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Mitsubishi Chemical Holdings Establishes Text Mining Center of Excellence - Aiming to Exploit "Hidden Knowledge" in the Chemical Industry -

Mitsubishi Chemical Holdings Corporation

Mitsubishi Chemical Holdings Corporation (MCHC; Head Office: Chiyoda-ku, Tokyo; President: Hitoshi Ochi) today announced that it has established a new Text Mining Center of Excellence (CoE)*1 in the Digital Transformation Group of its Emerging Technology and Business Development Office (ETBDO), with the goal of promoting proactive Group-wide deployment of text mining*2 technology.

The Text Mining CoE is a cross-functional team that, drawing upon resources across the MCHC Group, will use text analysis approaches to uncover and exploit the vast volume of text data that have been accumulated over many years. These data span a wide range of areas, including business, manufacturing, sales, R&D, and human resource development. In the chemical industry, this type of information has long-term value that can now be leveraged using modern techniques of data acquisition and management. The Text Mining CoE has high aspirations, aiming to use its expertise to drive the growth of the MCHC Group.

Led by the Digital Transformation Group in ETBDO, MCHC is striving to create value from data that have generally been difficult to access, classify, and share, including daily internal reports and laboratory notebooks. Specific digital projects implemented over the past year include the following:

- We established a researcher search engine called "Know Who," based on published patents and papers, and monthly reports by researchers. This makes it possible to quickly identify the most relevant researchers based on need and is expected to expedite solutions in research tasks.
- We created a method to preserve and combine historical knowledge about certain products through a "Q&A System" for Japanese sentences, based on information from textbooks and 10 years of records of actual customer inquiries.
- We gained insights into production process efficiency by analyzing data from plant operating logs.
- By analyzing results of employee satisfaction surveys by cohort and workplace, we helped develop measures to improve job satisfaction among employees.



The Text Mining CoE will play a central role in further developing these initiatives within the MCHC Group. It will also establish methodologies and tools necessary to organize knowledge, while promoting integration of text and numeric data scattered throughout the group. The CoE will also advance the use of digital technologies such as Artificial Intelligence (AI) and Internet of Things (IoT), while leveraging external knowledge and developing human resources including front-line technical experts who will implement digital projects at the CoE.

- *1. CoE refers to a group and hub that concentrates on high-level R&D activities in a specific field and plays a central role in human resource development and business creation.
- *2. Text mining refers to technology to understand sentences and analyze large-scale text data using methods such as natural language processing, statistical processing, and machine learning.

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