Japan group tests fuel-saving driverless trucks

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(Phys.org) —Japan's New Energy and Industrial Technology Development Organization (NEDO) has tested a caravan of self driving trucks. They put four trucks on the road, with the first truck driven by a human, followed by three autonomous trucks. The caravan successfully used technologies for steering, for maintaining speed, and for staying in formation, at a speed of 80km/h with a four-meter distance between each truck.

The February 2013 test run is part of a project that was started in 2008

by NEDO. The key goal of NEDO's truck exercise has been to see what can be accomplished in fuel efficiency. They reported that drag decreased by keeping the trucks in a straight line and four meters apart. They said that running convoys of trucks in this manner could contribute to lower air resistance, helping to reduce fuel consumption by 15 percent or more.

As for technologies involved in the run, the self-driving vehicles had to be able to detect obstacles in front of them, "see" white lines, and carry out inter-vehicle communications; also included was the unit that controlled the vehicles running in formation. According to reports, a milliwave radar and infrared laser radars were used to detect obstacles. Cameras and infrared laser radars helped the trucks recognize white lines. A wireless communication module and infrared communications module enabled inter-vehicle communication. Two printed-circuit boards were used for the control unit to maintain formation.

The NEDO self-driving trucks will not be part of Japan's transportation system any time soon. NEDO hopes to have a practical version of this automated driving system ready around 2020. More tests are scheduled for later this year.

NEDO was established as a semi-governmental organization in 1980 to promote new energy technologies. The group is described on its website as Japan's largest public research and development management organization. The NEDO project has a number of participants that include Hino Motors, Mitsubishi Electric, Oki Electric Industry, NEC, Denso, the University of Tokyo and Nihon University.

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