In Nissan's CARWINGS system, Japan's first total Telematics service, a variety of information is now available in the automobile—at an affordable price. This points to the emerging Telematics/IT and Intelligent Transport System (ITS) technologies that make driving more efficient and more enjoyable.

Telematics/IT
Nissan took a bold step into the new world of Telematics with the introduction of CARWINGS, Japan's first total telematics service. CARWINGS integrates human-assisted and automatic services, mobile phone and personal computer technologies to bring a variety of information to the vehicle occupants. Through an LCD screen and assisted by verbal interface, the driver can access real-time traffic conditions, news, restaurant, weather and other information; make hands-free telephone calls; inform others of the automobile's current location; and ask help-desk operators for navigation, search and emergency support. The driver can also input vehicle destination and midpoints via mobile phone or PC.

CARWINGS is currently available as a reasonably priced unit on the March and Cube; an advanced DVD navigation system with CARWINGS functions is also available on the Elgrand, Primera, Fairlady Z, Teana, X-Trail and Presage. The number of CARWINGS-capable vehicles will continue to grow in the future.

Intelligent Transport System (ITS)
ITS technologies now being realized at Nissan promise driving that is more efficient, environmentally friendly, comfortable and enjoyable.

The Lane-Keep Support System helps to reduce driver workload, helping to keep the car in its own lane. Images taken by a CCD camera are processed to detect the white lane markers. The system then assists the driver in keeping the vehicle within the lane, even when affected by side winds or a slanting road surface. Driver operation helps to make driving more comfortable, less stressful and convenient. The system uses a radar sensor to brake ahead of the car's movement when necessary, hold the vehicle within the lane, even when affected by side winds or a slanting road surface. Driver operation temporarily deactivates the system.

Creating Comfortable, Convenient Driving

Safety, the Environment and Advanced Technologies
Making driving more fun is just part of the technology story at Nissan. New safety technologies, such as the six-unit SRS Airbag System, are making Nissan vehicles safer than ever for driver and passengers alike. The company is also focusing on the development of the new technologies for the future, such as fuel cells, that will reduce the impact of the automobile on the environment.

The Nissan Virtual Engine allows engineers to perform complete computer simulations of combustion, from fuel injection to flame propagation, without having to use a traditional optical engine test unit. Nissan is also working on new metallic materials research that promises to reduce weight while increasing strength: laser welding, injection molding, high-speed deformation strength analysis, and the reduction of friction within and the size of engines and transmissions through material surface modification and ultra-precision micro surface machining.

The FF-L platform is the foundation for the incredibly successful Altima, the 2002 North American Car of the Year—the first ever for a Japanese car. The new Murano SUV—winner of the Canadian Best Truck of the Year Award—shares the same platform, as do the strong-selling Maxima and new Teana luxury sedan.

The new 350Z perfectly showcases Nissan's platform technology will be highlighted again in the coming year as the full-size Nissan Titan pickup truck, which applies the newly designed body-on-frame platform with fully boxed frame side rails for superior durability, moves into production in the US.

Nissan received confirmation of its powertrain prowess in 2002 as the 3.5-liter VQ engine was named as one of "Ward's Ten Best Engines," published by Ward's Communications, Inc., for the ninth year in a row. No other engine has made the list every year it has been published.

As sales of diesel-engine powered vehicles continues to expand across Europe, Nissan has benefited greatly from the Alliance with Renault and its family of dCi diesel engines. These powerful, smooth-running engines are being applied to the Micra, Almera Tino and Primera in Europe.

The new dCi diesel engine platform side rails for superior durability, on-frame platform with fully boxed the full-size Nissan Titan pickup truck, highlighted again in the coming year as

driving enjoyment, thanks to the all-new Skyline also boast outstanding Year; and many more. The Infiniti G35, Finance magazine; Canadian Car of the Year. Year— and Cube; an advanced DVD navigation system with CARWINGS functions is also available on the Elgrand, Primera, Fairlady Z, Teana, X-Trail and Presage. The number of CARWINGS-capable vehicles will continue to grow in the future.

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Adaptive Cruise Control (ACC) also helps to make driving more comfortable and convenient. The system uses a radar sensor to brake ahead of the driver's reaction when necessary, hold speed at a pre-set maximum and control the distance behind the vehicle in front.

Lane-Keep Support System
The Lane-Keep Support System helps to keep the car within its lane, even when the car is affected by road inclination or crosswinds. This reduces driver strain and improves driving comfort.