

August 25, 2021

Mitsubishi Chemical, Dai Nippon Printing, and REFINVERSE Group to Conduct Demonstrations on Supply Chain Development by Using Blockchain to Enhance the Reliability of Traceability

Mitsubishi Chemical Corporation

Mitsubishi Chemical Corporation (MCC; Head Office: Chiyoda-ku, Tokyo; President: Masayuki Waga), jointly with Dai Nippon Printing Co., Ltd. (DNP; Head Office: Shinjuku-ku, Tokyo; President: Yoshinari Kitajima) and REFINVERSE Group, Inc. (REFINVERSE, Head Office: Chuo-ku, Tokyo; President: Akira Ochi), will conduct demonstrations aimed at developing a transparent and reliable supply chain by the end of September. The demonstrations will use the information management system from the Netherlands-based Circularise B.V. (Circularise) to monitor and share environmental impact assessment indicators such as the management and tracking of biomass and recycled raw materials as well as life cycle assessment (LCA)^{*1}, with partners within the value chain.

In order to utilize sustainable resources such as biomass and recycled raw materials as substitutes for petroleum-derived plastics, it is important to control the amount of raw materials used and to manage evidence for certified materials. In addition, it is necessary to visualize GHG emissions such as CO₂ from each supplier as well as the degree of environmental consideration of products for end consumers. Having these points in mind, Circularise has developed a supply chain traceability system that uses the public blockchain to track information from raw materials to final products. This proprietary, highly secure encryption technology allows companies in the supply chain to manage and share both confidential and public information.

Through the demonstrations, MCC, DNP, and REFINVERSE will verify the usefulness of building a supply chain with highly reliable traceability, in order to contribute to the further enhancement of added value for products using biomass and recycled raw materials and the sophistication of raw material management by the mass balance method^{*2}.



In addition, MCC will implement technologies and systems that contribute to the formation of a recycling-oriented society, such as the construction of chemical recycling facilities for plastic-to-oil conversion^{*3} and the procurement of waste plastic for recycling^{*4}. By building a highly transparent and reliable supply chain through the demonstrations, we will strive to promote sustainable products in society and contribute to the realization of a circular economy.

[Overview of Circularise]

Company name: Circularise B.V.

Location: Netherlands

Business: Developing a system for tracking, protecting and managing the environmental impact indicators, from raw materials to final products, using public blockchain technology.

Circularise was selected in The KAITEKI Challenge^{*5}, a corporate partnership accelerator program, with Mitsubishi Chemical Holdings Corporation (MCHC; Head Office: Chiyoda-ku, Tokyo; President: Jean-Marc Gilson), MCC's holding company, jointly with Greentown Labs, the largest climatetech startup incubator in North America. MCHC supports Circularise as a startup that takes on innovative challenges. The demonstrations are part of The KAITEKI Challenge initiatives.

*1 An indicator that enables quantitative evaluation of the environmental burden generated by a product or service over its entire life cycle or at specific stages.

*2 The mass balance approach (also referred to as material balance) is a distribution management method for the application of recycled raw materials to any product based on the acquisition of a third-party certification of product manufacturing using a mix of petroleum-derived raw materials and waste plastic-derived raw materials.

*3 MCC and ENEOS press release, "ENEOS & Mitsubishi Chemical to Jointly Implement Plastic-to-Oil Conversion Business" (released on July 20, 2021)

*4 MCC press release, "Mitsubishi Chemical to Procure Waste Plastic for Chemical Recycling" (released on July 21, 2021)

*5 MCHC press release, "Mitsubishi Chemical Holdings Corporation and Greentown Labs Announce the KAITEKI Challenge Startup Participants" (released on May 19, 2021)

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