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ENEOS Materials Corporation

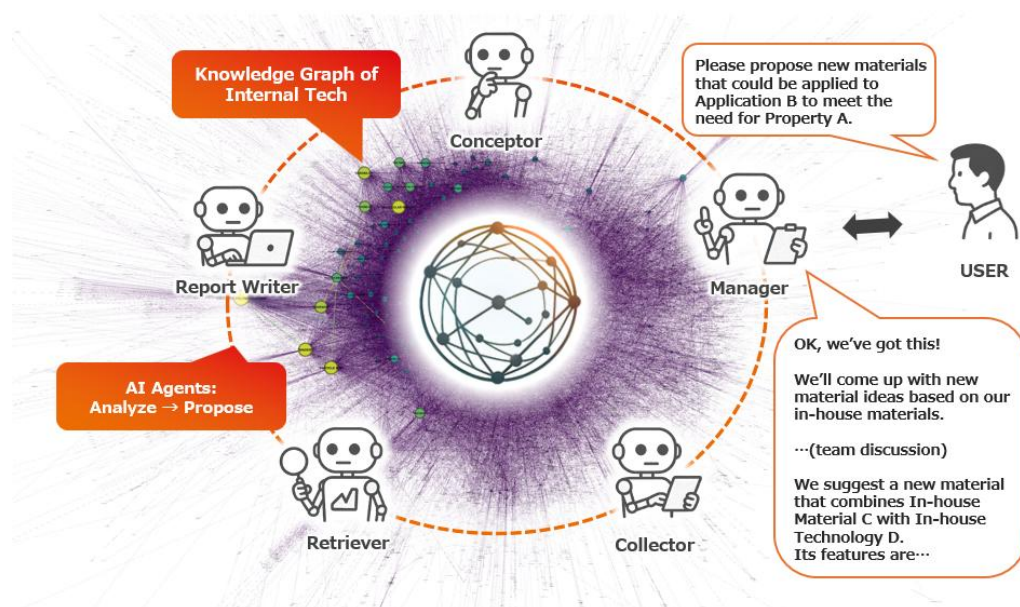
## **ENEOS Materials Develops AI Agent System to Support New Material Theme Creation** **- Accelerating Research and Development Speed Using Its Proprietary Knowledge Graph Technology -**

ENEOS Materials Corporation (Head Office: Minato-ku, Tokyo; President and Representative Director: Shiga Satoru) has developed an AI agent system for creating new material themes (the “System”) that integrates its proprietary knowledge graph<sup>\*1</sup> and AI agent<sup>\*2</sup> technology. Internal verification of the System began in October 2025. The System can propose new material themes from the perspective of materials, applications, and functions while taking market needs into account. In an internal proof of concept, ENEOS Materials confirmed that the System improves the efficiency of the primary screening process for material candidates by approximately 75% compared to the company’s previous methods.

ENEOS Materials’ proprietary knowledge graph consists of approximately 30,000 entities<sup>\*3</sup> and 80,000 relationships<sup>\*4</sup> constructed through analysis of its research reports and technical documents. In addition, the AI agent technology uses a multi-agent approach<sup>\*5</sup> whereby multiple agents collaborate. By combining these elements, the System serves as the foundation for evolving the creation of new material themes—which previously relied on experience and intuition—into a data-driven<sup>\*6</sup> method.

The System can automatically suggest new material combinations not possible with conventional generative AI, helping to shorten lead times for creating new material themes and boosting efficiency throughout the entire research and development process. The System will also further solidify the ENEOS Group’s mission of stably supplying materials that meet society’s needs.

Going forward, under the goal of “promotion of AI utilization” outlined in the ENEOS Group’s Medium-Term Management Plan, ENEOS Materials will expand the application scope of the System with a view to collaboration among Group companies and external partners. In doing so, it will contribute to enhancing the Group’s technological competitiveness.



\*1 Knowledge graph: A knowledge structure that systematically links events, concepts, and relationships within documents and data and visualizes the connections between complex information to facilitate new discoveries

\*2 AI agent: Generative AI that autonomously acquires, analyzes, and generates information according to specified objectives or roles, and plans, executes, and evaluates tasks

\*3 Entity: The smallest unit in a knowledge graph, representing objects, matters, or concepts within the real world or a specific domain

\*4 Relationship: The semantic connection between entities

\*5 Multi-agent approach: An approach where multiple AI agents divide roles and work to solve problems through mutual evaluation and coordination

\*6 Data-driven: A method of making decisions and formulating strategies based on data analysis rather than experience or intuition

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