## **Automotive and Transportation Equipment**

# Understanding Market Trends and Increasing the Value We Offer

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### Creating a Structure That Responds to **Changing Markets**

The automotive and transportation business includes THK, THK RHYTHM, and TRA,1 and it encompasses 6 sales offices (1 in Japan and 5 overseas), 16 production facilities (4 in Japan and 12 overseas), and 3 development bases (2 in Japan and 1 overseas). 2021 was a tumultuous year for the automotive industry, with production adjustments caused by the coronavirus pandemic lockdown in Malaysia and supply chain delays in several countries due to semiconductor factory fires. This led to production dropping from the 9.8 million vehicles manufactured in 2019 down to 8.4 million. (The semiconductor shortage accounted for 1.15 million vehicles.) Some expect the semiconductor shortage to continue into 2023, and it is difficult to respond to this unexpected situation with traditional management methods. We also need to build a framework that can quickly adapt to movements such as CASE,<sup>2</sup> MaaS,<sup>3</sup> and carbon neutrality, so we are focusing our efforts on the following three areas this year.

- 1. Promote production activities that respond to heightened industry demand and measures for safety, stability, and the environment. Propose lightweight products to customers; facilitate compact designs; and ensure quality, durability, and reliability.
- 2. Promote the integration of THK RHYTHM and TRA sales and production. Reevaluate our organization, roles, and systems to achieve greater sustained growth.
- 3. Cultivate new markets emerging from the proliferation of electric vehicles. Expand sales of products for electric brakes and parking brakes produced as electric vehicle offerings at the Yamagata and THK RHYTHM Hamamatsu plants. Cultivate new areas of need by developing new products based on the technology we have accumulated over many years. In addition, double customer satisfaction based on monthly scores given by our customers.

#### **Future Automotive and** Transportation **Developments**

Automotive manufacturers are currently grappling with a number of challenges, including electric vehicles, self-driving veAutomotive and Transportation-Related Locations (Sales, Production, and R&D)



ed: TRA Blue: THK RHYTHM Green: THK CO., LTD. (Detroit management is split between TRA and THK RHYTHM) Sales · Tokyo (Japan) · Shanghai (China) · Detroit (USA) · Düsseldorf (Germany), Paris (France), Turin (Italy) R&D ·Tokyo, Hamamatsu (Japan) ·Düsseldorf (Germany)

hicles, emissions regulations, changes in fuel efficiency testing methods, and strengthened collision safety standards. There is also a shift from treating vehicles as a simple method of transportation to integrating them more fully in daily life as a product with high added value. An emerging area of development is focused on diverse types of mobility and electronic systems. There are also numerous possibilities when it comes to digitalization, smartphone/robot compatibility, combining cars and quadruped robots, navigation controls, infotainment systems,4 head-up displays,<sup>5</sup> autonomous travel support, cars that run on new types of energy, flying cars,6 and more. The things we can pursue as a division in terms of safety, convenience, and comfort are endless. The key will be how much value we can create and provide to the automotive industry. We will keep a steady eye on market trends and enhance the value we offer.

- <sup>1</sup> TRA: The entity created with the 2015 acquisition of TRW's European and North American linkage and suspension business.
- <sup>2</sup> CASE stands for Connected, Autonomous, Shared & Services, and Electric. <sup>3</sup> MaaS, which is short for "Mobility as a Service," refers to IT-based systems
- that make transportation more efficient and convenient to use.
- <sup>4</sup> Infotainment system: A system that provides both information and entertainment.
- <sup>5</sup> Head-up display: A display that provides drivers with informational images on the windshield.



Example of a head-up display Source: C-net Japan



Flying car (car and delivery drone) Source: SKYDRIVE