

Resolve Before the New Year

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Nidec's LAMDA series local shield nozzle eliminates oxygen in an ambient environment during a laser powder directed energy deposition (LP-DED) 3D printing to prevent oxidation of metals, such as titanium, aluminum, and other oxygen-averse materials, deleting the need for an atmospheric chamber. (Photo courtesy of Nidec.)

Instead of waiting until the beginning of next year to make a resolution to learn more about emerging technologies, I suggest taking advantage of the learning opportunities available right now. Engaging with AGMA's emerging technology (ET) initiatives will help you stay current, expand your knowledge base, and potentially add to your itinerary for IMTS.

Each ET Committee with AGMA has multiple meetings scheduled throughout the remainder of 2024. For exact dates, you can visit the AGMA website or reach out to me directly at doran@agma.org. These committee meetings offer diverse opportunities; for instance, the Robotics Committee is actively working on a white paper addressing human-centered robotics safety, focusing specifically on advancements in service and humanoid robot technologies. Meanwhile, the Electric Vehicle Technology and 3D Printing committees will host engaging speakers, providing opportunities to interact with people pushing boundaries and possibly creating new things which you will work on or with in the future. The IIoT committee is reviewing AI products and services that may have relevance to manufacturing. Depending on your expertise, you will find an interesting topic in our upcoming committee meetings.

For those preferring a more flexible learning format, Emerging Technology Webinar series hosts four more live events before the year concludes. Join us on the first Wednesday of the month at 1:00 pm Eastern Time. Topics include practical applications of AI for manufacturing, a next-generation procurement platform for manufacturing equipment, the latest in nanocoatings technologies, and strategies for integrating collaborative robots in gear-centric high-mix, low-volume manufacturing environments.

Also, especially before the new year, take advantage of the on-demand emerging tech webinars. We currently have 21 webinars available. However, please note that the 12 videos from 2023 will

be removed from the website on December 31 to make room for the 2025 series. These webinars cover a wide array of topics essential to modern manufacturing. For instance, in additive manufacturing, topics range from the application of CT scanning technology and the utilization of 3D printed molds for rapid prototype development to an overview of powder DED technology. The Electric Vehicle Technology sessions cover subjects such as achieving ultrafine surface finishes, digitalization trends, the current requirements of EV gearboxes, clean steel developments, and the implementation of digital twin technology in manufacturing processes. The IIoT webinars delve into critical areas like blockchain applications in manufacturing, cybersecurity measures, and practical ways to leverage AI in manufacturing operations. Robotics sessions explore practical insights on integrating robots into factory floors, best practices for gearing in robotic applications, and future trends in robotics technology.

If you are looking for recommendations, I have two suggestions. If you are doing anything with the Department of Defense, you will need to become CMMC compliant. Our February 2024 webinar with Derrich Phillips provides a great primer. If you want to watch a webinar that is truly emerging, I recommend watching Sara Jordan's discussion on AMEC (Additive Manufacturing Evaporative Casting), which explores a revolutionary approach to casting techniques enabled by additive manufacturing technologies.

By engaging with AGMA's resources and events focused on emerging technologies, you will not only stay informed but also position yourself to harness new opportunities and innovations within your field. Whether through committee meetings, live webinars or on-demand sessions, there are ample opportunities to deepen your understanding and forge meaningful connections with industry experts and peers alike.

