Keeping Tomorrow Moving

Highlights and innovation at MPT Expo + Heat Treat 2025

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The Motion + Power Technology Expo (MPT Expo) returns to Detroit from October 21–23, 2025, colocated with Heat Treat 2025, creating one of North America's most comprehensive gatherings for mechanical, fluid, and electrical power transmission, materials processing, and thermal treatment technologies. This year's events bring together engineers, researchers, technologists, and decision-makers from across industries to explore, connect, and advance the design, production, and integration of cutting-edge systems that keep modern manufacturing moving.

Attendees will engage with more than 300 exhibiting companies showcasing solutions across gear design and manufacturing, electric drive systems, hydraulic and pneumatic components, motion control, inspection technologies, and thermal processing. From industrial automation to advanced materials, the combined events spotlight innovations aimed at improving efficiency, reliability, miniaturization, and system interoperability across multiple sectors.

Structured to encourage collaboration across traditional silos, MPT Expo and Heat Treat provide a platform for attendees to interact with experts in gears, splines, gearboxes, enclosed drives, bearings, machine tools, cutting tools, furnaces, and inspection systems. The 2025 edition also marks the official debut of the Motion and Power Manufacturers Alliance (MPMA), uniting AGMA and ABMA under a forward-looking umbrella designed to advance standards, education, and innovation across the motion and power transmission community.

The Unveiling of the MPMA

One of the biggest moments at this year's Motion + Power Technology Expo will be the official public debut of the Motion + Power Manufacturers Alliance (MPMA), a newly formed organization uniting two of the industry's cornerstones, the American Gear Manufacturers Association (AGMA) and the American Bearing Manufacturers Association (ABMA).

Back in April, the memberships of both associations voted to merge, with the new structure officially taking effect on May 1. While both the AGMA and ABMA names will remain active in the marketplace—preserving more than a century of brand recognition and trust—the MPMA represents a new, forward-looking alliance designed to deliver greater value across the motion and power transmission supply chain.

Visitors to Booth 444 will experience this milestone firsthand in a setting designed to feel like "home." The booth emphasizes the familiar warmth of two trusted institutions coming together as one—a space where members and attendees can connect, reflect on the legacy of both organizations, and look ahead to the future of keeping tomorrow moving.

As Sara Zimmerman, incoming MPMA Chair and Vice President of Customer Experience and Product at Sumitomo Machinery Corporation of America, notes: "The creation of the MPMA comes at a crucial time in our industry, where we are seeing a growth in gearing and bearing sales, and a consolidation of the companies that create these mechanical power solutions."

With more than 425 combined member companies, MPMA will expand opportunities for standards development, workforce education, industry publications, and advocacy efforts, while continuing to serve as a unifying voice for power transmission professionals worldwide.

Networking and Social Highlights at MPT Expo

While the exhibit halls and technical sessions will be a hub of innovation, MPT Expo also offers a variety of networking and social events designed to connect professionals across manufacturing, engineering, and power transmission. One of the week's first opportunities comes on Tuesday morning with the Women in Manufacturing and Engineering Breakfast, hosted by AGMA and ASM. From 7:00 to 9:00 a.m., women at all stages of their careers—from new employees to high-level executives—can gather for a networking breakfast and panel discussion. The session will feature

industry leaders sharing experiences and strategies for career advancement, navigating the workforce, and advocating for oneself. It's a chance not only to gain advice from accomplished professionals but also to forge new relationships across all sectors of manufacturing and engineering.

On Wednesday evening, attendees can experience The Materials Fusion Experience, a social networking event that blends Detroit's industrial heritage with contemporary innovation. From 6:00 to 9:00 p.m., participants can immerse themselves in an environment designed to inspire conversation and collaboration, while exploring the city's vibrant culture. The event offers a dynamic opportunity to connect with peers and thought leaders from MPT Expo, the Heat Treat Conference & Exposition, and IMAT events, fostering meaningful connections that extend beyond the show floor.

The week concludes with the Fall Technical Meeting Networking Reception on Thursday evening at the Corktown Taphouse, from 6:30 to 8:30 p.m. This high-energy reception brings together professionals from across the gear industry in a relaxed, entertaining setting. Guests can enjoy interactive games such as augmented reality darts and duckpin bowling, along with more than 70 self-pour beverage options, including craft beers, ciders, wines, and non-alcoholic choices. It's a chance to meet new colleagues, reconnect with familiar faces, and celebrate a week of innovation and collaboration. Full FTM passholders have access included, while tickets are also available for single-session passholders and MPT Expo attendees.

From career-focused networking to immersive social experiences, these events offer more than just conversation — they provide a space to exchange ideas, gain perspective, and build the relationships that will shape the future of motion and power transmission.

Fall Technical Meeting

Dive into the latest advances in gear technology at AGMA's Fall Technical Meeting, where leading researchers and industry experts from around the world share peer-reviewed findings, emerging trends, and practical insights. From design and rating to manufacturing, inspection, materials, and efficiency, this five-day program highlights the full spectrum of gear innovation. Attendees can engage directly with presenters, ask questions, and explore how cutting-edge research is shaping the future of the gear industry.

The sessions cover a wide array of topics, including advanced bevel and planetary gear design, performance-driven e-drive systems, NVH optimization, surface integrity and heat treatment processes, and the integration of new materials and additive manufacturing techniques. Each presentation provides technical depth suitable for engineers, academics, and decision-makers seeking to stay at the forefront of power transmission technology.

Education Courses

MPT Expo offers a robust lineup of education courses designed for gear and power transmission professionals at every stage of their careers. Taught by industry experts, these courses cover everything from foundational gear principles to advanced analyses, materials, and manufacturing techniques. Conveniently located near the exhibit floor, participants can pair classroom learning with hands-on exposure to the latest technologies on display.

Courses include the full AGMA Fall Technical Meeting, featuring peer-reviewed research on gear design, analysis, manufacturing, materials, heat treatment, and more. Specialized seminars cover topics such as EV and hybrid vehicle powertrains, gear noise management, integrated gear and bearing systems, analytical gear inspection, plastic gear design, and materials selection and heat treatment. With full-day sessions and in-depth hands-on exercises, these programs provide both practical knowledge and strategic insights to help engineers optimize performance, efficiency, and reliability in their designs.

Whether you're seeking to expand your foundational understanding or tackle cutting-edge challenges in advanced gearing, the Education Courses at MPT Expo provide unmatched access to technical expertise, networking, and industry-leading instruction.

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MPT Expo
at geartechnology.com

What's Brewing Power Breakfasts

Kick off each morning at the Motion + Power Technology Expo with What's Brewing Power Breakfasts, a dynamic series of expert-led discussions designed to fuel your knowledge and connections. These engaging sessions bring together industry leaders to explore key trends shaping the future of power transmission, including opportunities in robotics development, the latest aerospace innovations, and critical workforce and advocacy insights. Enjoy breakfast while gaining valuable perspective to help drive your business forward.

Pricing for the breakfasts is $230 for a three-day pass for members and $260 for non-members when purchased in advance through October 20, or $260 for members and $285 for non-members if purchased late or onsite. Individual sessions are $85 for members and $95 for non-members in advance, or $95 for members and $105 for non-members late or onsite. Full FTM attendees receive complimentary access to all breakfast sessions as part of their registration.

What's Brewing in Robotics: Breakfast and Panel

Tuesday, October 21
8:00 am–10:00 am

This expert panel will explore the future of robotics. The discussion will cover key challenges and opportunities in the development of robots, particularly how safety, reliability, and cost considerations will shape electro-mechanical actuation systems. With the increasing demand for humanoid robots, the panel will delve into the projected growth of these technologies, addressing whether the forecasted numbers of robots will materialize. Through expert insights, the panel will provide a comprehensive view of the future of robots, exploring both the opportunities and challenges ahead, and the vital contributions of mechanical drive systems and gear manufacturing to this evolving field.

What's Brewing in Aerospace and Defense: Breakfast and Panel

Wednesday, October 22
8:00 am–10:00 am

Join a panel of leading experts for a series of short presentations exploring the latest innovations in aerospace, including new aircraft designs, advancements in electric vertical take-off and landing (eVTOL) vehicles, and the broader future of air mobility. The discussion will also cover how manufacturers are approaching training for these advanced systems and the implications for power transmission, supply chains, and workforce development.

The panel features Theodore Angel, Executive Director of the National Advanced Air Mobility Center of Excellence (NAAMCE), who brings extensive experience in aviation, aerospace, and defense, including 27 years in the U.S. Air Force and leadership in regional aerospace development initiatives. Noel Mack, Chief Technology Officer at LIFT, adds more than 35 years of engineering and design experience, overseeing large-scale projects aligned with Department of Defense priorities and helping accelerate advanced manufacturing technology and talent development. Dr. Amy Thompson, Chief Technology Officer at the Connecticut Center for Advanced Technology (CCAT), rounds out the panel with expertise in digital engineering, model-based systems engineering (MBSE), smart and energy-efficient manufacturing, and workforce training, leading CCAT's mission to support manufacturers in scaling technology adoption and strengthening industrial supply chains.

Together, this panel offers a comprehensive view of how cutting-edge aerospace and defense technologies intersect with power transmission, providing insight into both the opportunities and technical challenges ahead.

What's Brewing in Workforce and Advocacy: Breakfast and Panel

Thursday, October 23
8:00 am–10:00 am

In this session, hear from a panel of experts on how to leverage local resources for grant funding, business visibility, and talent recruitment for US manufacturing companies. Explore how the current administration's approach to grant funding shapes opportunities for manufacturers, and dive into industry pain points—what the sector needs and how to amplify its voice. Learn about critical local and state resources for manufacturers, including workforce development, continuing education, and advocacy strategies. This session is tailored to those looking to better navigate funding, recruitment, and industry growth.

MPT Expo Podcast Studio

The MPT Expo Podcast Studio (Booth 251) returns, bringing live, on-site interviews with industry leaders, innovators, and experts. Hosted by Tony Gunn—Director of Global Operations at MTDCNC, CEO of TGM Global, and host of The Gunn Show podcast—the studio offers a dynamic platform for real-time conversations that spotlight the latest in power transmission, gear manufacturing technology, and workforce development.

Throughout the three-day event, attendees can watch live interviews directly from the show floor, engaging with thought leaders and gaining insights into cutting-edge trends and solutions. These sessions will be recorded and shared across multiple platforms, reaching a global audience of hundreds of thousands of viewers and listeners.

Whether you're a first-time attendee or a seasoned professional, the Podcast Studio offers a unique opportunity to connect, learn, and stay informed about the evolving landscape of power transmission and gear manufacturing.

The Solutions Center

At the heart of the exhibit hall, the Solutions Center (Booth 751) offers companies a dedicated space to present their innovations, share insights, and engage directly with attendees. Each sponsored session provides 30 focused minutes in the spotlight, giving companies a platform to showcase new products, walk through recent case studies, demonstrate live solutions, or deliver thought leadership talks.

Designed to be relaxed yet professional, the space comes equipped with a monitor, podium, and microphone, allowing presenters to focus entirely on their message. Sessions are promoted ahead of the show and featured in on-site materials, helping draw an audience eager to learn and interact. Whether it's a live demonstration, a Q&A session, or a product launch, the Solutions Center is the ideal venue to connect with potential customers, spark conversation, and generate leads—all in a highly visible, high-traffic location.

MPT Expo Exhibitor Highlights

Helios Gear Products Booth #137

Helios Gear Products invites attendees to discover its complete gear manufacturing systems at Booth 137 during the Motion + Power Technology Expo 2025. The exhibit will feature the company's full workflow

solutions for gear cutting, deburring, cleaning, marking, inspection, and automation and a live gear cutting demonstration of the Hera 350 CNC gear hobbing machine.

Capable of processing parts up to one meter in diameter and pitches ranging from micro to coarse, Hera hobbing machines combine Fanuc CNC, direct-drive torque motors, x-axis linear scales, and intuitive dialog programming. Optional unified automation further simplifies integration for manufacturers seeking higher throughput and repeatability.

"Visitors can watch the Hera 350 cut spur and helical gears on demand and learn how the same core technology scales across eight machine sizes," said Adam Gimpert, president of Helios Gear Products. "Our goal is to give job shops and OEMs a dependable, productive, and cost-effective path to higher capacity without a steep learning curve, and we've done it by pairing the Hera lineup with our suite of workflow solutions."

Because every Hera model shares identical controls and mechanical architecture, expanding capacity requires minimal additional training or system integration. Combined with globally competitive pricing, a compact footprint, and responsive domestic support, the Hera platform has become a popular choice for manufacturers that need to scale quickly.

Matt Davis, owner of Buffalo Gear, reports significant gains with his Hera 350:

"I would say we are about 50 percent more efficient with our setups. The guys no longer bend down to swap change gears. You load the blank, program the part, and you are saving someone's back. With the larger gears this machine can run, it is just unbelievable."

heliosgearproducts.com

Klingelnberg Booth #177

Klingelnberg Group will present innovative solutions at the Motion + Power Technology Expo (MPT) in Detroit, USA. Organized by the American Gear Manufacturers Association (AGMA), the trade fair is considered a central platform for manufacturers, suppliers, and users of gearboxes.

The MPT Expo brings together international industry experts and provides a forum for discussing technical standards, continuing education, and current economic information. As part of the global AGMA network, Klingelnberg will present the latest developments and technologies in the field of gears. Visitors to the trade fair will have the opportunity to learn about innovative products and services at Booth 177 and talk to the company's experts.

"Participating in MPT Expo is an excellent opportunity for us to present our latest products and technologies to an international audience of experts and to make valuable contacts," says Fabian Wolf, CEO of Klingelnberg America, Inc., looking forward to the upcoming event. "All trade fair participants are cordially invited to visit our booth and see our innovations for themselves."

klingelnberg.com/en

Norton Saint-Gobain Booth #505

Saint-Gobain Abrasives will be highlighting a range of high performance, innovative production grinding wheels and technology during MPT Expo. Innovative Norton Quantum Prime Grinding Wheels, which feature proprietary nano-crystalline ceramic grain offering unprecedented productivity gains across a wide range of applications, will be featured. The Quantum Prime grain delivers exceptionally high grinding efficiency and part quality, as well as significantly longer wheel life than traditional ceramic grains.

Also, attendees can see high performance Norton IDeal-Prime Internal Diameter Grinding Wheels for precision applications featuring Quantum Prime nano-crystalline ceramic grain. The combination of the micro-fracture properties of the ceramic grain and the retention capability of the advanced bond, ensures long wheel life, excellent grinding efficiency and consistent part quality with superior surface finishes which results in cost savings of 30 percent and more.

Additional key Norton grinding technologies at Motion + Power Technology Expo include:

- A range of gear grinding solutions including new VS3PN bond technology designed for high performance gear grinding in extreme, tight tolerance environments will be featured. The portfolio of gear grinding products is specifically designed by category to provide higher profile accuracy, supreme form holding and burn-free grinding in worm, profile, and bevel applications.
- For the high performance external grinding of cam and crankshafts and internal grinding applications in automotive and bearing industries, Vitron7 cBN grinding wheels have a high-precision vitrified bond.
- Norton Finium abrasive microfinishing film rolls for precision applications are designed with a patented topside resin system alongside two backing types and an innovative grit size color coding. This combination is specifically engineered to deliver high material removal and exceptional surface finish uniformity.
- Norton Stellar inserted-nut grinding wheels for double and single disc grinding offer improved wheel life, increased parts per wheel and lower cost per part.

nortonabrasives.com

Heat Treat 2025

Heat Treat 2025, co-located with MPT Expo, offers an in-depth technical and educational program on heat treating, material technology and more. Show highlights include:

Keynote Presentations

"Electrification of Industrial Heat," takes place on Wednesday, October 22 from 9:15–10:00 am, presented by Dr. Sridhar Seetharaman, CEO, EPIXC, chief science officer, Fulton School of Engineering, Arizona State University.

Industrial heat accounts for nearly one half of the on-site energy used by the energy intensive industries in the US, which is dominated by five sectors, chemicals/petrochemicals, iron and steel, cement, paper and pulp and food and beverage. EPIXC (Electrified Processes for Industrial Excellence), US DOE's 7th Manufacturing Innovation Institute, aims to develop technologies which improve energy efficiency, process control and/or product quality for energy intensive industries.

"Solution Left: The Story of Virtual Heat Treatment Simulation at General Motors," takes place Thursday, October 23 from 9:15–10:00 am, presented by Justin Persinger, senior manufacturing engineer, manufacturing process analysis at General Motors.

Virtual heat treatment simulation tools have been employed at General Motors over the last decade. Solution Left is the concept of leveraging these tools to better understand and make decisions about product and heat treatment manufacturing processes further left in the development life cycle with the objective of reducing program costs and time to launch.

Joint AI Panel Discussion

Tuesday, 2:30–4:00 pm, co-hosted with IMAT + Motion + Power Technology Expo. AI isn't coming—it's here. Learn how artificial intelligence is already streamlining workflows across the supply chain, and what it means for materials science, manufacturing, and beyond.

Heat Treat is part of a one-of-a-kind experience that includes IMAT (ASM's Annual Meeting), ICRS-12, and the Motion + Power Technology Expo. That's 600+ exhibitors, thousands of attendees and an environment for networking, deal-making and discovery.

www.asminternational.org/heat-treat-2025

Heat Treat 2025 Preview

Ipsen Booth #1401

Ipsen vacuum furnaces offer a wide variety of roles for heat-treating professionals, most commonly serving up solutions for tempering, annealing, hardening, and brazing. Ipsen customers routinely count on our expertise in building, servicing, troubleshooting, and optimizing our furnaces to ensure maximum uptime and throughput.

Sales Director for Southeast Asia, Janusz Kowalewski, will present on discoloration in vacuum heat treatment during Heat Treat 2025—what causes it, how to prevent it, and best practices to ensure high-quality results. Learn how to reduce contamination risks, extend furnace life, and improve part quality. This presentation explores the key sources of contamination in vacuum furnaces, including outgassing, backstreaming, leaks, and particle generation. Learn how to identify, evaluate, and prevent contamination using best practices for furnace maintenance, cleaning cycles, and process optimization.

From understanding oxidation limits to identifying metal sublimation effects, this presentation provides actionable insights for heat treaters looking to improve quality control. By implementing proper contamination prevention techniques, manufacturers can enhance process reliability, extend furnace life, and ensure high-quality, defect-free heat-treated parts. The presentation takes place on Wednesday, October 22, at 4:50 pm.

Seco/Warwick Group Booth #1317–1321

At the 33rd Heat Treating Society Conference and Exhibition, Seco/Warwick-Group will focus on vacuum and atmospheric heat treatment technologies, including the following products:

Vector—a single-chamber vacuum furnace using gas quenching for a wide variety of heat-treating processes and applications. This technology provides important capabilities for obtaining highly uniform results in heat-treated parts, high process consistency in workloads, and high speeds in batch processing with low consumption of electrical power and process gases.

CaseMaster Evolution T—a triple-chamber vacuum furnace designed for high-volume heat treatment processes such as low-pressure carburizing (LPC), annealing or vacuum brazing, combined with gas or oil quenching in semi-continuous production mode. The system is built with three separate, functional chambers: the loading and pre-heating chamber, process chamber, quenching and unloading chamber.

4D Quench—a vacuum heat treatment system solution for individual quenching of component parts such as gears, shafts, bearing races, rings, selves, etc. made of standard or custom case and through hardening steels. The system operates under nitrogen. It provides excellent distortion control and notably increases precision and repeatability of heat treatment while reducing unit and overall production costs.

ZeroFlow—a modern, energy-saving, and ecological gas nitriding technology used in HRN/VRN type furnaces, enabling the precise development of the preset composition of the nitrided layer, composed only of alpha, alpha+gamma' or alpha+gamma'+ epsilon phase, while maintaining minimum ammonia consumption, and thus, minimum emissions of post-process gasses.

Rotary Retort Furnaces—rotary retort furnaces are specifically designed for continuous production and uniform heat treating of small parts, such as coins, small hardware, nails, bearings, chain components, and fasteners, such as nuts, bolts, and screws.

Roller Hearth Furnaces—roller hearth furnaces are designed to heat treat a wide variety of products economically with uniform, repeatable results. Efficient, continuous annealing of steel castings and forgings.

Mesh Belt Type Furnaces—are designed for heat treatment and thermo-chemical treatment of small elements, ensure homogeneous, repeatable technological results.

secowarwick.com

Looking Ahead

MPT Expo and Heat Treat 2025 present a unique chance to experience the full breadth of innovation in power transmission, materials processing and thermal treatment under one roof. From next-generation gears and bearings to advanced robotics, aerospace solutions and state-of-the-art heat treatment technologies, the events showcase the tools, expertise and systems driving the industry forward.

motionpowerexpo.com