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HAPTIC DEVELOPER SETTLES SUIT AGAINST MICROSOFT

Immersion Corp. says it has settled the lawsuit it filed against Microsoft Corp. in February 2002. Under an agreement reached earlier this week, Microsoft is paying \$26 million for the right to use Immersion's TouchSense haptic (force feedback) technology in current and future products. Microsoft also gets an unspecified equity stake in the San Jose, Calif.-based company.

Microsoft licensed Immersion's technology in the late 1990s for two of its electronic game platforms but not for the Xbox system it introduced in late 2001. That, claimed Immersion, violated its patent. Immersion filed a similar lawsuit last year against Sony Computer Entertainment of America Inc. and Sony Computer Entertainment Inc., which is still pending, regarding the Sony PlayStation and PlayStation2 video game systems and associated components.

Microsoft and Immersion say they currently are working together to apply the technology to other operating systems, handheld devices and computing platforms.

Immersion, founded in 1993, has nearly 200 patents worldwide—10 last month alone—that pertain to haptic technology. It has developed systems for the automotive, entertainment, medical training, three-dimensional simulation and personal computer markets. In the auto industry, it has agreements with BMW, Volkswagen, Alps Electric and Siemens VDO Automotive. Its technology is featured in BMW's iDrive programmable control system to simulate the feel of a button turning or switch clicking. BMW introduced iDrive, which is supplied by Alps, on the 2002 7 Series sedans and is now expanding it to the redesigned 5 Series. The new VW Phaeton features a similar system produced by Siemens VDO under an agreement with Immersion.

Immersion expects to launch applications in up to a dozen more vehicles within the next three years. In addition to joysticks, the technology can be adapted to touch screens and x-by-wire devices. In the latter it would be used to mimic traditional mechanical feedback in the brake pedal, steering wheel and gear selector.

PSA SEEKS TO LICENSE PARTICULATE TRAP TECHNOLOGY

PSA Peugeot Citroen SA currently is the only automaker in Europe to offer a particulate trap for diesel-powered vehicles. It already has outfitted some 500,000 systems on six different vehicles and expects to double this number within the next two years.

With more stringent EU IV emission regulations coming in 2005, PSA says it is willing to license its technology to rivals. It also expects others to launch their own systems and notes that some developers plan to make announcements in this area at next month's Frankfurt auto show. Ford Motor Co., for one, reportedly plans to equip all its diesel-powered vehicles with particulate filters by 2005, starting with next year's Focus small car.

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Under the upcoming regulations, particulate emissions will be limited to 25 milligrams per kilometer and, according to PSA, could be cut to as low as 10 milligrams/km by 2010. The company boasts that its system, which cost \$69 million to develop and was launched four years ago, eliminates nearly 100% of unburnt soot from the exhaust stream. Component suppliers such as Bosch, Faurecia, Ibiden and Rhodia produce the system for the automaker.

Last fall, PSA also began using Rhodia's fuel-borne Eolys catalyst that extends maintenance intervals for the filter from 50,000 miles to 75,000 miles. But a next-generation filter with an "octosquare" channel design is due next year and promises to eliminate servicing requirements altogether.

COLLINS & AIKMAN STEPS UP ITS ACOUSTICS ACT

Collins & Aikman Corp. says the latest addition to its AcT lineup of acoustic materials is AcT Fused Fiber. Designed for instrument panels and floor systems, the new Fused Fiber blend can be customized for density, loft and thickness—without stacking layers—across a surface through precise control of material amount, applied heat and final mold compression. This allows sound absorption to be optimized at every point of a part, according to the supplier.

The Troy, Mich.-based company introduced the AcT family of materials last year. It claims the material is 70% lighter than traditional products and has a 30% advantage over competitive lightweight materials. It can be used in porous and non-porous applications. A 300 series blend uses recycled fibers. The 400 series incorporates virgin fibers that provide enhanced performance and additional weight savings.

AcT Fused Fiber has been chosen for an undisclosed mid-2004 vehicle program and is currently being considered as a replacement for traditional acoustic products by several other automakers. The material already has undergone extensive predictive research, development and validation, according to Collins & Aikman.

MTS PUTS HONDA RACING TO THE TEST

MTS Systems Corp. has won a \$3 million contract to supply powertrain test systems to Honda Performance Development's Santa Clarita, Calif., race development facility. The deal includes dynamometers, conditioning systems and data acquisition and control equipment for multiple test cells. In addition to traditional testing methodology, Honda will incorporate software simulation techniques from MTS to maximize power and efficiency of a new engine design under actual racetrack conditions, according to the Eden Prairie, Minn.-based supplier.

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MTS says it has delivered more than 1,500 powertrain testing systems to some 300 customers worldwide. It supplies products for determining the mechanical behavior of materials, products and structures—including computer-based testing and simulation systems, consulting services and modeling and testing software.

VALEO SUPPLIES ROMANIAN-BUILT DACIA SOLENZA

Valeo SA says it is supplying a variety of components and systems on the recently introduced Dacia Solenza car built in Pitesti, Romania. It is providing alternators, heating and air-conditioning systems, hydraulic clutches, radiators, switches and a top column module from existing plants throughout Europe. Electrical wiring systems for the Solenza will be sourced from Valeo's facility in Mioveni, Romania, which was opened last year.

Renault SA acquired 51% of Dacia in 1999. It now has a 98% stake in the Romanian automaker and invested \$260 million in the venture last year. It expects to sell 200,000 of the Solenza small sedans between now and 2007.

DANISH RESEARCHERS TO TEST HIGH-TEMPERATURE FUEL CELL MEMBRANE

Denmark's Danish Power Systems plc has developed a polybenzimidazole (PBI) electrolyte for proton exchange membrane fuel cells. The PBI polymer membrane promises to nearly double conductivity temperatures, improve operating efficiencies and reduce costs vs. current nafion-based membranes.

Danish Power says its system can conduct protons at up to 392°F vs. less than 212°F for nafion membranes. High-temperature fuel cells can tolerate higher levels of carbon dioxide in the anode, thus simplifying the processing of liquid fuels. PBI films also have a high thermal resistance and act as a barrier to prevent methanol permeation.

Higher operating temperatures also simplify the cooling process by reducing the heat exchange area necessary to dissipate waste heat. In addition to automotive applications, a high-temperature PEM stack is attractive for residential applications because surplus heat can be channeled directly into the home.

The next step is to establish a production test site in Denmark. Danish Power plans to invite a variety of international companies to take part in the test, which it hopes to conduct within the next three years. Although primarily a research and consulting firm, Danish Power envisions eventually producing PBI membranes itself.

LEAD-ACID BATTERIES TOPS IN RECYCLING

Just over 97% of spent lead-acid batteries in the U.S. are recycled, making them the nation's most highly recycled consumer product, according to a new report by Battery Council International. The Chicago-based trade group says recyclers claimed 10.5 billion pounds of lead between 1997 and 2001.

The recycling rates for aluminum cans and paper are 55% and 45, respectively, according to the U.S. Environmental Protection Agency. About 26% of glass bottles and tires are recycled each year. The council attributes the high recycling rate of lead-acid batteries to take-back laws and collection programs it helped implement at retail outlets. With 37 states requiring them to do so, most major retailers and auto parts stores collect spent batteries from consumers who buy replacement batteries.



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