

TOKYO - August 3, 2007: Nissan Motor Co., Ltd. has revealed a new concept car featuring multiple preventative features designed to reduce drunk-driving. The various technologies are designed to detect the driver's state of sobriety and to activate a range of preventive measures including immobilization of the vehicle.

### Alcohol Odor Sensors

- 1) A hi-sensitivity alcohol odor sensor is built into the transmission shift knob, which is able to detect the presence of alcohol in the perspiration of the driver's palm as he or she attempts to start driving. When the alcohol-level detected is above the pre-determined threshold, the system automatically locks the transmission, immobilizing the car. A "drunk-driving" voice alert is also issued via the car navigation system.
- 2) Additional alcohol odor sensors are also incorporated into the driver's and passenger seats to detect the presence of alcohol in the air inside the vehicle cabin. When alcohol is detected, the system issues both a voice alert and a message alert on the navigation system monitor.



Shift Knob Sensor



Passenger Seat Sensor

### Facial Monitoring System



Camera

A camera is mounted on the instrument cluster facing the driver to monitor the driver's face.

The system is calibrated to monitor the driver's state of consciousness through their eyes. When the system detects signs of drowsiness, a voice and message alert is triggered via the navigation system.

Additionally, a seat-belt mechanism is activated, which tightens around the driver to gain his or her immediate attention.



Facial Image

### Driving Behavior

By constantly monitoring the operational behavior of the vehicle (e.g. sensing if the vehicle is drifting out of its driving lane), the system can identify signs of inattentiveness or distraction in the driver. When the system detects such behavior, voice and message alerts are issued via the navigation system. The seat-belt alert mechanism is also activated, tightening around the driver to gain immediate attention.

This concept car was developed as an exploratory platform to showcase breakthrough technologies that could potentially be applied in future production cars, part of an ongoing program from Nissan contributing towards preventing drunk-driving.

Nissan has already launched and is developing several initiatives to help prevent drunk-driving. In June, the company introduced the "drunk-driving" message alert on its navigation system. In July, Nissan also began testing of a new on-board breathalyzer system in cooperation with

several local government authorities in Japan, where an interlock mechanism will immobilize the vehicle if the driver's breath indicates the presence of alcohol above a specified level.

Nissan is taking a holistic approach towards safety that extends beyond the technology built into its vehicles. To achieve a "safe driving environment," Nissan has embarked on the Intelligent Transport System Project (ITS) in Kanagawa Prefecture - aimed at helping to reduce road accidents via the analysis of traffic data collected from on-the-road vehicles and traffic beacons. In Japan, the company's safety vision is to halve the number of traffic fatalities or serious injuries involving Nissan vehicles by 2015 compared with the level in 1995.

