

## Feature 2: Building a Strong Value Chain Through the Creation

—Adding New Functions to Existing Core Businesses to Adapt to the Changing Business Environment

Amid a rapidly changing business environment, Toyota Tsusho is newly re-assessing its long-term business plan and focusing on the offensive and defensive aspects of management. In this feature section, we will introduce some detailed examples of initiatives in both the automotive and non-automotive fields, while describing “Create new functions,” one of our “offense” initiatives.

### “Create New Functions” in the Automotive Field

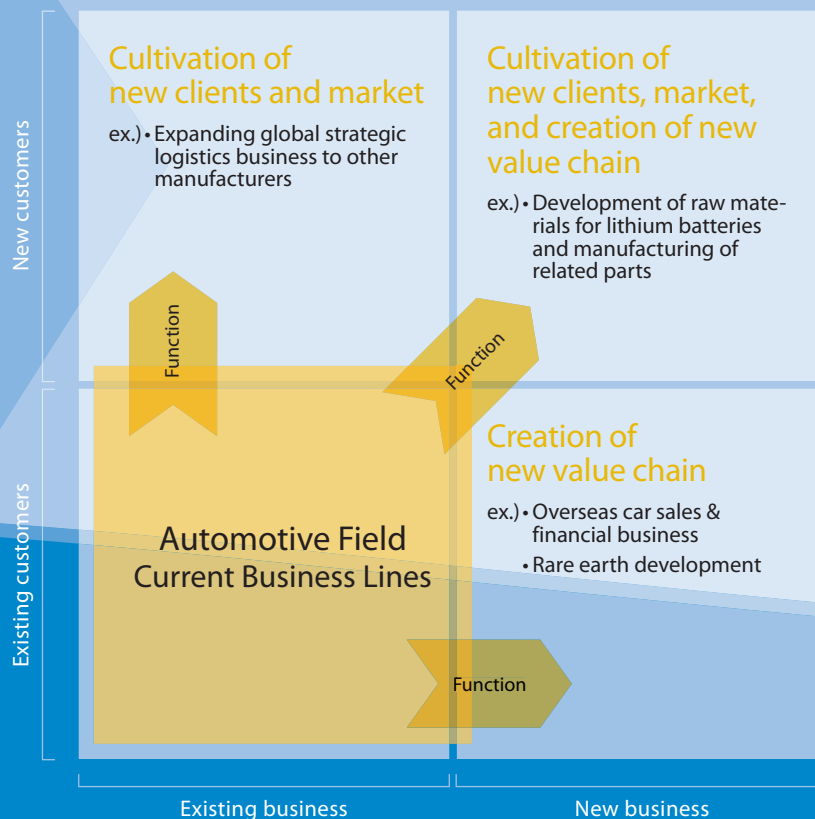
[ Businesses up to now ]

Up to now, Toyota Tsusho has mainly been engaged in the businesses of procuring machinery and equipment in tandem with Japanese manufacturers’ advances into overseas markets, the processing and distributing of the metal raw materials and parts needed for production, and the recycling of the waste materials generated inside plants. We built support systems that enabled the manufacturers to consolidate their overseas production activities.

Since the summer of 2008 however, significant changes in the business environment have caused the unavoidable cutting back or postponement of the ongoing expansion of equipment capabilities and of new production-base projects. Businesses in the automotive field have entered a new phase.

[ “Create new functions” in the automotive field ]

Impacted by these changes in the business environment, we will work to identify new customers and develop “Vendor to Vendor (V-V) distribution,” with which we have already succeeded with the Toyota Group, with other manufacturers. As regards identifying new businesses, we will develop automotive sales finance services overseas and develop applications of rare earth resources, including for hybrid cars. Moreover, we will vigorously work to develop new businesses for new customers, including the development of raw materials for lithium batteries, which are expected to show dramatic growth in the future, and the manufacturing of parts and materials.



# of New Functions

## “Create New Functions” in the Non-automotive Field

[ Businesses up to now ]

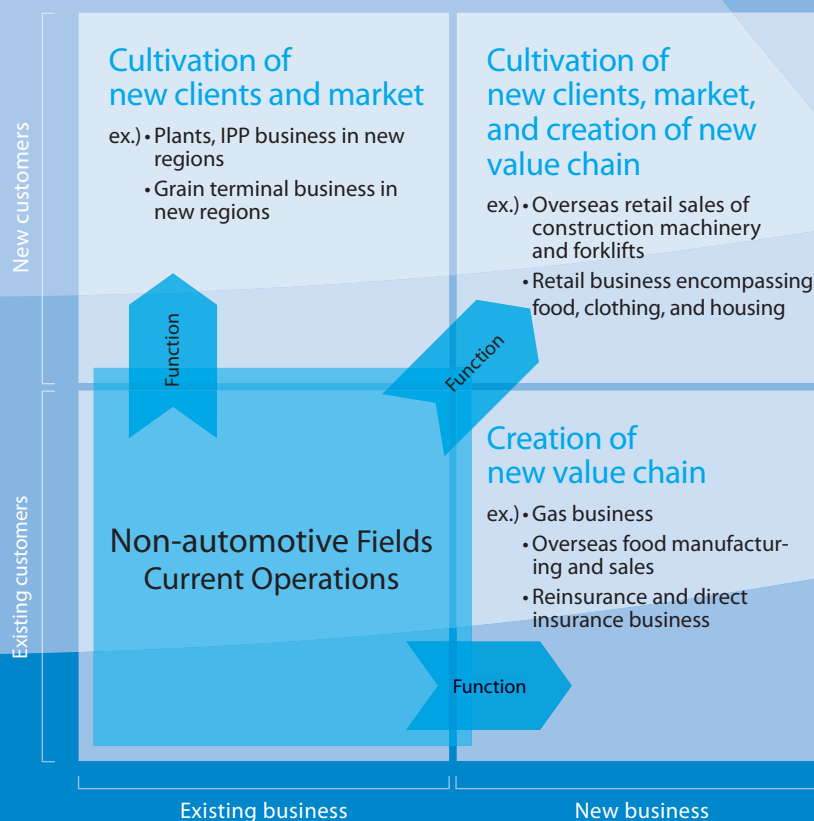
Up to now, Toyota Tsusho has accumulated a wide range of expertise in the course of providing parts procurement functionality and logistics functionality to automakers. At the same time, we have actively worked to exploit the possibilities of making use of our expertise in areas outside the automotive field.

[ “Create new functions” in the non-automotive field ]

Making use of our experience and track record in existing businesses, we will win new customers by handling plants in new regions, expanding the IPP business, and operating overseas grain procurement bases.

As regards new businesses, going forward we will create new value chains in such fields as the natural gas industry, the manufacture and sale of foods overseas, reinsurance and the direct-insurance business.

In the area that combines new customers with new businesses, we will develop the overseas retail business for construction machinery and forklift trucks, and retail businesses that integrate clothes, foods and residences, thereby identifying customers and creating new value chains.

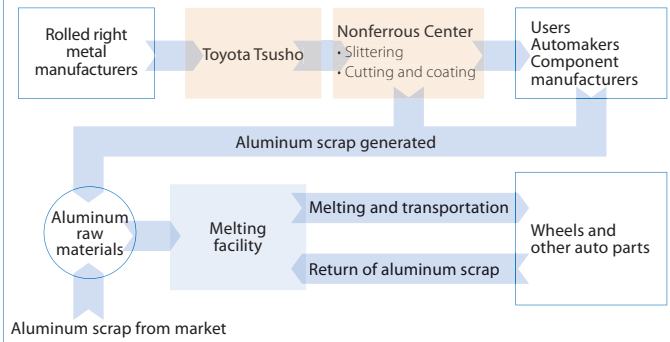


## Case 01 Worldwide Development of Molten Aluminum Business

The strongest features of Toyota Tsusho's metals business are the high-precision high-quality operational functions offered in line with manufacturing and processing companies worldwide and with the TPS (Toyota Production System) philosophy.

In the nonferrous field, demand for aluminum raw materials is expected to expand due to the need for light-weight materials of automakers and parts manufacturers. Up to now, aluminum materials in the form of ingots have been supplied to meet this demand. However, Toyota Tsusho is developing a business worldwide, including Japan, the U.S., Europe and Asia, of supplying these aluminum materials in a molten state, to reduce energy costs and the environmental burden. We are building an optimum supply system that always supports highly efficient production at the overseas locations. We have been operating a molten aluminum production company in the U.S. since 1998 and in Poland and Indonesia since 2004. We established companies in China and three domestic locations in 2005–2006, and launched one more company in Japan in 2008. Currently, we are engaged in this business at 13 bases in 5 countries worldwide.

### Value Chain of Molten Aluminum Business



### Overseas Development of Molten Aluminum Business



Toyota Tsusho's metal scrap recycling business is carried out at 17 locations around the world.

## Case 02 Developing an Efficient Recycling Business to Reuse Valuable Global Resources

Toyota Tsusho has built a recycling network nationwide and is developing an efficient recycling business worldwide, including by actively investing in a comprehensive ELV (end-of-life vehicle) recycling business.

In addition, Toyota Tsusho carries out a recycling business inside plants at 17 locations around the world. This business involves collecting, processing and reusing the metal scrap generated inside plants that use steel and aluminum. We employ the indoor scrap-yard method that minimizes environmental risk, and recently, in addition to metal scrap, we have also been processing and recycling used paper, wood and plastic, thereby contributing to the reuse of global resources. Going forward, we plan to vigorously invest in this business with the aim of operating 30 locations in five years time.

### Case 03 High-tech Industries—Rare Earth Business Supports Hybrid Cars

Although the phrase “rare earth” contains the word “rare,” we have now become familiar with rare earth materials in our daily lives. They are used in the lenses of cameras that we use regularly in the ceramic capacitors used in household electrical appliances, in sunglasses and in ultra-violet protection cosmetics. Lanthanum and cerium are used in cathode-ray tubes and elsewhere, and neodymium and other elements are used in the hard-disk magnets in PCs and the motor magnets of hybrid cars. Rare earth elements are now said to be indispensable in these industrial fields.

However, China accounts for more than 90% of the rare earth mines operated around the world, and China is currently strengthening export regulations. As a result, it has become an urgent matter to secure supply sources other than China. Accordingly, Toyota Tsusho has turned its attention to the two countries of India and Vietnam, which produce the second largest amounts of rare earth elements after China.

Looking ahead, rare earth elements are expected to become increasingly important. In addition to existing applications, research is being conducted into how to use them in new fields: rare earth elements are projected to become even more important in the industrial arena. Toyota Tsusho will make full use of the value chain it is developing globally to work together with business partners and sales customers to secure rare earth resources. At the same time, we will endeavor to provide a stable supply of rare earth raw materials and products that meet the needs of our customers. As regards the development of these resources around the world, we will dispatch Japanese technical staff to various countries to pass on and develop Japan’s ore concentration technologies and separation and refinement technologies, together with providing the relevant training.



Top row:  
Rare earth ore and mine

Bottom row:  
Rare earth samples and  
magnet made from rare  
earth elements

#### ■ Initiatives in India

In December 2008, Toyota Tsusho acquired the commercial rights for rare earth elements, rare metals and semiconductors that had been developed for over 50 years by Wako Bussan, a trading company specializing in rare earth elements. We are currently developing a project in India that is expected to yield a supply from the first half of 2011.

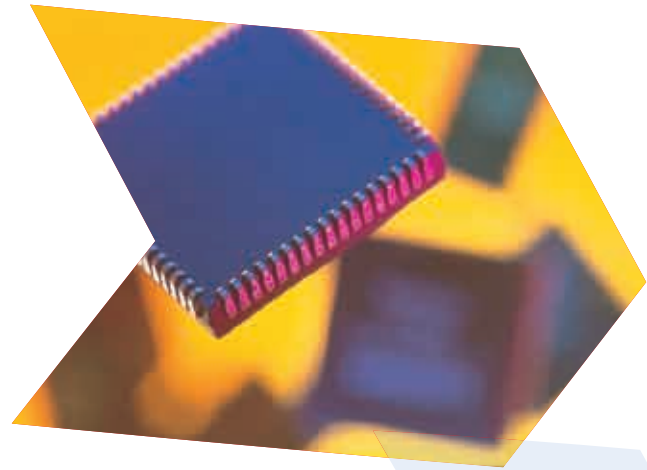
#### ■ Initiatives in Vietnam

In Vietnam, we concluded a memorandum of agreement regarding mine development with the state-operated minerals company that holds the mining rights for rare earth elements, and are conducting commercialization surveys. We plan not merely to develop mines but to create local high-tech industries that use rare earth elements, thereby both contributing to the development of Vietnam and bringing into view further mine development.

## Case 04 Car Electronics Bringing About Future Car Society

The auto industry is currently united in working to innovate car electronics technologies, in order to bring about a future with environmentally friendly, safe and comfortable cars by addressing the social needs of improving fuel efficiency and reducing CO<sub>2</sub> emissions.

Toyota Tsusho Electronics Corporation, a member of the Toyota Tsusho Group, is a specialist in these car electronics and opens up new possibilities in the auto industry by offering specialized proposals.



Electronics components are essential to realizing the eco-friendly, safe and comfortable automobiles of the future.

### ■ Semiconductors

Toyota Tsusho supplies the semiconductor products of major overseas semiconductor manufacturers to automobile-related manufacturers. We do not merely sell semiconductor products but develop businesses unique to our being a technological trading company, including in-house quality support services after products have been supplied.

### ■ Embedded Software

It is no exaggeration to say that the embedded software of car electronics is what determines the functionality of a car. Toyota Tsusho is widely involved in contracted development work for and sales of embedded software to domestic automakers. Furthermore, we are focusing on strengthening our embedded software system by vigorously working overseas to secure high-quality engineers.

### ■ Development Tools\*

Amid the ongoing increases in advanced functionality and high added-value for cars, we are selling and developing software development tools as solutions that enable greater efficiency in software development work.

\* Software that supports software development

### ■ Telematics

Toyota Tsusho aims to commercialize new services by installing various communication systems in cars that enable interflows between many types of information and the driving environment. Telematics opens up a wide range of possibilities for providing safety and comfort, including real-time traffic information, music distribution and information about stores in the vicinity.

### ■ Original ICs

Having purchased the memory business of a U.S. semiconductor manufacturer, we produce our own original-brand ICs.

### ■ JasPar (Japan Automotive Software Platform and Architecture)

Toyota Tsusho set up this standardization group for car electronics, thereby contributing to inter-company cooperation with major automakers. JasPar determines the next-generation automotive communications and software standards in Japan.

## An Expanding Car Electronics Value Chain

### Original ICs

Having purchased the memory business of a U.S. semiconductor manufacturer, we produce our own original-brand ICs.

### TAQS

(Toyotsu Automotive Quality Support Center)  
We established this quality support center for semiconductors that brings together in one location various quality enhancement technologies capable of meeting sophisticated quality requirements underpinning automobile safety and comfort.

### TTET & TTED

(Toyota Tsusho Electronics (Thailand) and Toyota Tsusho Electronics (Dalian))  
Aiming to nurture automotive software engineers, we established bases in Thailand and China to conduct development work under contract.

### VeLIO

(Vehicle LAN Interoperability and Optimization)  
We established this certification and testing institution to determine whether the automotive computers and electronics planned for installation in automobiles satisfy the specified standards.

### JasPar

(Japan Automotive Software Platform and Architecture)  
We set up and run a standardization group that examines next-generation automotive communications and software standards in Japan.

## Case 05 While Developing the Electric Power Business, IPP (Wholesale Electric Power) Projects Also Contribute to Regional Development and Environmental Protection

Toyota Tsusho currently participates in the following seven IPP (wholesale electric power) projects, including the natural gas combined cycle power plant (output 140MKW) in Thailand which started commercial operations in 2008.

The electric power business is a long-term business based on cooperation with local business partners with a large public-interest component. Toyota Tsusho is providing higher added-value by building a total business model in conjunction with related businesses that support electricity generation, including plant construction and fuel supply.

Based on our approach of it being more than just an investment business, we endeavor to build deep local relationships. In Pakistan, for example, Kohinoor Energy Limited has committed to developing the regional community by such initiatives as setting up a free health clinic which sees over 100 patients a day, and opening a local elementary school and supplying the children with free uniforms and textbooks.



In the wind power generation business, which we started in 1986, the Eurus Energy Holdings Corporation, a joint venture between Tokyo Electric Power Company and Toyota Tsusho, generates a total of 1.8 million kW of electricity from 18 domestic locations and 11 overseas locations in the U.S. and 4 European and Asian countries. We hold a 92% stake in the Japanese subsidiary of Vestas Wind Systems A/S, the world's largest manufacturer of wind turbines, enabling us to build an integrated value chain spanning equipment sales to operation.

### Major IPP Projects

Project Name	Country	Output	Investment	Generation Method	Started Operations	Supply Period (years)
Kohinoor Energy Limited (KEL)	Pakistan	124MW	36%	Heavy oil diesel	1997/9	30
Gul Ahmed Energy Limited (GAEL)	Pakistan	127MW	31%	Heavy oil diesel	1998/5	22
Western Mindanao Power Corp. (WMPC)	Philippines	100MW	25%	Heavy oil diesel	1997/12	18
Southern Philippines Power Corp. (SPPC)	Philippines	50MW	25%	Heavy oil diesel	1998/3	18
PT Makassar Power (PTMP)	Indonesia	60MW	47.5%	Heavy oil diesel	1998/5	18
Ratchaburi Power Company Limited (RPCL)	Thailand	1,400MW	10%	Gas CCGT	2008/3-6	25
Tomen Power Samukawa Corporation	Japan	67MW	70%	Kerosene CCGT	1999/6	15

## Case 06 Focusing on the Clean Energy Business

Toyota Tsusho is focusing efforts on the clean energy business on par with those for wind power generation. Looking ahead, there are increasing expectations that clean energy, especially biomass energy, will reduce greenhouse gases and help achieve a sustainable society. In Thailand, Toyota Tsusho is participating in a biogas Clean Development Mechanism (CDM) project. In China, we obtained U.N. approval in 2007 for a CDM electricity generation project involving the recovery of landfill gas, which includes much methane generated by a waste landfill site. As a result, we are now acquiring greenhouse gas emission credits.

The solar and wind power generation businesses are being developed through Eurus Energy Holdings Corporation.

## Case 07

## Developing Innovative Recycling Technology for Metal Resources Together With Nuclear Power Organization

If the metal from used metal products is not recovered and the products are to be disposed of as waste, there are substantial problems regarding soil contamination and the provision of the final disposal site. As the recycling of metal scrap involves high costs, what is needed is the development of an innovative low-cost recycling technology.

Toyota Tsusho has positioned the recycling business as central to its environmental business, and is particularly focusing on metals. In collaboration with the Japan Atomic Energy Agency, an independent administrative agency with a track record of measuring impurity gases in metal materials, we have commenced the joint development of advanced recycling process technologies. We will establish an advanced recycling process technology for metal resources, one of the key technologies needed for society in the 21st century. This ambitious project involving cooperation between industry and academia aims to contribute to the creation of a recycling society.

## Case 09

## Developing New High-frequency Response Low-dielectric Materials, Identifying Markets and Nurturing State-of-the-art Technologies

Together with Admatechs Company Limited and Taiyo Kagaku Co., Ltd., Toyota Tsusho is developing and selling mesoporous silica\*, new, porous and low-dielectric materials. These materials are expected to be developed for use mainly as catalysts and plastic fillers in the digital home electronics and car electronics fields, and won the Grand Award in the materials category of the nano tech 2008 International Nanotechnology Exhibition & Conference held last year. Toyota Tsusho is not only conducting marketing activities (intellectual property surveys, market potential studies) as the project leader in the business but also participating in R&D management and swiftly making planning proposals, conscious of end users.

\* Silicon dioxide particles filled with a regular arrangement of nano-sized holes that allow gas or special molecules to enter inside the particles.

## Case 08

## New Material Made From Sugarcane—Technology Spreading Worldwide

In light of global warming, there are increasing needs for petroleum substitutes, which are highly effective in reducing CO<sub>2</sub>. In this context, Toyota Tsusho has formed a business alliance with Braskem S.A., the largest chemical manufacturer in South America. We have become the sales partner in the Asian region, including Japan, for a plant-derived polyethylene that Braskem will be the first company in the world to start commercial production, by 2011. Toyota Tsusho participated in Braskem's project to develop plant-derived plastics, and in 2007 the project succeeded in manufacturing this polyethylene (bioplastic) from the raw material of ethanol derived from sugarcane, at an experimental production facility inside Braskem's Technology Innovation Center. It has been verified that this is the world's first polyethylene to be 100% derived from plants. Looking ahead, we will develop and increase sales of this sustainable and recyclable resource that is friendly to the global environment and does not compete with food materials.

Sugarcane fields and plant-derived plastic products



## Case 10 Expanding the Scale of the Domestic Agricultural Production Business

In July 2008, Toyota Tsusho Foods Corporation, a member of the Toyota Tsusho Group, established Vegi Dream Kurihara Co., Ltd. jointly with local farmers in Miyagi Prefecture as a point of entry into the agricultural industry in Japan. Vegi Dream Kurihara has developed a bell pepper cultivation business through the construction of a large-scale steel-frame greenhouse facility encompassing an area of 0.7 hectares (called the "Air House") in Kurihara City of Miyagi Prefecture. The company's first harvesting season was in June 2009.

In response to moves to boost and enhance vegetable production in Japan, Vegi Dream Kurihara is currently constructing another bell pepper cultivation facility at a second location, to address demand for domestically produced vegetables. The objectives are to cultivate produce that is "fresh and tasty" and "reliable and safe", as well as promote "local community development and corporate citizenship." In doing so, the company is working to expand the scale of its business.

Guided by its policy of becoming No. 1 in bell pepper production in Japan, the company seeks to increase production volume of Kurihara brand bell peppers as well as its share of the bell pepper market, and to raise recognition of the brand going forward. In the future, we aspire to cultivate "reliable and safe" domestically produced vegetables and fruits, targeting annual sales of around ¥10 billion.

From the perspective of promoting "local community development and corporate citizenship," the company is striving to help with the recovery efforts of Kurihara City, which suffered severe damage from a major earthquake in June 2008, and to contribute to the regional development of Miyagi Prefecture, which has been supportive of Vegi Dream Kurihara's business activities.

We have newly entered the agricultural production business in Japan (pre-harvest bell peppers).

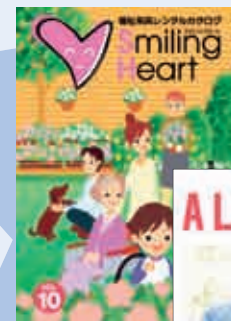


## Case 11 Nursing Care and Healthcare Initiatives

Toyota Tsusho worked to support residential nursing-care, including the development and sale of adult-use diapers that make use of high-absorbent resin technology, the development of a nursing-care equipment rental and wholesaling business for care-service providers at 12 locations nationwide, and the renting out of over 20,000 nursing-care beds. In collaboration with GUTT REHABILITATION LTD., a company engaged in mail-order sales of nursing-care products to providers, we strengthened product procurement and logistics capabilities to differentiate ourselves from competitors, with the aim of expanding market share in nursing-care related businesses.

At the same time, we are engaged in lifestyle proposal-based businesses that bring peace of mind, safety, comfort and enjoyment to people in the second half of their lives in the healthy senior citizen ("harvest-age") market, that is,

people aged 60 or over, where significant demand is expected in the future. These businesses include financial planning services in the field of enhanced asset formation that make use of our insurance-business expertise, developing "medical condominiums" integrated with a general hospital and operating "community salons" at which harvest-age people can enjoy congregating and various health services are available.



From left:  
Nursing-care equipment  
rental catalog,  
General nursing-care  
equipment catalog