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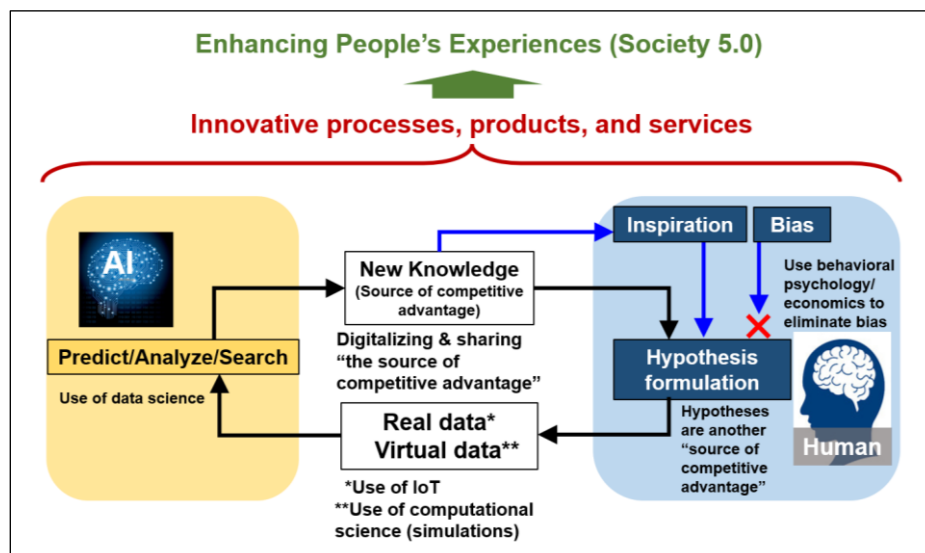
## Yokohama Rubber’s New AI Utilization Concept Orchestrated by a “Human & AI Concerto”

Tokyo—The Yokohama Rubber Co., Ltd., has formulated an AI utilization concept HAICoLab\* as part of the company’s effort to promote digital innovation. Orchestrating a “human and AI concerto,” Yokohama Rubber will use its talented human resources to support the search for knowledge in previously unexplored areas, where AI is not so useful because data is insufficient, as it aims to create innovative processes, products and services. Through this effort, Yokohama Rubber will contribute to the realization of “Society 5.0”, a future society that will enhance people’s experiences and take advantage of innovative technologies such as AI and IoT, as advocated by the Japanese government’s Cabinet Office.

\*An acronym for **H**umans and **AI CoL**aborate for digital innovation. It also has the meaning of a laboratory for joint research by humans and AI.

A key feature of Yokohama Rubber’s HAICoLab is its merging of human inspiration and creativity with AI’s enormous data processing capability to foster new discoveries and digital innovation. By creating and collecting data (real data generated by the IoT and virtual data from simulations, etc.) based on hypothetical conditions set by humans, and then using AI to predict, analyze and search, Yokohama Rubber will be able to acquire new knowledge. Hypothesis formulation uses behavioral psychology and behavioral economics to consciously eliminate biases such as beliefs that are barriers to new discoveries. In addition, the knowledge obtained becomes memory fragments that can be combined to create new ideas (inspiration). By eliminating bias and formulating hypotheses based on inspirations, Yokohama Rubber aims to seek new knowledge in previously unexplored domains.

HAICoLab conceptual diagram



## **HAICoLab Objectives**

- Use processes for developing structural and material designs to improve development efficiency and speed
- Automate production processes and stabilize quality standards to achieve stable product quality
- Eliminate bias and use inspiration to discover new technologies and solutions that cannot be derived directly from existing data
- Use digitalization to share tacit knowledge and facilitate technology exchanges

Even before officially establishing HAICoLab, Yokohama Rubber has been advancing technological developments by using AI in its material and tire design and development processes. For example, in 2017 Yokohama Rubber unveiled a new rubber material development technology that applies materials informatics and a tire design technology that applies informatics technology.