

**FOR IMMEDIATE RELEASE**

SBI Sumishin Net Bank, Ltd.

Hitachi, Ltd.

**SBI Sumishin Net Bank and Hitachi Sign a Memorandum of Understanding towards Establishing a Joint Venture to Provide AI Investigation Services**

*Plan to start services for multiple financial institutions in October 2019, for regional revitalization*

**Tokyo, January 29, 2019** --- SBI Sumishin Net Bank, Ltd. ("SBI Sumishin Net Bank") and Hitachi, Ltd. (TSE:6501, "Hitachi") today announced that they have signed a memorandum of understanding toward establishing a joint venture to provide AI (artificial intelligence) investigation services. The services will combine both companies' technologies and expertise, including Hitachi's new AI, Hitachi AI Technology/Prediction of Rare Case (hereinafter referred as "AT/PRC") and SBI Sumishin Net Bank's data-handling techniques. Detailed discussions for establishing the joint venture are planned.

As the first phase of this AI investigation service, from October 2019 the two companies aim to start providing an AI investigation service for housing loans. This service is a business operation optimization tool and will provide support for regional revitalization. This service will enable more-precise investigations to be performed based on big data, and will enable responses to more customers' financing requests, along with the expected reduction of credit costs.\*1

In the future, the two companies will gradually expand the fields to which the AI investigation services will be applied: for example, to transaction lending that supports advanced investigations based on information such as fund settlement information, and to card loans that require more-precise investigations to prevent the buildup of multiple debts.

SBI Sumishin Net Bank and Hitachi have spent about two years conducting demonstration tests that focus on advanced investigation methods that use AI. Financial business require enhanced, accurate predictions of infrequent events such as defaults on debt. However, development challenges include issues in conventional deep learning, such as the following: (1) When event does not frequently occur, learning is easily affected by noise, and over-learning\*2 is likely to be caused. (2) The prediction models are complex, thus the basis for a prediction are in a black box.

Hitachi's AT/PRC, which was developed through repeated demonstration tests, is characterized by its ability to predict rare events and was targeted to solve these two challenges: (1) Hitachi's unique technology suppresses over-learning. (2) An impact calculation technology that quantitatively presents prediction basis is used to make the basis for a prediction easier to explain.

Going forward, SBI Sumishin Net Bank will continue to accumulate expertise and experience in AI utilization and will strive to be "Your regular bank"—one that is always used by customers—along with further improving convenience and creating new value so as to contribute to the development of society.

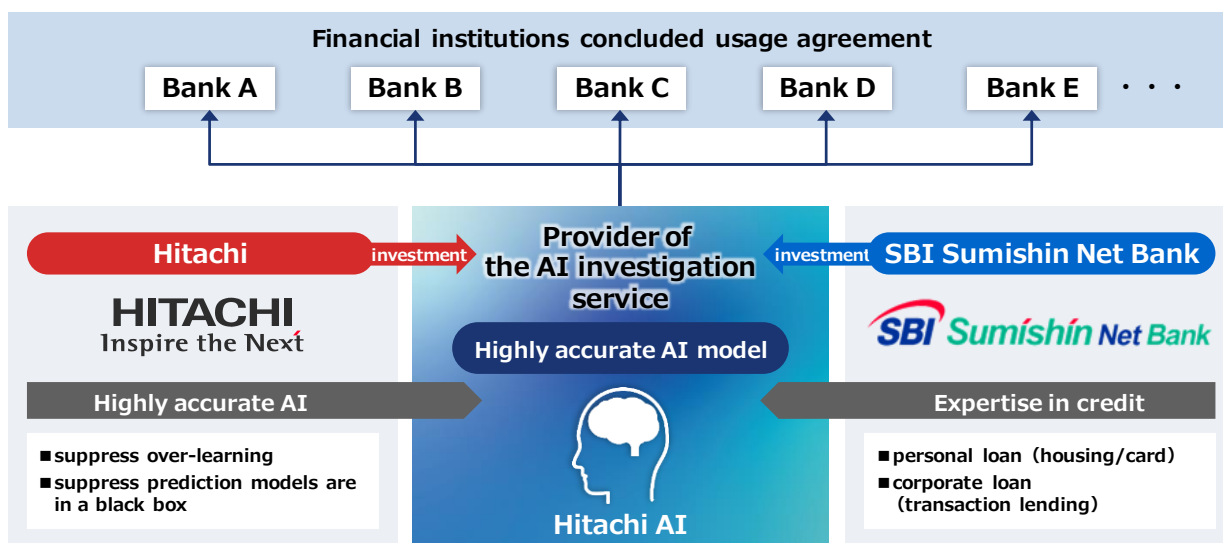
Hitachi will expand this attempt as a use case for its Lumada digital solutions and will continue to develop and provide innovative IT services through collaboration with various stakeholders.

\*1 For a loan, the average estimated loss taking into account the possibility of the loan being rendered uncollectable in a certain period of time.

\*2 In conventional deep learning, prediction equations are learned by using large amounts of actual data so as to render prediction errors small. However, if events do not occur frequently, the actual amount of data that serves as teaching data is too small. As a result, features (noise) that are not of general use are also learned, and prediction targets become unnecessarily limited and prediction accuracy becomes lower.

- ① Provide financial institutions with PD calculated by AI investigation model
- ② Monitoring of credit condition of loan products
- ③ Consulting about building credit strategy

PD : Probability of Default



Service Overview

### **About Hitachi AI Technology/Prediction of Rare Case (AT/PRC)**

AT/PRC is a type of AI that highly accurately predicts events that occur infrequently and that presents the basis for the predictions. In addition to the proper learning of normal data, AT/PRC is characterized by Hitachi's unique technology that trains the system not to become affected by biased data or extreme data, along with impact calculation technology that quantitatively presents the basis for a prediction. As AT/PRC is suitable for business operations that require predictions of rare events and explanations of the basis for a prediction, the technology is expected to be applicable to diverse, risk management business operations that companies cope with, such as investigations of unfair transactions in the stock market, the evaluation of new customers, and investigations of credit worthiness.

Hitachi will continue to develop solutions that use AT/PRC for customers from a wide range of industry types and business categories, including financial institutions.

### **About SBI Sumishin Net Bank, Ltd.**

SBI Sumishin Net Bank, LTD. is an Internet bank jointly established, as an innovative customer-oriented new bank, by SBI Holdings and Sumitomo Mitsui Trust Bank. The number of accounts (as of December 2018) on the bank exceeded 3.45 million, and deposits outstanding (as of December 2018) reached 4.74 trillion.

Since the establishment in September 2007, SBI Sumishin Net Bank has been working to offer an Internet full-banking business that provides easier-to-use and more competitive products and services than any of our competitors, 24 hours a day and 365 days a year.

### **About Hitachi, Ltd.**

Hitachi, Ltd. (TSE: 6501), headquartered in Tokyo, Japan, delivers innovations that answer society's challenges, combining its operational technology, information technology, and products/systems. The company's consolidated revenues for fiscal 2017 (ended March 31, 2018) totaled 9,368.6 billion yen (\$88.4 billion). The Hitachi Group is an innovation partner for the IoT era, and it has approximately 307,000 employees worldwide. Through collaborative creation with customers, Hitachi is deploying Social Innovation Business using digital technologies in a broad range of sectors, including Power/Energy, Industry/Distribution/Water, Urban Development, and Finance/Social Infrastructure/Healthcare. For more information on Hitachi, please visit the company's website at <http://www.hitachi.com>.

---

Information contained in this news release is current as of the date of the press announcement, but may be subject to change without prior notice.

---