News Release Digest

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Production Engineering field

Yokohama Research Laboratory
Manufacturing Systems 1st Research Dept.

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Global supply chain design technology to minimize total costs

Accommodating production line set-up and preferential tariff rates

【Achievement】

Hitachi, Ltd. with the cooperation of Hitachi Transport System, Ltd., has developed supply chain design technology for facility locations including suppliers, production and warehouse facilities to achieve a minimal cost supply chain for global corporate entities.

The technology developed accommodates for various cost factors which exist in a supply chain such as the type of product, production costs, lead time, depreciation of the manufacturing line, etc. and produces the changes in total cost depending on the domestic or overseas location of the respective facilities. The technology features the ability to accommodate for the production line set-up as well as preferential tariff rates*1 and can be applied to the total cost assessment of global companies when establishing supply chain networks.

*1Preferential tariff rate:
Determined under the Economic Partnership Agreement (EPA), the preferential tariff rate applies to designated countries or regions, and is set lower than that those for non-designated regions

■Characteristics

The packing model*2 was introduced to the layout of production lines on factory floor space. A new calculation algorithm was applied to this model to enable the identification of the optimal set-up from among the countless configuration patterns possible from the viewpoint of maximizing production, minimizing floor space and costs of production lines, within a short time.

*2 A mathematical model which can determine the types of foodstuff which can be packed into a bag of a given capacity, within the capacity of the bag, and is used to simulate the food packaging process.

■Plan

Based on this supply chain design technology for facility locations, Hitachi will offer a supply chain management solution for globally expanding companies.

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