

## Press Information

### Marubeni and Kyocera to Implement Proof of Concept for a Smart Checkout System

**Kyoto/London, 07. March 2022.** Marubeni and Kyocera will begin a Proof of Concept (POC)<sup>1</sup> test for a smart checkout system equipped with Kyocera's AI object recognition technology (hereinafter, "system") at supermarkets in Kanagawa Prefecture, Japan, this summer with the long-term aim of putting the system into practical use.

Improving the efficiency of store operations has become a major issue for supermarkets in Japan due to the country's labor-market shortages, declining birthrate, and aging population. Among in-store operations, cash register work requires improved efficiency the most, as employees or consumers need to scan product barcodes one by one, which takes significant time. During peak times, long lines for cash registers are a regular occurrence and a point of stress for both stores and consumers. However, resolving this problem is difficult at present because of the human capital and implementation costs required to improve cash register operational efficiency.

To help solve this problem, the system will use unique technology developed by the KYOCERA Advanced Technology Research Institute that instantly recognizes multiple overlapping products to save labor and improve efficiency at checkout. In addition, no large-scale capital investment or construction work is required for installation as the system can be easily used at a low cost by installing only a camera, PC, and display.

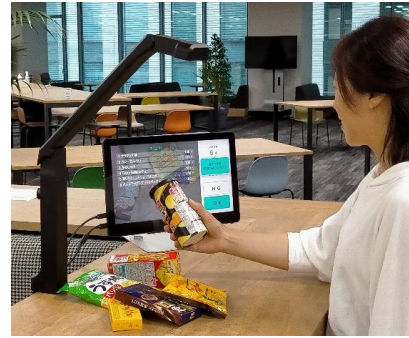
The POC will leverage Marubeni's network and product data in the retail field-one of Marubeni's core business competencies-with Kyocera's technology to improve the system's service and aim for future commercialization.

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<sup>1</sup> Memorandum of Understanding (MOU) between Marubeni and Kyocera for the Proof of Concept was officially finalized in December, 2021.

## Smart Checkout System Features

- 1) Object recognition is possible even when the target products overlap or are held in the user's hand:  
Utilizing Kyocera's proprietary object recognition AI technology, the system can recognize products with high accuracy even when placed on top of each other or when the user holds a product in their hands.
- 2) Low cost and easy set-up:  
Since the system only requires installing one camera, one PC, and one display on the existing cash register, no large-scale capital investment or construction work is required.
- 3) Easy-to-update database  
Registering a new product in a conventional system requires the user to re-register all other products as well. In this system, however, a new product can be registered by itself (without re-registering other products), saving a lot of time.



## Conceptual Diagram



**About Marubeni**

Marubeni Corporation and its consolidated subsidiaries use their broad business networks, both within Japan and overseas, to conduct importing and exporting (including third country trading), as well as domestic business, encompassing a diverse range of business activities across wide-ranging fields including lifestyle, ICT & real estate business, forest products, food, agri business, chemicals, energy, metals & mineral resources, power business, infrastructure project, aerospace & ship, finance & leasing business, construction, industrial machinery & mobility, and next generation business development. Additionally, the Marubeni Group offers a variety of services, makes internal and external investments, and is involved in resource development throughout all of the above industries. <https://www.marubeni.com/en>



For more information on Kyocera: [www.kyocera.de](http://www.kyocera.de)

## About Kyocera

Headquartered in Kyoto, Japan, KYOCERA Corporation is one of the world's leading manufacturers of fine ceramic components for the technology industry. The strategically important divisions in the KYOCERA Group, which is comprised of 307 subsidiaries (as of March 31, 2021), are information and communications technologies, products which increase quality of life, and environmentally friendly products. The technology group is also one of the most experienced producers of smart energy systems worldwide, with more than 45 years of know-how in the industry. The company is ranked #603 on Forbes magazine's 2021 "Global 2000" listing of the world's largest publicly traded companies.

With a global workforce of over 78,000 employees, Kyocera posted sales revenue of approximately €11,74 billion in fiscal year 2020/2021. The products marketed by the company in Europe include printers, digital copying systems, semiconductor-, fine ceramic-, automotive- and electronic components as well as printing devices and ceramic kitchen products. The KYOCERA Group has two independent companies in the United Kingdom: KYOCERA Fineceramics Ltd. and KYOCERA Document Solutions Ltd.

The company also takes an active interest in cultural affairs. The Kyoto Prize, a prominent international award, is presented each year by the Inamori Foundation — established by Kyocera founder Dr. Kazuo Inamori — to individuals worldwide who have contributed significantly to the scientific, cultural, and spiritual betterment of humankind (approximately €763,000\* per prize category).

\*Date of Survey: June 18<sup>th</sup>, 2021

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