

Automotive

NTN offers a wide variety of vital products for automotive applications such as the engine, suspension, transmission, as well as the body and electric auxiliary equipment.

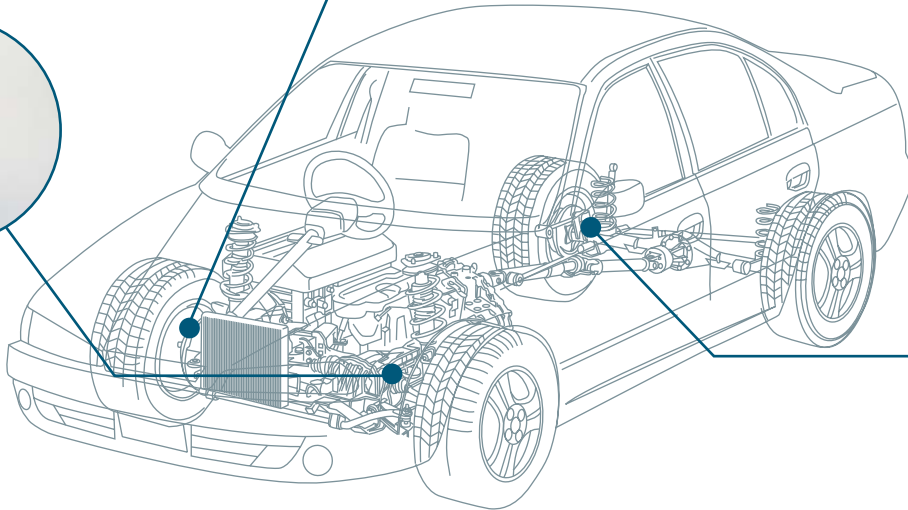
Today, the automotive industry is concentrating its efforts on energy saving and the improvement of safety. Accordingly, NTN is striving to develop technologies for high function, high precision, and weight reduction, as well as new processes and hybrid technologies.

Constant velocity joints (CVJ)

The CVJ is an important component to transmit the rotational force of an automotive engine smoothly at constant velocity to wheels.

In recent years, weight reduction, power increase and complexity in drive train system are progressing with cars. However, these may become possible factors to may increase noise or vibration. On the other hand, customers are asking for a comfortable ride.

In response to these requirements, NTN is providing the automotive industry with CVJs featuring long life, high function, light weight and compact designs.



Business Scope

NTN is supplying products that support “Smooth motion” in various industries, and contributing to environmental conservation and improvement in safety.

NTN offers parts and equipment to all areas of industry through its “High precision processing technology” (to prevent “out of roundness” in rolling elements for bearings) and using research in “Tribology” (the study of friction, wear and lubrication). Throughout the world, NTN responds to severe requirements and expectations from high-tech and other industries through in-house development and production of most products instead of outsourcing.

Bearings

A bearing reduces energy loss (such as heat generation) due to friction at rotating positions of machines and allows efficient operation. Bearings are classified broadly by their rolling element into ball bearings and cylindrical roller bearings. The roundness of the rolling element is very important for smooth rotation.

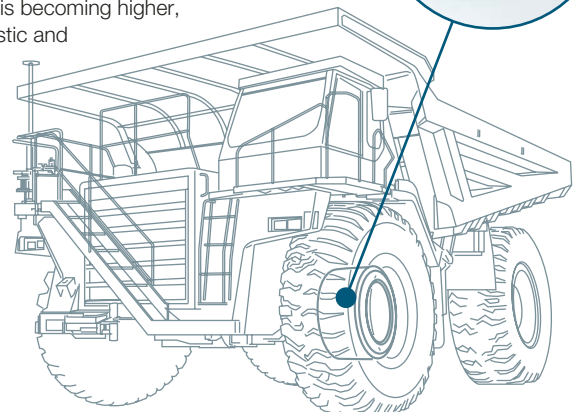
NTN uses its own Tribological research on friction, wear and lubrication to develop a wide variety of high-quality bearings with “out of roundness” limited to the nano-level.

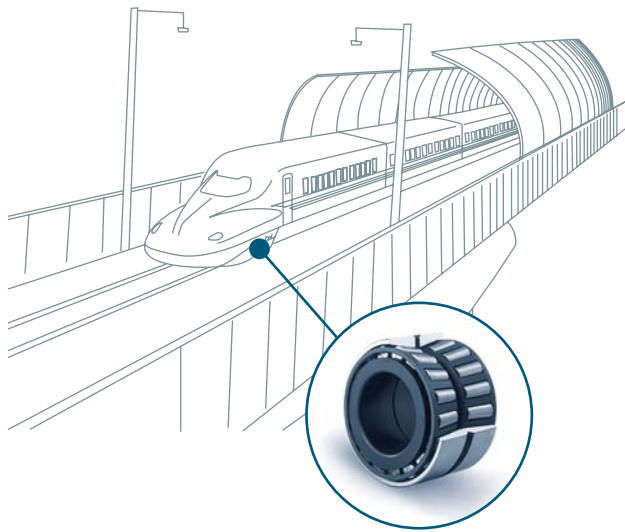


Industrial machinery (Earth moving equipment, etc.)

NTN bearings have an excellent reputation for high quality and customers appreciate NTN's short delivery times in response to sudden production increases. They are often used for wheels and driving mechanisms of earth moving equipment, which are essential for infrastructure development.

Recently, projects to develop natural resources and energy are quite active and bearing demand is becoming higher, increasing domestic and overseas sales.





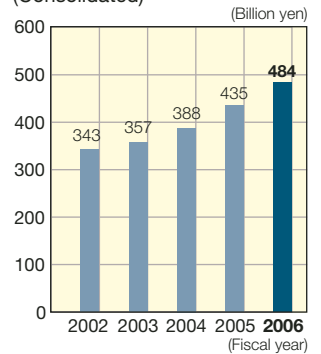
Railway

NTN bearings are used for passenger trains and freight cars as well as Shinkansen bullet trains. NTN makes every effort to maintain and improve quality under a special management system, since even a minor defect in the large-scale railway transport of people and commodities may result in serious damage.

In the interests of environmental conservation the modal shift to rail transport is increasing and bearing demand is growing worldwide.

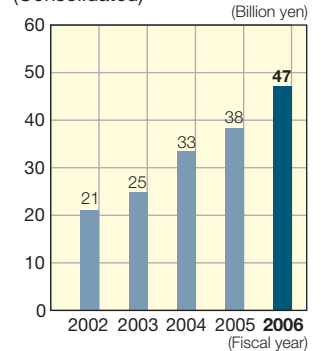
Sales

(Consolidated)



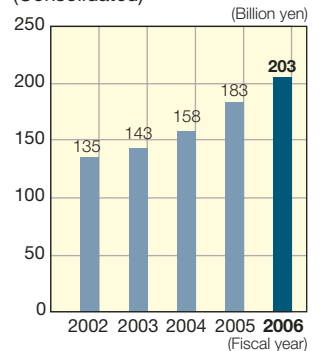
Operating profit

(Consolidated)



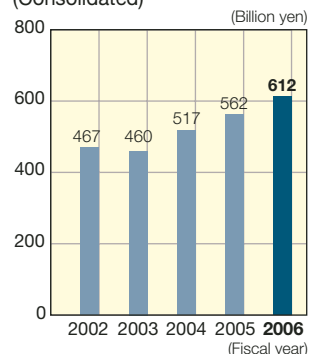
Shareholders' equity

(Consolidated)



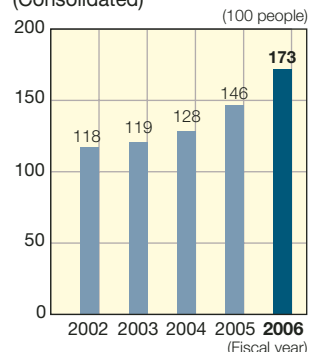
Total asset

(Consolidated)



Number of employees

(Consolidated)



Office Equipment

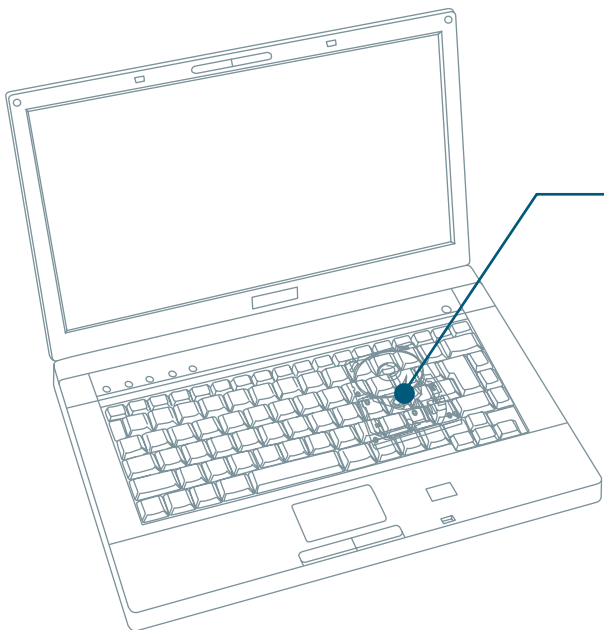
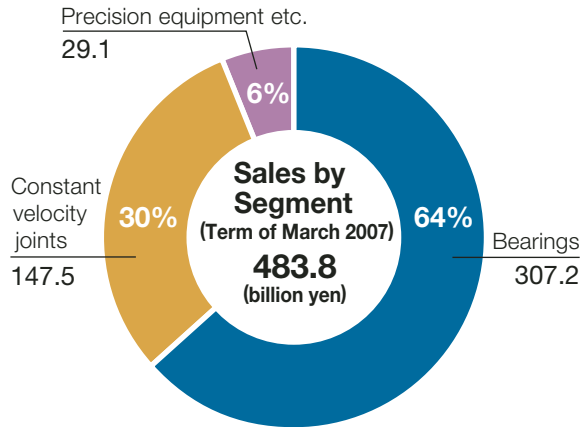
Office equipment industries, in which Japan leads the world market, are our main customer for small bearings and engineered plastic products. These industries are in the vanguard of environmental conservation, and set internal criteria before environmental regulations become effective. NTN develops and supplies products that eliminate or reduce the need for environmentally hazardous substances.

NTN strives for environmentally-friendly product development and encourages recycling.

Fluid dynamic bearing units

Fluid dynamic bearings that have superior running accuracy and do not cause any run-out in the rotation of motor spindles are used for hard disc drives (HDD) in personal computers, etc.

Lubricating oil is impregnated in NTN fluid dynamic bearings. They have high running accuracy and maintain high reliability for reading data from the HDD and writing data to the HDD.



Precision equipment

Liquid crystal panels and PDPs (plasma display panel) are becoming larger in screen size and higher in accuracy. At production sites, NTN's liquid crystal repair devices and pattern repair devices (NTN's ultra high precision positioning technologies) are contributing to improvements in productivity.

In addition, NTN is continuously supplying high precision units that are essential for accuracy in the most advanced industries, such as semiconductor production or record storage production, and that are competing with high density products.

