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Umicore helps automakers step up to new emission standards

Opens USD 10M Expansion for Test Lab at Technology Center in Michigan

Umicore Autocat USA Inc. announces the grand opening of a USD 10 million, more than 4,000 sq. ft. expansion for its vehicle emission test laboratory at its Automotive Technical Center in Auburn Hills, Michigan.

The state-of-the-art facility develops and tests emission control systems based on advanced catalytic technology to provide automakers with solutions to meet regulatory requirements including the new U.S. 54.5 mile-per-gallon corporate average fuel-efficiency (CAFE) targets for 2025. New vehicles will be required to meet lower tailpipe emissions under federal Tier 3 standards, as well as California LEVIII requirements.

“This may be the most significant period of change impacting vehicle emission controls since the advent of automotive catalysts in the U.S. in the ’70s. Through our Technical Centers, we are helping automakers adapt emission control technology across different platforms and with diverse strategies,” said Pascal Reymondet, Executive Vice President Catalysis.

The USD10 million expansion at Auburn Hills features a state-of-the-art analytical room equipped with six analytical benches for HC, CO and NO_x measurement and two FTIRs for other gas measurement (NH_3, N2O) plus equipment to measure particle mass and particle number. The new dual-roll, 48-in. dynamometers can test 4x4s, all-wheel-drive (AWD) vehicles and hybrids according to the U.S. Federal drive cycles as well as for Europe and Japan. A vehicle stacker was added to improve vehicle soak times and vehicle testing efficiency.

The improvements to the facility now allow for an array of drivetrains and vehicle platforms to be tested – from diesel trucks and SUVs, to GDI (gasoline direct injection) engines, hybrid cars and even large motorcycles. The expansion will allow catalyst development for all fuels – diesel, CNG and E85, so whichever direction vehicle manufacturers take, Umicore can support.

Diesel Focus

“Some vehicle manufacturers are focusing on diesel fuel because it can help meet both fuel-economy and carbon dioxide emission requirements and also provides other benefits to the consumer as well (power, torque, drivability). This is a key development area since the U.S. is moving towards more SUV’s and pick-up trucks where diesel engines can be a clean and cost-effective solution for the future,” said Greg Garr, Director of Market Creation at the Auburn Hills Technical Center.

Diesel vehicles currently comprise about 4 percent of the U.S. fleet, and about 50 percent in Europe. According to the U.S. Environmental Protection Agency, using ultra low-sulfur diesel fuel as well as advanced emission control systems can reduce emissions of nitrous oxides (NO_x) and particulate matter (PM) from diesel vehicles.[1] Umicore offers a portfolio of control technology for these and other vehicle emissions. (See Highlights.)

“We take pride in the fact that our automotive catalysts can successfully reduce harmful emissions by more than 99 percent for major pollutants – NO_x, hydrocarbons (HC) and carbon monoxide (CO) – over the life of

[1] Chambers, Matthew, and Rolf Schmitt, “Diesel-powered Passenger Cars and Light Trucks,” U.S. Department of Transportation. October 2015.

the vehicle. By focusing on superior technology, we help customers produce more fuel-efficient vehicles and meet present and future requirements of environmental legislation," said Ken Zerafa, General Manager for Umicore Autocat USA.

Highlights: Umicore Emission Control Technologies

For light- and heavy-duty diesel vehicles:

- Selective Catalytic Reduction Catalysts (SCR)
- SCR on Filters (SDPF)
- Ammonia Slip Catalysts (ASC)
- Diesel Oxidation Catalysts (DOC)
- Lean-NO_x Traps (LNT)
- Catalyzed Diesel Particulate Filters (CDPF)
- HC-based NO_x Control (HC-DeNO_x)

For gasoline and hybrid vehicles:

- Three-way catalysts (based on palladium, rhodium, platinum and combinations)
- GDI Lean NO_x Traps
- HC Traps
- Catalyzed Gasoline Particulate Filters (GPF)

Umicore is one of the world's leading producers of catalysts used in automotive emission systems for light-duty and heavy-duty vehicles. For more information, visit www.umicore.com.

For more information

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Umicore profile

Umicore is a global materials technology and recycling group. It focuses on application areas where its expertise in materials science, chemistry and metallurgy makes a real difference. Its activities are organized in three business groups: Catalysis, Energy & Surface Technologies and Recycling. Each business group is divided into market-focused business units offering materials and solutions that are at the cutting edge of new technological developments and essential to everyday life.

Umicore generates the majority of its revenues and dedicates most of its R&D efforts to clean technologies, such as emission control catalysts, materials for rechargeable batteries and recycling. Umicore's overriding goal of sustainable value creation is based on an ambition to develop, produce and recycle materials in a way that fulfils its mission: materials for a better life.

The Umicore Group has industrial operations on all continents and serves a global customer base; it generated a turnover of € 10.4 billion (€ 2.6 billion excluding metal) in 2015 and currently employs 10,400 people.