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HEROZ
JAPAN

Presentation Material for FY04/2022 Q3 Financial Results

March 11, 2022

HEROZ, Inc. (4382)

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1. Business Overview
2. FY04/2022 Q3 Performance
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Company Overview

Name	HEROZ, Inc.
Location	PMO Tamachi 2F, 5-31-17 Shiba, Minato-ku, Tokyo
Established	April 2009
Representatives	Takahiro Hayashi/Tomohiro Takahashi
Business Description	AI (B-to-B) services: HEROZ Kishin AI (B-to-C) services: “Shogi Wars”, etc.
Membership	Japan Deep Learning Association, The Japanese Society for Artificial Intelligence

2021
Capital and business alliance with VarioSecure

2019
Listed on the First Section of Tokyo Stock Exchange (TSE)

2018
Listed on Tokyo Stock Exchange (TSE) Mothers
Capital and business alliance with Netmarble Games Corporation

2017
Capital and business alliances with Takenaka Corporation and Koei Tecmo Games

2016
Capital and business alliance with Bandai Namco Entertainment

2013
Shogi AI, developed by engineers formerly with HEROZ, defeated a shogi professional

2012
Launched mobile app, “Shogi Wars”

Representative Director and Co-CEO
Takahiro Hayashi

Graduated from Waseda University
Joined NEC as a technology engineer
Experience at IT strategy division, business planning division
Founded HEROZ

Shogi Track Record
Amateur 6th dan (highest rank after becoming national amateur champion)
7th dan, Shogi Wars
Amateur Kisen Champion (7-time title defender as national champion)
Played against Yoshiharu Habu (permanent 7 title holder)

Representative Director and Co-CEO
Tomohiro Takahashi

Graduated from Waseda University
Joined NEC as a technology engineer
Experience at Business Planning Division, BIGLOBE
Founded HEROZ

Director, and COO
Daisuke Asahara

Graduated from Kyoto University
MBA from Wharton School
ex-Goldman Sachs

Director and CTO
Keiichi Iguchi

Graduated from
Tokyo Institute of Technology
Joined NEC Central Research Labs

Our Vision

HEROZ JAPAN

Creating the future through artificial intelligence (AI) revolutions

Global Leader in Mind Game AI

Chess AI

Deep Blue (’97) defeated a professional Chess player

Shogi AI

AI developed by engineers formerly with HEROZ defeated a professional Shogi (Japanese Chess) player (’13)

Go AI

Google acquired Deep Mind (’14)
AlphaGo, developed by Deep Mind, defeated a professional Go player (’16)

IBM

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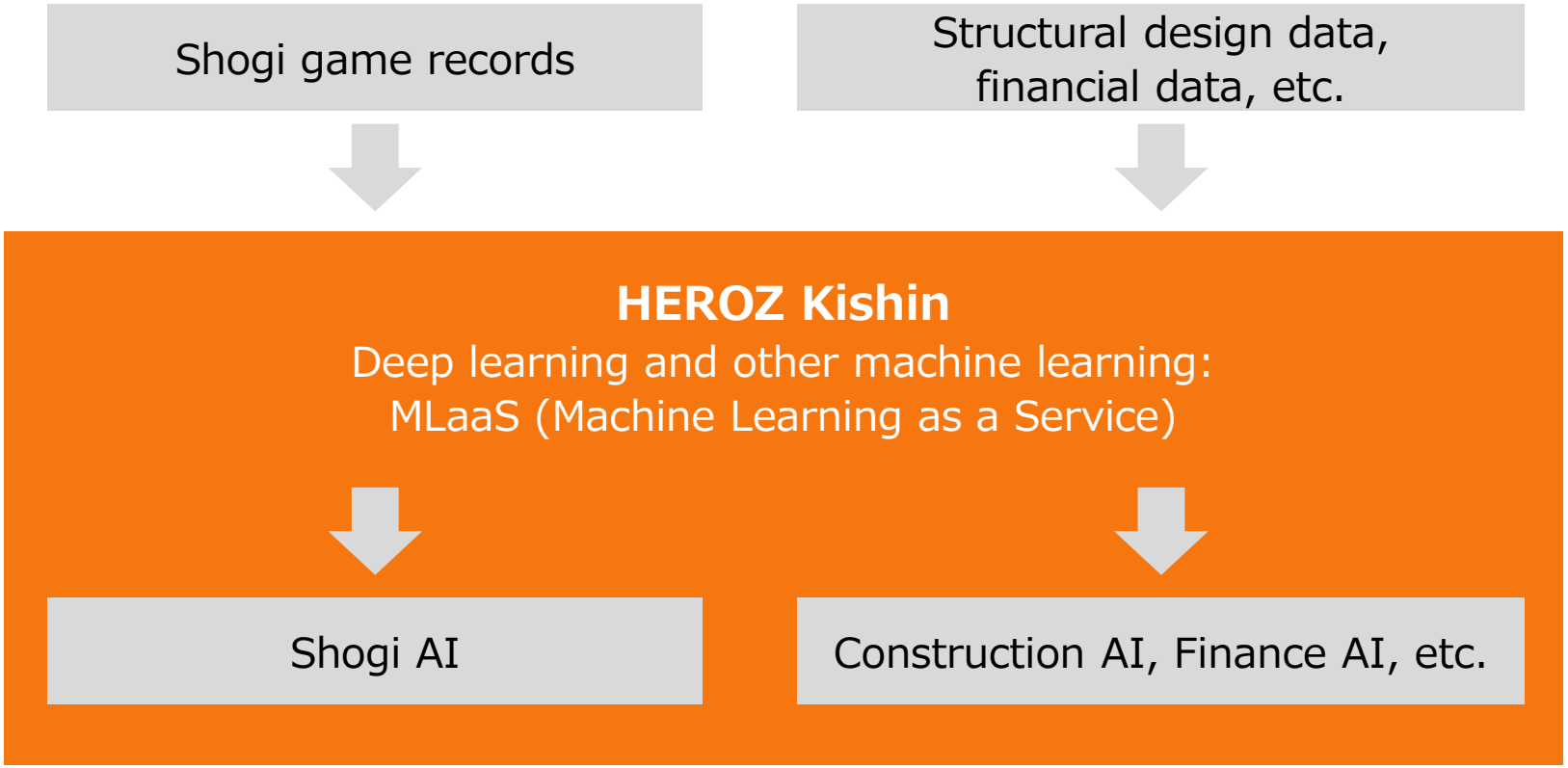
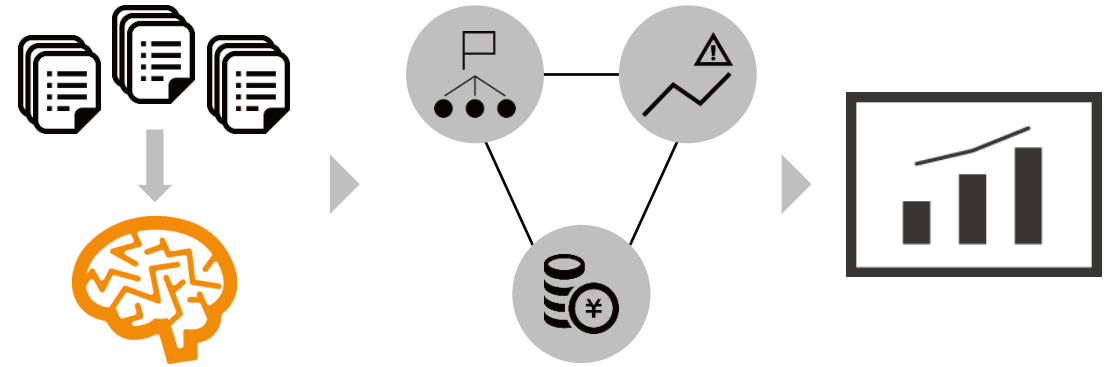
Google

B-to-B Services: Machine Learning by Replacing Shogi Game Records with Other Data



MLaaS : What is Machine Learning as a Service?
Provides models, developed by machine/deep learning, as a service

B-to-B Services: Profit Model and High Switching Costs



Client's data sent to HEROZ Kishin/model developed by machine learning

Output after machine learning through deep learning, etc.

Output applied in business settings

Accumulated data to be used for further machine learning

Output precision increases through repeated machine learning

Research/develop Shogi AI

Standardize AI technology accumulated through shogi AI

Establish "HEROZ Kishin"=MLaaS (Machine Learning as a Service)

Establish an infrastructure which allows HEROZ to provide AI services efficiently to solve various challenges in various industries just by changing input data

Provide comprehensive AI services with massive servers

Achieve stable, sustained earnings and high switching costs

Earning structure: initial setup fee and ongoing fees

B-to-B Services: Engines included in HEROZ Kishin and Examples of Applications

- Create AI products by combining engines and achieve an efficient operating structure

AI-related technology and R&D capabilities
(deep learning, etc.)

Mind game engine | Game processing engine | Route optimization engine | Placement optimization engine | Prediction engine

HEROZ Kishin

Optimal solution search engine | Classification engine | Anomaly detection engine | Text processing engine | Image recognition engine

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Know-how on development and service operations
(massive servers, etc.)

- Con-struction: Structural design support, Control of building equipment
- Finance: Market forecast, Fraud detection
- Enter-tainment: Mind game AI
- Media: User retention, Optimization
- HR: Matching jobseekers with corporations
- Others: Real estate revenue/logistics optimization, Sales forecast

We aim to create the industry standard for AI in each sector through collaboration with companies which own high-quality private data

B-to-B Services:
Areas of Focus and Examples of Services Provided

- Focusing on construction, finance, and entertainment for the foreseeable future
- Earning structure is initial setup fee and ongoing fees

*Examples of clients served

Construc-tion

想いをかたちに 未来へつなぐ
TAKENAKA

TOYO ENGINEERING

Structural design support, Construction support, Control of building equipment, etc

Fi-nance

SMBC日興証券

ARUHI

Market forecast, Fraud use detection, etc

Enter-tainment

BANDAI NAMCO Entertainment

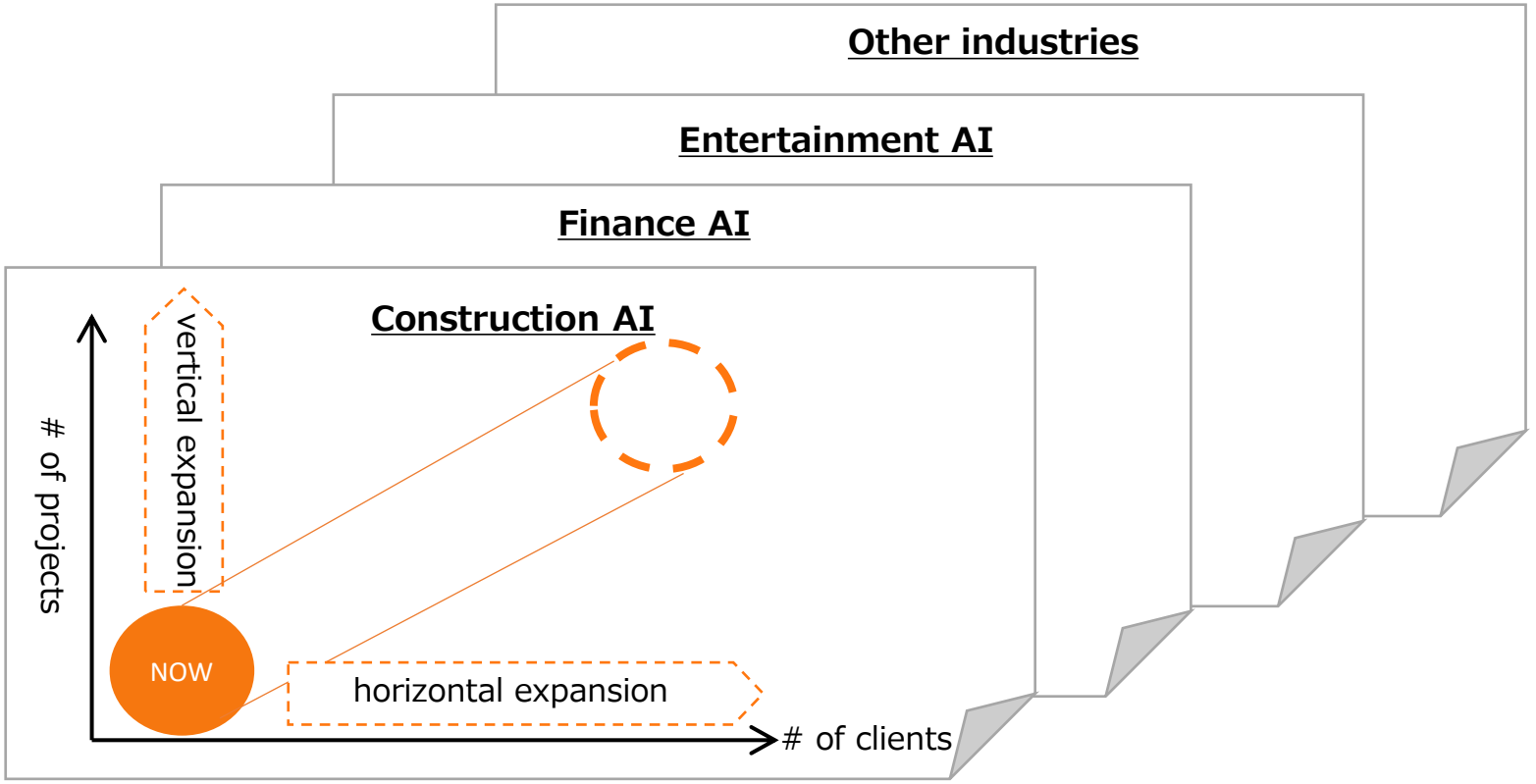
BANDAI

Creation of high-quality NPCs, game balance adjustment, etc. (In B-to-B service, HEROZ is not a game operator/publisher but a background AI provider)

Initial setup fees: new revenue recognition standard are applied since May 2021
Ongoing fees: mostly fixed fees recognized monthly

B-to-B Services: horizontal x vertical expansion across industries

- We aim to create industry-standard AI through horizontal and vertical expansion, applying into various industries
- After creating the industry-standard AI, we plan to form an ecosystem based on it



B-to-C Services: Fees from Application Users

Charging fees for B-to-C content which user AI

- Leveraging AI-related technology to provide mind game mobile apps such as shogi
- Shogi Wars has remained cash cow backed by increase of paid users on a YoY basis
- Staying longer at home due to Covid-19 has led to increased demand for our mobile apps, with an increase in our paid active user base

Shogi Wars

Animal Shogi Wars

Earning structure: monthly membership fees, Kishin (AI) usage fees, etc.

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Our Key Performance Indicator

- We believe that EBITDA, as calculated below, is our key performance indicator

EBITDA = Operating Profit + Depreciation/Amortization Expenses

- In AI-related businesses, server investments, etc. are required to engage in advanced machine learning, leading to various depreciation/amortization expenses. We aim to continuously enhance enterprise value/equity value via EBITDA growth, without being concerned about fluctuations in one-time depreciation/amortization expenses.
- In-house compute servers are mainly depreciated based on the declining-balance method with a useful life of 5 years.

Performance Overview (May 2021 -January 2022)

- Net Sales:In the AI (BtoB) service, Net Sales in the third quarter (372 million yen) were almost the same level as the same period of the previous year, recovering from a decline due to the suspension of games with our AI in the entertainment area. In the AI (B-to-C) services, Net Sales increased year-on-year due to increased attention to Shogi following the achievement of the Five Crowns by Sota Fujii, online Shogi tournaments held within Shogi Wars, and newly added functions
- Profits: Profits decreased as a result of increases in depreciation and communications expenses arising from the acquisition of servers for machine learning and other equipment, personnel hiring expenses, and product development costs

(Units: JPY millions)	FY04/2022 Q3 Actual	(Reference) FY04/2021 Q3 Actual	(Reference**) YoY***	FY04/2022 Forecast	Progress**
Net Sales	1,101	1,127	△2.3%	1,700	64.8%
EBITDA*	110	258	△57.1%	280	39.6%
EBITDA Margin	*10.1%*	*22.9%*	–	*16.5%*	–
Operating Profit	△3	215	–	100	–
Operating Margin	*△0.4%*	*19.1%*	–	*5.9%*	–
Ordinary Profit	△0	206	–	90	–
Net Income	△2	140	–	63	–

* EBITDA = Operating Profit + Depreciation Expenses + Amortization of Lease Deposits

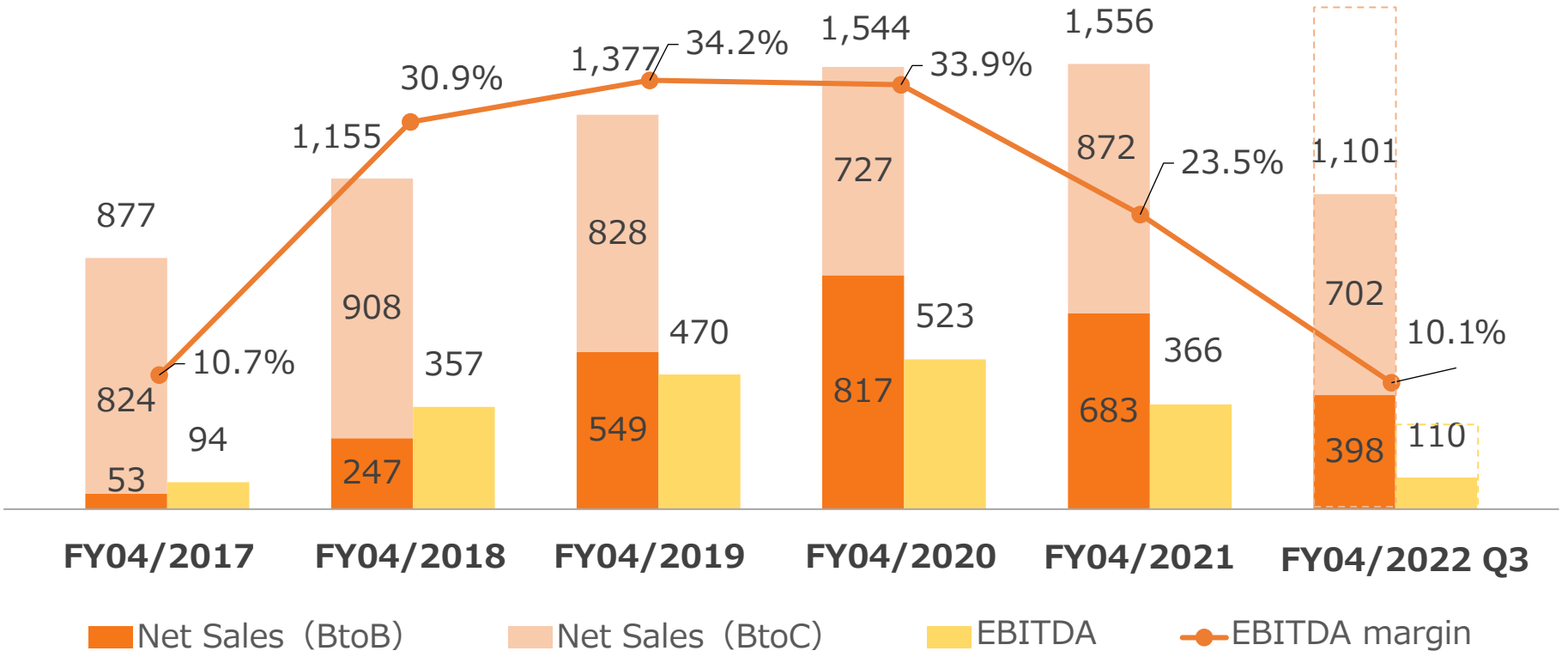
**Where negative figure were reported for the fiscal year, ratios are marked with a "-"

***As the revenue recognition accounting standard has been applied from the current fiscal year, comparisons with the previous year (under previous standard) are for reference only

Net sales and EBITDA Trends

- Net sales of AI (B-to-C) services increased compared with our forecast and the previous fiscal year led by “Shogi Wars”
- AI (B-to-B) services experienced a decrease following the termination of some existing projects, but new orders are expected to be received toward the end of the fiscal year due to an increase in other projects, and we expect to be on a recovery path.

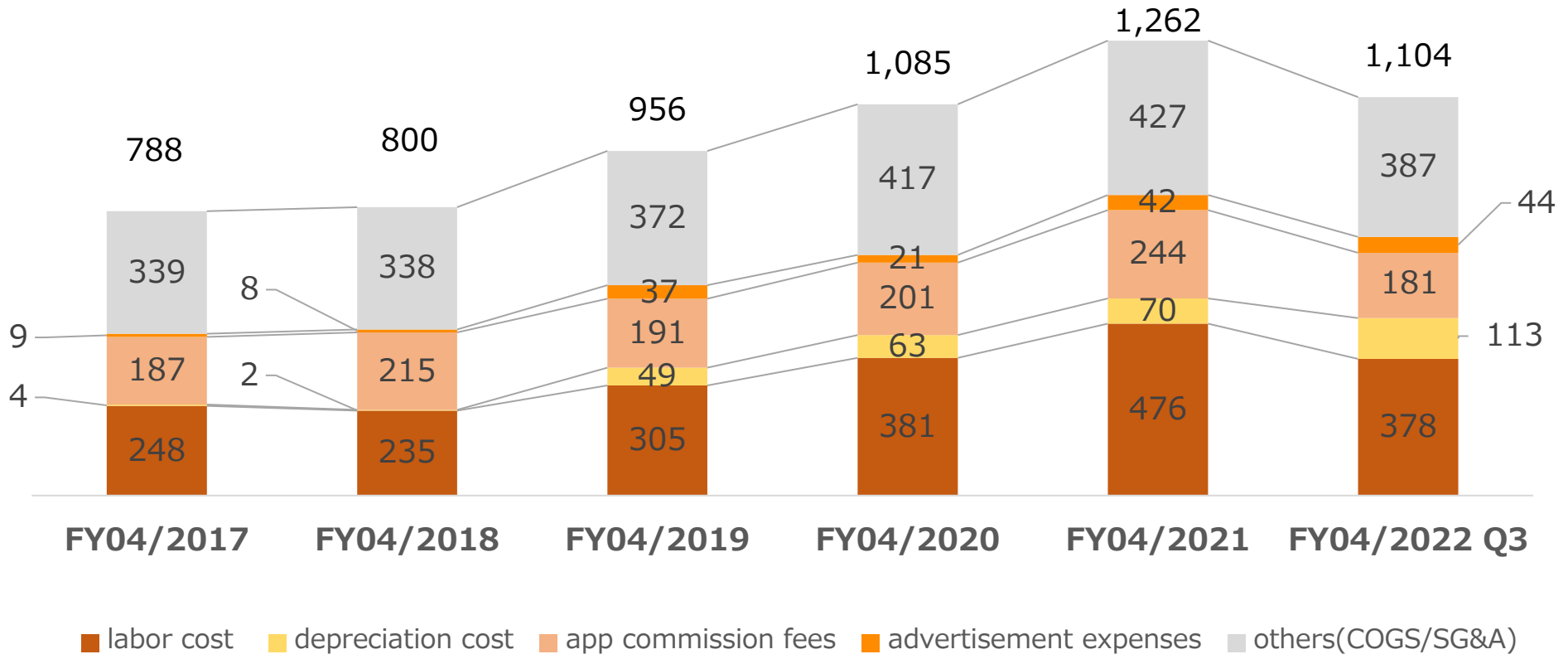
(Units: JPY millions)



COGS and SG&A Trends

- SG&A expenses trended upward, with increases in depreciation and communications expenses due to the acquisition of servers for machine learning and other equipment (+104 millionyen year-on-year), personnel hiring expenses(+15 million yen), and R&D expenses (+34 million yen)

(Units: JPY millions)



Balance Sheet (as of January 31, 2022)

- On September 10, 2021, we entered into a capital and business alliance agreement with Vario Secure Inc. As a result, we acquired the shares of Vario Secure and positioned it as our affiliated company (19.95 million yen (including deal-related expenses))
- We plan to invest Cash and deposits in efforts to achieve the medium-to-long term growth strategy (e.g. hiring for AI engineers, in-house computing servers and external cloud computing services, investments to companies with peripheral technologies which can be applied to our operations, working capital)

Units: JPY millions	As of 1/31/2022	(Reference) As of 4/30/2021
Current Assets	3,841	5,786
Cash and deposits	3,644	5,554
Fixed Assets	2,714	759
Property, plant and equipment	300	424
Intangible assets	17	17
Investments and other assets	2,396	318
Shares of subsidiaries and associates	1,995	–
Total Assets	6,555	6,546
Current Liabilities	167	143
Fixed Liabilities	–	–
Net Assets	6,388	6,403

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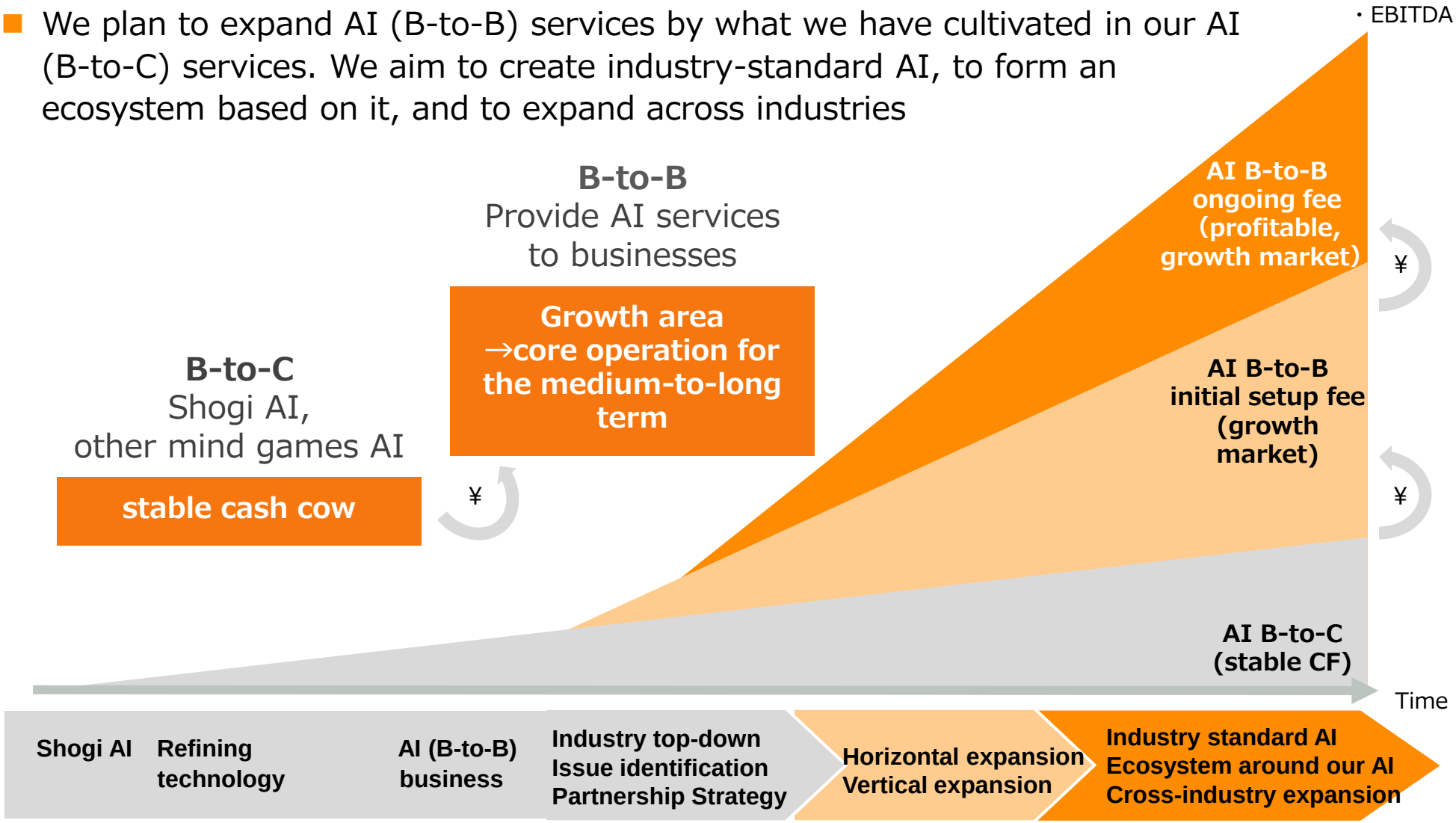
Medium-to-long term Growth Strategy

- We plan to expand AI (B-to-B) services by what we have cultivated in our AI (B-to-C) services. We aim to create industry-standard AI, to form an ecosystem based on it, and to expand across industries



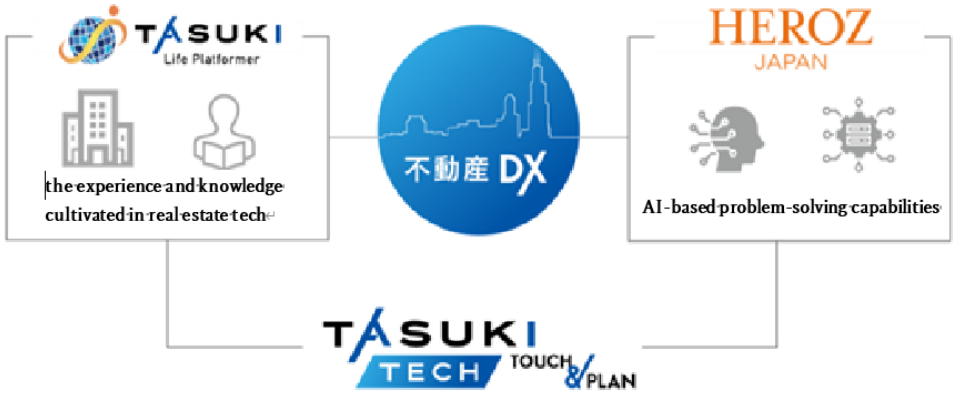
Initiatives Aimed at Achieving the Growth Strategy

January 17, 2022 Collaboration with TASUKI Corporation to Accelerate Real Estate DX Promotion

- The creation of architectural plans and business income and expenditure statements in the construction of real estate is a challenge that tends to be personalized, as it requires an understanding of land information and knowledge unique to the industry. In light of this background, TASUKI Corporation (hereinafter referred to as "TASUKI") has developed the SaaS-type multi-platform "TASUKI TECH" for real estate developers and launched the operation of "TASUKI TECH TOUCH & PLAN," a land use simulator.

AI learns complex information cultivated in real estate tech and realizes automatic creation of architectural plans.

- In the automatic creation of architectural plans by “TASUKI TECH TOUCH & PLAN”, the volume is checked by our AI that has learned the complex land information of the planned site, using our expertise in AI development, in addition to TASUKI’s experience in real estate development and knowledge of real estate tech, to create architectural plans and optimal floor plans.



Creating architectural plans by utilizing AI and the experience and knowledge cultivated in real estate tech.

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Potential AI Demand in Our Areas of Focus

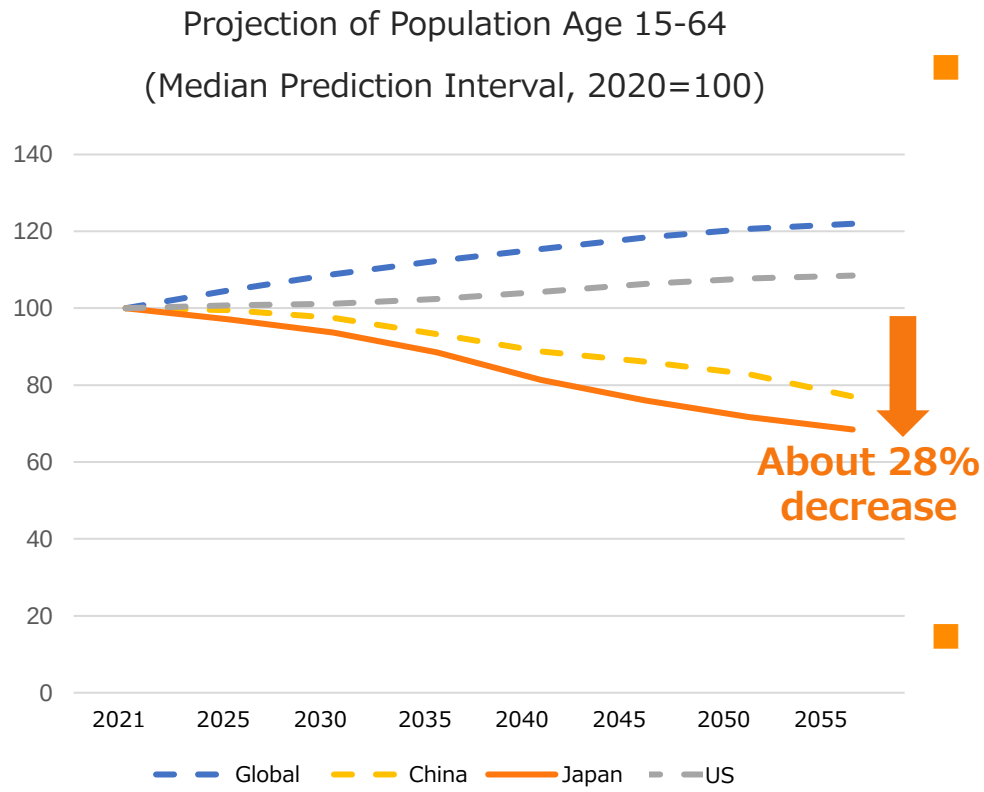
- We believe there is also significant potential demand for enhancing operational efficiency through AI in the construction industry, which is one of our areas of focus

Challenges faced by the Construction Industry	Chronic Shortage of Man-power	■ There will be a shortage of 110,000 construction technicians by 2025 (source: Human Touch Research Institute, “status quo” scenario in the Proprietary Analysis Monthly Report, December 2017)
		■ Over 1/3 of first-class registered architects are over 60 (average: 56.2 years old) (source: Report on Construction-related Administration Aimed at Securing Safety of Architecture, Social Infrastructure Council, August 2006)
		■ The number of construction and mining industry workers is expected to decrease from 5.05 million in 2014 to 4.16–4.24 million in 2030, with some variability depending on future economic growth and labor market participation trends (source: JILPT, 2015 Estimated Labor Supply/Demand)
	Soaring Materials Prices	■ The national construction materials price index has increased by 17% since 2010 (source: Economic Research Association)

- We entered into a capital and business alliance with Takenaka Corporation in 2017 and became a member of i-Construction. We aim to create the industry standard AI for the construction industry, enhancing productivity and creating a new, attractive construction site

Japan:
Potential AI Demand is Among the Largest Worldwide

- Potential AI demand in Japan can be expected to be among the largest worldwide, as the working population is expected to decrease significantly going forward



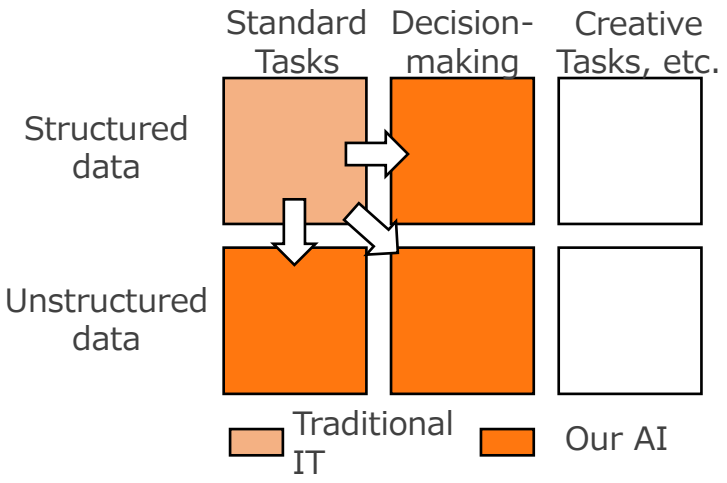
Source: Prepared by HEROZ based on United Nations, World Population Prospects, The 2019 revision

- When defining the working population as those aged 15-64, the world average is forecasted to increase by about 12% from 2020 to 2035 and by about 21% from 2020 to 2055. On the other hand, the working population is expected to decrease by about 11% and about 28% during the same periods, respectively

- Based on such forecasts, the Japanese working population will show the largest decrease among leading GDP nations

Use of Our AI in DX

- Domestic DX (digital transformation) is expected to accelerate due to the future decrease in the working population as well as the impact of the COVID-19 pandemic
- AI allows for DX of a wide variety of operations including those involving decision-making, which were previously considered difficult to automate



- DX will begin with standard tasks based on structured data and is expect to expand to decision-making and tasks which utilize unstructured data
- Our AI can automate a wide variety of operations including those requiring decision-making. We have also achieved DX for unstructured data, which were traditionally considered difficult for DX
- We are promoting DX and building a track record in areas including construction, finance, and entertainment

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