

New Medium and Long-Term Business Plan, "2025 Business Plan"

In Toyota Gosei's 2025 Business Plan, our medium and long-term business plan, we lay out three key areas that take advantage of the Toyota Gosei Group's cultivated strengths.

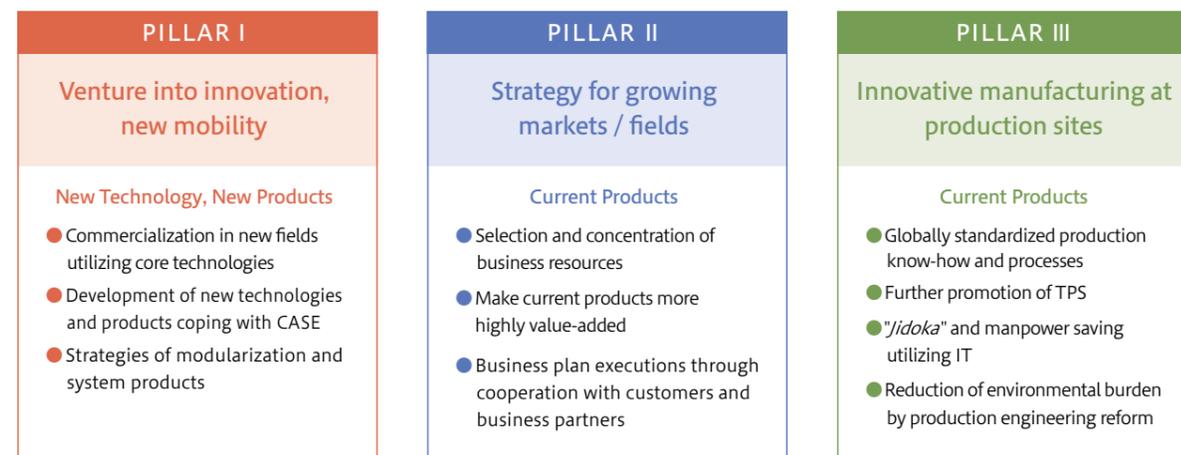
This shows not only numerical targets or how we seek to expand the scope of our business, but also new efforts to contribute to society and to grow sustainably.

What we aspire to be

Toyota Gosei aims to grow as a global company that acts flexibly and swiftly in today's dramatically changing business environment, delivering the highest levels of satisfaction to customers worldwide through safety, comfort, well-being and the environment

Financial objectives

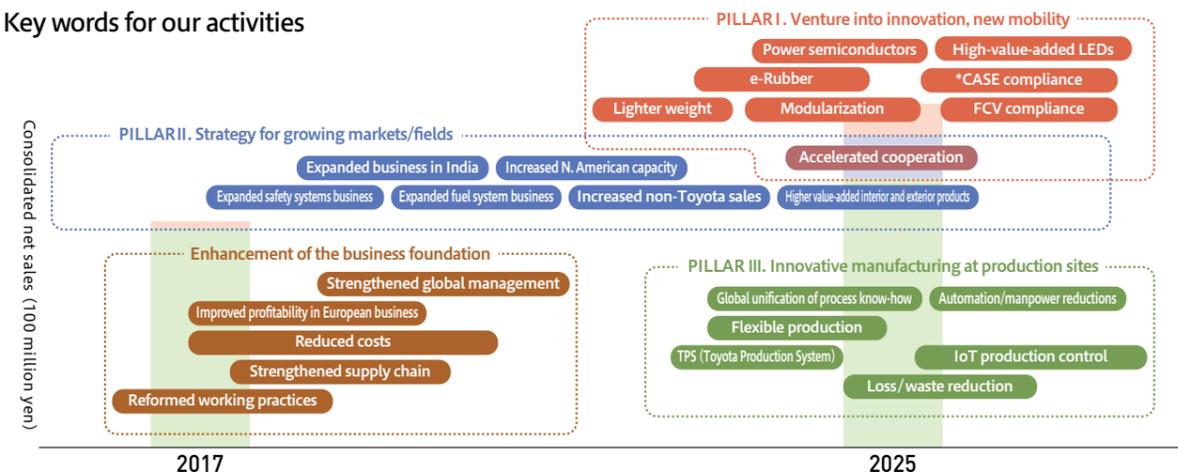
	FY2017	FY2025
Net sales	¥ 807 billion	¥ 1 trillion
Operating profit ratio	5.1%	8%
ROE (Return on equity)	6.6%	10%



Enhancement of the business foundation

- Strengthening global operation
- HR development
- Business activities with integrity

Key words for our activities



*CASE: Connected Autonomous Shared Electric

PILLAR I // Venture into innovation, new mobility

Course of action

- **Early realization of new business through innovative technology**
 - Innovation derived from TG core technologies (rubber & plastic materials/LED)
 - Contribution to near future needs of relief (environment and health), safety, and comfort through differentiated technologies
- **Development of new technologies and products responding to drastic changes of the car itself (CASE)**

Key action items

Early realization of new business through innovative technology

- Develop and establish e-Rubber business and cultivate its market (innovative soft-robot)
- Develop and commercialize power devices (high-frequency power source, wireless power supply)
- Develop high-value-added LEDs and their applications

Development of new technologies and products responding to drastic changes of the car itself (CASE)

- Create new values/new products for the next generation (Autonomous driving/vehicles, electrification)
- Enhance added-value of conventional products (Modularization, systemization)
- Develop technology to sustain new products (Light weight, innovative manufacturing processes)

Key points for implementation

In "Venture into innovation," we are looking toward the early establishment of the new businesses that will be our next pillar. Crucial here will be to launch new technologies and business plans with consideration of the company's business and value chain, and to accelerate innovations with partners with whom we can carve out businesses together, without insisting on doing everything ourselves.

Of course, we must not neglect to improve our own technology when working together with good partners.

In "Venture into new mobility," we are working to develop new technologies and products compatible with the drastic changes that are occurring in automobiles themselves (CASE). For example, by continuing to develop new products and raise the added value of existing products (modularization), we will be able to meet the new expectations of customers worldwide.

Venture into innovation ①

"e-Rubber," a next-generation rubber that functions with electricity and mechanical force

e-Rubber is a rubber artificial muscle that has been under development for more than 10 years. TG has concluded an exclusive license agreement with a Tokyo University startup, and has been making approaches to companies in a wide range of fields, including medicine, nursing care and welfare, IoT, and robots. We are also aiming to establish new business opportunities in the automobile business. We have already developed a surgical training simulator in collaboration with a Waseda University venture. Sales are planned to start in the autumn of 2019. We also have ongoing projects in fluid control, haptics, pressure sensors and other areas.



Reproducing the beating of the heart by taking advantage of the characteristics of e-Rubber, which maintains its properties well and moves quickly

Promising areas of use



SPOT-LIGHT

Venture into innovation ②

GaN power semiconductors—Energy-saving key devices with the application of LED technology.

Next-generation type of power semiconductors (electronic components that convert/control power). Using the gallium nitride (GaN) crystal growth technology cultivated in the development and production of LEDs, we are developing products that contribute to more efficient and smaller electronic devices.



Promising areas of use



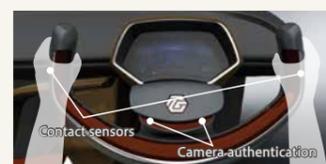
Venture into new mobility

Next-generation cockpit module

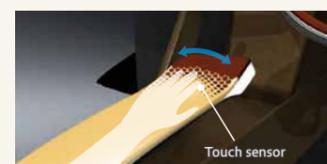
Equipped with human-machine interface functions for communication between people and vehicles, creating a more secure and comfortable interior space.



Next-generation cockpit module



- **Smart steering wheels**
Drivers' physical status sensed with built-in cameras and sensors



- **Multifunctional console**
· Movable console to accommodate relaxation mode (posture changes)
· Handier, more intuitive operation with touch panel



- **Display instrument panel**
External and warning information displayed on instrument panel

Next-generation front module

Sensor functions that support autonomous driving integrated in lightweight plastic body

- **Integrated grille**
· Equipped with cameras and radar, etc., that do not detract from external appearance
· Car's direction and other information communicated to people nearby with LED lights
- **Plastic bodies**
· Contributes to longer cruising distances of EVs through lighter weight
· Greater design freedom with plastic



Next-generation front module

PILLAR II Strategy for growing markets / fields

- **Course of action** ● **Prioritized global sales expansion and securing profit (selection and concentration of business resources)**

Key action items

Redefine the strategy by business field

- Weatherstrips: Noise reduction, profit reform in prioritized regions
- Functional Components: Focus on fuel systems (weight reduction)
- Interiors and Exteriors: Increase value of products (decoration, millimeter-wave radar compatible emblem)
- Safety Systems: Regional strategy focusing on profitability

Prioritize regions for sales expansion

- North America: Enhance production capacity for major customers' production increases, sales expansion to non-Toyota/non-JPN OEMs
- China: Sales expansion of global link cars (Toyota, non-JPN OEMs) and new customers
- India: Sales expansion to catch up with the growth of the market (mainly J-OEMs)

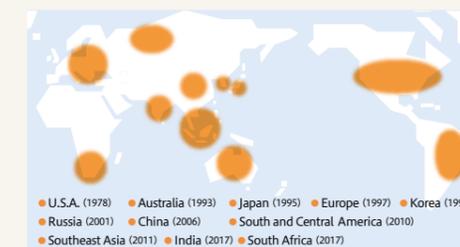
Key points for implementation

Looking at markets and trends for existing products by product field, we see much potential for growth including modularization and higher added value in IE products and increased business in SS products with the favorable conditions of increasing safety regulations. We are now making solid preparation for this. On regional axes, we need to ensure competitiveness in China, India and other emerging markets where automobile production is increasing, as well as in the major markets of North America and elsewhere. There are many possibilities for expanding sales to major customers, actively cultivating new customers, and increasing future profits. To ensure that this potential growth in existing products leads reliably to sales and profits, we will deploy a focused strategy, selecting and concentrating management resources, pursuing economies of scale, and thoroughly increasing efficiency.

New or stricter safety regulations in countries around the world

The United States has been a leader in safety regulations, introducing the world's first New Car Assessment Program (NCAP) forty years ago. After that airbags spread rapidly with the adoption of laws to make front impact airbags standard. This was followed by assessment regulations in Japan and Europe, and in recent years this trend has spread to Southeast Asia, India, China and other countries of the world. These regulations are becoming stricter each year, and demand for airbags is expected to grow.

Safety regulations (assessments) have spread across the world
(Prepared with reference to individual country NCAP sites)



In recent years, an increasing number of developing countries are introducing regulations while those in developed countries become stricter

SPOT-LIGHT

Rapidly growing Indian automobile market

Automobile production in India is predicted to grow to about 6 million units in 2020. Today India is the world's fifth largest automobile producer, but it is likely to become the third largest in the near future. It introduced an automobile impact safety performance test in 2017 and made both driver side and passenger side airbags compulsory. India has developed original exhaust regulations, which will become stricter in 2020. It is a promising market for sales and business growth in SS and FC products with safety and environmental technology.

Automobile production in India

(Source: IHS August 2017)



PILLAR III Innovative manufacturing at production sites

Course of action ● Realizing highly value-added factories through innovative manufacturing at production sites

Key action items

- Globally standardize production processes and know-how
- Develop compact and lean production lines, TPS promotion (1/n process, consolidation of supply parts, flexible process with multiple products)
- Promote manufacturing, "Jidoka" and manpower saving utilizing IT (IoT, AI)
- Reduce environmental burden through production engineering innovation and recyclable energy

Key points for implementation

In the coming years existing products will need a further competitive edge. To achieve that edge, we will need to make processes more efficient and versatile, standardize effective new practices, knowledge and techniques across the company, and create mechanisms so that these things can be shared and spread rapidly and globally to Group companies and vendors. We will also make efforts to allot resources to new fields and introduce automation and labor-saving processes in aging societies with fewer workers. Processes will be carried out on compact, low-investment lines to improve productivity.

The key to all this will be IT. Utilizing IoT and AI, we will improve production and work efficiency and develop, from among engineers with knowledge in rubber and plastics, core data science personnel who can utilize big data to steadily innovate in production floor manufacturing.

Basis for Action Enhancement of the business foundation

Course of action ● Strengthen global management, HR development, and perform/undertake business activities with integrity

Key action items

Enhance global business management

- Self-sustainable overseas affiliates and governance by HQ
- Globally optimized production layout and logistics reform
- Cooperation with global business partners
- Strengthen supply chain (production and supply system)
- Strengthen quality assurance systems (cope with emerging countries and new technologies/products)

HR development

- Development of global HR, professional HR
- Diversity, work style reform

Business activities with integrity

- Thorough compliance and enhancement of internal controls as a company of integrity

Key points for implementation

Today, TG's international locations account for more than half of company profits, and it is important that we strengthen global governance with independence in each region and location and the head office in Japan serving as the global headquarters. These days it does not take much to shake the foundations of a business, and we need to focus efforts on thorough compliance and risk management. At the same time, we are reforming cost structures to improve profitability in key business areas, including radically changing previous ways of doing things.

Developing our people is also important in achieving our goals. Whatever the challenge, human ability is what allows us to overcome it. We are conducting business activities with integrity, and promoting diversity and reform in the way we work.

Establishment of Inabe Plant for environmentally-friendly FCV products

A new plant has been established in the city of Inabe in northern Mie Prefecture, Japan to produce high-pressure hydrogen tanks for fuel cell vehicles (FCVs). This is TG's twelfth plant in Japan. As a "front-line eco plant" suitable for the production of a key component of FCVs, we are introducing compact, energy-saving equipment to reduce CO₂ emissions during production and using renewable energy, plus automated, labor-saving processes using the latest information technology (IoT, AI) and other technology. Operations are scheduled to begin in early 2020 with innovative manufacturing.



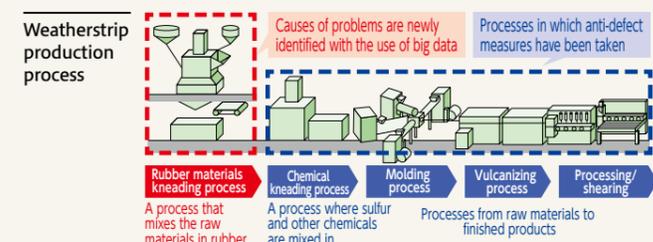
The Inabe Plant, TG's twelfth plant in Japan

Process kaizen with the use of big data

The Toyota Group is collaborating with Shiga University to train people who can analyze and use big data. This will increase competitiveness on the production floor.

At our Morimachi Plant, big data was used to improve the appearance quality of weatherstrips. We had previously taken measures to deal with problems based on the experience of veteran workers, but some unresolved issues remained. Then, using big data collected from production equipment, the entire process was analyzed again and the cause of the problems was traced back to the previous process of rubber materials kneading, which is the stage before the processes where we had taken measures up to that time. The problems were successfully eliminated by making improvements in the kneading time, temperature and other factors.

The use of big data in addition to the experience that has been cultivated by veteran workers will increase the accuracy and speed of production kaizen.



SPOT-LIGHT

Strengthening business operations in collaboration with global partners

In the growing Indian market, TG has partnered with India's Uno Minda Group, an expert in local business practices, since 2011. The Uno Minda Group has a history of about 60 years in the Indian automobile industry, and has grown to have 52 factories and 8 research and development centers in the country. To meet the needs of customers in the coming years, we are building an optimum production and supply network through collaborations that utilize the mutual strengths of partners and vendors.

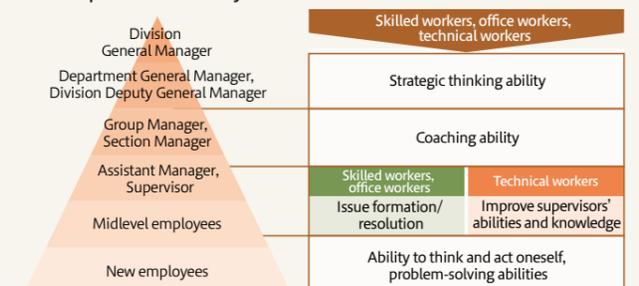


President Naoki Miyazaki shakes hands with Chairman Nirmal K. Minda (right) of the Uno Minda Group

Organizational promotion of sustainable growth in employees

The TG Learning Center was established in January 2017 as the company's headquarters for human resources development. We are strengthening TG's foundations by creating a system that places greater emphasis on human resources development, including a comprehensive review of training programs, an expanded educational system for training by rank and type of skill, participation in the Skills Olympics, and support for the acquisition of public qualifications. Our next efforts will be for Group-wide personnel development, creating a support mechanism to cultivate human resources at affiliates in Japan and internationally and developing similar functions in the four global regions.

Level-specific education system



SPOT-LIGHT