerlikon Balzers is a globally leading provider of wear-resistant coatings for tools used in metal and plastics processing applications. Our customers have been benefiting from this in-depth know-how in surface solutions and industrial engineering for over 35 years. Currently, Oerlikon Balzers operates more than 100 coating centres in over 30 countries throughout Europe, Americas, and Asia, and sells coating systems to customers around the world.

Osaka Vacuum USA, Inc.**723**<https://www.osakavacuum.co.jp/en>

In business since 1950, Osaka Vacuum is a manufacturer of highly reliable vacuum systems, industrial vacuum pumps, and vacuum pumping systems. Products include dry vacuum pumps, roots vacuum pumps, turbo molecular pumps, rotary vane vacuum pumps, liquid-ring vacuum pumps, oil-sealed vacuum pumps and more. Our motto is reliable, long-lasting products that give you safety and satisfaction.

Pfeiffer Vacuum**603**<https://usa.pfeiffer-vacuum.com/>

Pfeiffer Vacuum provides vacuum solutions from a single source. We supply a full range of hybrid and magnetically levitated turbo pumps, rotary vane, Roots and dry pumps, helium/hydrogen leak detectors, gas analyzers, mass spectrometers, vacuum gauges, chambers, valves and components.

Plasma Process Group, Inc.**1110***Silver+ Corporate Sponsor*<https://www.plasmaprocessgroup.com>

Plasma Process Group provides high performance ion beam sources and components required for precision thin film deposition and etching applications. Our scientists are experts in ion optics, ion beam sources and associated RF and DC technologies. We complement our group with a complete service and support center, servicing a variety of ion beam equipment.

PlasmaSolve
matsight

- Compare different engineering scenarios in a process simulation.
- Predict film properties via digital twin models.
- Save 70-90% of experimental work.

plasmasolve.com | info@plasmasolve.com
plasmasolve.com | +1 (650) 799-6693
 matsight.com | +420 776 185 170

SEE US AT BOOTH 720

INDUSTRY DRIVEN

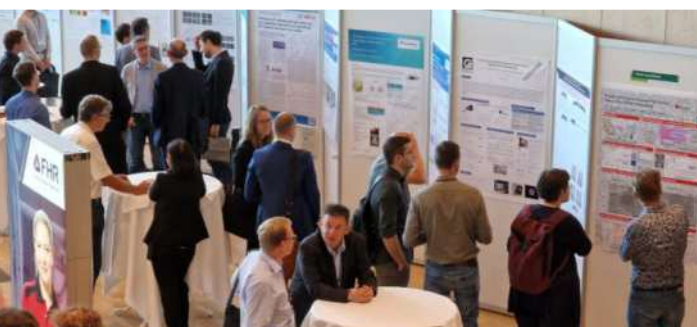
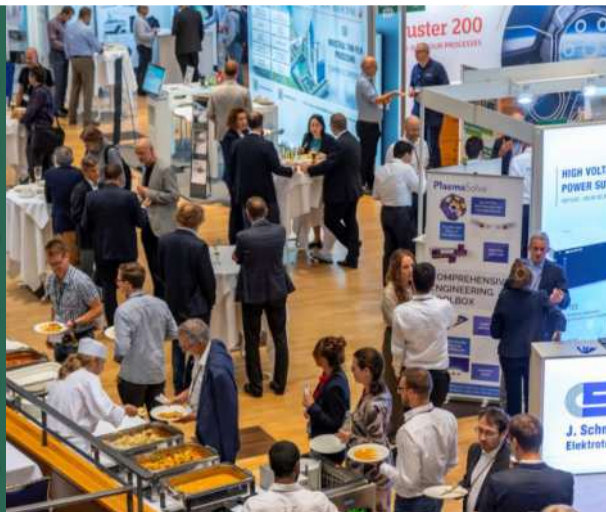
- More than 500 participants
- 100 lectures
- 80 % Industrial Contributions
- TUTORIAL with GUIDED TOUR
- 70 Exhibitors



CONFERENCE TOPICS:

- » Surface Engineering and Plasma Technologies for Energy Applications «
- » Surface Engineering for Tools & Components «
- » Surface Engineering for Optics & Optical Components «
- » Surface Meets Life Science Technologies «
- » Sustainability & Flexible Substrates «
- » Sustainability in Surface Engineering «
- » Power-2-Chemicals «

NETWORKING
EDUCATION
BUSINESS
INDUSTRY EVENING
POSTER EXHIBITION
SOCIAL EVENTS



EFDS

2025 VACUUM 2025 PLASMA 2025 SURFACE 2025 COATING



International Conference & Exhibition

INTERNATIONAL
CONGRESS
CENTER DRESDEN

October 13 – 16, 2025

PlasmaSolve 720*TECHCON SPONSOR**Silver Sustaining Corporate Sponsor* <https://plasmasolve.com>

PlasmaSolve specializes in developing cutting-edge digital twin solutions that cater to PVD and PECVD coating processes, as well as other plasma-powered technologies such as gas conversion, etching, and ion sources. We use machine learning, physics simulation, or a combination of both. Our experts specialize in plasma, plasma-material interactions, film growth mechanisms, crystallography, and thin film characterization. Our digital twins have been successful in R&D and mass-production settings.

PLASUS GmbH 818*Silver+ Corporate Sponsor* <https://www.plasus.de>

PLASUS is a leading manufacturer of spectroscopic plasma monitor and process control systems for low-pressure as well as atmospheric pressure plasma applications in R&D as well as production lines. Our turnkey EMICON systems are most suitable for plasma analysis, optimisation of plasma processes as well as active process, e.g. reactive sputtering, endpoint detection, quality control and fault detection. In addition to our main spectroscopic technology add-on modules for HIPIMS applications and simultaneous layer control are available.

Process Materials, Inc 711*Silver Sustaining Corporate Sponsor* <https://www.processmaterials.com>

Process Materials is a leading supplier of consumable materials serving the thin film industry. Products include planar sputtering targets and cylindrical sputtering targets used in the production of flat panel displays, data storage devices, architectural glass, automotive glass, photovoltaic, optical media, decorative coating, AR, LCDs, hard coatings, etc. Target materials available include pure metals (including precious metals), alloys and compounds.

Protec Surface Technologies SRL 1018<https://www.protectim.com/en/>

Protec Surface Technologies is an Italian company, founded in 1996, that designs and manufactures PVD and PECVD coating systems and supply as well as turn-key solutions for thin film coatings in decorative, technical and tribological markets. Thanks to its experience, Protec Surface Technologies is organized to perform all activities connected with thin film coatings, including technical assistance, moreover is present in every continent and in each industry.

Protech Materials 803*Silver+ Corporate Sponsor* <http://www.protechmaterials.com>

Welcome to Protech Materials, INC.

We are a well-known High Quality Leading supplier of Vacuum coating materials and associated components and services in Hayward CA since 1997.

- Products include all pure elements, alloys, ceramics, and custom materials

SERVICES include:

- Indium and Solder bonding
- any sized planar or rotary target
- rotary target casting of low melting point materials.
- Sprayed rotary targets
- Customer specified backing Plates and Tubes

PVT Plasma und Vakuum Technik 1211*Silver+ Corporate Sponsor* <https://www.pvtvacuum.de>

PVT is worldwide highly renowned for its achievements in the field of ion- and plasma-assisted vacuum technologies. Our worldwide customer base is using our know-how for their thin film applications.

R. D. Mathis Company 919*TECHCON SPONSOR**Silver+ Corporate Sponsor* <https://www.rdmathis.com>

Evaporation Sources and Materials. We offer the highest quality Evaporation Sources, E-Beam Liners and Evaporation Materials for the thin film coating industries. Our Catalog offers a comprehensive selection of Tungsten, Molybdenum and Tantalum sources as well as custom fabrication. We also offer a variety of E-Beam Liners and evaporation materials including Au, Ag, Ni, Al, etc. Our Low Voltage, High Current Power Supplies and our Inert Gas Purifiers are available to complement your process.

Rocky Brook Associates, Inc 1010<http://www.rockybrookinc.com>

ATTENTION OEMs, TARGET MAKERS & RE-SELLERS: Production facilities in Narragansett, RI include DYNAMIC WATER JET CUTTING, CNC VERTICAL MILLING, PLATE SAWING, CNC HORIZONTAL TURNING & PRODUCTION BANDSAW CUTTING. We produce, using either our material or yours: TARGETS & BACKING PLATES (direct or internally cooled & custom) in Cu, Ti, Cr, Mo, Al to 99.999% pure. We specialize in Copper - but work in many other materials. We ship Worldwide! TRY US - YOU'LL BE GLAD YOU DID!

RSC - Reliable Silver Corporation 904*TECHCON SPONSOR**Gold Corporate Sponsor* <https://www.reliablecorp.com>

RSC - Reliable Silver Corporation - precious metals for thin films. RSC manufactures in the US and provides precious metal evaporation materials and sputtering targets for thin film deposition. RSC focuses on silver, gold, platinum, and palladium. Products serve a broad set of applications including large area coatings, semiconductor, electronics, medical product coatings, aerospace, LED, and wearable technology. RSCs reputation for performance, quality, price, delivery, and flexibility is unmatched by competitors in the industry.

RUBIG Industrial Furnaces 815<https://www.rubig.com/en/>

RUBIG Industrial Furnaces has been producing customized heat treatment plants since 1992. The know-how reflected in the construction of the furnaces has been gained in the in-house job

Exhibiting Companies

shop. With the new brand generations MICROPULS® and GAS-CON, RUBIG has reached new heights in nitriding and coating. RUBIG is supplying big automotive companies, the aviation industry as well as small commercial job shops in more than 40 countries.

SCI Engineered Materials 1012

<https://sciengineeredmaterials.com/>

SCI Engineered Materials is a global supplier and manufacturer of advanced materials for PVD Thin Film applications. Through partnerships with end users and OEMs, SCI develops innovative and customized solutions enabling commercial success.

Semicore Equipment, Inc. 715

TECHCON SPONSOR

Platinum Corporate Sponsor <https://www.semicore.com>

Semicore Equipment, Inc., a Silicon Valley based manufacturer, supplies, services and supports Sputtering, Evaporation, Thin Film PVD systems for the electronics, optical, solar energy, medical, military, academic and related high technology industries worldwide. Semicore's products provide quality coatings on a variety of materials including plastic films, glass, ceramics, metals and hybrid substrates and range from R&D to high-performance production level systems at a competitive price.

Sierra Applied Sciences 812

Silver Sustaining Corporate Sponsor

<https://www.sierraapplied.com>

Sierra Applied Sciences was founded over 30 years ago by our current CEO/CTO, Barry Manley. Today the company is the world leader for magnetron sputtering technology for all deposition applications. Sierra Applied's cathodes offer the highest target utilization available in the industry today. All these attributes, along with Sierra Applied's pre-purchase performance & best price guarantee, make it easy to buy. Simply put, Sierra Applied is the only name for magnetron cathode technology!

SOLBERG Filtration 805

<https://www.solbergmfg.com/en/about-us>

SOLBERG is a U.S. based, family owned, manufacturing company that engineers filtration, separation, & silencing solutions for customers around the world. Our quality filtration products improve system performance, extend lifespan and minimize maintenance. We are looking forward to connecting with you at SVC!

Soleras Advanced Coatings 1015

Silver Sustaining Corporate Sponsor <https://www.soleras.com>

Soleras, with a widespread presence spanning China, Europe, and the US, stands as a premier global manufacturer of sputter



ACQUISITION AND ADDITIONAL CAPABILITIES

Reliable Silver Corporation (RSC) has acquired Materion Corporation's (NYSE: MTRN) Large Area Targets site in Albuquerque, NM.



With this acquisition comes our greatly expanded product line of rotatable targets, now including Ag and alloys, In and alloys, NbOx, Si, SiAl, Sn, W, ZnSn and more coming.

www.RELIABLECORP.com | sales@reliablecorp.com | 203-574-7732

equipment pivotal in thin film coatings. Rooted in three fundamental pillars—equipment manufacturing, production of consumable PVD target materials essential for equipment operation, and recent strides in data analytics—Soleras is currently advancing its capabilities by developing a machine learning platform. This platform, equipped with closed-loop software control, aims to streamline equipment operation for operators.

Spectrometer Experts USA

1221

<http://www.spectrometerexperts.com>

Exhibit Highlights: Budget-Friendly Metrology: Affordable yet precise layers composition analysis.

Spectroscopy: LIBS, GDOES, GDMS, and LA-ICPMS systems for thin-film analysis.

Precision in Coating Processes: QC, optimize coating performance with real-time data.

Tailored : Customizable for semiconductors, optics, and more.

Why Our Booth?

Affordable Solutions: Budget-friendly systems

Expert Consult: LIBS, GDOES, GDMS, and LA-ICPMS

Sputtering Components

914

Silver+ Corporate Sponsor

<https://www.sputteringcomponents.com/>

With its roots in the vacuum coating industry, our design team understands the frustration that unpredictable equipment can

bring. Building upon that experience, we have thousands of cathodes operating worldwide...day in, day out.

So, whether you apply thin films to glass, display or touch screens, solar panels, automobile components, decorative hardware, optics or electronics, you can be confident when you choose our rotary magnetron sputtering systems.

Our innovative products have the lowest cost of ownership. Period.

Starfire Industries LLC

703

<http://www.starfireindustries.com>

Starfire Industries is a deep tech provider of precision-nanoengineered plasma-surface solutions—manufacturing IMPULSE® next-generation HiPIMS pulsed power systems and RADION™ microwave plasma sources for deposition, implant and etch. With an 18,000m2 tech dev/metrology center and plasma-material interaction physics depth across 12 patent families, our engineering team innovates bespoke in-line and batch processing solutions for challenging manufacturing problems for emerging startup R&D to worldwide high-volume manufacturing at scale including the world's first in-line PVD coating system nuclear fuel cladding.

Swiss Cluster AG

703

<https://www.swisscluster.com>

Swiss Cluster develops the next generation of thin film deposition equipment for R&D and industrial production. Our innovative designs materialize in our SC-1, the first cluster system that combines (PE)-ALD and PVD in a compact equipment. The SC Optima, a large batch ALD system tailored to the parts and coating materials to improve industrial process times and film quality. The SC Qube for scaling ALD processes, from wafer to pilot production. All our systems are powered by Swiss Cluster electronics and software for outstanding process control and automation.

Tarfilm Hi-Tech Co., Ltd.

821

<https://www.tarfilm.com/>

Tarfilm Hi-Tech Co., Ltd (AT&M), the number one sputtering targets in China, one of world's leading producers of high quality PVD coating targets. We're the runner up to Plansee, our targets are used on all known PVD coating equipment producers like Eifeler, Cemecon, Platit, Hauzer, Oerlikon Balzers etc. .

TDK Lambda Americas

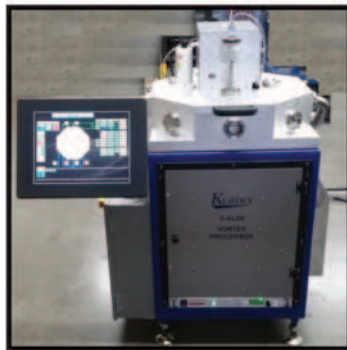
1205

<https://www.us.lambda.tdk.com>

TDK-Lambda Americas, Inc. is a leading manufacturer of high reliability Low/High Voltage Programmable DC Power Supplies, AC Sources, High Voltage Capacitor Chargers and DC Electronic Loads. Programmable DC products include the GENESYS™ Series, the GENESYS+™ Series, the ALE Series and the SFL Series. For more information, please visit <https://www.us.lambda.tdk.com>

Plasma Enhanced Spatial Atomic Layer Deposition/Etch Systems

Discrete "Rigid or Flex" Substrate Kurdex PE-SALD (ALD3 & ALD6) systems are designed to coat rigid or flexible coupons of up to 150 mm Square or wafers of up to 4" diameter. Kurdex SALD systems are offered with Vortex deposition technology for high deposition rate of up to 10 Å/Sec at low temperatures down to room temperature. These system are also capable of depositing precise multi layer optical films . High degree of flexibility, small foot print, coupled with user friendly control system , makes Kurdex SALD systems ideal for exploring amazing world of SALD film properties at angstrom level precision.



www.kurdex.com

Kurdex
Corporation
Thinfilm Systems

KURDEX CORPORATION
343 GIBRALTAR DRIVE
SUNNYVALE, CA 94089
info@kurdex.com

SEE US AT BOOTH 1014

Exhibiting Companies

Tech-X Corporation

1121

<https://txcorp.com/>

Tech-X Corporation specializes in software and consulting services for electromagnetic, electrostatic, and plasma process modeling. Our primary software, VSim, is a particle-in-cell and fluid model with secondary processes like collisions, sputtering, and secondary electron emission. VSims advanced algorithms enable the modeling of complex industrial and experimental setups for Plasma Discharge, Plasma Acceleration, Electromagnetic, Electrostatic, and Vacuum Electronics devices.

Tecport Optics, Inc.

207

<https://tecportoptics.com/>

Tecport is an industry-leading manufacturer of state-of-the-art thin film vacuum deposition systems. Sophisticated systems employ leading edge technology such as IBS, HD Plasma Source, and Reactive Magnetron Sputtering, Ion Plasma DLC, achieving coating characteristic which has never been achieved before. Dedicated to excellence in customer service and technical innovation, Tecport has built a loyal customer base that benefits from its corporate motto, "We serve to serve to serve again."

Teledyne Hastings Instruments

1214

<https://www.teledyne-hi.com/en-us>

Teledyne Hastings Instruments is a trusted manufacturer of a wide range of quality Vacuum Instruments and Gas Mass Flow Instruments. Our vacuum product line includes the original DV-4 and DV-6 thermocouple gauge tubes, along with other vacuum sensors used in combination with meters and controllers that cover a wide range of vacuum pressure from atmosphere to ultra high vacuum. The gas mass flow line of meters and controllers cover a broad range of flow rates from 5 sccm to 15,000 slm that includes a variety of flexible options for outputs, calibration, and fittings.

Telemark

902

TECHCON SPONSOR

Silver+ Corporate Sponsor

<https://www.telemark.com>

Come see Telemark's new generation of Ion Beam Systems. TELEMARk offers evaporation components, including electron beam sources, e-beam power supplies, optical monitors, cryochillers, magnetic fluid feedthrus, quartz crystal deposition controllers, ion beam systems, and related accessories. Products featured at the 2025 TechCon include our line of optical instrumentation, a new generation of ion beam systems, cryochillers, and an innovative in-situ sheet resistance monitor.

Testbourne Limited

107

<https://www.testbourne.com>

Testbourne Ltd has supplied high purity metals, alloys & compounds to industries and R&D such as Semiconductors, Thin-films, Electronics, Electro-optics for over 40 years. With Testbourne you will find an extensive selection of materials available in fabricated forms including sputtering targets, evaporation materials, powders, wire, rods & sheets. We also accommodate any custom requirements you may have.

Texas Capitol Semiconductor (Turbo and Cryo Repair) 823

Silver+ Corporate Sponsor

<http://www.tcsemi.com>

TCS repairs Turbo and Cryo pumps world wide. TCS is here to fulfill your vacuum pump needs. We are offering 50% off your first repair. Please contact us for your pump needs at 480-834-3000 or email at sales@tcsemi.com.

We service and repair a broad range of Turbomolecular (Turbo) and Cryogenic (Cryo) Pumps. Since 1993, TCS has remained at the forefront of high vacuum technology by specializing in the complexities of magnetic levitation technology and controller circuitry and software.

Thermal Conductive Bonding, Inc.

605

TECHCON SPONSOR

<https://www.tcbonding.com>

Thermal Conductive Bonding, Inc. offers thin film coating, sputtering target bonding, Nanofoil®, Nanobond® and elastomer bonding and molding services. All of our processes are meticulously engineered to ensure the finest quality services in the industry. Contact TCB for all of your thin film and bonding needs.

Thermionics Laboratory, Inc.

105

<https://www.thermionics.com>

Founded in 1958, Thermionics manufactures innovative Ultra High Vacuum solutions for academic, governmental and industrial institutions around the world.

A SERIES OF BUSINESS OBSERVATIONS:

Applied Thinking:

Maximum performance means money in the bank

By maximizing target utilization, Sierra Applied Sciences's magnetron cathodes can help you dramatically improve the quality, performance and life of your products. Our difference is a patented magnet design that traps electrons in inner, center and outer erosion zones with magnetic field shapes carefully balanced for even erosion. And it's a difference you can see in superior performance, longer target life—and your products.

SOLAR / OPTICS / DATA STORAGE / MEDICAL /
FLAT PANELS / TOUCH SCREENS / ELECTRONICS

SIERRA APPLIED SCIENCES™

Sierra Applied Sciences, Inc.
www.sierraapplied.com Tel: 303.440.0861
© 2011 Sierra Applied Sciences, Inc. All rights reserved.

SEE US AT BOOTH 812

We understand each customer's unique requirements and design equipment and processes that set new standards of precision and durability, exceeding their expectations.

From designing components and systems to the modification & repair of equipment, Thermionics delivers the best equipment, services and value to customers around the world.

TRUMPF Hüttinger, Inc. **200**
Silver Sustaining Corporate Sponsor

<https://www.trumpf-huettinger.com>

TRUMPF Hüttinger is continually focused on maintaining its strengths to ensure continuous development: flexibility, innovative strength, and the ability to make quick decisions. TRUMPF Hüttinger has sales and service branches in Europe, America, and Asia and has long-term objectives which can only be achieved with long-term, intensive customer relationships, or as the saying goes at TRUMPF Hüttinger: through generating confidence!

TWC INC. **1119**
<http://www.twczs.cn>

Our quartz crystals are made from selected materials and combined with advanced manufacturing processes, ensuring high stability and reliability of the products. Whether it is for communication systems, computer motherboards, or consumer electronics, our products can provide precise frequency control and excellent performance. We offer a variety of specifications and frequency options to meet the needs of different customers.

UC Components Inc. **101**
Silver Sustaining Corporate Sponsor

<https://www.uccomponents.com>

UC Components Inc. manufactures fasteners and value-added Viton® seals for vacuum and other critical applications. Established in 1974, UC Components has been serving the semiconductor, memory, R&D, biomedical, aerospace, defense, and energy industries with exceptional quality and service for over 40 years.

Home of RediVac® Vented, Non-Vented, Coated, Plated, Electro-Polished, and Vacuum Baked Fasteners and RediVac® Cleaned and Vacuum Baked O-Rings for vacuum applications.

Vacuum Products Corp **1220**
<https://www.vacproducts.com>

Vacuum Products Corp (VPC) is a manufacturer and wholesaler of vacuum components. Our core valve is manufacturing for cost reduction. We help customers to achieve cost reduction goal through engineering/design and manufacturing.

We offer materials certificates. All flanges and fittings are made from control drawings. Consistency and quality are assured. Our featured products are the valves, feedthroughs and manipulators.

We are seeking distributors in the East Coast. Contact us: sales@vacproducts.com, 510-498-8518.

Vacuum Research Corporation **910**
TECHCON SPONSOR <https://www.vacuumresearch.com>

Vacuum gate valves with port sizes from NW-25 to ISO-800 (ANSI 32 inch). Electric motor, Pneumatic and manual actuators. Aluminum or stainless steel. Optional features include water cooled port flanges and gates and ports for roughing and gauges.

Pirani and stainless steel diaphragm gauges with linear outputs. Rotary vane pumps from 6 to 108 cubic meters/hour (3 to 64 CFM). Fomblin optional.

VaporTech **819**
<https://www.vaportech.com>

Headquartered in Colorado, Vapor Technologies, Inc., (VaporTech) is one of the leading PVD coating equipment manufacturers. We work for clients in a broad range of industries globally. PVD coating systems can create coatings customized to meet your needs for friction-resistance, durability, hardness, and aesthetics. Our PVD coating equipment now includes a wide range of sizes for small operations all the way to the world's largest.

VAT Group **1013**
TECHCON SPONSOR

Silver+ Corporate Sponsor <https://www.vatvalve.com>

VAT is the leading global developer, manufacturer and supplier of high-end vacuum valves. VAT vacuum valves are mission-critical components for advanced manufacturing processes of innovative products used in daily life like such as portable devices, flat screen monitors or solar panels. VAT is organized into three different reporting segments: Valves, Global Services and Industry offering high-end vacuum valves, multivalve modules, edge-welded bellows and other related valueadded services.

Vergason Technology, Inc. **1111**
Gold Corporate Sponsor <https://www.vergason.com>

Provider of Vacuum Metalizing Services, PVD Equipment and Processes utilizing Sputtering, Thermal Evaporation, and Cathodic-Arc. Industries served: Lighting, LED, Reflective, Decorative, Chrome Plating Replacement, Plastic Processing, Automotive, Appliance, Aerospace, Electronic, Display, Cosmetic, Packaging, EMI/RFI Shielding, Cutting Tools, Forming & Molding, and Medical.

ISO 9001:2015, ITAR Registered, and RoHS Compliant.

Vital Materials & FHR **719**
<https://en.vitalchem.com/business-unit/thin-film>

Vital Materials (Vital) is a global materials technology and equipment company that has been operating since 1995. With vertically integrated industrial and commercial operations spanning North and South America, Europe, and Asia, Vital Materials employs over 10,000 individuals worldwide.

Vital's advancing thin film technology ensures your solutions for vacuum coating, sputtering targets and evaporation materials by the two Vital's companies - FHR and Vital Thin Film Materials.



High aspect ratio
indium bumps.



Deposition rates as high as 100 Å/s

Substrate cooling as low as -70 °C
with rapid warm-up cycle

Up to 100 µm of indium deposition
from a single point source

Precision ion milling and cleaning

2025 SVC TechCon Promotional Partners

American Vacuum Society

Founded in 1953, AVS is a nonprofit, professional membership organization with 5,000 members worldwide. AVS fosters networking among many scientific communities at various local, national, or international meetings and exhibits throughout the year. In addition, AVS annually publishes five journals, honors, and recognizes members through its prestigious awards program, provides training via the short course program, and offers several career services. Learn more about AVS at www.avs.org!

Physics World/IOP Publishing

Physics World represents a key part of IOP Publishing's mission to communicate world-class research and innovation to the widest possible audience. Physics World helps scientists working in academic and industrial research stay up to date with the latest breakthroughs in physics and interdisciplinary science. We provide an international readership with a unique mix of daily news, opinion and analysis from an award-winning team of science writers and editors. Visit us at <https://physicsworld.com/>.

15th International Conference on HIPIMS

HIPIMS 2025 will provide a forum for presenting the latest research by scientists and engineers from industry, engineering institutes and academia. Contributions will cover fundamental scientific aspects as well as application-oriented research and development. In addition, successful introduction to market of new products utilizing HIPIMS will be addressed.

<https://www.hipimsconference.com/>

Vacuum Technology & Coating

Vacuum Technology & Coating Magazine is the leading trade publication in the Vacuum Processing industry with coverage of topics ranging from Thin Film Coating & Deposition to Photonics, Microelectronics, Nanotechnology and Biotechnology. VT&C's entire library of digital issues going back to 2004 is archived at www.vtcmag.com and a free digital subscription is available at www.vtcmag.com/subscribe.

SVC Board of Directors

PRESIDENT

Liz Josephson
INTELLIVATION LLC
ljosephson@intellivation.com

PAST PRESIDENT

Frank Papa
GP Plasma
frank@gpplasma.com

VICE PRESIDENT

Lee Howell
Kurt J Lesker Company
leeh@lesker.com

TREASURER

Albert Miranda
LightPath Technologies
amiranda@lightpath.com

SECRETARY

Hana Baránková
Uppsala University, Sweden
hana.barankova@angstrom.uu.se

DIRECTOR

Cathi Baker
Advanced Energy Industries, Inc.
cathi.baker@aei.com

DIRECTOR

Ralf Bandorf
Fraunhofer IST
ralf.bandorf@ist.fraunhofer.de

DIRECTOR

Ton Hurkmans
IHI Ionbond Group
ton.hurkmans@ionbond.com

DIRECTOR

Christopher Muratore
University of Dayton
cmuratore1@udayton.edu

DIRECTOR

Kyle Schuberg
Gentex Corporation
kyle.schuberg@gentex.com

DIRECTOR

Sarah Williams
Advanced Energy Industries, Inc.
sarah.williams@aei.com

EXECUTIVE DIRECTOR

Frank Zimone
frank.zimone@svc.org

SVC ADMINISTRATIVE OFFICES

P.O. Box 10628
Albuquerque, NM 87184
Telephone 505.897.7743
Fax 866.577.2407
E-mail svcinfo@svc.org
Website www.svc.org

SVC Foundation Board of Directors

Gary Vergason, Chair

Vergason Technology, Inc.
gvergason@vergason.com

James Hilfiker, Past Chair & Marketing Chair

J.A. Woollam Co.
jhilfiker@jawoollam.com

Lee Howell, Treasurer & Finance Chair

Kurt J. Lesker Company
leeh@lesker.com

Paula L. Becker, Esq., Secretary & Governance Chair

Fil-Tech, Inc.
paula@filtech.com

Patrick Morse, Scholarship Committee Chair

Arizona Thin Film Research
plmorse@svcfoundation.org

Sarah Williams, Special Events Co-Chair

Advanced Energy
sarah.williams@aei.com

Jessica L. Hilton, Special Events Co-Chair

SPECS-TII Inc.
jessica.hilton@specs-tii.com

Jason M. Rogers

jmrogers@svcfoundation.org

Traci Langevin

Tlangevin9@gmail.com

Nancy Louwagie

Normandale Community College
nancy.louwagie@normandale.edu

Christopher A. Johnson

Prince & Izant Company
Cjohnson505@live.com

Caitlin Mathey

Innovative Vacuum Solutions
caitlin.mathey@ivsonline.com

Wolfgang Decker

Kurt J. Lesker Company
wolfgangd@lesker.com



**SOCIETY OF VACUUM
COATERS FOUNDATION**

- Established 2002 -

Your partner for **vacuum deposition equipment** for **advanced application.**

Vacuum Metallizing Coating Process | Low-e Coatings | Solar Control Coatings | AR Coatings

LEYBOLD OPTICS GLC H



Maximum productivity in glass coating for architectural and automotive industries.



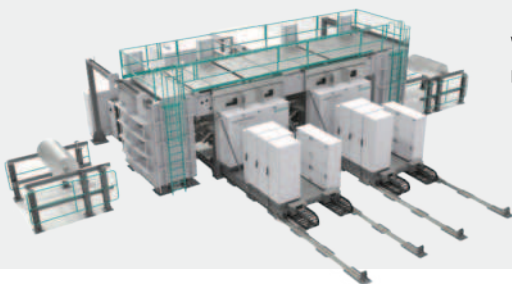
LEYBOLD OPTICS CAPone



Novel vacuum coating platform for capacitor industry.



LEYBOLD OPTICS FLC 1600 D



Wide range of flexible roll-to-roll coating system.





TechCon 2026 Long Beach

Technical Program
April 27 – April 30
Education Program
April 25 – April 30
Technology Exhibit
April 28 – April 29

69th Annual SVC Technical Conference • April 25 – 30, 2026
Long Beach Convention Center, Long Beach, California, USA

Advance Exhibit/Booth Registration

The Advance Booth Reservation Process enables 2025 exhibitors to reserve the best available booth (or booths) for the next SVC Exhibit, using any of the exhibitor points that they have accumulated. The current Point System will still apply for 2026. The exhibiting company contact will be presented with a 2026 Exhibit contract when the 2026 Exhibit Hall Layout has been finalized.

2026 TechCon Sponsorships

Current exhibitors have opportunity to commit to 2026 TechCon Sponsorships now. Select from the following:

- | | | |
|---|---|--|
| <input type="checkbox"/> Emerald\$4,250 USD | <input type="checkbox"/> Notepad (2-color).....\$3,000 USD | <input type="checkbox"/> Online Hotel Registration Splash Page \$1,500 USD |
| <input type="checkbox"/> Sapphire\$3,250 USD | <input type="checkbox"/> Welcome Reception (max 3 sponsors) \$3,500 USD | <input type="checkbox"/> Exhibit Hall Carpet Decals\$2,000 USD |
| <input type="checkbox"/> Ruby\$2,250 USD | <input type="checkbox"/> Specialty Coffee Cart\$3,750 USD | <input type="checkbox"/> Contact the SVC with your ideas (we are open to any creative approach!) |
| <input type="checkbox"/> Coral\$1,250 USD | <input type="checkbox"/> Young Members Recognition & Farewell Social (max 3 sponsors).....\$3,500 USD | |
| <input type="checkbox"/> Cellular-5G Data\$6,500 USD | <input type="checkbox"/> Tote Bags (max 5 sponsors)\$2,750 USD | |
| <input type="checkbox"/> ID Badges\$4,500 USD | <input type="checkbox"/> Online Registration Splash Page (max 3 sponsors).....\$3,000 USD | |
| <input type="checkbox"/> Logo Bottle Water\$3,750 USD | | |

2026 TechCon Advance Booth Reservation Form

10 foot x 10 foot booth \$3,445 USD

Booth fee increases to \$3,695 USD on September 13, 2025.

The Second Wave of Booth Assignments will apply to booth reservations received between July 18, 2025 and September 12, 2025.

Full payment by credit card or company check is required for a complete booth application.

Booth registration form can be sent by fax to 866-577-2407 or by E-mail to jacque.matanis@svc.org.

Mail checks to SVC, PO Box 10628, Albuquerque, NM 87184-0628 USA

Company Name _____

Exhibit Contact Name _____

Address _____

City _____ State _____ Zip _____ Country _____

Work Phone _____ Mobile Phone _____

Fax _____

Email _____ Website _____

of Booths _____ 10 foot x 10 foot space (\$3,445 USD each)\$ _____

Method of Payment:

- Check Visa Mastercard AmEx Discover

All credit card charges will incur a 3% service fee

Card # _____ Expiration Date _____ Security Code _____

Billing Zip/Postal Code _____ Cardholder's Signature _____

Booth Fee Includes: 8 foot high backwall, 3 foot high dividers, booth ID sign, 500-character listing in the 2026 TechCon Program/Exhibit Guide, 2,000-character exhibitor profile in the 2026 online exhibit floor plan.

Once you fill out this form, print this page and either Email it to: jacque.matanis@svc.org or FAX to: +1 (866) 577-2407

SVC USE ONLY

RECEIPT DATE _____
RECEIPT TIME _____

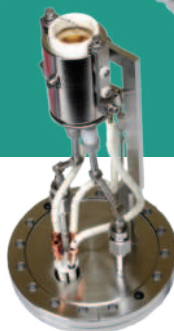
TELEMARK Ion Sources

Telemark low pressure ion sources provide substrate cleaning and assist in the production of the finest film qualities possible in IAD applications.

- Operates in the -5 torr and higher vacuum ranges
- Models with 750 to 3000 watt output
- Attractively Priced (\$20-30K) relative to alternatives
- Low maintenance reduces cost of ownership



Digital Touchscreen Control



Mini UHV Ion Beam Source



E-Beam Power Supplies and Sweeps

4 kW to 20kW ebeam power supplies will meet the strictest process demands. Single or multiple source operation capability. Solid-state and tetrode tube designs are available.



Quartz Crystal Deposition Controllers/ Monitors/ Crystals

Real-time thin film thickness and deposition rate monitoring and control. Reliable and economical instrumentation, sensors, and quartz crystals



Water Vapor Cryochillers

Fast pump down, with the efficient trapping of water vapor in the chamber, is a key requirement for maximum efficiency in thin film coating. Telemark has a large selection of water vapor cryochillers.

34 years under same ownership

All products made at our US factory

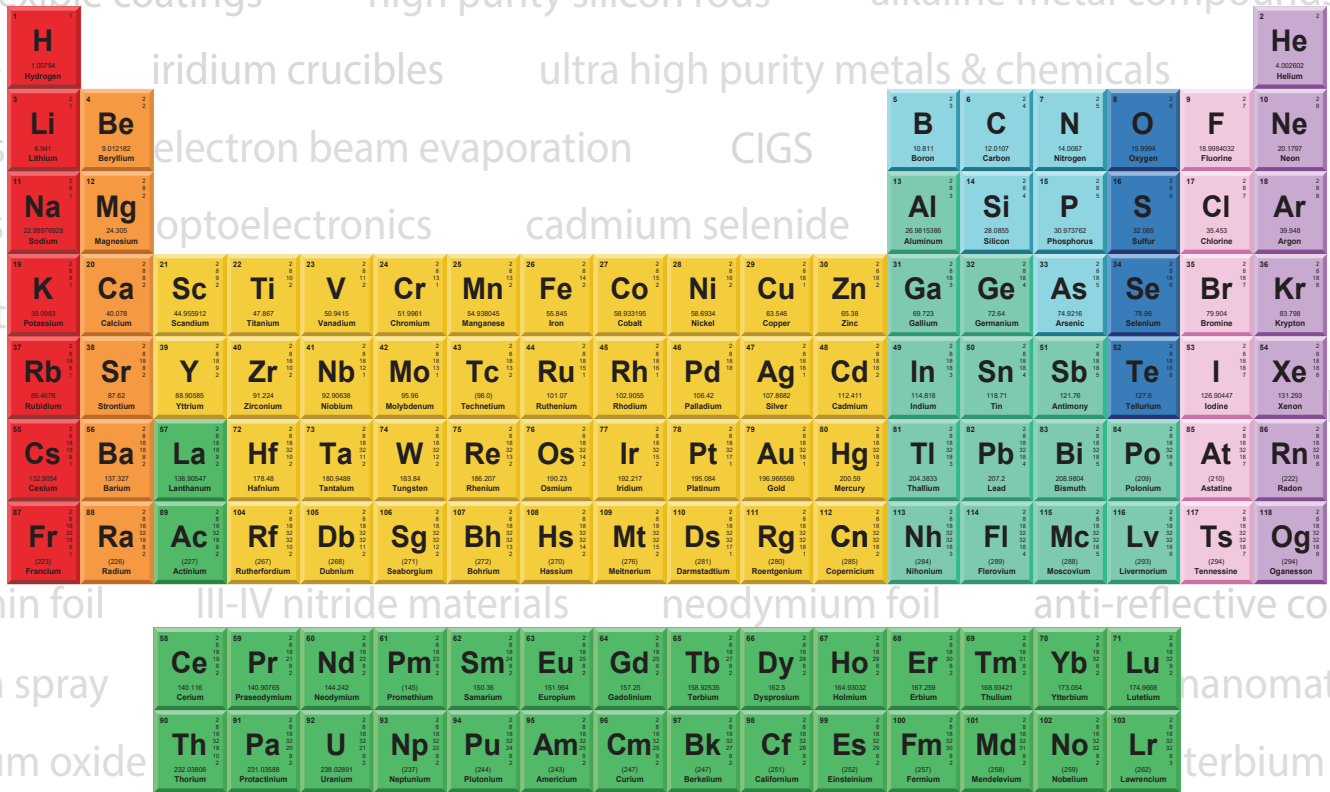
TELEMARK

1801 SE Commerce Avenue, Battle Ground, WA 98604 USA • Tel: 360-723-5360

www.telemark.com • e-mail: sales@telemark.com



MADE IN USA



Now Invent.™

The Next Generation of Vacuum Materials Manufacturers

Bulk & lab scale manufacturers of over 35,000 certified high purity compounds, metals, and advanced materials, including high density, ultra-high purity (99.9% to 99.9999%) sputtering targets and other deposition materials (analyzed using best demonstrated technologies including XRF, GDMS, and ICP). Access the catalog via our secure, multi-language, mobile-responsive platform today.

American Elements Opens a World of Possibilities.... Now Invent!

www.americanelements.com

