

# AISIN REPORT 2012

Now and Future

## Bring the World the 'Delights of Driving'

President's Message

Aiming for Sustainable Growth Under  
a New Management Vision

### *New Products 2012*

Newly Developed Brake Control Modulator for  
Idle Reduction System  
Residential-Use Solid Oxide Fuel-Cell  
Cogeneration System

Meeting Emerging Market Needs

## Planting Firm Roots in China



**AISIN**  
One Team, Best Future



# Aiming for Sustainable Growth Under a New Management Vision

## Strong Group Ties Help Us Through Trying Times

Fiscal 2012 was a trying year, yet one in which lessons were learned. Our subsidiaries in Thailand were forced to temporarily suspend operations following the country's catastrophic flooding. Fortunately, none of our people were injured nor were our buildings seriously damaged, and group companies in Japan and China were able to cover any production shortages to get us through this trial. I believe this experience further strengthened the sense of unity and bonds that tie the AISIN Group.

To better deal with natural disasters and other such emergencies, we are revamping our supply chain structure and BCP (business continuity plans) so that all companies in the AISIN Group can even more effectively work together to support and complement each other.

## Expanding Quickly into Emerging Markets

Despite issues of concern such as the European financial crises and a lingering strong yen, we believe that markets are on the path to growth thanks to stimulus from China, India, and other of the world's emerging markets.

For AISIN as well, I believe the key to our success lies in whether we can expand business in these economies. Such expansion requires that we increase

our dealings with manufacturers, especially those in the countries where we do business. To this end, since fiscal 2012 we have been rapidly opening new business sites instead of waiting for firm orders in a market. The new sites we opened in India in the past year were proactively established with the aim of doing business with both Indian manufacturers and international manufacturers that have set up in the country. In China, besides expanding production sites, we established new R&D sites aimed at meeting local market needs and providing technology that can be used from the early product development stage. In the development of products for the fiercely competitive hybrid and EV market, we are using our comprehensive strength by pooling all of the AISIN Group's resources.

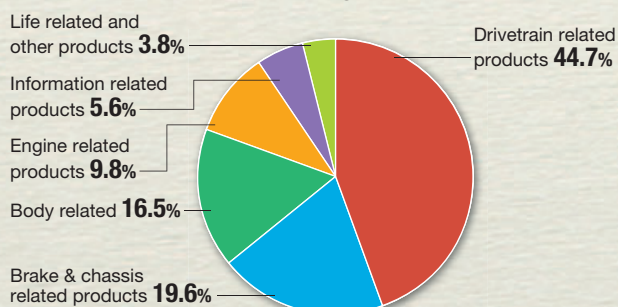
## Our Aim: Become an Irreplaceable Partner

The efforts I have described here require AISIN to draw a road map that shows where it is going and how it will get there—and to show the world that it is committed to following this map to the end.

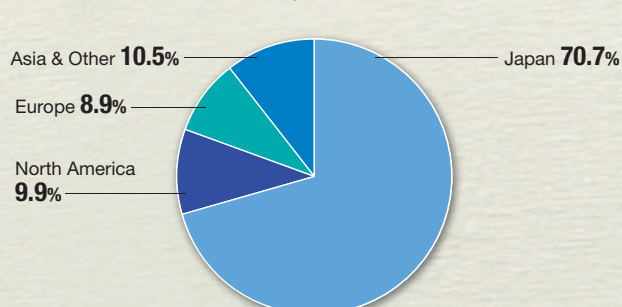
With the realization that we had to make such a commitment, we formulated the AISIN Group Vision 2020: the culmination of six months of intense debate with the group. In creating this vision, AISIN aims to be called an irreplaceable global partner by all

**FY2012 Net Sales: ¥2,304.1 billion**

### Business by Product Category



### Business by World Region





stakeholders, customers, business partners, communities, shareholders, and employees. If we place the utmost importance on making people's lives better and focus on making this a reality, people around the world will indeed see the importance of AISIN in their lives. I am convinced that this is the one and only road to sustainable growth.

## **Contribute to a Sustainable Society**

The automobile is taking on increasing importance around the world, especially in emerging markets. At AISIN, we hope to contribute to the sustainable development of the car society by providing products that improve the environmental performance and safety of automobiles.

The Great East Japan Earthquake of March 2011 caused electricity shortages in Japan, and there is a growing need to solve energy and environmental problems with energy-saving products and distributed energy systems. By helping society realize energy-efficient, safe, and comfortable lifestyles through products like residential gas cogeneration

systems, AISIN is contributing to the creation of a sustainable society. Through our business activities we are also active in helping reduce environmental impact, fostering human resources, and contributing to communities.

Every one of the approximately 78,000 AISIN employees at 170 companies in 20 countries worldwide will continue to strive to earn our group the trust of all stakeholders, including customers, business partners, communities, shareholders and employees. We ask for the continued support and guidance of each member of these stakeholder groups.

July 2012



**Fumio Fujimori**

President  
Aisin Seiki Co., Ltd.





# *Now and Future* Bring the World



The worldwide automobile market is expected to continue growing, driven by the vibrant economies of emerging markets like India and China. And to curb excessive global warming much hope is being placed on hybrids and EVs.

That being said, gasoline- and diesel-powered vehicles are still expected to be around for years, so it is important that their environmental impact is decreased. It is also crucial to ensure traffic safety by preventing car accidents. We at AISIN will continue to provide products that improve the environmental performance and safety of cars so we can provide the delights of driving for people around the world.

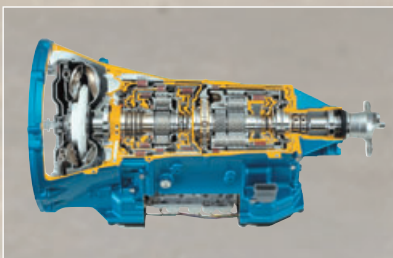


# the 'Delights of Driving'



## ▼ Boosting Gasoline Vehicle Fuel Efficiency

We provide a range of products and systems that boost fuel efficiency, including oil pumps, transmissions, and compact, light parts for the body and chassis of cars.



### RWD 8-Speed Automatic Transmission

When paired with a high-powered engine, it offers both an excellent drive and improved fuel efficiency.

## ▼ Boosting Hybrid Car Fuel Efficiency

We provide products and systems vital to hybrid cars, such as electric water pumps for cooling engines, hybrid transmissions, and regenerative brake systems.

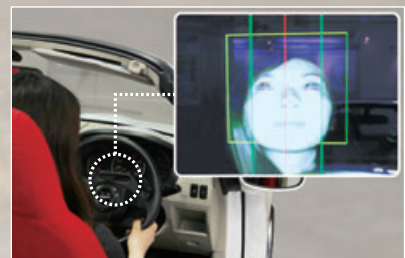


### Electric Water Pump for Cooling the Engine

By keeping the engine cooled to the ideal temperature, this product helps boost fuel efficiency.

## ▼ Helping to Make Driving Safer

Whether a car is starting to accelerate, at cruising speed, or parking, we provide it with products and systems that help ensure the safety of both driver and pedestrian.



### Discovering Inattentive and Sleepy Drivers

Sensors constantly monitor the driver's breathing and pulse—and even detect whether he or she is drowsy. This allows the system to accurately determine whether the driver is nodding off at the wheel.







# Planting Firm Roots in China

## AISIN in China, the World's Largest Car Manufacturing Country

In 2009, China became the world's largest automobile manufacturing country. China has become a key car manufacturing region for the world's automobile makers, and one reason for the surge in production in recent years has been growing demand in China itself. While in the past cars in China were mainly purchased by the wealthy, there is expected to be a surge in car purchases by middle-income earners.

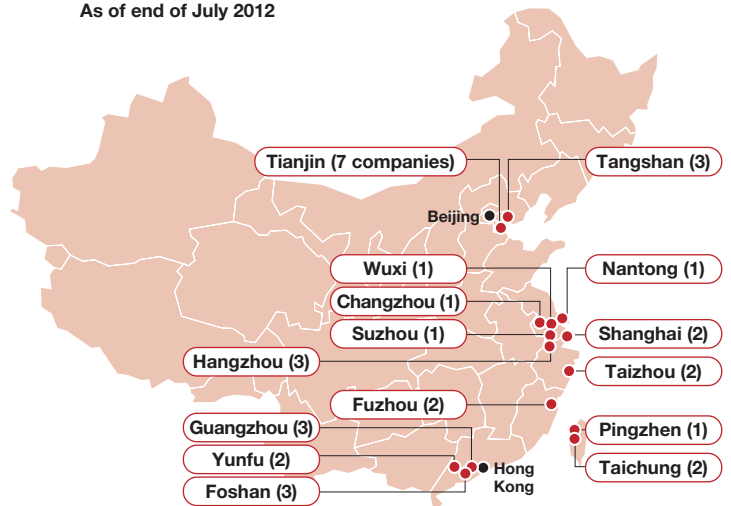
With China's vibrant automobile demand, AISIN is expanding business by picking up the pace of expansion and earnestly pursuing CSR initiatives in order to become a company with deep roots in the country.

## Strengthen Business Foundations in Emerging Markets

AISIN established its first production base in China in 1995. Since then, we have set up increasingly more production and sales facilities to coincide with advancement in China's automobile industry.

We have established several key companies in China in the past year. One is Aisin Seiki (China) Investment Co., Ltd., which oversees Aisin Seiki's business in China and helps us speed up strategy formation and decision-making functions. The others are ADVICS Changzhou Administration Co., Ltd. and

■ AISIN Bases in China and Taiwan (Total: 34)  
As of end of July 2012



Aisin (Nantong) Technical Center of China Co., Ltd., whose duties include the design and assessment of car parts for the Chinese market, surveys of technological trends, and technical support for AISIN production bases in China.

We are also adding business in China by establishing new plants for the production of brakes, automatic transmissions, electronic components, and other products.

At trade fairs and motor shows, we are aggressively exhibiting products that boost the environmental performance and safety level of cars. AISIN will continue to bring these products to a wider market with the aim of helping build a sustainable car society.

Cars Produced in China in 2011 (Source: MarkLines Co., Ltd.)

# 18.42 million

China produced 18.42 million cars in 2011—about one-quarter of the world's total. And more than 90% of these were for domestic consumption. This makes China the world's most important region when looking at the future of the car society.



## Fostering People: Local Employees for Local Facilities

At AISIN, we work to foster the people who will support our manufacturing. At our facilities around China, we provide quality control education to both the line employees and to the managers who interact with these employees and AISIN's engineering department. And to foster young local employees to become future leaders of AISIN's manufacturing, we have a training system under which workers spend a year in Japan acquiring a range of practical techniques.

Beyond simply training local workers, we also strive to put locals into management positions at our worldwide bases through programs like AISIN WAY\* and Leadership. AISIN's training efforts are resulting in an increasing percentage of local nationals in management and overseas officer positions.

We conduct a number of other efforts to make our overseas facilities pleasant and vibrant places to work, such as holding Japanese language classes open to anyone and birthday parties for all workers.

\* AISIN WAY: Established in April 2007, the AISIN WAY is explicitly taught in order to create, share, and pass on a uniquely 'AISIN way' of thinking about and carrying out work.

## Reducing the Environmental Impact of Business Activities

Besides worldwide environmental issues like preventing global warming and preserving resources, we place importance on dealing with issues unique to China, such as water shortages in certain of the country regions. That's why we set up the AISIN Chinese Consolidated Environment Committee in 2009. The committee has since led action in grasping local environmental problems and implementing solutions throughout AISIN in China.

In fiscal 2012, a cumulative total of 190 persons took our basic energy efficiency education course for managers in environment- and energy-related areas. These managers will lead efforts at AISIN bases aimed at making the workplace more energy efficient.

### ■ Overview of Basic Energy Efficiency Education

<b>Purpose</b>	Participants acquire a basic knowledge of energy efficiency so they can take improvement action on their own, and they learn how to discover wasted energy and how to make the most effective use of energy.
<b>Participants</b>	<ul style="list-style-type: none"> <li>Managers in charge of environmental matters</li> <li>Persons working directly in energy management</li> </ul>
<b>Curriculum</b>	<ul style="list-style-type: none"> <li>Basic rules of saving efficiency (classroom)</li> <li>Creating a checklist for energy efficiency in the workplace (work in groups making lists for actual workplaces)</li> </ul>

## “ In China, Pursuing the Ideals of Manufacturing ”

With China coming out with increasingly strict environmental and safety regulations for automobiles, we expect ever-greater demand for AISIN products, which offer superior environmental performance and safety. We realize, though, that intense competition among car makers will force us to become more cost competitive.

That's why AISIN is strictly abiding by global quality standards while at the same time striving to attain an ideal manufacturing system in which our products have the minimal number of necessary functions yet can be customized with the exact functions that each of our customers demands.

### Shinsuke Yagi

Chairman  
Aisin Seiki (China) Investment Co., Ltd.  
Senior Managing Directors  
Aisin Seiki Co., Ltd.





## Community Contributions as a Good Corporate Citizen

As a company doing business in China, we believe it is our mission to contribute to meeting the needs of the communities in which we have operations.

AISIN's local operations listen closely to what their communities need and strive to meet these needs by earnestly working with the locals. Fiscal 2012 once again saw AISIN at work in the community:

in tree-planting and other environmental action, supporting educational and social welfare institutions, and making donations to natural-disaster-stricken areas.

AISIN will continue to conduct CSR activities that earn it the trust of locals and make it a corporate group that communities can rely on.



1 2

### Visit to an Elementary School Aisin Seiki Foshan Automotive Parts Co., Ltd.

On March 3, 2012, the company and local university students performed skits at an elementary school. They also made monetary donations to children from needy families.

3 4

### Lecture at a University Tangshan Aisin Gear Co., Ltd.

On October 24, 2011, the company visited a class of Japanese majors and gave a lecture on fostering closer connections between companies and universities.

5 6

### Tree-Planting at a Nursing Home Feng'ai (Guangzhou) Automotive Seat Parts Co., Ltd.

The company has been conducting tree-planting activities for the past four years. On March 11, 2011, it visited a local nursing home and planted fragrant olive trees in the garden.





#### Newly Developed Brake Control Modulator for Idle Reduction System

## **AISIN's brake control modulator works in unison with the idle reduction function to improve fuel efficiency and ensure safety of the vehicle.**

The attainment of a sustainable society demands that automobiles be safe and cause minimal environmental impact. At AISIN, we strive to develop and spread the use of technologies that improve fuel efficiency—which in turn reduces greenhouse gas emissions and preserves oil resources—and technologies that ensure the safety of drivers and pedestrians.

ADVICS, CO., LTD. has newly developed a brake control modulator that is associated with the pre-stop function for idle reduction. This product is mounted on the Mira e:S from Daihatsu Motor Co., Ltd. and the Alto Eco from Suzuki Motor Corporation, both launched in 2011.

An idle reduction system automatically stops the engine when the vehicle comes to a stop and restarts it when the vehicle is ready to start moving again, but a newly developed pre-stop function for idle reduction system stops the engine before the vehicle comes to a complete stop, thus further improving fuel consumption and reducing environmental loads. The brake control modulator with pre-stop function for idle reduction system developed by ADVICS adds new software to an ESC modulator base. Using

information from various sensors, it detects vehicle behavior, engine running state, and driver operations, and ensures safety when the idle reduction system activates until the vehicle stops by automatically applying pressure to the hydraulic brakes as needed.

AISIN will continue to develop and spread the use of technologies that contribute to the environment and automobile safety with the goal of contributing to the creation of a sustainable society.

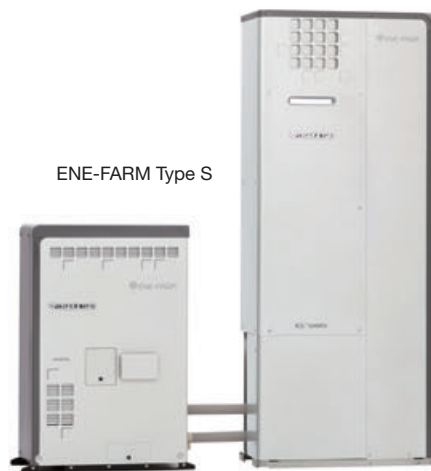


Brake control modulator for idle reduction system

Mira e:S from Daihatsu Motor Co., Ltd.







ENE-FARM Type S



### Residential-Use Solid Oxide Fuel-Cell Cogeneration System

**With a power generation efficiency of 46.5%, the highest level in the world, the system enables users to save more energy at home.**

With Japan facing increasingly severe electricity shortages, people are looking towards distributed energy systems, which generate power near where it will be used and thus reduce power transmission loss.

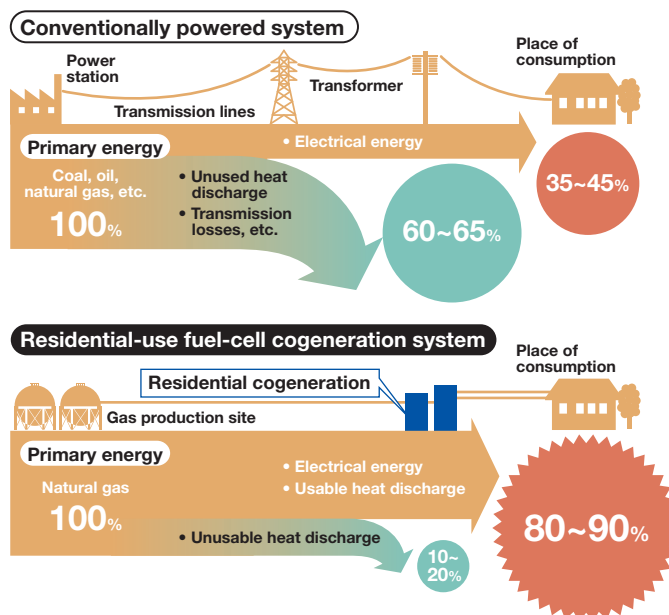
To meet this growing need, in March 2009 development of a residential-use solid oxide fuel cell<sup>\*1</sup> (SOFC) co-generation system was begun jointly by Aisin Seiki Co., Osaka Gas Co., Ltd., Kyocera Corporation, Chofu Seisakusho Co., Ltd., and Toyota Motor Corporation. Osaka Gas has commenced commercial sales of the system.

This SOFC cogeneration system was developed by combining the respective strengths of each company: Osaka Gas in cogeneration system development, Kyocera in the design and production of cell stacks<sup>\*2</sup>, Aisin Seiki and Toyota in the design and production of generation units, and Chofu in the design and production of hot-water supply and heating units using exhausted heat. The product utilizes ceramic electrolyte for the power generating cell stack to achieve a high operating temperature of 700 to 750 degrees Celsius; a high temperature that can be efficiently used as energy to reform utility gas to hydrogen. The result is a power generation efficiency of 46.5%<sup>\*3</sup>, the highest level in the world<sup>\*4</sup>, and an

overall energy efficiency of 90.0%. Compared to conventional gas-powered hot-water supply and heating units<sup>\*5</sup>, this system emits about 1.9 tons fewer CO<sub>2</sub> emissions<sup>\*6</sup> per year.

AISIN will continue its aggressive development of environment- and energy-related products so that it can contribute to the spread of distributed energy systems.

#### ■ Comparison of Total Energy Efficiencies



<sup>\*1</sup> A fuel-cell that uses ceramics as its electrolyte. Electric current is generated when oxygen is ionized and reacts chemically with hydrogen and carbon monoxide as it passes through the electrolyte. The ability to use carbon monoxide is a significant feature. / <sup>\*2</sup> The cell is a single power-generating unit comprised of a fuel electrode, electrolyte, and air electrode. The stack is a collection of cells. The electromotive force of a single cell is less than 1V, and the output is only a few watts. They are connected in a series and into a stack to increase voltage and output. / <sup>\*3</sup> Rate for lower heating value (LHV). Heat value excluding the calorific value of latent heat for condensation of steam generated when fuel gas is completely combusted. / <sup>\*4</sup> For residential-use fuel cell cogeneration system. As of March 13, 2012; based on research by Osaka Gas. / <sup>\*5</sup> For trial calculation conditions, see the following Aisin Seiki press release. <http://www.aisin.co.jp/news/d00534.html> / <sup>\*6</sup> Based on trials by Osaka Gas.



# Environmental Activities

## The Fifth Environmental Action Plan

**Towards the realization of a sustainable society where humans coexist with the earth and the environment.**

In April 2011, AISIN formulated its Fifth Environmental Action Plan, which covers fiscal 2012 to 2016 and is aimed at realizing a sustainable society where humans coexist with the earth and the environment.

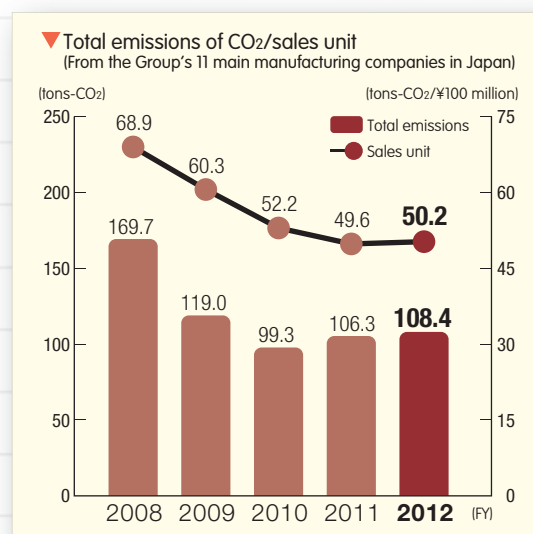
The plan comprises four environmental themes: (1) Establishment of a Low Carbon Society, (2) Establishment of a Recycling-based Society, and (3) Development of a Natural-symbiosis-oriented Society, as well as (4) Fundamental Activities carried out across the entire AISIN group to achieve the first three. Based on these themes, AISIN has established actions and targets as part of its comprehensive environmental management.

**AISIN consolidated**  
(all companies in Japan and overseas)

**Coordination and unity**



## Establishment of a Low Carbon Society



### Reducing Greenhouse Gases from Manufacturing

By fiscal 2016, AISIN is aiming for a 12% reduction in CO<sub>2</sub> emissions (against fiscal 2008) per 100 million yen in sales.

In fiscal 2012, we strove to boost energy efficiency and save energy through efforts that included reducing air leaks on equipment such as machining lines, aluminum melting furnaces, and heat processing furnaces, and by wherever possible switching off facilities that are not in operation.

▼ Emissions of non-CO<sub>2</sub> greenhouse gases  
(From the Group's 11 main manufacturing companies in Japan)

(FY)	2008	2009	2010	2011	2012
HFCs*1	1,580	425	231	109	<b>104</b>
SF <sub>6</sub> *2	326,235	76,480	3,585	8,365	<b>12,906</b>

\*1 HFCs: Hydrofluorocarbons \*2 SF<sub>6</sub>: Sulfur hexafluoride



▼ COREMO  
gas engine cogeneration  
system

▼ Dual-mode heat pump  
system for use in  
production processes



### Greater Energy Efficiency through Products

Aisin Seiki has been earnestly developing products for residential and commercial users that improve energy efficiency and reduce CO<sub>2</sub> emissions. An example is a residential power generation system called Eco-Jozu + COREMO that was developed jointly with Hokkaido Gas Co., Ltd.

Another example is a dual-mode heat pump system developed by AISIN AW Co., Ltd., Zeneral Heatpump Industry Co., Ltd. and Chubu Electric Power. The system has been installed for use in AISIN AW's production processes. For its superior energy performance, this system was awarded the Agency for Natural Resources and Energy Director-General's Award from Japan's Ministry of Economy, Trade and Industry.

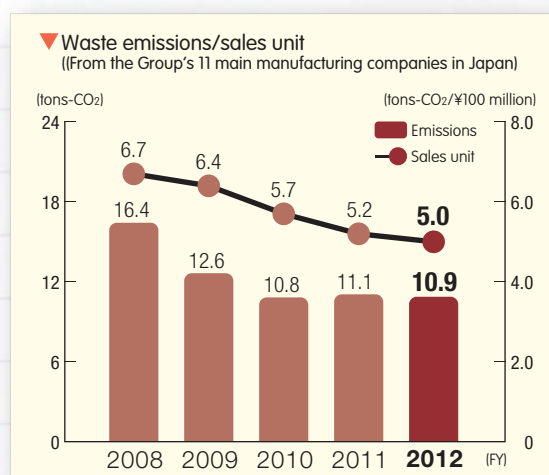


## Establishment of a Recycling-based Society

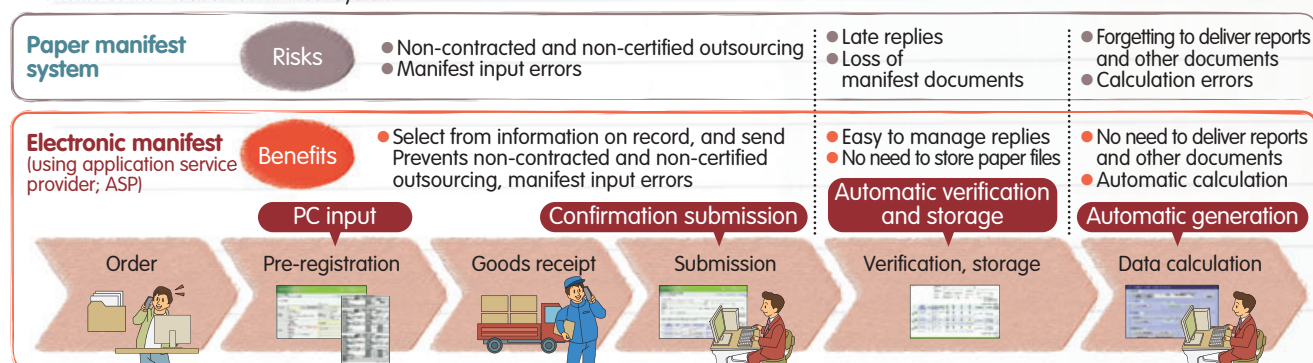
By fiscal 2016, AISIN is aiming for a 17% reduction in waste emissions (against fiscal 2008) per 100 million yen in sales.

### Electronic Manifest System Fully Introduced

AISIN conducts thorough waste management in order to abide by waste management laws and strives to reduce its waste amounts. We completed the introduction of our electronic manifest system, which clarifies the flow of waste disposal, as well as reduces legal risks such as illegal dumping, manifest operation infractions, the use of non-certified waste disposal companies, and failures to draw up contracts.



### Benefits of the Electronic Manifest System

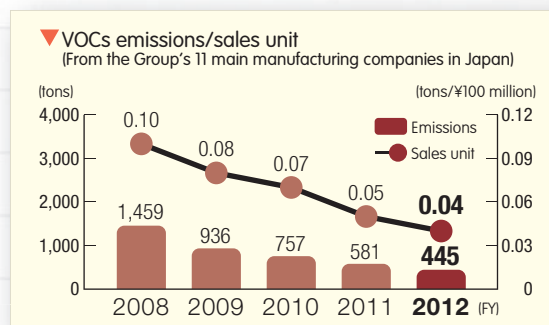


## Development of a Natural-symbiosis-oriented Society

### Reducing VOC Emissions

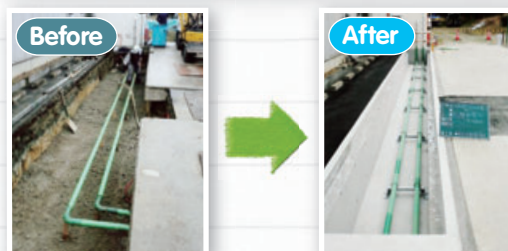
Solvents and other substances are used in the painting of body parts and the coating of electronic components. These substances contain VOCs\*, which can pollute the air. AISIN has set a goal of a 31% reduction in VOCs by fiscal 2016 against fiscal 2008 (per 100 million yen in sales), and we are currently working to achieve reductions beyond this goal.

\* VOCs (Volatile organic compounds). They vaporize easily at ordinary pressure and room temperature and are mainly synthetic substances. Common VOCs include toluene and xylene, but there are over 100 others.



### Preventing Soil Pollution

AISIN is continually improving underground pipes to prevent them from rupturing and leaking hazardous substances into the soil.



A concrete trough is built around the underground pipes to protect them

The Group's 11 main manufacturing companies in Japan: Aisin Seiki, Aisin Takaoka, Aisin Chemical, Aisin AW, Aisin Keikinzoku, Aisin Kiko, Aisin Ai, Aisin Sin'ei, Aisin AW Industries, Hosei Brake Industry, ADVICS



# GLOBAL CSR TOPICS

## Corporate Citizen Activities

**Thailand**

**Siam Aisin Co., Ltd.**

### *Relief Supplies to Flood-Stricken Areas*

Thailand was hit by large-scale flooding in 2011. Fortunately, Siam Aisin Co., Ltd. incurred no direct damage, and the company, led by the chairman of its welfare committee, initiated a project for donations that would help the affected areas on the road to recovery as soon as possible.

Donations of water, instant meals, tissue paper, and other relief supplies were gathered from employees, and the company's truck delivered these items to relief supply centers in the flood-stricken areas.



**Japan**

**Aisin AW**

### *'Soap Project 3-11' Shows Disaster Victims that AISIN Cares*

Aisin AW held 'Soap Project 3-11 for Tohoku' in a park in Anjo City, Aichi Prefecture.

The Tohoku (northeastern) region of Japan continues to face hardship following the March 11, 2011 earthquake and tsunami. This project sprung from the desire of AISIN group employees and their families to show those stricken by this tragedy that they have not been forgotten.

At the event, about 300 participants created hand-made soap bars in a variety of shapes. These and an equal number of regular bars of soap, along with letters of support, were delivered to a public bath in Yamada Town, Iwate Prefecture, which was devastated by the natural disaster.



**Turkey**

**Aisin Otomotiv Parcalari Sanayi Ve Ticaret A. S.**

### *All Employees Participated in the Event to Plant 500 Stone Pines*

In May 2012, Aisin Otomotiv Parcalari Sanayi Ve Ticaret A. S. (ATR) held a tree-planting event stemming from a wish to do "what we can do for nature and children in the local community". Since March 2011, we have planned and prepared for this event as a community-based campaign while encouraging cooperation from the local city government. On the day, all of about 170 employees within ATR participated in the event to plant 500 stone pines near the company site.

We will certainly continue with this tree-planting campaign in an effort to create an ATR forest, a place where local people can relax, some day in the future.





# Helping Natural Disaster Victims

**Japan**

**Aisin Chemical**

## *Disaster Drills for All Employees*

Every year since fiscal 2007, Aisin Chemical and the fire department of Toyoda City, Aichi Prefecture have held joint disaster drills to prepare for the likely event of a magnitude-8 earthquake in the Tokai region. Fire department members confirm and practice procedures for communication with the Aisin Chemical plant so that they can effectively fight fires and evacuate employees in case of a disaster.

At the same time, all employees of Aisin Chemical take part in rescue, smoke ventilation, and other drills.



**China**

**Aisin Seiki Foshan Body Parts Co., Ltd.**

## *Joint Disaster Drills with Fire Department*

In fiscal 2012, Aisin Seiki Foshan Body Parts Co., Ltd. held disaster drills in unison with the Foshan fire department. The aim was to make employees aware of the need to prepare for disasters and learn how to prevent fires from occurring.

Under the guidance of fire fighters, employees practiced extinguishing fires and conducting rescues. There was also practice in using the fire truck's hoses in case of a large fire.



# Human Resource Development

**U.S.A.**

**Aisin Mfg. Illinois, LLC**

## *Aisin University Classes*

As part of its human resource development, Aisin Mfg. Illinois, LLC holds classes for employees at its 'Aisin University'.

Aisin University has three course categories divided by job description (general employees, section heads, and foremen). Each of the three courses has eight to 12 subjects, and completion of these means a participant has graduated from the course. The company will continue to offer these courses and encourage participants to use what they have learned in their daily jobs.



**Japan**

**Aisin Takaoka**

## *Overseas Training System for Employees*

**U.S.A.**

Aisin Takaoka is gradually moving more of its manufacturing to other countries as its overseas business experiences rapid growth. That's why the company has introduced a training system to boost the capabilities of its Japanese resident officers outside Japan. Young employees gain experience with a year of training at an Aisin Takaoka overseas facility so that they can become candidates for resident officers at their company in another country.

In December 2011, the first group arrived at Intat Precision, Inc. in the U.S. to begin training. Aisin Takaoka will continue to send employees from each division for overseas training on a regular basis.



## **Aisin Group (170 companies in 20 countries)**

As of March 31, 2012

Sales: 2,304.1 billion yen

Employees: 78,212

Business segments:

Production and sales of automotive  
parts, other

Main subsidiaries and affiliates

Aisin Seiki Co., Ltd.

Aisin Takaoka Co., Ltd.

Aisin Chemical Co., Ltd.

Aisin AW Co., Ltd.

Aisin Keihin Co., Ltd.

Aisin Development Co., Ltd.

Aisin Kiko Co., Ltd.

Aisin AI Co., Ltd.

Aisin Sin'ei Co., Ltd.

Aisin AW Industries Co., Ltd.

Hosei Brake Industry Co., Ltd.

ADVICS Co., Ltd.

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## **About the Aisin Seiki Website**

The website of Aisin Seiki Co., Ltd. has  
detailed information on our business  
activities and financial performance.

The aim of the website is to keep our  
stakeholders up to date and informed  
about the Aisin Group's businesses and  
its CSR efforts.