

# TMMIS 2016

## 145<sup>th</sup> Annual Meeting & Exhibition

FEBRUARY 14-18 DOWNTOWN NASHVILLE,  
TENNESSEE MUSIC CITY CENTER

### 30<sup>TH</sup> EXHIBITION

#### ***Exhibit Hours***

**Monday, February 15, 2016**  
2:00 p.m. to 6:30 p.m.

*President's Welcoming Reception*  
5:00 p.m. to 6:30 p.m.

**Tuesday, February 16, 2016**  
10:00 a.m. to 5:30 p.m.

*Exhibit Hall Happy Hour*  
4:30 p.m. to 5:30 p.m.

**Wednesday, February 17, 2016**  
10:00 a.m. to 2:00 p.m.

*Lunch*  
Noon to 2:00 p.m.

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238	337
236	335
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230	20'
228	
226	327
224	325
222	323

436	537
434	535
432	533
430	531
428	529
426	527
422	20'
523	20'

536	637
534	635
20'	633
	631
20'	629
	627
526	625
524	625
522	623

128	229
126	227
124	225
122	223

118	219
116	217
114	215

218	20'
216	
214	315

418	519
416	517
414	515

518	619
516	617
514	615

110	211
108	209
106	207
104	205
102	203
100	201

210	30'
208	
206	

20'	
200	20'

410	511
408	509
406	507

20'	
400	20'

510	611
508	609
506	607
504	605
502	603
500	601

ENTRANCE

# COMPANY DESCRIPTIONS

## **ABB Inc.**

**Booth #315**

ABB Inc. Analytical Measurements - Measurement Products Group designs, manufactures and markets high-performance analytical system solutions and spectroradiometers for petroleum, chemical, life sciences, academic, semiconductor, metallurgy and remote sensing/aerospace markets. Building on more than 40 years of experience in analytical instrumentation, ABB has established itself as a worldwide leader in inclusion and hydrogen measurements in liquid aluminum. The company offers a complete range of analytical solutions to the aluminum industry: AISCAN™ hydrogen analyzer, LiMCA inclusion analyzer, Prefil®-Footprinter melt cleanliness analyzer, PoDFA inclusion identification and quantification analysis. ABB also offers metallographic analysis service for its customers.

## **AdValue Technology LLC**

**Booth #337**

A leading supplier of products made of Alumina, Fused Quartz, Sapphire and Zirconia. Products are used widely for applications involving high temperature and demanding high purity. Products range from crucibles, tubes and rods, plates and discs, ceramic membranes for filtration and separation, sample pans for thermal analysis, UV cuvettes to custom components. We also carry CeO2 polishing powders and agate mortars for material lab use. Other accessories such as crucibles tongs and high temperature gloves are also available.

## **Advanced Dynamics Corp., Ltd.**

**Booth #507**

For over almost five decades, Advanced Dynamics (ADCL) has supplied our global customer base with state-of-the-art material handling systems for carbon plants and cast houses. Our handling technology includes fully automated or semi-automated equipment for aluminum and primary metals sectors. ADCL is a one-stop shop for your material handling needs including mechanical and controls engineering, fabrication, assembly, test and commissioning. Whether you need a new system or upgrades to existing systems or simply individual pieces of equipment, we can help improve your company's productivity. Remember "When it's critical to your operations, it's an Advanced Dynamics mission" when you think of ADCL for your next project.

## **Agilent Technologies**

**Booth #100**

Agilent Technologies provides a wide range of solutions to the geochemistry, mining and metals field. We design our analysis instruments to operate in rugged environments at high productivity levels with minimal user training needed. Whether you are determining major or trace analytes in steel or alloy samples, determining gold, silver and platinum group elements in ore grade material, analyzing plating solutions or performing geochemical mapping, Agilent provides you with the ease-of-use and reliability required in handling the most refined and the most difficult samples. Learn more [www.agilent.com](http://www.agilent.com)

## **ALTEK, LLC**

**Booth #611**

ALTEK is a technology-based company with specialist expertise and experience in the design, manufacture and installation of aluminium dross and scrap processing systems. Our engineers have, between them, over 200 years of international experience in developing and refining solutions to dross and scrap recycling. They are a unique skill resource for our worldwide customers.

## **Altus Refractories LLC**

**Booth #500**

Altus Refractories LLC designs and manufactures specialty precast refractory shapes for the Aluminum industry. Using our specialty refractory formulas which are designed and blended in house, our precast refractory shapes provide lower operating costs to our customers through superior performance. We also offer a full line of refractory castables for molten Aluminum contact.

## **Aluminium International Today**

**Booth #502**

*Aluminium International Today* is the Aluminium Industry's leading international publication reporting on aluminium production and processing worldwide. Founded in 1989, the journal has consistently provided a wealth of technical features aimed at equipping producers and processors with information on latest developments. Added to this is a regular digest of industry news, contracts, events, new technology, product reviews and conference reports. Supported by the Aluminium Federation in the UK, *Aluminium International Today* publishes six times a year in English plus two Chinese issues and two Russian issues. *Aluminium International Today* is a subscription magazine. For additional information, visit [www.aluminiumtoday.com](http://www.aluminiumtoday.com)

Contact: *Aluminium International Today*, Quartz Business Media, Quartz House, 20 Clarendon Road, Redhill, Surrey RH1 1QX, UK. Tel +44 (0)1737 855000 Fax +44 (0)1737 855034 e-mail aluminium@quartzltd.com.

## **Aluminium Times**

**Booth #516**

*Aluminium Times* was launched in 1998 with the objective to promote equipment, consumables and products to managers and operators involved in purchase decisions and employed with aluminium primary or secondary producers, rolling mills, forgers or extruders anywhere in the world. The magazine is sent to them free of charge. Since the journal was founded, there have been three surveys undertaken to determine reader's requirements of an international magazine serving the aluminium industry. With 5,300 copies posted every issue, the 2013 reader survey suggests that on average 4 readers see each copy of *Aluminium Times*. 84% become aware of new products through *Aluminium Times* whilst 17% have purchased products after first reading it in *Aluminium Times*. *Aluminium Times* is published five times a year and features during the year aluminium industry maps and directories covering the sectors of rolling, extrusion, primary and secondary production. Our booth will feature copies of our latest issues.

## **AluminiumNetwork.com**

**Booth #208**

AluminiumNetwork.com The global network for the primary aluminium industry. An internet-based portal offering a wide range of daily information and services to companies and individuals engaged in the primary aluminium industry. Our services include all engineering disciplines from the alumina through to the primary aluminium, including all the support functions for the processes involved. An important feature of aluminiumnetwork.com is its database of consultants and freelance specialists with experience in the aluminium industry. In addition to providing general consultancy services, the experts can offer their support in a large number of areas including feasibility studies, recommendations for revamps, overhauls and repairs, spare parts, purchasing, technical evaluation, research, advice on compositions and formulations, global supplier evaluation and auditing, process evaluation and optimization. The support can be on a freelance basis and for as long as it is needed.

## **ANDRITZ METALS Inc.**

**Booth #226**

ANDRITZ METALS Inc. – leader in engineering and design. ANDRITZ METALS Inc. specializes in furnaces for the steel, aluminum, and precious metals industry. The USA company engineers, supplies and installs a wide variety of furnaces for melting, heating, reheating and heat treating. Our furnaces meet the stringent requirements for a wide variety of batch and continuous operations. Since its founding in 1966 ANDRITZ METALS Inc. has provided complete solutions meeting or exceeding its clients' needs. From initial engineering studies and analyses through project management, construction and commissioning to training the operators, ANDRITZ METALS Inc. covers all aspects of designing and building many types of industrial furnace equipment. The ANDRITZ METALS Inc. vision emphasizes quality as the cornerstone of creating value, benefiting customers and employees. As a member of the ANDRITZ GROUP, ANDRITZ METALS Inc. complements the Group's portfolio within the METALS strategic business area.

## **Anton Paar USA**

**Booth #601**

TriTec, formerly CSM Instruments and now part of Anton Paar, offers a wide range of instruments and testing services for surface mechanical properties characterization, including: Hardness Testers, Scratch Testers & Tribometers. 3D-imaging options are available with the ConScan or AFM objective. CSM manufactures standalone instruments and testing modules that can be combined together on an automated platform.

## **AUMUND Foerdertechnik GmbH**

**Booth #233**

With their proven track record in materials handling and storage from mineral processing to hot materials handling, the AUMUND Group offers engineered and cost effective solutions. AUMUND supply:

- Belt and chain bucket elevators for vertical material transportation
- Apron, pan or chain conveyors for crusher feeding and hopper discharge
- Machines for storage, silo and hopper extraction
- Storage and blending bed equipment
- Mobile stacking and loading.

# COMPANY DESCRIPTIONS

## Bloom Engineering Company, Inc. Booth #418

Bloom Engineering has developed a reputation for quality industrial burners and combustion systems. Our professional staff and years of experience have been the cornerstone of our business. Bloom's products can be used for a variety of applications and can be operated with a wide array of fuels and capacity ranges. The industrial burners operate with Low to Ultra Low NOx emissions. Bloom Engineering prides itself on having in-depth knowledge of the various heating applications in which its equipment is used. Bloom's customizable product line, extensive installation list, R&D capability, and on-site field service experience, allows Bloom the ability to provide the best possible solution for each unique situation.

## Bradley Lifting Booth #238

Bradley Lifting Corp. is the industry leader in the design and manufacture of below-the-hook lifting equipment. In business for over 40 years and with thousands of lifting devices in operation, we have a deep knowledge of mill-duty lifting equipment and the experience to deliver material handling solutions with unparalleled levels of reliability, safety and productivity. Bradley Lifting has designed and manufactured numerous lines of lifting equipment for both ferrous and non-ferrous applications. Our engineers have created lifting solutions for many production areas: smelting, anode/cathode production, bake furnaces, ingot & billet casting and rolling mills (sheet & plate). Our Application Engineers would be happy to discuss your specific lifting requirements. Bradley Lifting is ISO9001 and ISO14001 certified.

**ALTA 2016**  
21 - 28 May  
Perth, Australia

**Nickel-Cobalt-Copper, Uranium-REE  
and Gold-PM Conference & Exhibition**

3 CONFERENCES - 3 SHORT COURSES

**ALTA 2016**, organised by ALTA Metallurgical Services, is the 21<sup>st</sup> year of one of the world's leading annual metallurgical events. The conference is an annual gathering of the global Nickel, Cobalt, Copper, Uranium-REE and Gold-PM industries and attracts delegates from 20+ countries. It features highly focused programs, topical forums and presentations by key international speakers. ALTA Conferences are renowned for innovative and high quality programs and 2016 will continue this 20-year track record. The final program typically includes 70+ papers.

PROGRAM OVERVIEW							
Saturday 21 May	Sunday 22 May	Monday 23 May	Tuesday 24 May	Wednesday 25 May	Thursday 26 May	Friday 27 May	Saturday 28 May
SHORT COURSE	SHORT COURSE	CONFERENCE SESSIONS					SHORT COURSE
The A-Z of Copper Ore Leaching	Solvent Extraction and its Application to Copper, Uranium & Nickel-Cobalt	Nickel-Cobalt-Copper <i>Including Hydromet Processing Sulphides Forum &amp; Panel</i>			Uranium-REE <i>Including Membranes in Uranium Ore Processing Forum &amp; Panel</i> <i>in parallel with</i> Gold-PM <i>Including Refractory Gold Ores Forum &amp; Panel</i>		Uranium Ore Processing
EXHIBITION							
		Welcome Reception	Conference Dinner	Happy Hour			

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# COMPANY DESCRIPTIONS

## **Bruker Corp**

**Booth #536**

Bruker offers high end solutions for the analysis or comprehensive phase quantification of raw materials, minerals and raw earth. Offering advanced solutions to reliably support geologists and prospectors on locating and analyzing deposits. Bruker's instruments can be found at an altitude of 4,000 meters or in deserts. Also, Bruker's analytical solutions enable the development, production and refinement of metals at the highest quality standards.

## **Carl Zeiss Microscopy, LLC**

**Booth #523**

Throughout the world, ZEISS stands for the highest quality and reliability. Carl Zeiss Microscopy is part of the Carl Zeiss group, a leading organization of companies operating worldwide in the optical and optoelectronic industry. As the world's only manufacturer of light, X-ray and electron/ion microscopes, Carl Zeiss Microscopy offers tailor-made systems for industry, materials research and academia. A dedicated and well-trained sales force, an extensive support infrastructure and a responsive service team enable customers to use their ZEISS microscope systems to their full potential.

## **Claudius Peters**

**Booth #223**

In the field of materials handling and processing, from stockyard, pneumatic conveying, silo, clinker cooler, grinding mill and packing & dispatch systems, Claudius Peters are experts in the Cement, Coal, Alumina, Gypsum and Bulk Handling industries. Claudius Peters Projects GmbH, Germany and Claudius Peters Technologies SAS France are part of the Technologies Division of Claudius Peters Group GmbH, headquartered in Buxtehude, near Hamburg, with regional offices in the Americas, Europe, China and the Far East, offering turnkey and semi-turnkey systems. The group's other principal division, Aerospace, is engaged in the manufacture of aircraft parts for the European Airbus program. Claudius Peters Group GmbH is a wholly owned subsidiary of Langley Holdings plc, a privately controlled UK engineering group.

## **CompuTherm LLC**

**Booth #416**

CompuTherm LLC, established in 1996, develops CALPHAD type of modeling tools in the framework of ICME. The Pandat2016 is newly released with many advanced features. The highlights are: contour property diagram in the PanPhaseDiagram module and KWN model to treat multiple precipitates in the PanPrecipitation module. Newly released thermodynamic databases include those for noble metal alloys and high entropy alloys. Pandat Demo version can be downloaded from the CompuTherm website, and many live binary phase diagrams can be viewed at iPandat.

## **CRC Press/Taylor & Francis**

**Booth #515**

Take your research skills to the next level with Taylor and Francis Group/CRC Press, leading publisher of technical references and textbooks in Materials Science. Visit our booth for the latest and bestselling books in Polymers, Ceramics, Metals, Composites, Biomaterials, Electronic Materials, and Nanomaterials. Receive 15-25% off an authoritative range of titles and 50% on conference specials. Review our journal selections and pick up complimentary sample copies. Talk to us about being a CRC Press Author!

## **De Gruyter**

**Booth #236**

The independent academic publisher De Gruyter can look back at an over 260 year history. The De Gruyter Group publishes over 1,300 new titles each year in the humanities, social sciences, medicine, natural sciences, and law, more than 750 journals, and a variety of digital media. Due to distribution agreements, De Gruyter provides all Columbia University Press, Harvard University Press, Penn Press, Princeton University, and Toronto University Press eBooks.

# COMPANY DESCRIPTIONS

## **DigiM Solution**

**Booth #527**

DigiM develops and markets cloud-enabled image to simulation software for advanced material physical property computation. Register free on <https://www.digimsoftware.com> to start the journey from your image to a thousand words.

## **EBSD Analytical**

**Booth #430**

EBSD Analytical provides advanced materials characterization services using EBSD/EDS/SEM techniques. We specialize in providing texture, grain size, ODF, grain boundary analysis, and phase ID including elemental composition. We also can provide strain analysis using Cross Court software and high resolution EBSD patterns. Our experts have over 18 years' experience in EBSD/EDS, and have analyzed many thousands of different sample types. We guarantee our results will exceed your expectations as we work with you to solve your materials problems.

## **EDAX Inc.**

**Booth #426**

EDAX is a leading provider of innovative materials characterization systems encompassing Energy Dispersive Spectrometry (EDS), Wavelength Dispersive Spectrometry (WDS), Electron Backscatter Diffraction (EBSD) and Micro X-ray Fluorescence (XRF). The company designs, manufactures, distributes and services hardware and software solutions for a broad range of industries, educational institutions and research organizations.

## **Elsevier**

**Booth #118**

Explore Elsevier's high-impact Materials Science content. Lead the way exploring the latest in research news from journals such as *Materials Today*. Our books explore elements of applied physics and chemistry, as well as chemical, mechanical, civil and electrical engineering and Elsevier's material science books cover seven major sub-disciplines: Energy & Power, Metals & Alloys, Ceramics, Composite Material Science, Polymer Science & Biomaterials, Interdisciplinary Materials Science and Structural Materials. Discover our highly regarded electronic research and solution tools via ScienceDirect!

## **Emirates Global Aluminium**

**Booth #200**

Emirates Global Aluminium ("EGA") is a jointly-held, equal-ownership company formed by Mubadala Development Company of Abu Dhabi and the Investment Corporation of Dubai. EGA's core operating entities are Dubai Aluminium ("DUBAL," also known as EGA Jebel Ali) and Emirates Aluminium ("EMAL," also known as EGA Al Taweelah), whose combined annual production of 2.4 million tonnes per annum ranks EGA among the world's five largest aluminium producers. EGA's in-house developed, proprietary reduction cell technologies, DX Technology and DX+ Technology (operating at 385 kA and 455 kA respectively), currently rank among the best reduction technologies available. EGA also owns Guinea Alumina Corporation ("GAC"), which will develop a bauxite mine and alumina refinery in Guinea (West Africa); and plans to develop the UAE's first alumina refinery. In addition EGA is targeting significant local growth and international expansion.

## **Energoprom Group**

**Booth #114**

EPM Group is a leading manufacturer of hi-tech electrode, cathode, graphite and carbon-based products. The Group's products are widely used in metal, chemical, nuclear, aerospace and electronics industries. The Group's sales network covers more than 60 countries around the world. The Group ranks among the top five global producers of carbon and graphite. The Group continuously expands its product portfolio and works on improving the product quality. The Group's own R&D Center develops isostatic graphite, anode materials for lithium-ion batteries, new types of composite materials for electric transport, large-sized items made of silicified graphites, as well as new strategic carbon materials.

## **Evans Analytical Group**

**Booth #537**

Evans Analytical Group (EAG, Inc.) is the global leader in materials characterization for the advanced materials supply chain. We specialize in the determination of material identity, composition, purity, contaminant levels and crystal structure using advanced analytical techniques such as: GDMS, ICPMS, SEM, TEM, XRD, XRF, XPS, SIMS, Auger and FTIR. EAG provides fast turn-around time, superior data quality and excellent results, with ISO 9001 and 17025 certification. We can

manage highly complex analytical projects and help you meet your goals quickly and confidently. EAG has over 15 locations in the US, Asia and Europe.

## **FEI** **Booth #215**

FEI is showcasing the popular Avizo® 3D visualization and analysis software application for materials research and development. Avizo provides an extensive set of tools addressing 2D and 3D data visualization, materials characterization, reconstruction of 3D models, pore networks and flow analysis, permeability/molecular diffusion/electrical resistivity calculation. Ideal for: synthetic porous materials, polycrystalline metals, geo-materials, and many more.

## **Fives** **Booth #406**

Fives designs and supplies process equipment and manages complete installations in the 3 key sectors of aluminium: - Reduction: Gas Treatment Centers, Pot Tending Machines and Pot Equipment. - Carbon: High Capacity Green Anode Plants including Carbon Butts Processing and Pitch Fume Treatment, Pitch storage and processing, Firing Systems & Fume Treatment Centers for anode baking furnaces, Furnace Tending Assembly Machines, Anode Handling & Storage, Bath Processing Units and Anode Rodding Shops - Casthouse: Melting & Holding furnaces including water cooling systems. EPC solutions for secondary aluminium plants

## **FLSmidth** **Booth #211**

FLSmidth is your major equipment supplier from Bauxite Mining and Refining through Calcination to Smelting. Every day, worldwide, our equipment crushes, conveys, grinds, digests, clarifies, precipitates, stores, and calcines hydrate to produce alumina. Few other technology suppliers can offer such a broad range of equipment and processes while increasing recoveries, lowering energy consumption, and providing proven reliability with environmental protection. FLSmidth combined the industry's leading brands and expertise providing integrated solutions that will save valuable time on your project schedule!

## **Fritsch Milling and Sizing** **Booth #408**

FRITSCH is an internationally respected German manufacturer of application-oriented laboratory instruments. Our instruments are used worldwide for particle size reduction, sample preparation, materials science, product development, and particle analysis for fast paced industrial process monitoring and critical applications in QA, QC, and R&D. Particle sizes from nano range on up. FRITSCH was founded in 1920 as an independent family business. Today 80+ employees work in the headquarters with subsidiaries in Russia, France, Singapore, China, USA. Our core competence is the innovative development and production of premium instruments. We are familiar with challenges and offer constructive solutions across industries. FRITSCH offers the highest dependability, innovative technology, and simplest operation. We insist on quality (CE/DIN EN ISO 9001) without compromise and extensive service. Service offers individual and competent consultation, technical support, installation, maintenance and repair.

## **Furuya Metal Americas Inc.** **Booth #230**

Furuya Metal Americas, Inc. [general@furuya-ma.com](mailto:general@furuya-ma.com)  
Key Products: Precious Metals Crucibles; Precious Metals Thermocouples; Precious Metals Chemical Compounds, Precious Metals Sputtering Targets, Precious Metals Refining. Furuya Metal produces industrial-use products made of platinum group metals (PGM), including Platinum (Pt), Rhodium (Rh), Palladium (Pd), Iridium (Ir), and Ruthenium (Ru). PGM possess excellent heat resistance, high chemical stability, high electric conductivity and play an important role in fields like electronics, optical glass, the environment and medicine. Furuya Metal manufactures PGM products such as crucibles for crystal growth, sputtering targets, thermocouples, chemical compounds, and high purity precious metals refining.

# COMPANY DESCRIPTIONS

## **Gautschi Engineering GmbH**

**Booth #325**

Gautschi Engineering GmbH is a leading supplier of equipment for primary aluminium casthouses and recycling plants. The product range of Gautschi™ includes: • Melting – and holding furnaces • Pusher-type furnaces for rolling slab • Homogenizing furnaces for extrusion billet and rolling slab • Multiple chamber furnaces for coil and foil annealing • Single coil annealing furnaces • Horizontal D.C. casting plants • Open mould ingot casting and stacking plants • Vertical D.C. Casters for extrusion billet and rolling slab • AIR GLIDE® and AIRSOL VEIL® mould technology • Engineering Services • After Sales and Services.

## **Gillespie + Powers, Inc.**

**Booth #329**

Gillespie & Powers, Inc. has over 75 years of experience in design, supply, and maintenance of high temperature Delacquering, Melting, and Holding furnaces. The knowledge we have derived from years of experience in the building and maintenance of these furnaces has given us much insight as to the modes of failure. This has allowed us to advance our product designs and work with customers to modify their equipment or design new equipment to increase production, decrease energy consumption, and reduce maintenance costs. Whatever your needs are, call us – we can help!

## **GLAMA Maschinenbau GmbH**

**Booth #317**

GLAMA has designed and built heavy-duty Equipment for Aluminium pot rooms, cast houses and anode rodding shops throughout the world for more than 50 years. The following type of equipment is available: - Anode Changing Vehicles - Anode Pallet Transporters - Butt Cleaning Manipulators - Coil Lift Trucks - Furnace Charging Machines - Furnace Tending Machines - Hammer Crustbreakers - Ladle Charging Trucks - Molten Metal Carriers - Tapping Trucks. GLAMA's experience of many years of producing machines with a unique combination of advanced control and rugged, reliable construction is evident in the several hundred machines now in service. GLAMA equipment withstands the heat, dust, vibration and battering of heavy industry while delivering precise handling performance. More details: [www.glama.de](http://www.glama.de)

## **GNA alutech**

**Booth #509**

GNA is a recognized world leader in the design and construction of furnaces and equipment for the aluminum industry, especially melting and holding furnaces; homogenizing, annealing and heat treatment furnaces; cathode sealing equipment and associated machinery. With sales offices in Canada, Brazil and Taiwan, our equipment is in operation all across North America, in South America, Europe, India, the Middle East, extensively throughout Asia, and Australia. Service and technical support is available from GNA alliances and partners in these same countries and regions. Our advanced design, control systems and construction techniques provide long service life and class-leading efficiency and reliability. Operator safety and comfort are primary goals in the design of our equipment: user-friendly features are built in to all GNA furnaces, extending from the access ladders/stairways and service platforms all the way to the control systems.

## **Goodfellow Corporation**

**Booth #510**

Goodfellow supplies small quantities of metals, alloys, ceramics and polymers to meet the research, development and specialist product requirements of science industry worldwide. The company offers two distinct services: The first meets the needs of those customers who require small quantities of our standard catalog products for immediate shipment. The second is for those who require larger quantities or further processing of the company's standard products, or who need products, which fall within our general supply capabilities. Our web catalog lists a comprehensive range of materials in many forms including rods, wires, tubes and foils. There is no minimum order quantity and items are in stock ready for immediate shipment worldwide with no extra shipping charge. Custom made items are available to special order.

# COMPANY DESCRIPTIONS

## Gouda Refractories

Booth #206

Gouda Refractories is an innovative refractory producer (refractory bricks, castables, mortar, self-flowing castables, complex pre-cast shapes) with global experience and a long track record of supplying superior quality refractories all over the world for more than 100 years. Gouda Refractories develops, manufactures, and sells top quality refractory linings. Gouda's solutions play an important role in, non-ferrous metal (mainly aluminium), petrochemical, environmental and energy industries. Based on an industry-oriented structure and highly competent employees, Gouda Refractories guarantees an optimal support which results in efficiency and reduction of refractory cost. Gouda Refractories supplies total solutions to customers which are cost effective, state of the art, and reliable. Gouda's R&D department is conducted in close co-operation with its customers and renowned research institutes. Gouda's quality assurance is based on the international ISO 9001 standard.

## Granta Design

Booth #615

Granta will demonstrate its software and resources for materials education, research, and product development, and run a hands-on workshop on 'Materials-related critical decision-making in Industry, Research and Education' at the TMS Annual Meeting. We are a hub for communication, information and inspiration – our Education Division supports thousands of university educators worldwide with resources to teach materials or related topics across engineering, science, and design. Granta helps to organize the Materials Education Symposia, global events for materials educators. As the materials information technology experts, Granta also helps hundreds of industrial enterprises to manage materials information and make better materials decisions.

### Accuracy and Reliability

At Rain Carbon we know our customers' businesses and the vital role Calcined Petroleum Coke plays in producing aluminum. From preemptive research to precise handling we manage our relationships and resources to meet your critical requirements. Rain Carbon delivers the right CPC when and where you need it.

### Resourceful Carbon Solutions You Can Depend On

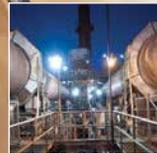
Rain Carbon is a fully integrated, global carbon company and a recognized leader in the production of CPC.

Find out more at [www.raincarbon.com](http://www.raincarbon.com) or call toll free: 1.800.788.1088



Resourceful, Reliable, Responsible

We Make the Grade



# COMPANY DESCRIPTIONS

## **Haarslev Industries Press Technology GmbH & Co. KG** **Booth #210**

Haarslev Press Technology GmbH and Co. KG in Germany is the global specialist in producing highly wear-resistant precision metal parts for various industries, applications, and brands. For the aluminium industry we are the biggest manufacturer for wear and spare parts for anode paste mixing equipment. 100% of our products are manufactured in Germany in our own production facilities . . . unique in this industry. This guarantees the closest contact to our end users and best research implementation. We offer alternatives, no compromises! Visit us in Nashville, Tennessee, at TMS, booth No. 210.

## **Hatch** **Booth #225**

Hatch is an employee-owned, multidisciplinary professional services firm that delivers a comprehensive array of technical and strategic services, including consulting, information technology, engineering, process technology, and project and construction management to the Mining, Metallurgical, Energy, and Infrastructure sectors. Hatch has served clients for over six decades with corporate roots extending over 100 years and has project experience in more than 150 countries around the world. With over 10,000 people in over 65 offices, the firm has more than \$35 billion in projects currently under management.

## **HuiZhou Top Metal Material Co.** **Booth #227**

Huizhou Top Metal Material Co (TOPM) is a rare earth company. It was founded in 1993 and has been ISO 9001 certified since 2006. TOPM is located in China Guangdong province and manufactures rare earth metals and all kinds of alloys. TOPM is the largest Scandium products producer in China, making high quality Scandium Oxide (Sc<sub>2</sub>O<sub>3</sub>), Scandium metal, Aluminum-Scandium 2% master alloys, and any other customized Composition Rare earths, metals, and alloys with very competitive price. Please visit our website: [www.topmetalmaterial.com](http://www.topmetalmaterial.com) for more detailed products information

## **Hycast AS** **Booth #222**

Hycast is now celebrating 25 years of operation and innovation. Hycast was established in 1990 by Hydro Aluminium as a spin off from Hydro R&D. Hycast provides

One Stop Shop for complete casthouse solutions for competitive processes and quality end-products: RAM – Removal of Alkaline Metals; SIR – Inline Melt Refining; Hycast Launder Systems and Rod Feeders; CMV – Casting Machine Vertical for extrusion ingot and sheet ingot casting; GC – Gas Cushion extrusion ingot technology; LPC – Low Pressure Casting extrusion ingot technology; AFM – Adjustable Flexible Moulds sheet ingot technology; FM – Flexible Moulds sheet ingot technology; CCS – Casting Control Systems, automation and human/machine interface. Hycast Services, Knowledge and Competence. Most of the Hycast products have been captive during the last two and a half decades. Hycast supports customers to constantly achieve better quality at lower operation cost and thereby increases the competitiveness of its customers.

## **Hysitron** **Booth #400**

As the world leader in nanomechanical testing, Hysitron® is dedicated to the development of next-generation testing solutions for nanoscale materials characterization. Hysitron's comprehensive nanomechanical testing suite of in-situ techniques (including TEM/SEM Nanomechanics, heating/cooling, nanoDMA®, and nanoECR®) and modular instrument platforms will keep you at the forefront of technology. Stop by our booth to learn about our exciting new developments and for in-depth discussions with our application specialists about our latest nanomechanical testing solutions.

## **ICE Publishing** **Booth #623**

ICE Science is the innovative multi-disciplinary materials science series from ICE Publishing, the publishing division of the Institution of Civil Engineers, who have been uniting research and practice in science and technology since 1836. ICE Science seeks to inspire fresh thinking in how breakthrough research can be practically applied in the areas of materials science, biomaterials, nanotechnology, energy, green chemistry, and surface engineering. Launched in 2012, the ICE Science collection comprises 5 titles: Bioinspired, Biomimetic and Nanobiomaterials; Emerging Materials Research; Green Materials; Nanomaterials and Energy; and Surface Innovations. For further information, visit [www.icevirtuallibrary.com/science](http://www.icevirtuallibrary.com/science).

## **innovatherm GmbH + Co., KG**

**Booth #214**

innovatherm GmbH +Co KG, Butzbach/Germany is an engineering company specialised in optimization of thermal processes. innovatherm offers a comprehensive range of products and services including consulting, process analysis, engineering, process optimisation, supervision of installation, commissioning, and maintenance. The company possesses versatile know-how, experience and innovative technologies for improvement of customers' production facilities. The highly qualified staffs are mainly engineers who have, in addition to their detailed knowledge of automation and computer systems, special knowledge in treatment and optimization of thermal processes. innovatherm also provides a wide range of products in the field of process technology and process automation, such as the ProBake firing and control system for anode/cathode baking furnaces in the primary aluminium industry ProClean fume treatment plants for anode baking furnaces, ProCast process control systems for cast houses

## **International ALUMINIUM Journal**

**Booth #524**

*International ALUMINIUM Journal* deals with all facets of aluminium's value chain from the production of the metal via its processing through to recycling. The editorial focus is on smelting and semis production including the suppliers of plant, equipment and technology. Consideration is given to economic, technical and environmental/ecological topics as well as other aspects that affect the metal and its product applications in the different target markets. Aluminium relevant research articles from companies and institutes are also published. The publication is thus of particular interest to smelters and remelters, semis producers, foundries, fabricators and converters, metal traders, semis stock holders and research facilities. *International ALUMINIUM Journal* is circulated in over 40 countries worldwide – made in Germany, distributed to the world. Articles that are of global interest are published in English or bilingual (German and English).

## **IPS Ceramics Ltd**

**Booth #428**

IPS is exhibiting here for the third year running, showing an extensive selection of high purity alumina, machinable blocks for composites moulds and silicon carbide components designed for strong performance in tough

environments. Tiles, discs, trays, crucibles, tubes, rods, spheres, insulators, seals, threaded parts, bulb holders, wire guides, plates, rings and much more. 95%/99% aluminas plus the full spectrum of SiC from clay bonded to silicon infiltrated. Thermally stable, technically proven and cost competitive. We also supply one of the broadest ranges of cordierite refractories for kiln, furnace and oven wall and roof construction, combustion superstructures and ware support purposes. [www.ipsceramics.com](http://www.ipsceramics.com)

## **Laboratorio Elettrofisico Walker**

**LDJ Scientific**

**Booth #518**

Laboratorio Elettrofisico is a global company specializing in engineering, design and manufacturing the world's most precise magnetizing and magnetic measurement equipment. Established in 1959, Laboratorio Elettrofisico is the recognized leader in design and manufacturer of high-tech magnetizing and magnetic measurement equipment, automated workstations and software. LE is headquartered in Milan, Italy, with sales, service and measurement lab in Auburn Hills, Michigan, measurement lab in Gilroy, California, and service centers in Shanghai and Beijing, China, as well as Hyderabad India.

## **LASERAX**

**Booth #511**

Founded in 2010, LASERAX provides laser solutions that are innovative, robust and safe for the most demanding industrial applications. We rely on a team of laser technology experts to offer a complete range of products and services for cutting, marking and welding applications for a variety of materials.

# COMPANY DESCRIPTIONS

## **Light Metal Age**

**Booth #224**

*Light Metal Age (LMA)* is the pre-eminent magazine of the light metal world. LMA covers the technology of primary production and semi-fabrication of the light metals. Aluminum is the largest of the light metal markets and that is where *LMA* concentrates its attention, starting at the smelter and the entire primary production process and moving with the metal to include all semi-fabricating processes, such as extrusion, rolling, and also remelt, basically *LMA* covers the technology of aluminum processing. Circulation is international and goes to primary and secondary smelters; casthouses; extrusion operations; rolling mills; sheet, rod, and wire mills; and foundries. Some editorial topics include: potline technology, direct chill casting, secondary production, casthouse metal quality, furnaces and melting, filtration, extrusion and handling, automation and process control, surface technologies (such as anodizing), rolling mill technology, and markets for aluminum (such as automotive).

## **Linseis Inc.**

**Booth #122**

Our company manufactures Thermal Analysis Instruments including the following: DTA, TGA, STA, DSC, Dilatometry, Xenon Flash, Laser Flash Thermal Conductivity Systems, Seebeck Coefficient/Electrical Resistivity Instruments, and Magnetic Suspension Balances. For complete information about all our products please visit our website at [www.linseis.com](http://www.linseis.com)

## **Mecfor Inc.**

**Booth#519**

Mecfor & Brochot offers the combined expertise and specific know-how of two renowned aluminium industry suppliers. The acquisition of the Brochot IPs' for the Aluminium and Magnesium division complements Mecfor's expertise. Consolidating its leadership position of equipment designer and manufacturer, Mecfor is in an excellent position to offer turnkey solutions to its customers. All Mecfor equipment take into account the harsh working environment. Our trademark: sturdy, reliable and safe equipment. Proven technologies for a Better Equipped Industrial World: [www.mecfor.com](http://www.mecfor.com).

## **Mechatherm International LTD**

**Booth #609**

Established in 1973, Mechatherm International Ltd is a world leading company of industrial engineering experts specializing in the design, supply and commissioning of furnaces and casthouse equipment for the aluminium industry. Operating in numerous countries across all continents and with a large portfolio of clients, Mechatherm is known for its advanced casthouse technology and competency in executing international turnkey projects. Our engineers have, between them, over 150 years' experience in developing and refining bespoke solutions to satisfy our client's individual requirements.

## **Metallurgy and Materials Society of CIM Booth #522**

We are a world class Canadian organization that serves society and the needs of professionals in the global metallurgy and materials community. The purpose of MetSoc is to serve our members, society and others involved in the research, development and application of the science and technologies for the environmentally responsible extraction, fabrication, utilization and recycling of metals and materials.

## **Micro Materials Ltd**

**Booth #234**

Micro Materials Ltd (MML) was established in 1988 and since then has pioneered nanomechanical test instrumentation. Measurements can be done at temperatures up to 850°C, in liquids and under vacuum conditions. Of particular current interest is the range of tribological measurements that can be done over a wide load range, including nano-scratch, nano-impact and nano-fretting.

## **MTI Corp**

**Booth #619**

MTI Corporation, founded in 1994 by a group of material researchers from MIT and UC Berkeley, has now become the leading manufacturer of oxide crystals and substrates and lab equipment for material research. MTI Corporation formed KJ Group and currently operates multiple production factories in China. This allows for the possibility of providing high quality and low cost precision machines for material research and R&D Labs, including: low speed cutting saw, wire diamond saw, auto polishing machine, high temperature oven, tube furnace, X-Ray crystal orientation machine, and Mini XRD, as well as

complete set of equipment for research of rechargeable battery materials. Simple to operate, low cost, and commitment to our customers is our priority. MTI strives to become the world's leader in bench-top machines for material lab.

## **MTS Systems Corp** **Booth #218**

Engineers and researchers worldwide rely on MTS to address the full spectrum of materials testing challenges—from tension/compression tests to fracture mechanics to complex multi-axial fatigue studies at elevated temperatures. With high-performance testing systems, versatile application software and precision accessories, MTS provides leading-edge technology for testing advanced metals, polymers and composites. And standard solutions and software templates optimize efficiency for many testing applications, including high-cycle fatigue, low-cycle fatigue, thermomechanical fatigue and direct current potential drop. Explore the MTS booth and discover how innovative solutions and decades of industry expertise can enhance your test program.

## **Nanomechanics, Inc.** **Booth #526**

Nanomechanics, Incorporated provides in-situ SEM and vacuum environment tools for measuring the mechanical properties of materials at the micro/nano scale. Our products in the InSEM line of mechanical properties microprobes, offer high resolution and exceptional dynamic range. As the inventors of the nanoindenter, our staff is well positioned to provide products, consulting services, training, and contract laboratory testing in nano indentation, scratch and wear testing, pillar compression, micro & nano-scale tensile testing, and other characterization techniques.

## **Nanovea Inc.** **Booth #219**

From the Irvine, CA office, Nanovea designs and manufactures 3D Non Contact Profilometers, Mechanical Testers & Tribometers to combine the most advanced testing capabilities in the industry: Indentation Hardness, Scratch Adhesion, Wear Friction & 3D Non-Contact Metrology at Nano, Micro & Macro range. Unlike other manufacturers Nanovea also provides Laboratory Services, offering clients availability to the latest technology and optimal results through improvements in

material testing standards.

## **Netzsch Instruments NA LLC** **Booth #110**

Thermal analysis & thermal properties measurement instruments, calorimeters, & contract testing; DSC for highest accuracy specific heat, new tabletop LFA 467 HT to measure thermal diffusivity & thermal conductivity over +1250C, other Laser Flash models as high as +2800C for high temperature materials analysis, new Expedis Dilatometer series for CTE, thermal expansion, & sintering studies with new NanoEye optical encoding system with sub-nanometer resolution, vertical Dilatometers (TMA), STA (DSC-TGA) for analysis of heat flow behaviors together with mass change for direct correlation of thermal effects, cryo to +2400C, coupling to FTIR, MS, and GC-MS for evolved gas analysis, and DMA (Dynamical Mechanical Analysis) including GABO-series for world's highest force & highest temperature DMA. Also offering Adiabatic, Accelerating Rate, and Isothermal Calorimeters for thermal safety studies as well as battery calorimeters for components, cells from coin cell to automotive size, & battery packs.

## **Nuclear Science User Facilities** **Booth #333**

Nuclear energy is a clean and affordable energy source that reduces greenhouse gas emissions and supports a secure domestic energy portfolio. Research is needed to understand how radiation environments affect existing and proposed new reactor materials over time. Nuclear Science User Facilities (NSUF) merges the national nuclear research infrastructure with intellectual capital to pair the best ideas with the needed capability. NSUF provides no-cost access to specialized instrumentation and expertise to carry out experiments that could not be done in individual laboratories. Nuclear Science User Facilities and its partners represent a prototype laboratory for the future. This unique model utilizes a distributed partnership with each facility bringing exceptional capabilities to the relationship including reactors, beamlines, state-of-the-art instruments, hot cells and most importantly, expert mentors.

# COMPANY DESCRIPTIONS

## **Olympus**

**Booth #216**

Olympus DELTA Handheld XRF analyzers provide fast, reliable ID in seconds for accurate geochemistry. Designed for durability to withstand the toughest environments, DELTA XRF analyzers enable reliable sorting and analysis for superior performance in speed, LODs and elemental range. The DELTA brings the power and flexibility of handheld X-ray fluorescence spectrometry to the field. Ruggedized and ultra-portable, this dramatically fast 24/7 technology provides accelerated testing times, allowing for hundreds more tests to be conducted per day with analytical confidence.

## **Outotec Ltd.**

**Booth #307**

Outotec develops and provides technology solutions for the sustainable use of Earth's natural resources. As the global leader in minerals and metals processing technology, Outotec has developed several breakthrough technologies. Outotec serves the light metals industries including the provision of cutting-edge alumina refineries and aluminum smelters. Outotec has over 50 years experience helping customers worldwide in both segments of the aluminum process to reach their goals.

## **P-D Refractories GmbH**

**Booth #203**

P-D Refractories Group belongs to the most competitive suppliers of high-quality refractories for the primary aluminium industry - especially for open and closed anode baking furnaces and the barrier-brick lining of reduction cells. The know-how, we acquired in the aluminium industry over decades, and advanced manufacturing technologies combined with our continuous activities to meet our customers' needs are the basis for the success of our refractory bricks in anode baking furnaces and reduction cells. Customers from all over the world rely on our well-known qualities.

## **Photron Inc.**

**Booth #217**

Photron manufactures high speed cameras for slow motion analysis of events or phenomena that occur too fast for the eye to see or comprehend. Recording at frame rates from 60 to over one million frames per second (fps) for replay at conventional video rates of 30 fps or slower, Photron cameras are available in color or monochrome and utilize the latest CMOS sensor technology to provide

unparalleled light sensitivity and image quality, regardless of the frame rate or shutter speed selected.

## **Pittcon 2016**

**Booth #102**

Pittcon is the world's largest annual conference and exposition on laboratory science. This dynamic global event offers a unique opportunity to get a hands-on look at the latest innovations and to find solutions to all your laboratory challenges. The robust technical program offers the latest research in more than 2,000 technical presentations covering a diverse selection of methodologies and applications. Pittcon also offers more than 100 short courses in a wide range of topics and the once-a-year chance to network with colleagues from around the world. Pittcon 2016 will be held in Atlanta, Georgia, from March 6-10, 2016 at the Georgia World Congress Center. Plan ahead? Pittcon 2017 will take place in Chicago, Illinois, from March 5-9, 2017. Visit [www.pittcon.org](http://www.pittcon.org) to register and learn more!

## **Proto Manufacturing**

**Booth #514**

Residual stress affects crack initiation and propagation, fatigue life, stress corrosion cracking and distortion. For over 25 years, Proto Manufacturing has been providing both measurement services and equipment for measuring residual stress in metal components. Proto's leading edge x-ray diffraction (XRD) technology is portable, cost effective and provides the necessary data for making informed decisions about the health of components. Tel: 1-313-965-2900 E-Mail: [proto@protoxrd.com](mailto:proto@protoxrd.com) [www.protoxrd.com](http://www.protoxrd.com)

## **REEL NKM Noell**

**Booth #530**

REEL, with its companies NKM Noell, REEL Alesa and COH, is a leading independent equipment supplier of special cranes and handling equipment for Primary Aluminium Smelters. For more than 40 years on the market through its constitutive companies, with more than 1000 cranes in operation worldwide, REEL Group companies develop their mission for the Primary Aluminium Smelters: be a global supplier of handling systems, process equipment and solutions and integrate the client's process objectives in design of products. NKM Noell has built a strong technical force for Electrolysis (Pot Tending Machines, Cathode Cranes, Transfer Gantry

Systems), Carbon Area (Furnace Tending Assemblies, Stacker Cranes, Anode Handling Systems), as well as Rodding Shops. REEL Alesa designs, installs and maintains complex handling solutions based on specific technologies including aluminium electrolytic cells power supply, HDPSTM (Hyper Dense Phase System) and systems developed by Alcan Pechiney such as ALPSYSÂ®, JIBS (Jet Induced Boosted Suction).

## **RHI AG**

**Booth #508**

RHI AG: Solutions for the nonferrous industry. Our comprehensive product and service program ranges from basic and non-basic bricks and mixes, prefabricated components, slide gate plates and gas purging systems to special machinery, repair systems and the installation of refractory products in a variety of units for the nonferrous metals industry around the world. The optimization of all processes in the nonferrous metals industry, increasing efficiency and enhancing safety of melting plants as well as the development of optimal refractories solutions for pyrometallurgical vessels. Comprehensive knowledge of processes in combination with unique refractories applications ensure perfectly developed and implemented concepts for re-linings, Greenfield projects and the expansion of melting units. From the development of refractory quality concepts to their realization - your refractory solution by RHI.

## **Riedhammer GmbH**

**Booth #209**

For the Carbon Industry, RIEDHAMMER is presently the only independent supplier worldwide being able to deliver complete solutions and its proven furnace technologies for baking anodes, cathodes and electrodes, supplemented by solutions specifically tailored for the production of special carbon products. 90 years of experience and know-how guarantee a high economic efficiency and reliability of the plants.

## **Royer**

**Booth #323**

Since 1934, ROYER® designs, manufactures and sells work boots and shoes, with utmost quality in mind. Working closely with industries, we develop innovative products with unique designs. Our boots provide maximum comfort and optimal safety while respecting the highest quality standards. They are designed by our

experts to meet the specific needs of different industries. Disciplined, hardworking, stubborn, we are determined to produce in North-America work boots and shoes that surpass all others. It's part of our DNA. It's our vocation!

## **Sente Software Ltd.**

**Booth #504**

We offer materials-focused simulation software for modeling the behavior and properties of multi-component alloys used in industrial practice. JMatPro® calculates: stable and metastable phase equilibrium, solidification behavior and properties, mechanical properties, thermo-physical and physical properties, phase transformations and chemical properties. Data export available to casting, forming, forging and heat-treatment simulation packages.

## **Shenyang Dongda Sensor**

**Technology Co. Ltd**

**Booth #432**

Dongda Sensor provides a wide range of thermocouple assemblies, wire and protection tubes for the global metal and heat treatment industries. We have extensive experience with global primary producers of aluminum with expertise in pot line control systems, as well as cast house and carbon plant operations. We work closely with clients to provide custom solutions to help them meet their operational and business needs. Our products deliver a consistently high level of performance and long service life, helping our clients realize significant cost savings while achieving compliance and sustainability objectives. Our patented products are used in vacuum furnaces, carburizing furnaces and a wide range of applications for multipurpose industrial furnaces; including continuous temperature measurement for molten copper, iron, steel, aluminum, zinc and salt; Temperature Uniformity Surveys (TUS) conforming to AMS2750D/E, and thermocouples with calibration wells, and portable on-line calibrators.

# COMPANY DESCRIPTIONS

## **Southwire SCR Technologies** **Booth # 506**

Southwire operates continuous casting lines for both Copper and Aluminum rod and the SCR Technologies division provides equipment for continuous cast rod systems and technology. SCR aluminum systems range in capacity from 2.5 to 15 metric tons/hour of EC aluminum and alloyed aluminum rod. SCR Technologies has developed a patented state of the art ultrasonic degasser that solves multiple challenges across a spectrum of aluminum casting industries. This ultrasonic degasser marketed under the brand name Ultra-D™ degasser produces the highest quality of aluminum without the use of any corrosive chemicals. The Ultra-D degasser can be easily integrated into the die casting, foundry, continuous cast and billet casting market segments.

## **Springer** **Booth #1001L**

Springer is one of the world-leaders in Material Science book publishing, boasting a broad range of subject matter, and a history of working with the most prestigious scholars in the field. Additionally, Springer publishes a collection of journals, with a track record of generating the latest sought after content. For additional information about all our Material Science publications, please stop by our booth, or visit us at Springer.com.

## **STAS** **Booth #410**

STAS Inc. is a Canadian based company specialized in the development, fabrication and commercialization of process equipment for the aluminium industry. STAS is a world leader in providing various equipment to improve productivity and the quality of molten aluminium. Aluminium producers that can benefit from such technologies are found throughout the spectrum of aluminium producers, ranging from primary smelter plants down to secondary smelters and including rolling mills and aluminium extruders as well. The company has been in business for more than 25 years and has clients on all continents. Most of STAS' sales activities are managed from STAS' head office in Canada, with a network of well-known agents around the globe. STAS employs more than 125 persons, including a technical team – made up of more than 70 engineers and technicians – with a broad expertise in processes and engineering.

## **TA Instruments** **Booth #434**

TA Instruments provides premier technology for thermal analysis, rheology, microcalorimetry, dilatometry, and thermal conductivity measurements. We provide innovative instrumentation for materials characterization for polymers, biomaterials, paints and coatings, metals, ceramics, and more. Visit to learn more about our newest range of products for traditional and optical dilatometry as well as a complete line-up of tools for thermal conductivity and thermal diffusivity by heat flow meters, guarded hot places, and the laser flash method.

## **Taylor & Francis** **Booth #517**

## **TEC- Materials Testing** **Booth #535**

TEC Materials Testing provides both X-Ray Diffraction (XRD) analysis systems and services for measuring residual and loading stresses created in metals and ceramics through manufacturing processes like welding, heat-treating, grinding, electroplating, machining and shot peening. TEC is accredited by the American Association for Laboratory Accreditation (A2LA) to ISO/IEC 17025 in the field of mechanical testing and is certified to ISO 9001:2008.

## **Techmo Car** **Booth #414**

Techmo is an Italian independent company focused in the engineering and production of special mobile and stationary equipment for the aluminium and non-ferrous metals industry. The full range of purpose designed machines covers different types of equipment performing a large number of operations in pot-rooms, rodding shops and cast-houses. The Company's aim is to provide the most innovative, rational, cost effective and user friendly technical solutions. Among the most significant families of mobile equipment are the Tapping Vehicles, Anode Transporters, Crucible Transporters and Tilters, Alumina/AIF3 Feeding Vehicles, Furnace Charging Vehicles and Furnace Tending Vehicles, Multipurpose Anode Changers and Crust Breakers. Beside its line of purposed designed vehicles, Techmo provides a number of stationary equipment such as Crucible Cleaning Machines, the Crucible Tilting stations and the Anode Butts Cleaning Stations.

# COMPANY DESCRIPTIONS

## **Thermo-Calc Software** **Booth #201**

Thermo-Calc Software is a leading developer of software and databases for calculations involving computational thermodynamics and diffusion controlled simulations. Thermo-Calc is a powerful tool for performing thermodynamic calculations for multicomponent systems. Calculations are based on thermodynamic databases produced by the CALPHAD method. Databases are available for steels, ferrous-based slags, Ti, Al, Mg, Ni-superalloys and other materials. Programming interfaces are available which enables Thermo-Calc to be called directly from in-house developed software or MatLab. DICTRA is used for accurate simulations of diffusion in multicomponent alloys. Applications include:

- Homogenization of alloys.
- Microsegregation during solidification.
- Coarsening of precipitates.
- Joining.

TC-PRISMA: a new tool for predictions of concurrent nucleation, growth, dissolution and coarsening of precipitate phases.

## **Thorpe Technologies, Inc.** **Booth #422**

Thorpe Technologies Inc. manufactures custom mill duty furnace and process equipment for the aluminum and forging industries. Thorpe's product line includes scrap delacquering and decoating systems; stationary and tilting furnaces for melting and holding molten metal; rotary furnaces; continuous, stationary, and shuttle homogenizing and process furnaces; box and rotary hearth forging furnaces; die heating furnaces. Thorpe also manufactures ancillary equipment including charge machines for the furnace and process equipment it manufactures. Thorpe has been serving industry's heat processing equipment needs domestically and internationally from its Los Angeles based operations since 1932.

## **UES** **Booth #205**

RoboMet.3D® is a fully automated, serial sectioning system that generates two-dimensional data for three-dimensional reconstruction. With sectioning rates up to 100 times faster than manual sectioning, Robo-Met.3D collects data in a matter of hours, not months. Robo-Met.3D enables more time for data analysis and characterization and ensures repeatable and accurate data is collected in an efficient and cost-effective manner. UES, Inc. is an

innovative science and technology company that provides its industry and government customers with superior research and development expertise. We create products and services from our technology breakthroughs and successfully commercialize them.

## **VEXTEC Corporation** **Booth #534**

VEXTEC Corporation is a privately-owned consulting and engineering services company headquartered in the Nashville, TN area. Our Virtual Life Management® (VLM®) is a unique combination of engineering analysis, material science and condition monitoring protected by seven patents. VLM® helps companies predict and enhance the reliability and performance of critical components during design, testing, manufacturing and service. Since 2000, VEXTEC's Virtual Twin® has provided predictive analytics, prognostics and life extension for hundreds of different products in the aerospace, automotive, industrial, and medical device industries.

## **Wahl Refractory Solutions** **Booth #436**

Wahl Refractory Solutions has been providing high-quality refractory products since 1921 and has grown to be a recognized leader in the refractory industry. Wahl offers an extensive line of refractory precast shapes and castables custom engineered and manufactured with high standards to deliver superior products. Wahl also offers MegaBRIX™ Precast Furnace Linings for new construction, full or partial lining replacement or lining repair, along with turnkey project management. With expertise in refractory precast shapes and unmatched engineering capabilities, Wahl has developed numerous innovative, cost-effective and reliable solutions to refractory problems throughout the industrial world.

## **Wiley** **Booth #1002L**

Wiley is a content-driven, customer-focused provider of industry knowledge services for research professionals, professors and students alike. As a publishing partner of TMS, Wiley provides the best and most up-to-date content in all aspects of this field. Visit [www.wiley.com/go/tms](http://www.wiley.com/go/tms) today!

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