FOOD VALUE CHAIN

Combining technologies and ideas to provide new value and contribute to a society where all people can live safely and with peace of mind

Food is essential to human life. Together with our business partners, while observing the entire food value chain, we will provide solutions that deliver food safety and security to each region of the world, anytime, anywhere, and to anyone, forever.

Relevant SDGs

| 2 ZERO HUNGER | 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE | 17 PARTNERSHIPS FOR THE GOALS |

Hidehiro Yokoo
Head of Food Value Chain
Business Development Division

Business Strengths

Greenhouses That Ensure Reliable Harvests While Dealing with Labor Shortages and Climate Change	Portable Compact Freezer/Refrigerators That Help Deal with Driver Shortages and Delivery Diversification	New Distribution DX Solutions That Reflect Changing Needs in Food Distribution
By applying our *Monozukuri* technologies gained with automobiles to agricultural production, we are supporting technologies that condition environments for reliably harvesting agricultural products. We introduce automation technologies to create environments where people can move around easily, and globally supply solutions for greenhouses in a highly productive way that sustains growth.	By utilizing thermal control technologies developed for automobiles, we have created compact, light versions of conventional automotive freezer/refrigerators. These portable battery-powered products allow non-specialized drivers with passenger cars to flexibly deliver a range of small-lot items. Our freezer/refrigerators do not use engines or dry ice for freezing or refrigeration, which reduces CO_2 emissions.	By utilizing QR Code® and RFID technologies developed in frontline manufacturing operations, we have created a fully integrated food distribution platform that digitizes a range of different food-related information. The platform caters to consumer demand for safety and reassurance with respect to food by visualizing food distribution information from production through to sale and facilitates supply–demand optimization in distribution operations and the rightsizing of inventories.

🌐 Resolving Social Issues through Our Businesses

Stabilizing Food Production by Introducing Industrial Approaches to Agriculture

In response to the food shortages and instability in agricultural production due to climate change and a global decline in farming populations, we will utilize our vehicle *Monozukuri* technologies for horticultural facilities to enable anyone to realize stable agricultural production in any location and at any time. Specifically, DENSO is working closely with Group company Certhon Build B.V., which is based in the Netherlands and possesses leading-edge horticultural facility technologies. Through highly efficient greenhouses—which combine our automation, environment control, and digital transformation technologies—and the fully automated cherry truss tomato harvesting robot Artemy,® we will introduce industrial approaches to agriculture, thereby helping to address social issues.

Greenhouses for medium-sized and large farms

The fully automated cherry truss tomato harvesting robot Artemy®

Enabling Local Production for Local Consumption and Increasing Transportation Efficiency through Temperature-Controlled Logistics between "Road Stations" and for Markets

Based on a comprehensive partnership agreement with Kumamoto Prefecture, we are conducting verification tests of portable compact freezer/refrigerators. By enabling the storage of fresh food products and their transportation between "road stations" (the distribution bases nearest stores), the model will solve the problems of opport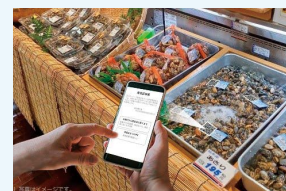unity losses due to insufficient stocks of fresh food products, waste due to surplus stocks, and waste and inefficiency resulting from non-temperature-controlled collection and delivery between producers and markets. As a result, the model will encourage local production for local consumption, reduce food wastage, and increase the efficiency of transportation.

Portable compact freezer/refrigerator

Increasing Operational Efficiency and Enhancing Product Branding through the Visualization of Food Distribution Data

We are contributing to the rationalization of food distribution and safety and peace of mind in relation to food through a system that uses a QR Code® to visualize food distribution data. In wholesale markets for fresh fruits and vegetables, which have concentrations of products and data, we will encourage operational and distribution efficiency by visualizing and linking data. Focusing on these markets, we will promote the widespread use of the system in the supply chain extending from producers to retailers. In addition, through a production region certification system that guarantees traceability from production to sales, we have been working to solve the problem of the intentional mislabeling of short-necked asari clams to falsely show Kumamoto Prefecture as their production region. We will roll out this system for other fishery resources by participating in national projects from their conceptual stages.

Rendering of the QR Code® being used to read production region data