

# Update: AGMA Emerging Technology Committees

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Before diving into the latest committee developments, I want to remind everyone about the 2023 Emerging Technology Webinar Series, available on-demand until December 31. (Don't miss this valuable resource before it's removed to make room for our 2025 webinar series.) These twelve one-hour sessions span topics like AI and robotics implementation, ultrafine surface finishing for gear teeth, and digitalization for productivity gains. A big thank you to our expert presenters from How to Robot, Notoros, Klingelberg, 3DEO, Visionify, Skuld, Fortify, Lumafield, Kapp, Liebherr, Mantle3D, and KnowBe4—we truly appreciate your contributions.

## 2024 Committee Highlights

### 3D Printing Committee

Dr. Aaron Isaacson, managing director of the Gear Research Institute at Penn State University, recently presented at a committee meeting. He shared insights into their groundbreaking work on 3D-printed gears and repairs using laser-directed energy deposition technology. Topics included testing with Ferrium C-64, bending fatigue characterization, contact fatigue, and scuffing. Collaborative efforts with Talens Systems/Iker-gune were also discussed, focusing on refining bending fatigue methodologies for additively manufactured gears. Iker-gune has been invited to share their findings during our February 2025 webinar.

Looking ahead, the committee will plan visits during the RAPID curated tour on April 9, 2025, in Detroit, co-located with SME's AERODEF Aerospace and Defense Show. Discussions include expanding this experience for AGMA members.

### Electric Vehicle Technology (EVT) Committee

The EVT Committee recently hosted a Q&A with United Protective Technologies (UPT) about their nanocomposite coatings, which UPT later presented at the AGMA Fall Technical Meeting (FTM) in October. These developments, along with November's emerging tech webinar (available on-demand), reflect significant progress in EV standards. The Technical Division Executive Committee (TDEC) encourages participation in drafting an electric vehicle information sheet, an important step for members in the EV sector.



AGMA's Inaugural Emerging Technology Event at LIFT in Detroit this past June.

### Robotics Committee

Progress continues on the Robotics Committee's white paper, led by Jacques Lemire. Jacques attended the Robo Business Conference in California and the IEEE Humanoid Conference in France, gathering key insights on humanoid robots and their gear/gearbox applications. A panel discussion about the white paper is planned for March 2025.

## Looking Ahead to 2025

Exciting initiatives are on the horizon:

- The AGMA Fall Technical Meeting (FTM) has expanded its Call for Papers (CFP) to include emerging technologies—abstracts are **due by January 17**.
- AGMA is preparing 3D printing case studies for the Strategic Networking and Leadership (SNL) Event in June, showcasing member innovations in jigs, fixtures, and prototyping.

- Plans are underway for potential partnerships with AMT and NTMA for a joint technology conference early in 2025.
- Emerging tech education opportunities may debut at the Motion + Power Technology Expo on October 21–23 in Detroit.

## Upcoming Webinars

Mark your calendars for these 2025 webinars, held at 1:00 p.m. Eastern on the first Wednesday of each month:

- **January 8:** LIFT discusses efforts to advance materials, manufacturing processes, and workforce development.
- **February 5:** The latest research on 3D-printed metal gears.
- **March 5:** A Robotics Committee-led panel discussion on humanoid robotics.

Let's start 2025 strong! For questions or more information, reach out to me at [doran@agma.org](mailto:doran@agma.org).