

## Business Overview

**We will proceed with the reorganization of our development and production systems to adapt to the unprecedented speed of change in the market environment.**



Koki Sato,  
Executive Vice President

### Toward strengthening our constitution

This year, Tokai Rika introduced a next-generation intelligent cockpit that allows cars to read people's intentions at the Automotive Engineering Exposition 2023.

We proposed to revolutionize the cockpit through the following products and services:

- Entry system evolving from keys to smart keys to digitalkeys using smartphones
- Various sensors that read people's intentions
- Electrostatic touch switches that look like part of the design
- Seatbelts and steering wheels with driving support functions, etc.

Furthermore, as the following examples show, the market environment surrounding our products is changing at an unprecedented speed:

- A full lineup of diverse shift by wire shifters to meet the needs of each vehicle model.
- Expanding electronics, including software development, etc.

In particular, in order to secure human resources to keep up with the rapid expansion of the electronics business, including software, our 39 engineers have already been reskilled and have developed into excellent software engineers. By 2025, we will reskill more than 100 engineers and maximize the value of our technical human resources. We will also create an environment where each employee can play an active role, and above all, where they can grow with high motivation.

Another major change in the market environment is that global price competition involving Chinese manufacturers has become more severe than ever. Under these circumstances, Tokai Rika has decided to proceed with a fundamental reorganization of its production system in order to further solidify its future business, in addition to its traditional cost reduction activities. By effectively utilizing the funds from the strategic investment frame established two years ago, we will proceed with plant reorganization by reviewing the items produced at each plant under the concept of Production under One Roof.

Specifically, we are introducing in-house manufactured AGVs, implementing centralized storing, and consolidating processes that spread across buildings and floors. These will not only improve the efficiency and streamlining of internal and external logistics, but also allow us to maximize Tokai Rika's comprehensive strengths from the perspective of cost competitiveness.

At the same time, we began "1/n" activities to reduce equipment and process sizes and production preparation lead times by more than half. The Toyota Plant was the first to introduce collaborative robots and achieved a 1/n line, thereby creating new production space for new products. In particular, in the development of new products and new manufacturing methods, by incorporating TPS concepts from the early stages of development we will mass-produce products while ensuring a high level of competitiveness.

Achieving "1/n" requires new ideas that go beyond conventional wisdom. To achieve this, we need innovation and speed. In order to create a source for this, we have established the Diversity Promotion Dept. and the DX Promotion Dept. under the direct control of the executive office, and have been promoting human resource development and operational reforms. As a result, we are now seeing employees take on new challenges on their own initiative. This has never happened before. In particular, as we see examples of taking on new businesses other than automobile parts, utilizing digital technology, developing new markets, and challenging new materials and manufacturing methods, we can see that a culture of continuing to take on challenges without fear of failure is growing. We will continue to provide opportunities for our employees to take on challenges, which will lead to sustainable value creation at Tokai Rika.

In parallel with these activities, by visualizing all costs, including fixed costs, we discover and eliminate hidden wasteful expenditure that was previously unnoticed. We will also fundamentally strengthen our constitution by promoting timely and innovative cost reductions across the company.

**We will adapt to changes in the business environment in each region and strengthen our competitiveness.**



Masahiko Sato,  
Executive Vice President

### Business expansion in the global market

Looking at the market from a global perspective, the business environment is changing in every region, and competition is becoming more intense. Against this backdrop, we have worked to strengthen our competitiveness by quickly adapting to the environment and market needs of each region.

In particular, we recognize the following as priorities:

- In the Indian market, we will expand and grow in collaboration with our joint venture partner (Uno Minda Group).
  - In the Japanese and North American markets, maintain and expand market share and strengthen profit structure.
  - In the Chinese market, narrow down products/customers and localization
- Specifically, we have steadily achieved results through the following initiatives:
- Confirmed new business order for Maruti Suzuki, which has the largest share in the Indian market
  - Various constitution strengthening activities in Japan, as explained earlier
  - New business orders for Ford in the US and Europe
  - Sales of shift by wire shifters and orders from local Chinese OEM (Lotus)

In India, we have decided to build a new plant for smart

systems and shift by wire shifters (TRMN Northern Plant) in the northern region, and are preparing to start operations in 2025.

In addition, by leveraging the respective strengths of our company and our joint venture partner, we are working together with our joint venture partner to propose and sell to local Indian OEMs as well as Japanese OEMs such as Maruti Suzuki, aiming to further expand our business in the Indian market.

Meanwhile, we have begun expansion of our Mexican subsidiary (TRMX), which is scheduled to expand its production items and production volume, and plan to complete the plant expansion by the end of 2023. Our Mexican subsidiary (TRMX) will be the largest production base among our subsidiaries. They will continue to provide proposal and sales activities to Japanese and American OEMs.

Furthermore, while keeping a close eye on future market and economic conditions, we will develop an optimal production and supply system in North America, including our bases in the United States and Canada.

Regarding the Chinese market, localization in various fields is key. In particular, localization of marketing and product planning is becoming increasingly important for doing successful business in China. We will strengthen our systems to speed up our response.



New plant in northern India



Mexico plant expansion



Tohoku new base

## Provision of a Comfortable and Safe Mobility Space

We have been providing HMI products such as various switches and shift levers that are easy to use and safely convey the driver's intentions to the car. In addition to improving the quality of sensitivity that impresses users, by using advanced technology to read the driver's condition and intention, we will create HMI products that provide a more comfortable and safe mobility space.

<b>Strengths</b>	<ul style="list-style-type: none"> <li>• Ergonomic technology that enables ease of use</li> <li>• Design ability and decoration technology that enhances quality of sensitivity</li> <li>• Input-sensing technology using in-house manufactured semiconductors</li> </ul>	<b>Risks and opportunities</b>	<ul style="list-style-type: none"> <li>• Fewer switches due to touch panel operation or voice operation</li> <li>• Due to electrification, shift levers will be replaced by switches at an accelerated rate</li> <li>• Productization that supports updates and customization required in the software-first era</li> </ul>
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### Looking back on FY 2022

#### [HMI products]

We have completed the development of a product group for autonomous driving and electric cockpits, and orders for those products are increasing. For example, a device with a design that is completely invisible until the car starts, and whose display pops up once the car starts, and which uses feedback to ensure reliable operation, much like a smartphone; the world's smallest steering column switch that is effective for mounting on the car and securing space inside the car. We aim to mass produce these products by 2025.

In order to further expand the business of these products, we will reuse our development assets, including circuits and software, and make effective use of our production facilities. By doing so, we aim to expand sales of these products while meeting the needs of a variety of customers.

#### [Shift levers]

As vehicle manufacturers are also exploring various operation modes, shift by wire shifters compatible with vehicle electrification are available in a variety of forms, including lever types mounted on the floor or column, toggle operation types, rotary types, and push switch types.

We have also decided to respond with a full lineup, and are currently accelerating development by devoting development resources for mechanical shift levers, which have traditionally been our mainstream, to shift by wire shifters. In addition, with regard to activities to promote sales to new customers, a toggle-operated shifter has been adopted for Lotus' new SUV-type sports EV, and its mass production has begun.

### Future prospects

#### [HMI products]

As technological innovation progresses in a new field called "CASE," cockpits are required to have a textured interior and an advanced feel, and the number of switches operated by conventional knobs will further decrease. However, switches that need to be operated while driving are placed near the steering wheel, and it is expected that by-wire steering will become more common in the future. Therefore, we will consider the steering column area as our priority area and will promote product development and collaboration with other companies.

To compensate for the decrease in the number of switches, we are developing a new business with the aim of realizing an advanced cockpit that is comfortable, secure, and safe by reading people's conditions and intentions using the sensors we proposed in our recently announced "Intelligent Cockpit."

#### [Shift levers]

As the shift to EVs progresses, we predict that shift by wire shifters will be installed in nearly half of all cars around the world by around 2030, and we will therefore be working on shift by wire shifters as a priority product.

Our goal is to achieve a 20% global market share by 2030. Therefore, we aim to complete the development of a full lineup in 2023 and further expand our sales.

We will propose not only shifters but also the entire cockpit operation, display layout and design, and optimal proposals that take into consideration evolving vehicle systems. We will also thoroughly review our design and manufacturing methods, promote cost reforms, and respond to intensifying competition.

## Realization of a Safe and Secure Mobility Society

Regarding electronic keys, we commercialized a remote key in 1983, an immobilizer system in 1994, and Japan's first key-free system that combines the convenience of a remote key with the security features of an immobilizer system in 1999.

Regarding seatbelts, we were quick to catch up on legislative trends and began producing two-point seatbelts in 1962, and in 1997 we commercialized seatbelts with force limiters. Since then, we have responded to regulations in each country that have become stricter year by year.

<b>Strengths</b>	<p><b>[Electronic keys]</b></p> <ul style="list-style-type: none"> <li>• Communication/encryption technology essential for security of electronic key systems.</li> </ul> <p><b>[Seatbelts]</b></p> <ul style="list-style-type: none"> <li>• A system that enables short-term development by synergistically evaluating safety through experiments and CAE analysis.</li> </ul>	<b>Risks and opportunities</b>	<p><b>[Electronic keys]</b></p> <ul style="list-style-type: none"> <li>• Electronic keys alone cannot maintain superiority over other companies.</li> </ul> <p><b>[Seatbelts]</b></p> <ul style="list-style-type: none"> <li>• Possibility that sales expansion will not proceed as planned</li> </ul>
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### Looking back on FY 2022

#### [Electronic keys]

In the Indian market, we were able to receive orders that included not only the digitalkey, but also the server to distribute keys and the communication technology necessary to configure the system.

In addition, demand for digitalkeys is expected in the motorcycle market, and we have received orders for advanced development products.

In terms of digitalkey sales, B-to-C transactions, Bqey/Uqey, are leading the way. However, while the market for OEM-equipped digitalkeys is larger, there are also many competitors, so we will continue to make proposals to new customers in addition to existing customers by leveraging the know-how we have cultivated over the years.

#### [Seatbelts]

First, we won an order for Maruti Suzuki in India. This will contribute to our sales from 2025 onwards.

TSB (Thailand) will be in charge of production and is expected to serve as a stepping stone to expanding sales in the Indian market.

Next, in terms of new products, we have completed development of a new retractor (belt winding device) for small cars.

This retractor is so versatile that it is installed in the front seats of small cars and the rear seats of medium-sized and large cars. By expanding sales to new customers, we aim to improve profitability by reducing fixed costs without increasing the number of employees.

### Future prospects

#### [Electronic keys]

The needs of markets around the world are so diverse that some markets prefer full digitalkeys, while others prefer physical keys.

Therefore, we do not think that the market for conventional smart keys and remote keys will disappear anytime soon. However, there is a risk that market preferences may change rapidly, as in the Chinese market, and demand for conventional electronic keys may decline sharply. Therefore, we will carefully monitor market trends.

Our strength is that we can independently develop, design, and manufacture electronic keys and the necessary related software. In the future we will focus on securing software-related human resources, including reskilling, in response to rapid business expansion.

#### [Seatbelts]

If car active safety advances and collisions disappear, occupant restraints such as seatbelts and airbags may become unnecessary. However, we believe that it will still be some time before all vehicles become like this, and seatbelts will continue to be a necessary product.

In our overseas business, we will proceed with the reorganization of North American production plants in Canada and Mexico.

In addition, in response to car safety evaluations in various countries starting in FY 2029, we will introduce THOR-5F, a crash test dummy that is more similar to the human body, in FY 2024. We plan to improve the protection performance according to the physique of the occupant.



## Semiconductors and ECUs

We began manufacturing custom ICs at our own plant in 1991, and have mainly used them in our own products.

Regarding ECUs that control electronic devices installed in cars, we have produced individual ECUs such as ECUs built into switches and steering locks, door ECUs, and smart ECUs.

As mobility becomes more sophisticated, demand for control circuits for sensors and actuators around ECUs is increasing. We believe there are business opportunities in this area.

<b>Strengths</b>	<p><b>[Semiconductor]</b></p> <ul style="list-style-type: none"> <li>Know-how to develop and manufacture high-mix low-volume semiconductors at low cost and with short lead times.</li> </ul> <p><b>[ECU]</b></p> <ul style="list-style-type: none"> <li>Development and design of software incorporated into ECUs</li> </ul>	<b>Risks and opportunities</b>	<p><b>[Semiconductor]</b></p> <ul style="list-style-type: none"> <li>Price competitiveness is weak for general-purpose semiconductors.</li> </ul> <p><b>[ECU]</b></p> <ul style="list-style-type: none"> <li>Reduction in the number of ECUs due to integration of ECU functions</li> </ul>
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### Looking back on FY 2022

#### [Semiconductor]

Since a year or two ago, when the semiconductor shortage became serious, we have been producing custom ICs for our own products in-house. When external parties found out about this, they approached us.

Through various marketing activities, we realized that the characteristics of our in-house semiconductor manufacturing, namely high-mix low-volume production with short lead times, can provide solutions to market needs. Many companies that provide semiconductors for industrial equipment, medical equipment, and aerospace were struggling to procure semiconductors in small quantities and a wide variety of types. Furthermore, we found that many of these applications are long-lived long-tail products. We believe that by leveraging our strengths cultivated in the automobile industry, we can create a positive cycle that will lead to solving problems in other industries.

#### [ECU]

We have accumulated experience in designing and mass-producing integrated mechanical and electrical products that combine mechanics and electronics. We have also manufactured individual ECUs such as smart ECUs, mirror ECUs, seat ECUs, and power sliding door ECUs.

As cars become more sophisticated, the importance of ECUs that control actuators – mechanical components – is increasing. We actually received multiple orders for our ECUs from other companies that had been specializing in manufacturing mechanical parts. Our ECUs will be incorporated into their products.

In this way, we are finding a way to expand our business not only as a Tier 1 (first-tier subcontractor to vehicle manufacturers), but also as a Tier 2 supplier by collaborating with other Tier 1 suppliers.

### Future prospects

#### [Semiconductor]

We assume that we will undertake the entire process from specifications, design and development, manufacturing, inspection, and delivery of custom ICs that meet customer needs, and then sell them externally.

After confirming customer needs in advance at exhibitions and other events, we realized that existing equipment could not fully meet their needs. For this reason, we are planning to make a drastic investment totaling several billion yen for external sales, whereas previously we had only invested a few hundred million yen a year in renewals.

By introducing new equipment, shortening lead time from 30 days to 20 days, and increasing annual production capacity from 50 million units to 67 million units, we aim to achieve sales of 5 billion yen in FY 2030.

#### [ECU]

Cars are becoming more sophisticated, and ECUs are being integrated to control the increasing number of functions. In-vehicle communication methods will also shift to serial communication, which allows information to be transmitted quickly with fewer wires.

Amid these major changes, we believe that the individual ECUs that play their respective roles, as well as the sensors and actuators with their respective functions, will become increasingly important, and the needs for them will also increase.

We are aiming for sales of 24 billion yen by FY 2030 by expanding our sales channels by leveraging the development and provision of software to be incorporated into ECUs and filling the shortage of personnel through reskilling.

## New Business

Our company has grown in size thanks to the growth of our core business. However, in light of recent drastic changes in the business environment, we will be unable to survive if we rely solely on growth from our core business.

In order to get on a new growth trajectory, we need to take initiatives to reform the way we do our core business. Get to know our users. Come up with ideas for the world and its people, and make them come true.

Reviving our entrepreneurial spirit is what we need to make our new businesses successful.

<b>Strengths</b>	<ul style="list-style-type: none"> <li>The quality and reliability that we have cultivated over many years in the manufacturing of automobile parts, and the founding spirit that is ingrained in us, which is to “Do what others won’t do.”</li> </ul>	<b>Risks and opportunities</b>	<ul style="list-style-type: none"> <li>Know the world</li> <li>Marketing with no previous experience</li> <li>One-of-a-kind technology and products</li> </ul>
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### Looking back on FY 2022

We have launched and expanded our services and products, centering on digitalkeys.

We have widely rolled out Bqey, a digitalkey service for company-cars, specifically, a DX service that allows one-stop reservations, usage, and management of company-cars, throughout Japan. We have also added a function that can be linked with alcohol detection, which is required to comply with the law, and this has also been well received by customers.

The number of customers using Bqey has increased to 133 companies and 2,500 vehicles (as of the end of FY 2022).

We also conducted a demonstration experiment of a matching service for rental cars called Uqey, which is derived from Bqey. In this way, we have worked to improve the level of service. Through experiments in two

types of market: tourist areas (Okinawa and Hokkaido) and urban areas (Fukuoka), we received many positive reviews from both rental car companies and rental car users. We will continue to strive to improve our service level.

Furthermore, we have launched a new brand called “Think Scrap” to contribute to solving social issues. We have developed, produced, and sold upcycled products using seatbelt scraps and other materials.

A local sewing company in Aichi Prefecture cooperated in the production of Think Scrap products.

Furthermore, we decided to enter the esports business, which is currently popular among young people. We concluded a sponsorship contract with a famous esports team (Zeta Division) and began developing keyboards under their supervision.

### Future prospects

We will strive to expand our customer base by continually improving and adding features and services to Bqey and Uqey. By doing so, we are working towards achieving sales of 10 billion yen in the digitalkey business in FY 2030. In order to expand our sales channels, we have entered into an agency agreement with a company that has a network. In addition, regarding Uqey, we will steadily advance collaboration with rental car companies in both tourist and urban areas, and strive to increase the number of customers using our service.

Regarding the esports business, we have released keyboards with ultra-short stroke, high precision and durable magnetic sensing that are made in Japan under the brand name “ZENAIM,” and have received high praise from the market. In the future, we will expand the lineup of keyboards under the “ZENAIM” brand, and work on the

development and release of new products such as mice, contributing to the expansion of eSports fans in Japan and around the world.

With new businesses centered on digitalkeys, “ZENAIM,” and “Think Scrap,” we aim to achieve sales of 15 billion yen in FY 2030 and work to create new value.

In addition, we will develop and produce biomass materials using domestically produced bamboo composite materials, contributing to carbon neutrality. This product will be sold under the brand name “Bamboo+” and will be used not only for car applications but also for other industries.

By taking on new business challenges such as those mentioned above, we will lead to reforms in our business structure and, ultimately, in our corporate culture.