# MIZUHO IR Select -FinTech-

Digital Innovation • Mizuho's initiatives

Aug 10, 2017 Mizuho Financial Group



This presentation contains statements that constitute forward-looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995, including estimates, forecasts, targets and plans. Such forward-looking statements do not represent any guarantee by management of future performance.

In many cases, but not all, we use such words as "aim," "anticipate," "believe," "endeavor," "estimate," "expect," "intend," "may," "plan," "probability," "project," "risk," "seek," "should," "strive," "target" and similar expressions in relation to us or our management to identify forward-looking statements. You can also identify forward-looking statements by discussions of strategy, plans or intentions. These statements reflect our current views with respect to future events and are subject to risks, uncertainties and assumptions.

We may not be successful in implementing our business strategies, and management may fail to achieve its targets, for a wide range of possible reasons, including, without limitation: incurrence of significant credit-related costs; declines in the value of our securities portfolio; changes in interest rates; foreign currency fluctuations; decrease in the market liquidity of our assets; revised assumptions or other changes related to our pension plans; a decline in our deferred tax assets; the effect of financial transactions entered into for hedging and other similar purposes; failure to maintain required capital adequacy ratio levels; downgrades in our credit ratings; our ability to avoid reputational harm; our ability to implement our Medium-term Business Plan, realize the synergy effects of "One MIZUHO," and implement other strategic initiatives and measures effectively; the effectiveness of our operational, legal and other risk management policies; the effect of changes in general economic conditions in Japan and elsewhere; and changes to applicable laws and regulations. Further information regarding factors that could affect our financial condition and results of operations is included in "Item 3.D. Key Information—Risk Factors" and "Item 5. Operating and Financial Review and Prospects" in our most recent Form 20-F filed with the U.S. Securities and Exchange Commission ("SEC") and our report on Form 6-K furnished to the SEC on January 13, 2017, both of which are available in the Financial Information section of our web page at www.mizuho-fg.com/index.html and also at the SEC's web site at www.sec.gov.

We do not intend to update our forward-looking statements. We are under no obligation, and disclaim any obligation, to update or alter our forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required by the rules of the Tokyo Stock Exchange.

Definitions FG: Mizuho Financial Group, Inc. BK: Mizuho Bank, Ltd.

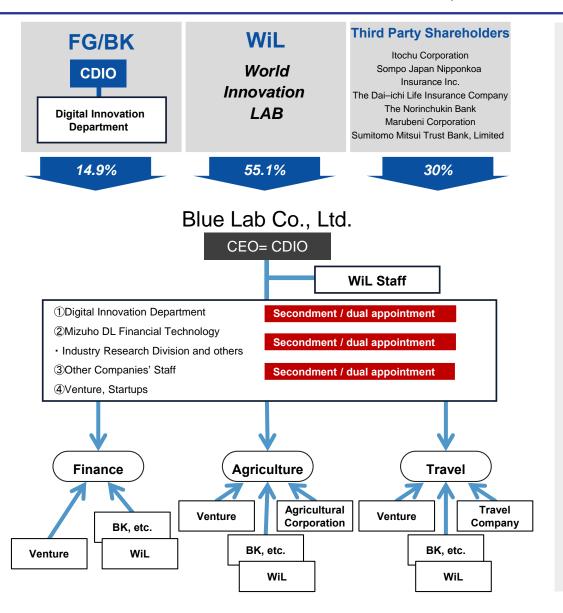
# The establishment of the joint venture company

Blue Lab Co., Ltd.

**Incubator Company** 



## The Establishment of Blue Lab Co., Ltd.



# **Role expectations of Blue Lab**

Widen our view towards various industries and fields, not limited to finance Create a next generation business model utilizing new technology Vision: To become "The best Incubator Company in Japan"

#### **Basic Concepts**

#### 1. Open Innovation

**Flexibly collaborate** with other industries in and outside Japan as well as with other banks

- Collaborate in both phases: business model development and commercialization

#### 2. Platform

Create a system which every participant can profit from

- Not necessarily just Mizuho

#### 3. Commercialization oriented

Realize JPY 100bn value added until FY2020

#### 4. Global Format

Location: Tokyo and Silicon Valley

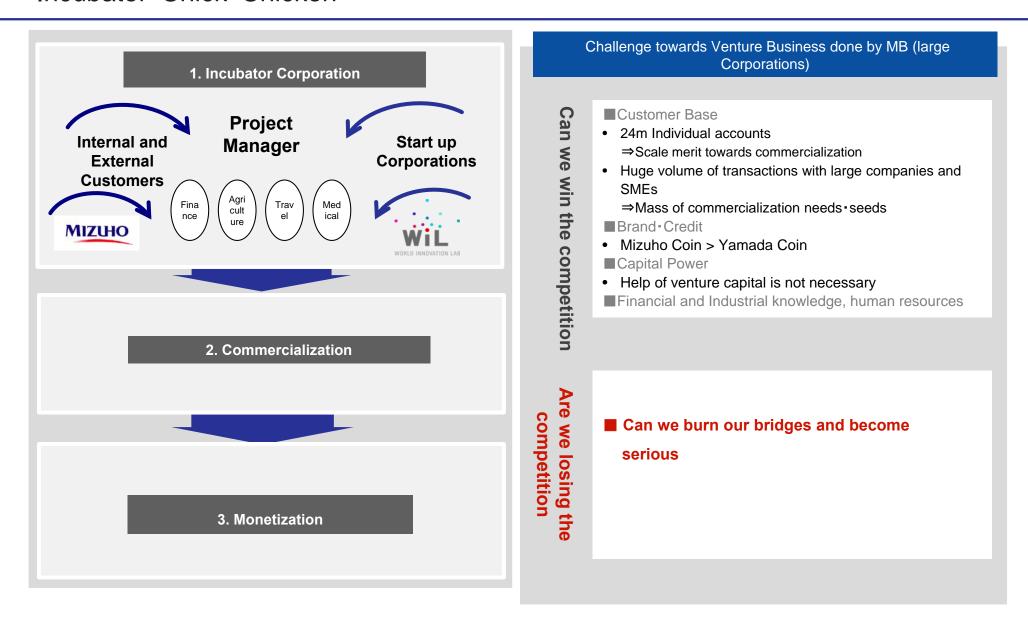
#### 5. Governance Management

Follow business style of venture companies in Silicon Valley

Source: Mizuho Financial Group Digital Innovation Department



#### Incubator · Chick · Chicken



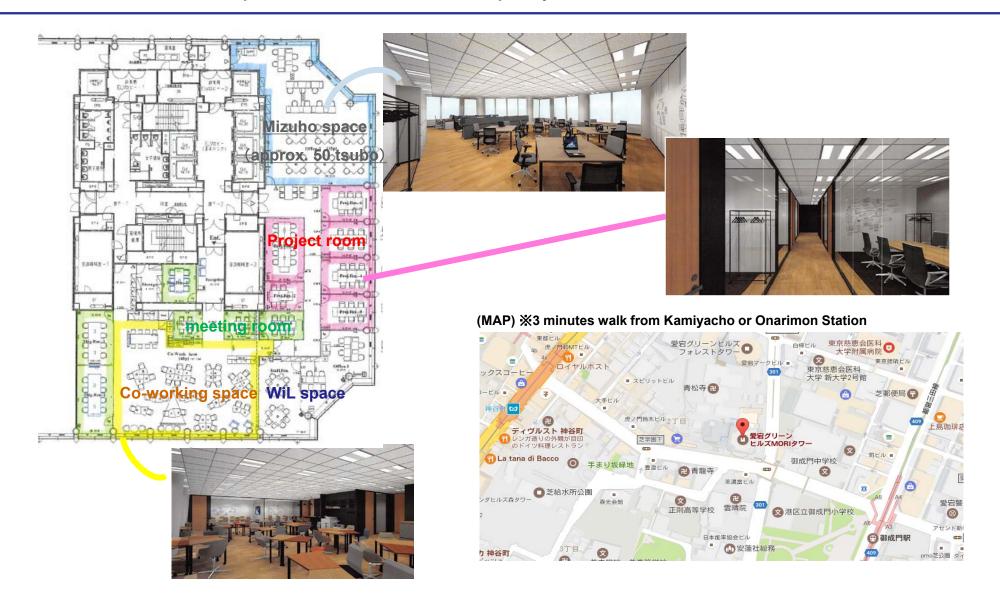


# Overview of Blue Lab

Heading	Overview		
Trade Name	Blue Lab Co., Ltd.		
Head Office Location	2–5–1 Atago, Minato-ku, Tokyo Atago Green Hills Mori tower ※ Also planning to use WiL Silicon Valley Office		
Date Established	stablished June 30, 2017, starting operation in mid-August, 2017		
Capital	10 million yen ※Total amount of 1,000 stocks to be issued		
Composition of Executive Officers	President, CEO, & Representative Director: Daisuke Yamada [FG/BK Executive Officer and CDIO] Directors (3): Gen Isayama [WiL President] Tetsuya Akutsu [FG/BK Chief of Strategic Planning Department] Nobuhisa Abe [FG/BK Chief of Digital Innovation Department] Auditor: Masaya Kubota [WiL Partner]		
Composition of Shareholders	WiLx [WiL Japanese Branch]:55.1% Mizuho Bank:14.9%		
Business	Within finance related business based on the Banking Law •Consulting business, Finance and Economy Research and Research business, venture capital business, and data managing business etc.		
Composition of Staff	•FG CDIO and people in charge of digital innovation department when established [approx. 30 people, including trainees from other banks]		



# Reference: Office Space in the New Company (Atago Green Hills Mori Tower)





#### **News Release**

July 10, 2017 Mizuho Financial Group, Inc. Mizuho Bank, Ltd. WiL LLC.

#### Mizuho Financial Group and WiL Establish Joint Venture Focused on New Business Creation

Mizuho Bank, Ltd. (President & CEO: Koji Fujiwara), a core subsidiary of Mizuho Financial Group, Inc. (President & Group CEO: Yasuhiro Sato), and WiL LLC. (CEO: Gen Isayama, referred to along with its subsidiaries as "WiL Group" below) are pleased to announce the establishment of Blue Lab, Co., Ltd. (President, CEO, & Representative Director: Daisuke Yamada) for the purpose of creating new business.

Blue Lab aims to drive business generation through innovative technological advances, including those being made by shareholders who have contributed to the establishment of the company (listed below) in their own fields.

More specifically, Blue Lab is focused on the creation and commercialization of next-generation business models through FinTech initiatives such as the creation of a global settlement platform, development of software to automate operational tasks using Al and big data, and optimization of supply chain management and trade finance through commercialization of blockchain technology, as well as through IoT-related advancements within the shareholders' respective industries and in general.

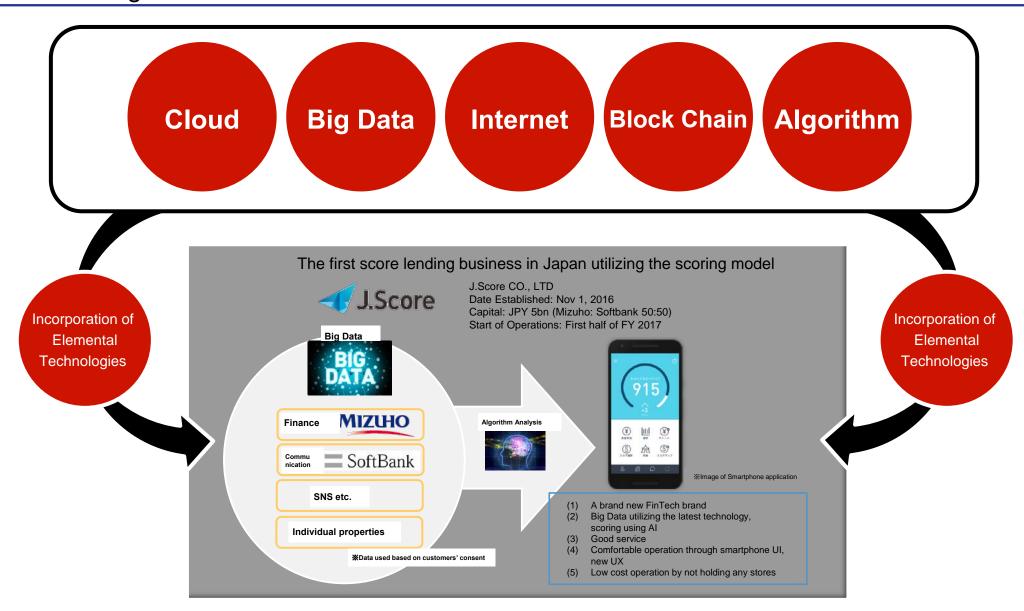
Mizuho is committed to pursuing the incorporation of new, innovative technologies into our business in order to provide customers with consistently better services.

#### Overview of Blue Lab

Trade Name	Blue Lab Co., Ltd. (Japanese: 株式会社Blue Lab)
Capital	10 million yen (including capital reserves of 5 million yen)
Head Office Location	2-5-1 Atago, Minato-ku, Tokyo
Name of Representative	President, CEO, & Representative Director Daisuke Yamada
Composition of Shareholders	WiL Group*: 100% (as of July 10)  *WiL Group provided 100% of the initial capital for the establishment of Blue Lab. Going forward, WiL Group plans to transfer a portion of their shares to Mizuho Bank, Ltd.; Itochu Corporation; Sompo Japan Nipponkoa Insurance Inc.; The Dai-ichi Life Insurance Company, Limited; The Norinchukin Bank; Marubeni Corporation; and Sumitomo Mitsui Trust Bank, Limited.  (Target for share transfer: Mid-July, 2017)
Organizational Structure	Company with board of directors
Date Established	June 30, 2017
Start of Operations	Scheduled for August 2017



The creation of a business model derives from the incorporation of elemental technologies





# 20 Eggs



# Pipeline List 20 Eggs

#	Pipeline	#	Pipeline
1	Block Chain: Trade Finance	11	Paperless Electronic Authentication • Contract
2	E-money	12	Aggregation of Middle Back Office Operation
3	Overseas "to C" E-money	13	KYC/AML/ fraud detection
4	Algorithm Trading	14	Usage of analyzing Sales Journal
5	Credit Scoring Model	15	Usage of VR (Virtual Reality)
6	Auto Loans for New Customers	16	Usage of various Open API
7	Installment Finance outside Japan	17	Digital Bank utilizing Al
8	Micro Finance outside Japan	18	"Minpaku" Project
9	Usage of data between other industries	19	Sales of Wallet Insurance
10	Enhancement of Means of Communication	20	Mixture of Agriculture, Logistics and Finance



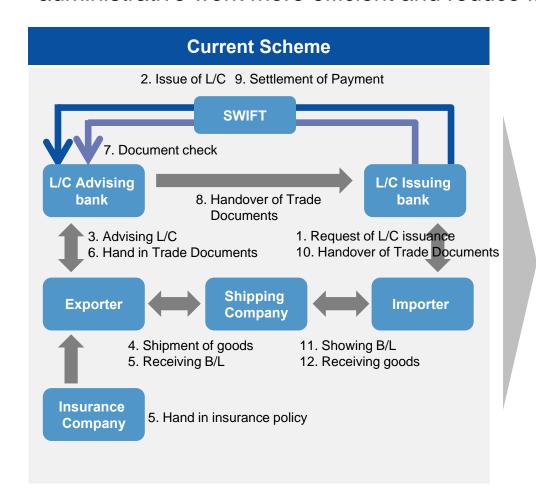
# Pipeline 1

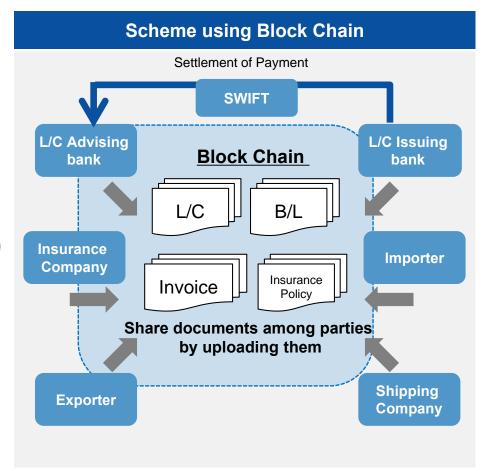
Block Chain: Trade Finance



#### Block Chain: Trade Finance

If we share the trade documents among all parties which currently take time to transmit the documents, it is possible not only to shorten the transaction time but also to make administrative work more efficient and reduce fixed costs



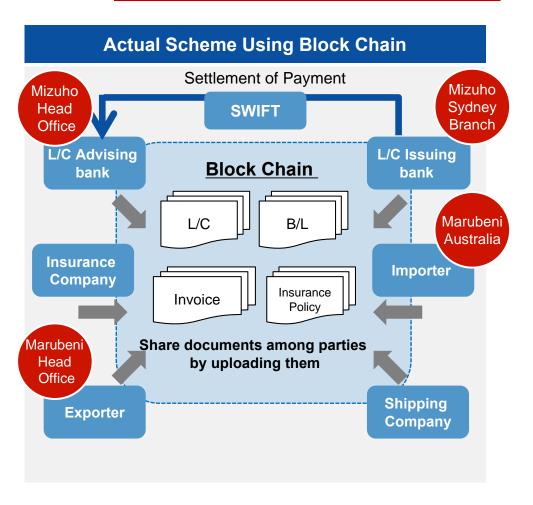




#### Pilot Real Transaction

On July 6<sup>th</sup> 2017, executed a real transaction (i.e. not a proof of concept)

# 1st Case in the world



1	Exporter	Marubeni Head Office
2	Importer	Marubeni Australia
3	Insurance Company	Sompo Japan Nipponkoa Insurance Inc.
4	Shipping Company	-
5	L/C Issuing bank	Mizuho Bank
6	L/C Advising bank	Mizuho Bank Sydney Branch
7	Exporting Amount	Max. USD4mm
8	When	June, 2017
9	Platform 1	Fabric (IBM)
10	Platform 2	Corda (R3)



#### **News Release**

July 7, 2017 Mizuho Financial Group, Inc. Mizuho Bank, Ltd. Marubeni Corporation Sompo Japan Nipponkoa Insurance Inc.

### Conclusion of trade transaction using blockchain and distributed ledger technology -Collaborative effort with general trading and insurance companies-

On July 6, 2017, Mizuho Financial Group, Inc. (President & CEO: Yasuhiro Sato), Mizuho Bank, Ltd. (President & CEO: Koji Fujiwara), Marubeni Corporation (President & CEO: Fumiya Kokubu), and Sompo Japan Nipponkoa Insurance Inc. (President: Keiji Nishizawa) completed a trade transaction between Australia and Japan using blockchain / distributed ledger technology (DLT)(\*).

Trade transactions necessitate the communication of information such as country of origin or product details that varies from transaction to transaction between a large number of parties. The diversity of the information involved has hindered digitization until now, and still requires a significant volume of documentation, leading to high costs and administrative work throughout the world.

The recent project involved a trade transaction between Australia and Japan in which all trade–related processes, from issuing the letter of credit to delivering trade documents, were completed entirely via a digital platform using blockchain / DLT. As a result of the project, Mizuho and the other involved parties were able to make the following conclusions regarding the use of blockchain / DLT in trade transactions.

#### Benefits:

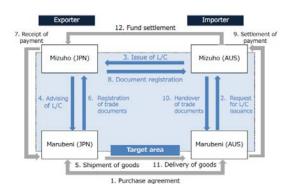
- O Shorter delivery time for trade documents
- Reduced from multiple days (typical length) to 2 hours
- O Reduction of time required to create and transmit documents, as well as labor and other costs through document digitization
- O Increased transparency by sharing transaction details with all parties

#### Issues:

- O It is not possible to transmit trade transaction information in digital blockchain / DLT format to parties who do not use the platform; transactions must be conducted as before
- O Enabling the transmission of the wide variety of information necessary for trade transactions will require standardizing the information for blockchain / DLT at an international level

Building on this trade transaction project, Mizuho aims to further explore the practical business application of blockchain / DLT and to offer technologically sophisticated, client–focused services going forward.

#### Diagram of Transaction



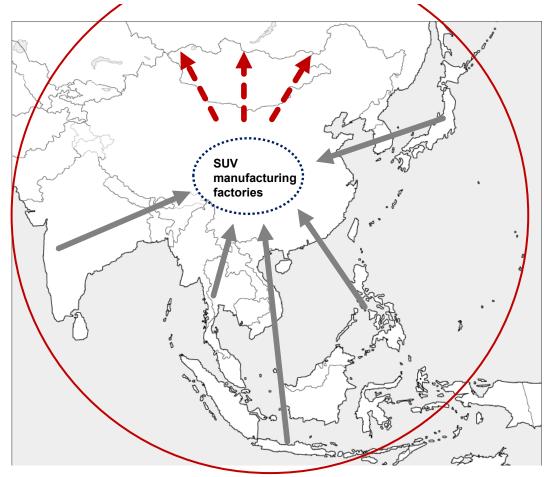
(\*): Blockchain is a form of distributed ledger technology (DLT). It utilizes a system of consensus formation among participants to enable transactions to take place even in the absence of a trusted central authority. Because it is easy to audit, has built-in protection against double entries, and is virtually impossible to falsify transactions, the technology has a number of potential applications in a wide range of fields across financial services including payments/settlements and securities; as well as other forms of asset transfer, such as land registration.

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# Supply Chain Box

# "SUV Manufacturing" Global Supply Chain Image



## **Global Supply Chain**

**≒** Accumulation of Trade Finance



## **Wrapped in Block Chain**

- ⇒ Commoditization: Tentative Name "Supply Chain Box"
- Shorten the term of shipping and finance
- Visualization of inventories



⇒Share among Mizuho • Sler • Startups



### **Expanding Supply Chain Box**

- ⇒ Global Manufacturing (Airplanes, automobiles, consumer electronics etc.)
- ⇒ Expanding to other industries

(General Contractor etc.)



# Pipeline 4

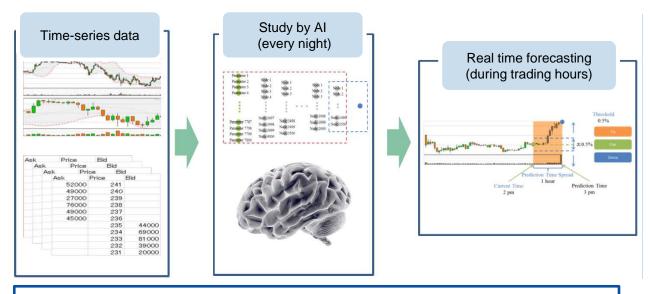
Algorithm Trading



# Algorithm Trading

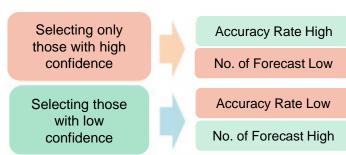
Improved Algorithm Trade Strategies (forecasting trends in stock prices) through AI, Deep Learning

\* Preparing for international patent applications (patent pending in Japan)



Forecast stock prices every minute for 30 mins later and closing session 100% 90% 80% 70% 60% 50% Forecast 40% 30% Accuracy 20% 10% 0% 288888 Degree of confidence of AI forecast Source: Mizuho Securities

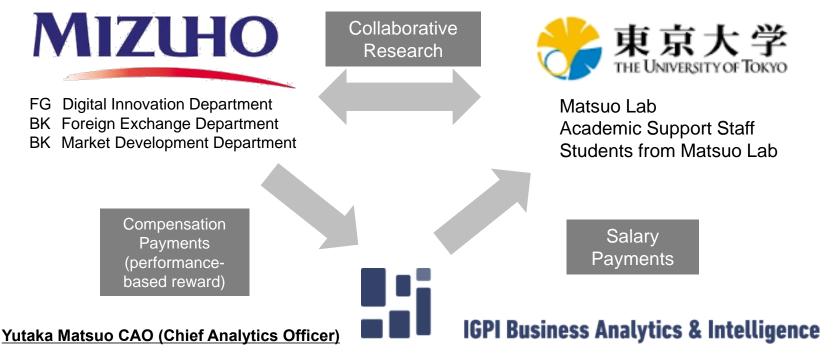
- Forecast rise / equilibrium / fall through Deep Learning
- Unlike traditional statistical models, found even more complex characteristics of the market
- Through the learning process, accumulate past data and continuously make adjustments to the forecast model
- Follow changes in the market through daily learning
- Threshold value "0.2%" and "30 minutes" as class period to classify rise / equilibrium / fall are most suitable after thorough simulation





### Collaborative business • Contract Scheme with Matsuo Lab, University of Tokyo

- Aim : Collaborative development of High quality Algorithm utilizing Al in 'Market making'and 'Trading' in Foreign exchange
- Prefer the reward to be paid based on performance (Mr. Matsuo). Since it is difficult for the University of Tokyo to sign a contract which states the reward is based on performance, Mr. Matsuo concluded a contract between 3 companies, including CAO IGPI and BAI.
- Concluded on the date of first contact (Sep.14<sup>th</sup> 2016) and data was masked when handed over
- Aiming to implement the first Al in 2017 and increase quality by renewing contract once a year



Researching artificial intelligence (reasoning, machine learning, deep learning), natural language processing, social network analysis, social media, web mining and business models in University of Tokyo. Presenting academic papers mainly in the Japanese Society of Artificial Intelligence in Japan and in WWW International World Wide Web Conference and Association for the Advancement of Artificial Intelligence outside Japan. Working as Track Chair in the Web Mining Area in WWW. Now, working on deep learning and collaborative research focusing on data analysis with companies in Japan. Worked as Associate Professor in the School of Engineering in University of Tokyo Institute of Engineering Innovation (Young Leaders Cultivation Program)/ Center for Knowledge Structuring / Department of Technology Management for Innovation and currently as Chairman of Consumer Intelligence Tutorial in the School of Engineering in University of Tokyo and Visiting Associate Professor at National University of Singapore.



#### **News Release**

June 30, 2017 Mizuho Bank, Ltd.

#### Mizuho Bank Joins Collaborative Research Project for Utilizing AI to Optimize Foreign Exchange Transactions

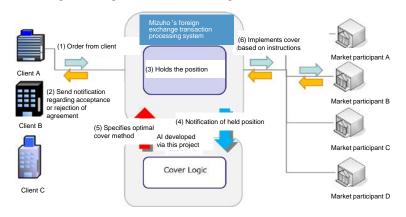
Mizuho Bank, Ltd. (President & CEO: Koji Fujiwara) is pleased to announce our participation in a collaborative research project for utilizing artificial intelligence (AI) to optimize foreign exchange transactions in partnership with IGPI Business Analytics & Intelligence, Inc. (BAI; CEO: Takayoshi Kawakami) and the Matsuo Lab within the University of Tokyo (President: Makoto Gonokami) Graduate School of Engineering's Department of Technology Management for Innovation ("Matsuo Lab").

A foreign exchange transaction is an agreement between buyers and sellers on the market to exchange one currency for another within an established period of time or on a prescribed date. Mizuho Bank's currency exchange business consists of client transactions, cover transactions, and proprietary trading transactions.

Through this collaborative research, Mizuho Bank aims to utilize AI for Big Data analysis of currency exchange transactions in order to refine our execution of these transactions, increase the transaction processing speed, expand transaction volume, mitigate foreign exchange risk, and maximize profit. Additionally, by enabling the AI to complete transactions that would have previously been conducted primarily by a dealer, we can provide clients with a more favorable exchange rate, faster service, and more effective cover transactions. In doing so, we will contribute to creating a more sound and transparent market.

By taking part in academic-industrial collaboration such as this research project with BAI and the Matsuo Lab, Mizuho Bank is endeavoring to promote research into the industrial application of AI as well as further enhance the Mizuho group's competitiveness through the use of FinTech.

#### [Foreign exchange transactions utilizing AI]



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#### ■ About IGPI Business Analytics & Intelligence, Inc.

Company name: IGPI Business Analytics & Intelligence, Inc.

URL: http://www.igpi-bai.co.jp/

Address: Grand Tokyo South Tower 17F, 1-9-2 Marunouchi, Chiyoda-ku, Tokyo, Japan

Founded: July 27, 2015 Capital: JPY 10 million

Legal representative: Takayoshi Kawakami, CEO

Business areas: Analysis of proprietary corporate data and support for the strategic usage of analysis results, utilization of AI for new business generation and business transformation, support for Big Data and AI related startups and ventures.

# ■ About the Matsuo Lab within the University of Tokyo Graduate School of Engineering's Department of Technology Management for Innovation

URL: http://weblab.t.u-tokyo.ac.jp/

Lab director: Yutaka Matsuo, project associate professor

Research topics: Artificial intelligence with a focus on deep learning, web mining, business models. The Matsuo Lab is involved in every step of the process for each project from early stage research through to corporate implementation.



# Pipeline 111

Paperless system through electronic authentication and contract



# Contract document preparation procedure

#### [Current contract document preparation procedure]

- Content Agreement
- Contact Document Preparation
  - Identity verification (seal stamp certificate, registry certificate)
  - Signature Procedure
  - Contract delivery service
  - Storage
  - ·Business audit compliance, etc.

#### (Issues)

Precise and Reliable

On the other hand...

- Succeeded traditional Due Process of the Showa era
  - Unchanged since the 1980s (CDIO joined the company in 1984)
- Precise, but causes too much paperwork
- Vast space for filing in the prime location
- Margin for improvements in streamlining and cuts in costs for space

Cost Calculation

- Personnel Expenses: JPY 2.5bn
- = JPY 5mm/person x 500 people

Storage Fee: JPY 0.7bnOffice rent: JPY 5bn

Reduction Range: 50%



Annual cost cuts for document procedures: <u>JPY 4.1bn</u> (Estimate)



# Development of system platform for electronic authentication / contract system

Challenge for Mizuho to make a great transformation in contract creation / storage process!

《Actuals》 ⇒ 《Paperless》 · 《Electronic authentication》 · 《Electronic contract》

Construction of versatile business process is essential

- (×) Mizuho's Due Process
  - ⇒ Construction of paperless electronic authentication contract system
- (O) Versatile paperless electronic authentication contract system
  - ⇒Change in Mizuho's Due Process



Construction of paperless electronic authentication contract platform I.P. for platform will be shared by Mizuho and vendor company

Expand paperless electronic authentication contract platform to other financial institutions

Expectations for "Mizuho brand" effect



# Pipeline



"Minpaku" Project



#### **About Airbnb**

#### Overview

- Online market place founded in San Francisco in 2008, enabling people to lease and borrow houses or rooms for one night or longer
- Connect people who wish to lease their vacant rooms and those who wish to rent
- Expanded to 191 countries and 65,000 cities in the world
- Number of guests 150mm
- 250,000 companies in the world are allowing their employees to use Airbnb for business trips

#### Presence in Japan

- Number of guests (Mostly foreign visitors):3,700,000
- Airbnb usage rate among foreign visitors: 15%
- Number of accommodation units: 43,000
- Average host annual income: Approx. JPY1mm
- Guests who answered Airbnb was the reason why they 'Stayed' or 'Lengthened their stay':
   28%
- Top 5 nationalities using Airbnb during their visits to Japan
  - ⇒ 1<sup>st</sup> South Korea, 2<sup>nd</sup> China, 3<sup>rd</sup> United States of America 4<sup>th</sup> Hong Kong, 5<sup>th</sup> Taiwan
- Number of foreign visitors to Japan in 2016
  - $\Rightarrow$  1st China, 2nd South Korea, 3rd Taiwan, 4th Hong Kong,



# Airbnb × Mizuho × Blue Lab × Mizuho's corporate customers

# Finding "Minpaku" Assets

Railway companies	<ul> <li>Utilize unmanned stations as "Minpaku" Assets</li> <li>Offer experience of working on a railway to railway buffs</li> </ul>
Wide range transport company	<ul> <li>Make use of "Minpaku" Assets such as company-owned houses</li> <li>Considering to provide travel experience using highway pass and houses with car parks</li> </ul>
Gas company	<ul> <li>Consider to utilize gas company's 24h' system which is established to solve gas leaks as an accommodation management service for hosts</li> </ul>
Venture company	<ul> <li>Consider to use network of few hundred temples, to find a potential host</li> </ul>
MIZUHO	<ul> <li>Provide finance to renovate properties for "minpaku"</li> <li>: kitchen, bathroom, furniture, smart key etc.,</li> </ul>

## Expanding new matching business

Combining business and expertise of Airbnb and Mizuho's customer base

	Matching Business	Overview
1	Baby sitter	Create network where parents who know each other can support each other by providing a ride or taking care of children
2	Pet sitter	Match pets to pet owners who want their pets to be taken care of by pet lovers
3	Support school club activities	Match former Koushien players to school baseball clubs, contribute to reducing burden of teachers
4	Shopping on behalf of someone	Shopping for someone in addition to shopping for yourself
5	Cleaning graves in hometown	Outsourcing regular grave cleaning in hometown to nearby agents
6	Cutting grass · Clearing snow	Elderly and young people
7	Taking care of hikikomori	Done by retired elementary school teachers - activating older people



#### **News Release**

July 25, 2017 Blue Lab Co., Ltd. Mizuho Bank, Ltd. Airbnb Inc.

Mizuho, Blue Lab, and Airbnb Enter into Business Cooperation Agreement to Expand Homesharing and Create Tourism Demand in Japan

Energizing local economies through the creation of new business within a range of interconnected industries including the travel industry, real estate industry, insurance industry, and service industry

Blue Lab Co., Ltd. (President, CEO, and Representative Director: Daisuke Yamada), Mizuho Bank, Ltd. (President & CEO: Koji Fujiwara), and San Francisco-based startup Airbnb Inc. have entered into a business cooperation agreement with the aim of expanding home-sharing and creating stronger tourism demand in Japan. This is the first business cooperation agreement that Airbnb has entered into with a Japanese bank.

Blue Lab was established by Mizuho and other shareholders and venture capitalists for the purpose of creating and commercializing next–generation business models through the use of a diverse range of innovative technologies.

New legislation\* has been passed in Japan which lifts restrictions on short-term rentals and is expected to lead to an increase in the number of accommodations available as well as expand the range of users for home-sharing and other short-term rental services. Additionally, the increase in the number and variety of accommodations available may encourage tourists to stay longer in different regions of Japan, thus energizing local economies.

By combining Airbnb's home-sharing business and travel related expertise with Blue Lab's business generation support capabilities and Mizuho's broad customer base, this Business Cooperation Agreement will enable the three companies to build partnerships with businesses who can benefit from the expansion of home-sharing and to work towards increasing the number of accommodations available, introducing new travel experiences, and creating new business within a range of interconnected industries such as the insurance industry. Mizuho will also proactively provide funding for accommodation owners and business owners looking to provide new services in connection to the short-term rental industry. We are planning to finalize the framework for the business cooperation by the end of the current fiscal year and launch new services from next fiscal year.

Over the long term, Mizuho will work towards developing and promoting new sharing economy services in Japan and pursue new partnerships with other businesses to complement and accelerate the initiatives under this Agreement. We are committed to helping promote tourism in Japan and the resulting boost to local economies.

\*Legislation regarding home-sharing: Jūtaku shukuhaku jigyōhō (Act No. 57 of 2017; official English title pending)

Following the release of the "Regulatory Reform Plan" (*kiseikaikaku jisshikeikaku*; official English title unavailable) by Japan's Cabinet Office on June 30, 2015, the government has loosened some of the regulations under the Inns and Hotels Act with the intention of lifting restrictions on online home-sharing and short-term rental listings of private residences, vacation homes, and other such lodgings. This new legislation, passed in June 2017, aims to respond to the need for an appropriate management framework for this new field within the tourism industry as well as to respond to increasing demand for accommodations from both domestic and international travelers and therefore help develop the travel and hospitality industries (as per Article 1 of the Act). Short-term rental owners will need to meet certain conditions and apply for permission from the governor's office of their prefecture. Short-term rentals will be excluded from the restrictions which apply to hotels and other such traditional accommodations under the Inns and Hotels Act.

#### Airbnb

Providing expertise regarding the home-sharing business and other interconnected industries and providing insight into local application of the Airbnb platform

#### Mizuho Bank

Drawing on a broad customer base to support companies entering the industry and providing financing to business owners

Contributing to the creation of home-sharing and related businesses as well as the expansion of tourism demand (partnership with travel, real estate, insurance, and service industry businesses)

#### Blue Lab

Supporting business creation by providing financial expertise and drawing on a corporate network

Mizuho Bank Corporate Communications Department: +81-3-5252-6574 Airbnb PR Office (Att. Hirai, Hashimoto, Izumoto, Fujisawa ): +81-3-4580-9105; airbnb-pr@ml.prap.co.jp

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