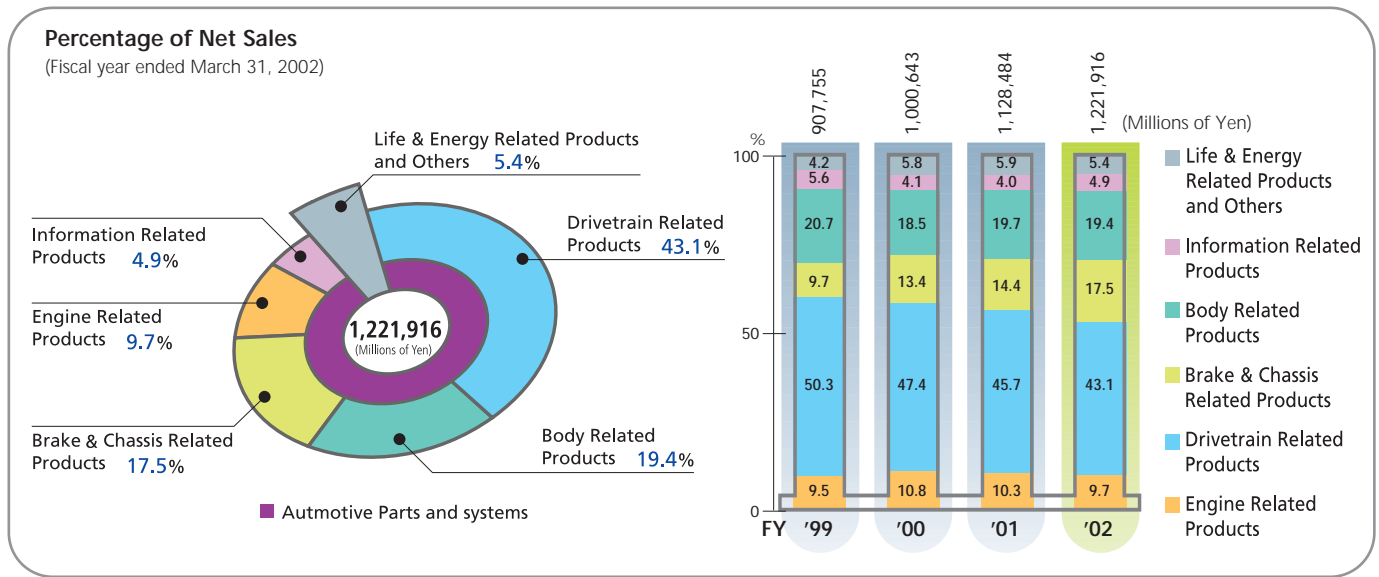


# Review of Operations

The AISIN Group strives to develop system products and cost competitive products to attract the customers in pursuit of environment, safety, comfort and information in our base, automotive parts and systems business. Meanwhile we develop and sell products to offer more comfortable life with our concept of "creative lifestyle and health" in the life & energy related products.



## Automotive Parts and Systems Business

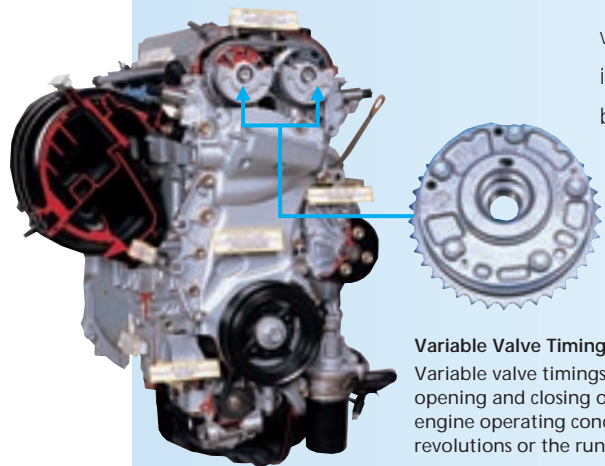
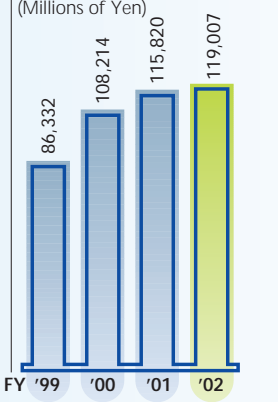
### Engine Related Products

Sales for engine related business during fiscal year 2002 totaled ¥119 billion (US\$ 893 million), a 2.8 percent increase over the previous year, thanks to the expanded sales of leaner variable valve timings (VVT) and integrated exhaust manifolds with catalyst, which were developed by Aisin Seiki Co., Ltd. (Aisin Seiki) and Aisin Takaoka Co., Ltd. respectively. The VVT units are energy

efficient products with excellent emission control. Aisin Seiki sold 0.4 million units of VVT to Daihatsu Motor Co., Ltd., Volvo Car Corporation, and Renault S.A. in 2000, and started sales to BMW AG in April 2001. We have made efforts to further boost VVT sales to other automakers in Europe and the United States, including the Big Three, aiming at annual sales of 2.6 million units for 2004.

The integrated exhaust manifolds with catalyst is activated promptly and improve emission gas purification, are built-in structured.

### Net Sales of Engine Related Products



**Variable Valve Timing**  
Variable valve timings control the timing of the opening and closing of engine valves according to engine operating conditions such as the engine revolutions or the running status.



**Integrated Exhaust Manifold with Catalyst**

## Drivetrain Related Products

Sales for the drivetrain related business rose 1.9 percent to ¥525.9 billion (US\$ 3,947 million), compared to a year earlier. Drivetrain related business are a core business and offers a wide array of transmissions and drivetrain systems. We develop and produce automatic transmissions (AT) for many types of vehicles, from mini cars to medium-size buses and trucks, as well as a wide variety of manual transmissions (MT) for both passenger and commercial vehicles.

The AISIN Group launched 6-speed ATs and MTs to meet not only for driving comfort and pleasure, but also to meet market demands for multi-step transmissions, compact and better fuel efficiency. At the same time, development projects include a continuously variable transmission (CVT) from Aisin AW Co., Ltd. (Aisin AW), an automated manual transmission (AMT) from Aisin Seiki and Aisin AI Co., Ltd. (Aisin AI) and a new type of drivetrain system, "dual system" for hybrid vehicles, from Aisin AW.

Responding to the need for multi-step and compact transmissions, Aisin AI has succeeded in introducing a 6-speed MT for the passenger car, which is now featured in Toyota Motor Corporation, Mazda Motor Corporation, and Nissan Motor Co., Ltd., etc.



**6-speed Manual Transmission**

Aisin AW completed the development of a new FWD electronically controlled 6-speed automatic transaxle, and began supplying those to Volkswagen AG in

2002. Aisin AW sold 3.26 million units of AT for passenger cars in fiscal year 2002 and has set a sales goal of four million units, representing 15 percent of the projected world market in 2005. Aisin Seiki has been developing 6-speed AT for commercial vehicles to introduce them to the market. Relying on its product marketability and long-established record of sales to global automakers, we plans to solidify its market position while tapping into new customer bases.

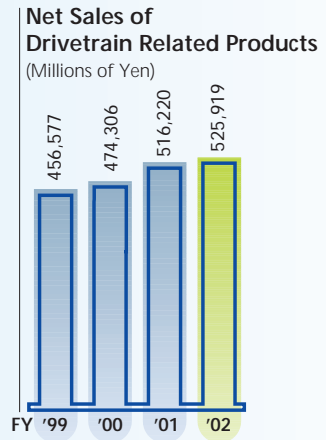
The AISIN Group also offers other types of drivetrain systems in addition to conventional transmissions. While innovations continually take place in the field of drivetrain technology, the AISIN Group is committed to R&D to provide optimal solutions to clients. One example is our CVT products, which are lightweight and compact, thanks to their utilization of AT technology, and feature optimal gear ratios to enable a judicious balance of fuel economy and superb acceleration capabilities.



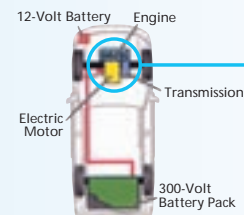
**Continuously Variable Transmission**

A next-generation AMT is another such product, combining the ease of operation of an AT with the enhanced fuel economy and sporty driving performance of an MT.

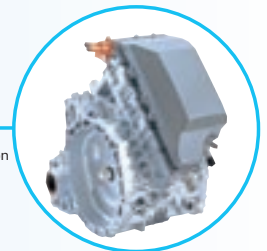
**Automated Manual Transmission**



This blending of qualities was made possible by incorporating an automatic shift mechanism into the auto clutch system on the market. The weight was decreased and shift control was improved by using an electronic control method. Finally, sales of a dual system for hybrid vehicles will start in 2003, with its shipment to Ford Motor Company for use in its "Escape" model, SUV. The dual system for hybrid vehicles, integrates two previously separate methods: one (the "series" method) in which a drivetrain system draws power from electric generators fed by the engine; the other (the "parallel" method) in which a system draws power from both the engine and the motor.



**Dual System for Hybrid Vehicle**



Note: The exchange rate at March 31, 2002 of ¥133.25 = US\$1 has been used in the translation.

### Brake & Chassis Related Products

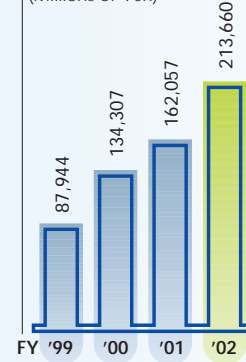
Sales for brake & chassis related business rose to ¥213.7 billion (US\$1,604 million) during fiscal year 2002, a 31.8 percent jump from the year-earlier period. This substantial leap was mainly due to the October 2001 start-up of a new subsidiary, ADVICS Co., Ltd. (ADVICS), which specializes in developing and selling highly sophisticated brake systems and brake components. ADVICS offers a vehicle stability control (VSC) system, a safety device for automobiles for which there is a growing demand. Sales of the VSC system contributed to brake & chassis related business.

The technology used in VSC system had its roots in R&D efforts towards automated operation for intelligent vehicle that took place about 10 years ago at Aisin Seiki Co., Ltd. (Aisin Seiki). VSC system is being incorporated into an increasing number of car models,

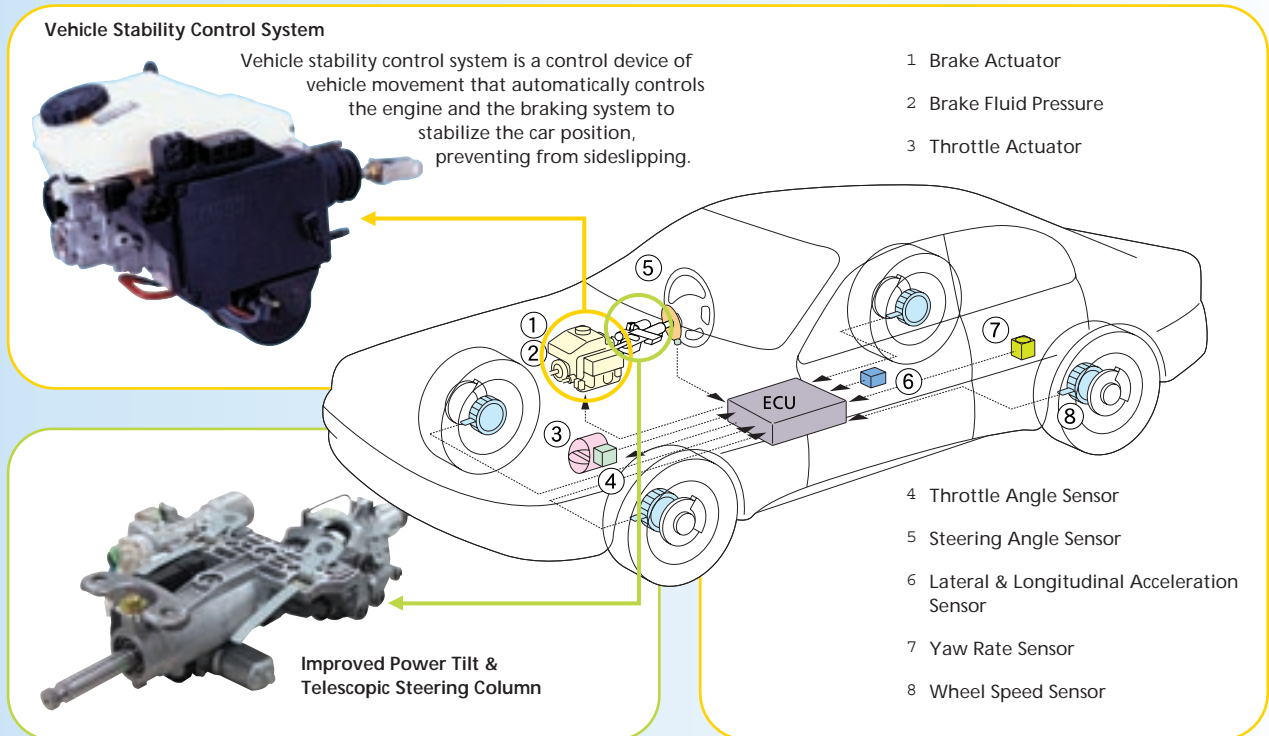
and demand for this feature should continue to increase. Aisin Seiki holds the pioneer patent for VSC system in Japan, the United States and Germany.

In brake & chassis related business, air suspension systems and power tilt & telescopic steering columns contributed favorably to the increased sales during fiscal year 2002. These steering columns ensure the best driving positions for drivers: by changing column heights and column position back and forth with a switch, drivers can easily adjust their driving positions. Aisin Seiki recently completed developing a new version of the power tilt & telescopic steering column, and will introduce it in the market this year. This product had extremely good results in our internal collision tests to reduce possibilities of knee injuries, which surpassed Euro-NCAP standards. It also features reduced operating noises.

**Net Sales of Brake & Chassis Related Products**  
(Millions of Yen)



In fiscal year 2000 net sales of brake & chassis related business were included in consolidated net sales due to the expansion of consolidated accounts.



## Body Related Products

Sales for body related business during fiscal year 2002 were up 6.7 percent to ¥237.5 billion (US\$1,782 million). This increase was due in part to new products introduced in fiscal year 2002: power back door system, power sliding door system and new typed door latches from Aisin Seiki; lightweight door beams from Aisin Takaoka Co., Ltd.; and spray type damping material and PVC-free underbody coating by Aisin Chemical Co., Ltd. (Aisin Chemical).

Aisin Seiki's power back door system and power sliding door system are designed for minivans and one-box vehicles. Operation is as simple as pushing a button, while the auto-reverse function prevents doors from closing when an object is in the way. Since they can also be operated by remote control from outside the car, the power back door system is especially suitable for users whose hands are full with shopping bags and children. The power sliding door system has been highly praised by clients for its innovative module construction built into one door.



Power Back Door System



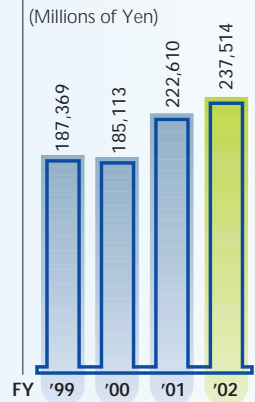
Power Sliding Door System

Although structurally simple, the new typed door latches are strong enough to withstand the impact of a crash, and allow doors to close firmly but softly, imparting the sound and feel of superior quality. Overseas production of the door latches has stimulated orders from overseas auto manufacturers.

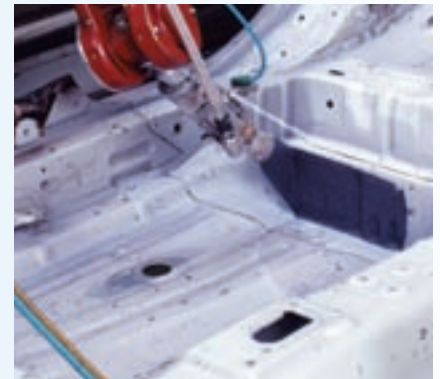
The lightweight door beams are pressed with the "die quenching" process that increase the material strength in the metal die and carries out press mold at the same time; they are exceptionally strong yet lightweight.

Spray type damping materials come in liquid form and are applied as paint sprays, unlike conventional insulators, which are produced in solid sheets. This liquid form also rationalizes car processing since the insulating materials can be easily applied to variously shaped car parts and makes weight of vehicle lighter, in contrast to assembling

### Net Sales of Body Related Products



insulating sheets into complicated shapes. TOYOTA vehicles have already been using the insulators since last year.



Spray Type Damping Material

Aisin Chemical strives to expand sales of PVC-free underbody coating for the bottom face of cars to environmentally friendly automakers around the world.

Information Related Products

In fiscal year 2002 sales for the information related business soared 31.7 percent to ¥60.2 billion (US\$452 million), thanks to steadily increasing sales of the car navigation systems and NAVI-MATIC (navigation system-coordinated shift control system) built by Aisin AW Co., Ltd. (Aisin AW), and the parking assist system built by Aisin Seiki Co., Ltd. (Aisin Seiki).

Net sales for the car navigation systems increased mainly in Japan, and unit sales totaled 0.51 million in fiscal year 2002. New clients during fiscal year 2002 included Audi AG and Volkswagen AG in Europe, and Delphi Automotive Systems, Ltd in the United States. The market for car navigation systems is expected to grow, with global sales reaching seven million units in 2005, according to some estimates. Aisin AW has set a sales goal of one million units, representing 15 percent of the projected world market in 2005.

The NAVI-MATIC is an innovative system that predicts and control automatic transmission gear shift by analyzing road conditions ahead using a car navigation system. The NAVI-MATIC, the world's first of its kind, offers optimal gear changes, particularly in

mountainous areas that require frequent shift changes; thereby ensuring smooth driving.

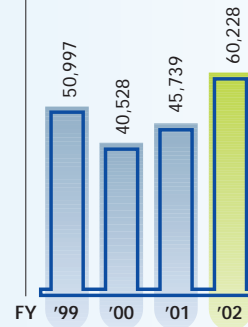
Moreover it improves safety and fuel economy.

**NAVI-MATIC**  
(Navigation System-coordinated shift Control System)

The parking assist system helps the driver by reading steering angles as the driver backs the car into a parking space and recommending routes shown



Net Sales of Information Related Products (Millions of Yen)



on a navigation screen. Some systems include voice guidance or parallel parking functions. In May 2002, Aisin Seiki also introduced a lane recognition system, which measures the distance between a car and the white or yellow lane line with a camera in the rear, and alerts the driver with a beep if his vehicle is about to cross the lane while driving at high speed. This system uses the same camera as the parking assist system. The key to this system is the technology of recognizing and processing image. It utilizes our image-processing technology, which was originally developed in the AISIN Group's overseas R&D companies.