

FOR IMMEDIATE RELEASE

Suntory Beverage & Food and Hitachi Collaboratively Create IoT Platform to Realize Precision Traceability, and the Digital Transformation of Factory Management and Work Styles at the Suntory Kita-Alps Shinano-no-Mori Water Plant

Aiming for a next-generation factory model that is overall optimal and continues to evolve by integrating and utilizing factory data



Digital transformation utilizing IoT platform at new factory
(A dashboard displaying various information)

This high-resolution image has been posted on <https://www.suntory.co.jp/softdrink/news/pr/>

Tokyo, May 31, 2021 --- Suntory Beverage & Food Ltd. (TSE: 2587, Suntory), Suntory Products Limited in cooperation with Group companies (*), and Hitachi, Ltd. (TSE: 6501, Hitachi) today announced that they have created IoT platform to realize precision traceability, and the digital transformation of factory management and work styles at the new operational Suntory Kita-Alps Shinano-no-Mori Water Plant (location: Omachi, Nagano Prefecture, new factory) through collaborative creation, and operations of this platform have begun.

Until recently, data was collected and utilized by each processing and production line was individually optimized. The developed IoT platform at the new factory incorporates Hitachi's Lumada⁽¹⁾ solutions and quickly collects and integrates a variety of data from overall factory production facilities and equipment, as well as from the IT systems for procurement, production, quality management, and shipment. The companies aim for a next-generation factory model that is overall optimal and continues to evolve by connecting this data and using in the installed software.

* Suntory MONOZUKURI Expert Ltd. and Suntory System Technology Ltd.

■Features of the IoT Platform at Suntory's New Factory

(1) Pursuing of Product Safety and Security

Up until now, tracing the manufacturing and inspection history for each product required time, experience, and knowledge as a supervisor would collect the pertinent data from

work records and carry out inspections on the extent of influence on products. With this initiative, a precision traceability system has been installed that connects and integrally manages manufacturing and inspection history and quality information for each product. This allows for a rapid response by referencing information and offering explanations when receiving inquiries from consumers related to products. This also makes it possible to quickly trace the manufacturing and inspection history of products and specify the extent of influence when slight errors occur with production facilities or equipment, allowing for a rapid check of whether or not there are issues with product quality. By analyzing the collected data, the cause of the error can be ascertained quickly, making it possible to offer constant quality improvements.

(2) Driving Work Style Reforms

There was still a lot of routine human-intensive labor within the factory, including the creation of reports and the collecting and processing of data needed to respond to inquiries. Software was installed on the dashboard that allows for visualization and analysis of required information when needed for different purposes based on data from production facilities and equipment and IT systems within the factory. And it has become possible to promote remote work and improve work efficiency through digitalizing and automating the previously human-intensive routine labor of data collection and processing. Through this, a shift can be made towards more creative work, which can only be done by human beings, along with a drive towards work style reforms that responds to the New Normal.

(3) Sophistication of Factory Management Through the Promotion of Digitalization

Until recently, data was collected and utilized by each processing and production line and was individually optimized. With IoT platform that combines several of Hitachi's Lumada solutions, data is collected and integrated from each IT system and from the overall production facilities and equipment in the factory, which has the ability to produce 1,000 bottles every minute. This data is then utilized from the perspective of overall optimization. Specifically, frequently produced production data is quickly and stably collected and transferred using the Hitachi Digital Supply Chain/IoT⁽²⁾, and the extraction and connection of the required data for analysis and optimization and the use of data in software on the production site is made simpler by integrating this data with the Hitachi IoT-Platform for industry⁽³⁾, a platform for data integration and analysis. Promoting visualization and digitalization for the entire factory through use of IoT platform in this way will lead to further precision in factory management, including speeding up the PDCA cycle and offering new realizations.

■Background to this Initiative

In addition to stringent production and quality management, rapid responses and explanations for the various inquiries on overall product supply chains are necessary for beverage manufacturers to realize safety and security.

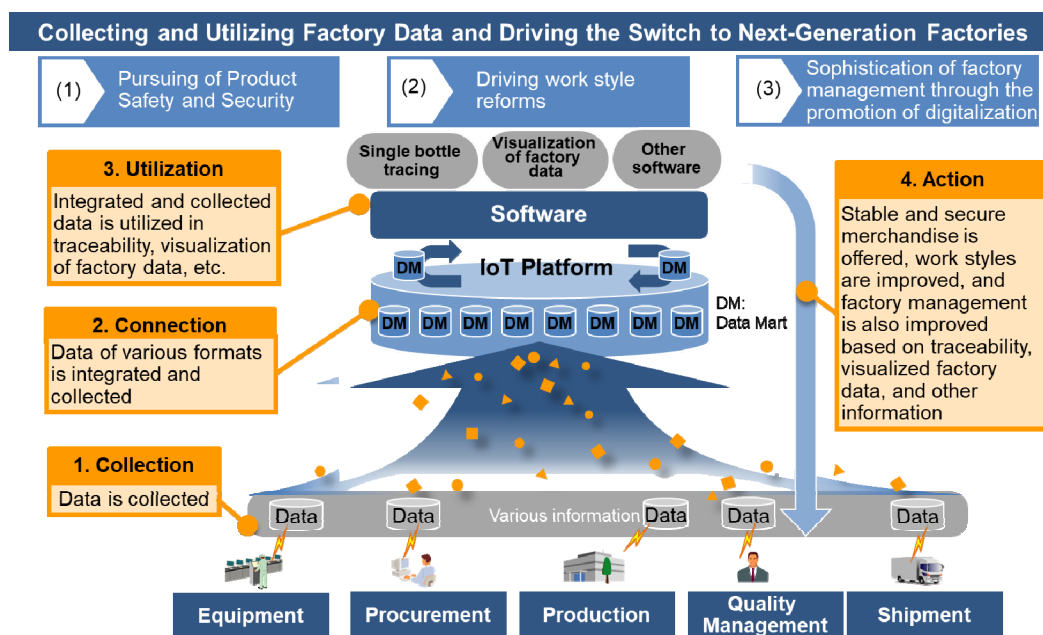
Following the rapid development of digitalization in recent years and the recent spread of COVID-19, new work styles are also necessary to respond to the New Normal, requiring a transformation in factory management and labor that utilizes factory data and the latest digital technology as well as improvements in employee safety that avoid conditions prone to the spread of infectious diseases.

Suntory - an innovator of manufacturing activity including SCM⁽⁴⁾ - and Hitachi - the provider of Lumada solutions using digital technology that utilizes the knowledge of products, OT⁽⁵⁾, and IT gained through manufacturing -, have previously been involved in collaborative creation related to a production planning system that utilizes AI⁽⁶⁾. With this current collaborative creation, both companies worked to create IoT platform to realize the digital transformation of precision traceability, factory management, and work styles at the new factory as a theme contributing to a next-generation factory model that utilizes digital technology based on the changing social background.

■Future Plans

Suntory plans to utilize and evaluate this next-generation factory model created with this project and plans to expand this model to its other factories. They will continue to offer safe, secure, and high quality finished goods to customers by further strengthening production capabilities through this model.

Utilizing the technology and knowledge gained through this collaborative creation, Hitachi will work for further traceability precision with SCM overall, and will contribute to the improvement of the social, environmental and economic value of its customers by expanding the business globally as a Lumada solution for manufacturers.



A conceptual drawing of the next-generation factory model utilizing IoT platform
This high-resolution image has been posted on <https://www.suntory.co.jp/softdrink/news/pr/>

- (1) Lumada: General name of solution service technology using Hitachi's advanced digital technology to generate value from customer data and accelerate digital innovation
<https://www.hitachi.com/products/it/lumada/global/en/index.html>
- (2) Hitachi Digital Supply Chain/IoT: a system that coordinates with IoT systems that collect data using an interface that is compatible with operational technologies (production equipment, sensors, and existing work systems)
- (3) Hitachi IoT-Platform for industry: a platform for data integration and analysis of in-house corporate data, sensor data, social media data, and a variety of other data from various perspectives
- (4) SCM: Supply Chain Management
- (5) OT: Operational Technology
- (6) Press release from Suntory Beverage & Food Ltd. and Hitachi, Ltd. announced on October 31, 2018: Suntory Beverage & Food and Hitachi Develop Production Planning System Utilizing AI through Collaborative Creation
<https://www.hitachi.com/New/cnews/month/2018/10/181031.html>

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