

Financial Systems

1 Data Extraction Solution for Dark Data

Most of the data generated and stored in the course of a company's operations is what is known as "dark data," data that is never actually used. It is important to the future of both society and companies that this routinely collected data be collated and analyzed to turn it into meaningful information for use in resolving challenges and helping to create new value.

This solution uses a technique for the structural analysis of information representation that determines the structure of documents from a variety of features, including tables, figures, and visual information, and a dark data analysis engine based on weak supervision, a learning technique that can generate artificial intelligence (AI) models from small amounts of training data. Together, these enable the solution to efficiently extract structured data from unstructured formats that have proven difficult to interpret in the past.

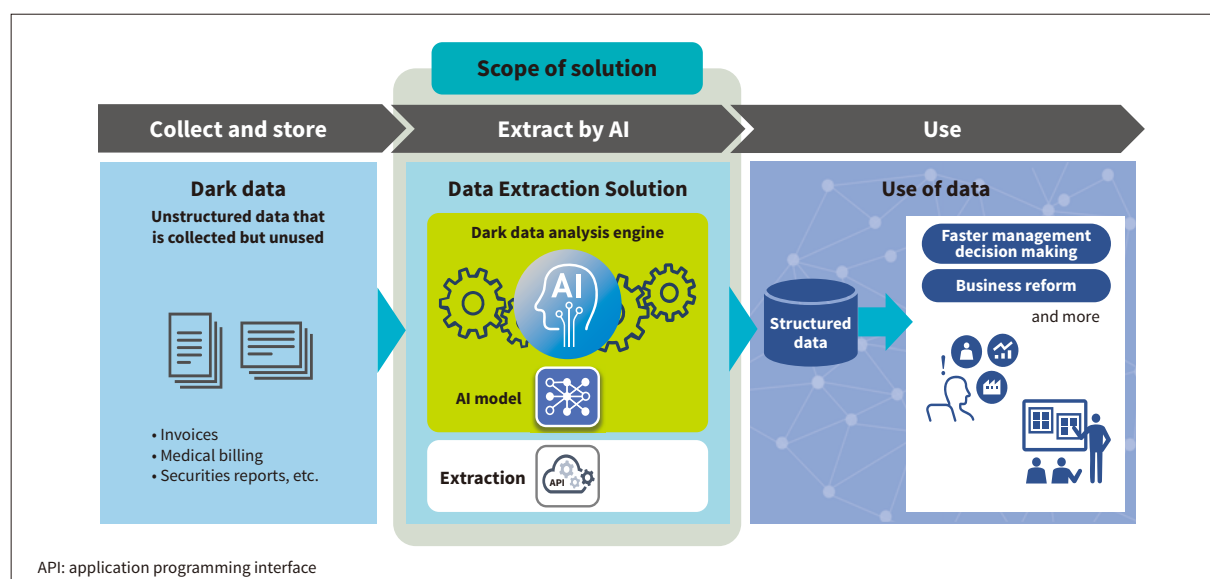
By enabling the use of data from non-standardized forms, that is forms such as invoices and medical billing documents that vary in format and terminology depending on who issued them, the solution can speed up management decision making and facilitate business reform by helping companies overcome the challenges of

improving productivity and cutting costs.

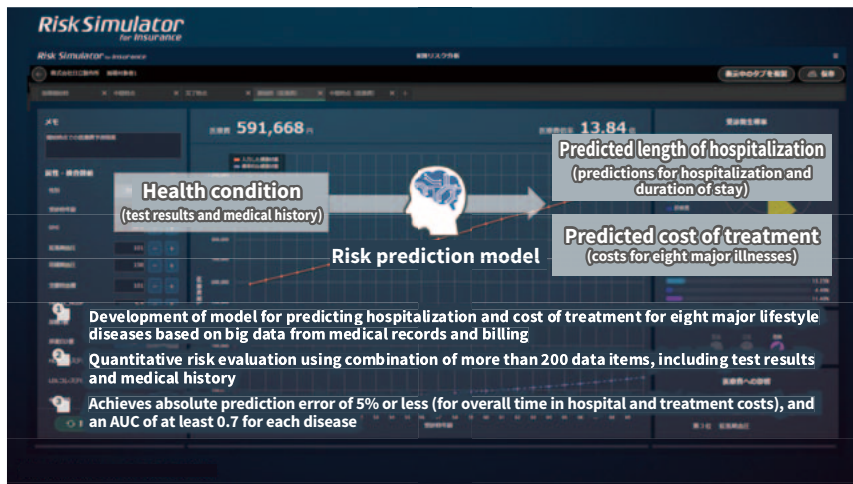
Along with further functional enhancements, Hitachi is also working on measures to help customers resolve challenges and create value in a wide range of different ways by combining this solution with others such as analytic AI.

2 Example Applications of Risk Simulator for Reforms in Finance and Public Sector

Announced in 2018, the Risk Simulator for Insurance (RS) is seeing growth in applications and use. In the insurance industry, the National Mutual Insurance Federation of Agricultural Cooperatives in Japan has used the RS with customer data to revise its acceptance criteria based on risk analysis. As a result, customers with underlying illnesses now only need to go through a simple screening process to obtain coverage. Elsewhere, a life insurance company working on a project to automate policy acceptance has made major cost savings by having RS take over a policy approval process that previously required human decision making. Internationally, Bao Viet Insurance Corporation in Vietnam has launched a service that integrates RS with a smartphone app it is developing for customers.



1 Data Extraction Solution



AUC: area under curve (an indicator of model performance)

2 Overview of risk simulator

In the public sector, Hitachi developed a model for predicting the severity of diabetes in Tochigi prefecture. The prediction model is used for candidate identification in the provision of health advice to people whose diabetes is suspected of having worsened. Efficiency has also been boosted by operational reforms that give top priority to those patients at the greatest risk of severe diabetes.

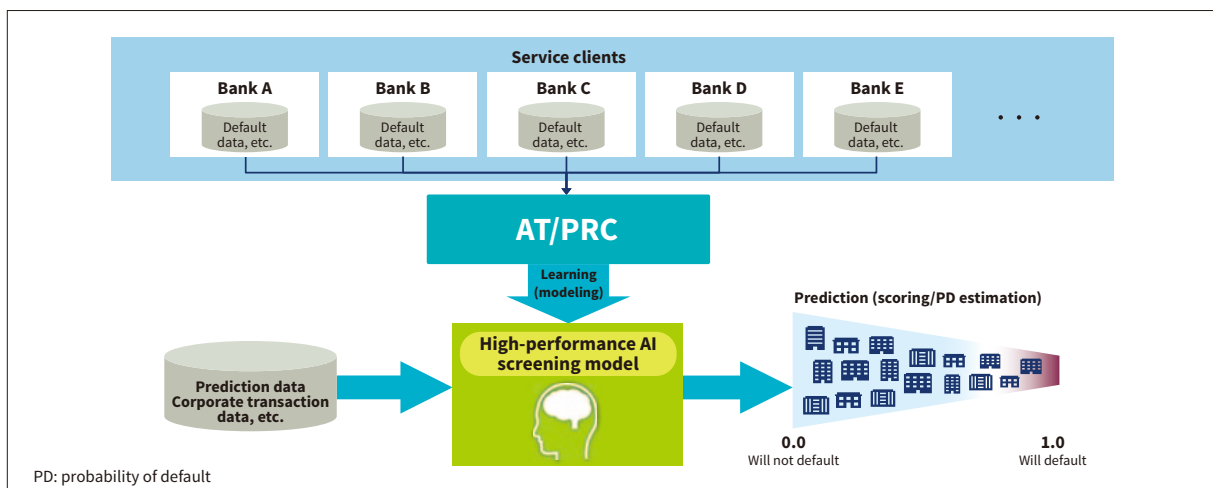
With RS, Hitachi is seeking to become a leader in risk analytics services for human health through measures such as further enhancements to the prediction model.

The service is based on a consortium AI screening model that uses data from several banks to provide estimated loan default probabilities to client banks. Along with using its extensive and diverse dataset for training in Hitachi AI Technology/Prediction of Rare Case (AT/PRC), which enables the identification of data indicative of loan defaults with high accuracy, the AI screening model is also updated annually by retraining with the latest data to ensure that the service keeps up with the latest trends. The service can also determine interest rates based on factors such as the credit risk calculated from the estimated probability of loan default, and set credit limits using a proprietary model.

Because use of the service allows client banks to serve a wider range of finance customers than they could in the past, its potential benefits include financial help for small and medium-sized businesses in the form of easier access to funds.

3 AI Screening Service for Transaction Lending

Dayta Consulting Co., Ltd., a joint venture with SBI Sumishin Net Bank, Ltd., launched an AI screening service for transaction lending in June 2021 that has since been adopted by several banks.



3 Consortium AI screening model for transaction lending