

# CTI Symposium

## Raises the Bar on Transmission Technology

The 8<sup>th</sup> International CTI Symposium on Automotive Transmissions, HEV and EV Drives took place in Rochester, Michigan from May 12-15. The event kicked off with its popular introductory seminar “Basics and Practice of Automotive Transmissions,” hosted by the Institute of Automotive Engineering (IAE), Technical University of Braunschweig Professor Dr. Ferit Küçükay likened transmission technology today to a giant box of Legos where engineers take pieces from conventional, hybrid and electric drives and mix and match until new transmission concepts have been developed.

The first day of the symposium featured discussions from key members of companies such as Getrag, SAE International and Argonne National Laboratory, as well as a panel discussion on “The 54.5 MPG Challenge,” that was moderated by Larry Nitz, executive director of global transmissions and electrification at GM. The second day of the symposium featured presentations from HIS, Getrag, Jatco, AVL North America and the importance of the vehicle transmission from Strategic Vision, USA.

The Transmission Expo featured a wide variety of technology updates and product innovations from companies like Dupont, Great Taiwan Gear, Jatco, Borg Warner, Dana, Getrag, Saint Gobain, Schaeffler, SKF and Victrex Polymer Solutions. Some highlights from the show floor:

Great Taiwan Gear has installed 9-axis CNC controlled power honing equipment to produce AGMA Quality 12 (DIN 6) gears. The low noise and greater durability of power honed gears are of particular benefit in electric and hybrid vehicle applications.

Fallbrook’s NuVinci continuously variable planetary (CVP) technology improves the performance and efficiency of machines that use a transmission, including bicycles, elec-

tric vehicles, automobiles, off-highway vehicles, stationary equipment, wind turbines, and others. The NuVinci technology offers companies the flexibility to design and produce next-generation products that are better-tailored to their unique business, market, and competitive requirements.

Jatco CVT8 expands its suitability to the 2.0-3.5 liter classes and achieves an increased ratio coverage while being compact in size. Improvements allow for greater efficiency and a significant reduction in friction, improving fuel economy by up to 10%.

Means’ Selectable One Way clutch provides an efficient mechanical clutch solution with negligible drag torque, for transmission, and driveline designs.

TeamTechnik has developed a highly flexible, modular EOL transmission test platform that delivers NVH test technology of the highest quality. Modular machine design is the foundation for this innovative test stand concept that can be adapted to all transmission types.

DuPont Vespel parts can help vehicle manufacturers meet emissions regulations, fuel efficiency and performance standards with high performance thrust washers, bushings and seal rings. Vespel parts help reduce frictional and parasitic losses while maintaining the durability of advanced transmissions.

Beginning in Berlin in 2001, exporting the conference to the United States eight years ago, and this year already in China for the third time, the CTI team has scored big with topics related to transmission systems. Last year, 230 globally recognized gear drive experts discussed the latest developments in the world of transmissions with a total of approximately 1,800 participants from 25 countries. Up-to-the-moment topics, workshops, discussions, extensive exhibitions, and



extras such as presentation of the CTI Young Drive Experts Award and a total of 25 road tests – e.g., the Mercedes E-Class 9G-Tronic, the 2014 Jeep Grand Cherokee with TorqueFlite 8-speed automatic transmission, the Ford Focus Electric, the Nissan Altima with Jatco CVT8, and the Subaru Outback 2.0D Comfort Navi CVT – have ensured a multifaceted program.



Experts from BMW, Daimler, Geely, Honda, Volkswagen, Getrag, Jatco, and ZF have informed audiences on the latest transmission concepts for use in compact to super sports cars, exchanged views on the electrification of the drive train, and covered aspects of functional safety. For specialists, there have been interesting lecture series on transmissions and drive systems for hybrid vehicles, 48V, transmission components, and NVH, though expertise on efficiency analysis and optimization was also conveyed in a practice-oriented way. Representatives from government agencies, automobile associations, and renowned institutions have reported on strategies to meet more stringent environmental requirements.

Over 160 exhibitors have presented their products and services in America, China, and Germany and enjoyed the high quality of the conferences. The growing number of participants, especially at the Berlin flagship conference, has also been noted positively: “The CTI Symposium has grown each year, and was particularly strong last year,” said Yuki-nao Takeya (Keihin Seimitsu Kogyo). Koji Okumura (Kyowa Synchro Technology Europe SAS) was also delighted: “It was a very good opportunity to present our newly developed synchronization system.” Nick Bade from the clutch lining manufacturer Tribco concluded: “It was an efficient opportunity to make valuable customer contacts.” **PTE**

**For more information:**

Car Training Institute (CTI)  
Phone: +(49) 211 9686-3692  
[www.car-training-institute.de](http://www.car-training-institute.de)

**BEYTA GEAR SERVICE**

**PUTTING  
A LIFETIME  
OF  
GEAR  
DESIGN  
EXPERIENCE  
TO WORK FOR YOU**

- Reverse engineering
- Design reviews
- Gearbox upgrades
- Bid evaluations
- Custom gearbox design
- Tooling design
- Specification development
- Customized gear training
- Project management
- Equipment evaluation
- Vendor qualification
- Custom machine design

**Charles D. Schultz**  
**[chuck@beytagear.com](mailto:chuck@beytagear.com)**  
**[630] 209-1652**

**[www.beytagear.com](http://www.beytagear.com)**

## Fluid Level Indicators



J.W. Winco offers oil sight glasses and fluid level indicators as part of its immense offering of standard machine components for industry. Explore our full line on our website [www.jwwinco.com](http://www.jwwinco.com) or contact us with your application requirements.



**Scan to see these products**





**J.W. WINCO<sup>®</sup>**  
**INC.**

2815 S. Calhoun Rd. • New Berlin, WI 53151  
Phone 800-877-8351 • Fax 800-472-0670