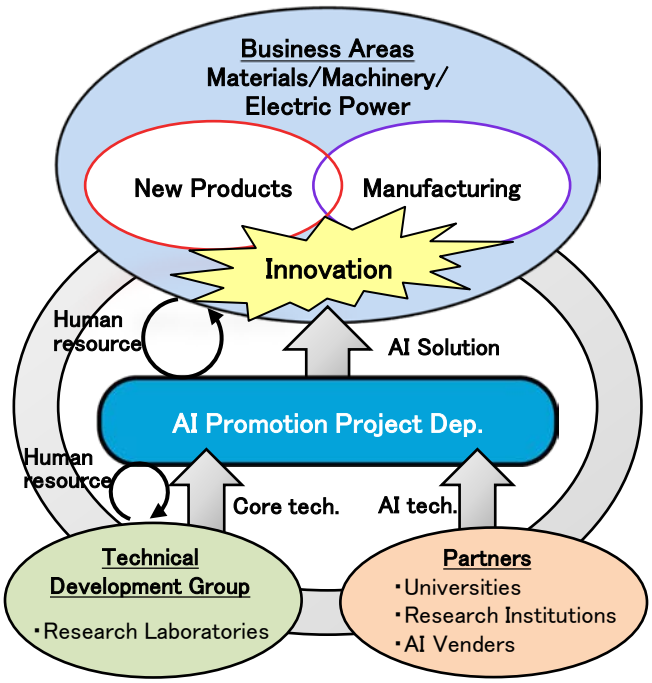
AI Promotion Project Department

Utilization of artificial intelligence (AI) technologies such as machine learning and deep learning enables us to contribute to the innovation and advancement of new product development and manufacturing processes of the KOBELCO Group. Through these R&D activities, we contribute to the development of human resources with AI literacy in the KOBELCO Group.

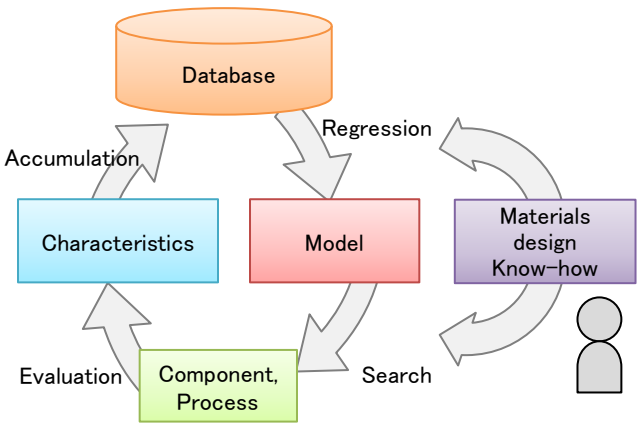
Core Technologies ×AI Technologies

- Advanced material design integrating the expertise of experienced materials scientists and the prediction method capable of handling complex phenomena.
- Development of innovative value-added mechanical products with new functions that combine machine learning such as image recognition technologies and advanced control technologies.
- Factory and plant operation assistance and early anomaly detection applying technologies such as causal inference and prediction using large amounts of data.
- Handing down our expert knowledge in quality inspection support technologies, making full use of natural language processing and image recognition technologies.



Materials Informatics (MI)

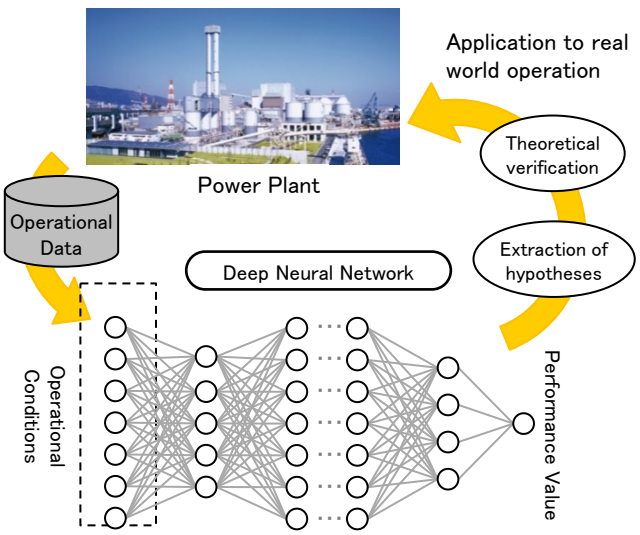
We aim at increased efficiency in advanced material product development by integrating cutting-edge AI technologies with our state-of-the-art material development technologies.



Innovation of material product development through MI

Optimization of Plant Operation

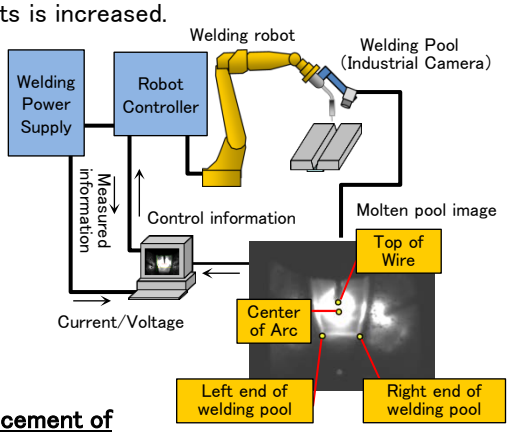
Machine Learning/DNNs Technologies are being applied to achieve more efficient and ecological operations.



Extraction of important factors using operational data

Product Value Enhancement using Image Recognition

By automating the skills of experts using image recognition technology, the added value of mechanical products is increased.



Advancement of automatic welding by image recognition technology

Based on the feature points of the molten pool image detected by deep learning, robot control is performed, realizing the automation of welding equivalent to the highly-skilled experts.