

# KAIST's successful transfer of green technology

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OLEV trams at a theme park in Seoul, South Korea, are providing passenger transportation services. Credit: KAIST PR Office

Daejeon, Republic of Korea, December 1, 2011-The Korea Advanced Institute of Science and Technology (KAIST) has reaped the fruits of its hard work in developing an innovative green technology that will benefit all industries, including public transit application. The technology is called "On-line Electric Vehicle (OLEV)," and not too soon, it will be a daily commuting transport in a city in the US.

OLEV is a pure electric vehicle, receiving electric power wirelessly via magnetic field from the road surface, under which power strips are buried. OLEV charges as it moves, thus no need of additional time and space for recharging.

For the first time in the US, OLEV will be made available to the public for daily use. The City of McAllen, Texas, announced on November 21, 2011 that the city was awarded with \$1.9 million grant from the Federal Transit Administration (FTA), U.S. Department of Transportation (DOT), through TIGGER III (Transit Investment in Greenhouse Gas and Energy Reduction) fund. The FTA selected McAllen's bus project from among 266 applications submitted to the TIGGER III Grant

Program, which awarded \$112 million to 46 projects nationwide. In addition to the grant, the city will match with \$211,000 to support the OLEV project.

OLEV Technologies, Inc., a Massachusetts based start-up that commercializes OLEV's (On-line Electric Vehicle) technology in the Americas, is responsible for implementing McAllen's OLEV project. KAIST granted the company an exclusive license to commercialize OLEV's technology in March this year. OLEV Technologies, Inc. anticipates that the McAllen project will be launched in 2012 and completed by early 2013.

President Nam-Pyo Suh of KAIST said, "We are excited to learn that McAllen City will add OLEV buses to their public transportation services in order to make the city cleaner and greener and to improve energy efficiency. This is certainly an encouraging endeavor for other communities around the world to emulate. On our side, we will continuously perform research and development on OLEV's core technology applying the SMFIR's (Shaped Magnetic Field in Resonance) principle so that we can expand its application to railway, consumer electronics, and other various industries."

Dr. Hikyu Lee, President and CEO of OLEV Technologies, Inc. said, "This project will demonstrate the overall effectiveness of using enroute-charging technology to create an effective 'electronic roadway', as well as the cost effective means of converting existing diesel buses into [electric vehicles](#). We are delighted that our technology has been selected for funding to showcase the near-term and long-term benefits of electric buses via wireless power transfer technology, a zero emission green transportation solution."

According to Lee, this project will result in an annual greenhouse gas reduction of 289 tons of CO<sub>2</sub>, with a total reduction in CO<sub>2</sub> of 3,455 tons over the lifetime of the operation of OLEV buses.

Expected annual energy savings will amount to 2,596 Million BTUs, with a total 31,149 Million BTUs saved over the same period.

"Using the cutting edge technology to help our residents with transportation is very exciting," said McAllen Mayor Richard Cortez. "It is an honor to be selected for such a competitive grant, and we are very appreciative of our Congressman Henry Cuellar's efforts to secure these funds for McAllen. This is a big investment that will pay off for all of us," added Mayor Cortez.

KAIST initiated the R&D effort on OLEV in May 2009, and since then, various prototype vehicles including bus, sedan, SUV, and tram have been built and demonstrated. Upon successful completion of field tests, three on-line electric trams are commercially operating at a theme park in Seoul, South Korea, since July 2011. The fully electric tram, consisting of three cars, can carry up to 100 passengers per ride.

Provided by The Korea Advanced Institute of Science and Technology (KAIST)

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