FACTORY AUTOMATION AND SOCIAL SOLUTIONS

Enhancing the productivity of the *Monozukuri* industry and improving quality of life

Our mission in the Industrial Solutions Business Unit is to realize carbon-neutral *Monozukuri* (manufacturing) from the perspective of "green," and to build a society that expands human potential from the perspective of "peace of mind." Guided by this mission, we will work to earnestly address the issues facing our customers, providing them with solutions that resolve such issues in a manner that best suits their needs. By doing so, we will make significant contributions to industrial and social progress.

Relevant SDGs

8 DECENT WORK AND ECONOMIC GROWTH | 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE | 17 PARTNERSHIPS FOR THE GOALS

Jiro Ebihara
Head of FA Business Development Division

Business Strengths

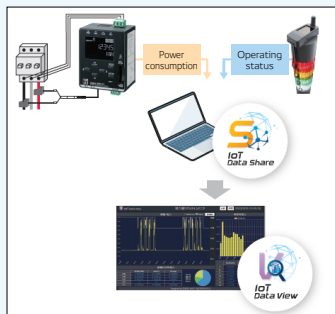| Production Assets That Have Been Rigorously Honed in Frontline Manufacturing Operations	*Monozukuri* Expertise Garnered Over More Than 70 Years	Solutions for Society Using QR Codes® Developed by DENSO
Using our high-quality, highly durable facilities that have been refined on auto part production lines, as well as our core factory automation (FA) equipment, such as robots and sensors, we are playing a role in improving productivity throughout the manufacturing industry and society at large while spreading our reach from stand-alone equipment to processes and modules.	DENSO solves serious issues directly affecting the manufacturing industry, such as labor shortages, carbon neutrality and digital transformation (DX), with its know-how in flexible and lean manufacturing and lean automation technologies.	Three decades ago, DENSO applied for and registered QR Code® patents. By utilizing our long-standing expertise in QR Code® reader technologies and QR Codes® while incorporating outside ideas, we will continue creating value for new fields and applications.

🌐 Resolving Social Issues through Our Businesses

Using IoT Technology to Help Industry and Society Grow Sustainably

To promote the spread of IoT not only in the manufacturing industry but also in such diverse fields as retail, agriculture, and medicine, DENSO is participating in the development of ORiN, an international standard for smart factories that originated in Japan. As part of this effort, we have developed and marketed a package that monitors the power consumption of equipment to help enhance energy consumption in the manufacturing industry. This package can be readily used and managed with existing equipment and other companies' equipment. We will actively grow sales to contribute to the penetration of environmentally friendly manufacturing.

IoT technology-enabled solution for plants

Focusing on Addressing Industrial and Social Issues as the Creator of QR Codes®

DENSO offers various solutions utilizing QR Codes® with the aim of creating a society where everyone can live with peace of mind. In Kariya, Aichi Prefecture, we have conducted a verification test of a school attendance management system that contributes to child safety, while in Hiroshima Prefecture we provide a management system for the mobilization of municipal personnel that facilitates workstyle reform. In addition, as the company that created QR Codes®, we are playing a role in enhancing safety in society. For example, we have developed a special QR Code® (tQR®) that makes it possible for QR codes® to be read even when there are changes in sunlight, thereby contributing to the introduction of automatic platform gates on all Toei Subway lines. Moreover, this QR Code® was subsequently adopted by railway operators in a number of regions.

The tQR® automatic platform gate system

Contributing to a Healthy, Sound Society with Our Automated Cafeteria Checkout System

Cafeterias are owned and operated by many different companies and organizations. Through the application of the rigorously site-focused approach that it has fostered in the automotive industry and the utilization of automatic recognition technology, DENSO developed an automated checkout system for cafeterias, which was launched in 1998. Since then, we have been marketing this system, which is high speed, reliable, and user friendly and records the contents of meals using tags attached to dishes and accepts payment via employee ID cards and other IC cards. In 2024, we began offering a cloud computing-enabled system. The new system will help create a healthy, sound society by offering services that meet society's current needs, such as the promotion of health and productivity management through the provision of nutrient intake information and the reduction of food wastage through prediction of the number of meals required and digital menu displays that dispense with the need for meal samples. Other benefits of our system include efficient management for cafeteria operators and convenience for users.

Automated cafeteria checkout system