

## Notice

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**HEROZ**  
JAPAN

Presentation Material for  
FY04/2019 Q3 Financial Results

March 8, 2019

HEROZ, Inc. (4382)

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**HEROZ**  
JAPAN

- 1. Business Overview**
2. FY04/2019 Q3  
Performance
3. Growth Strategy
4. Reference Materials

# Creating the future through artificial intelligence (AI) revolutions

# Global Leader in Mind Game AI

## Chess AI



Deep Blue ('97)  
defeated a human  
being champion

**IBM**

## Shogi AI



AI developed by our  
engineers defeated a  
professional shogi  
(Japanese Chess)  
player ('13)

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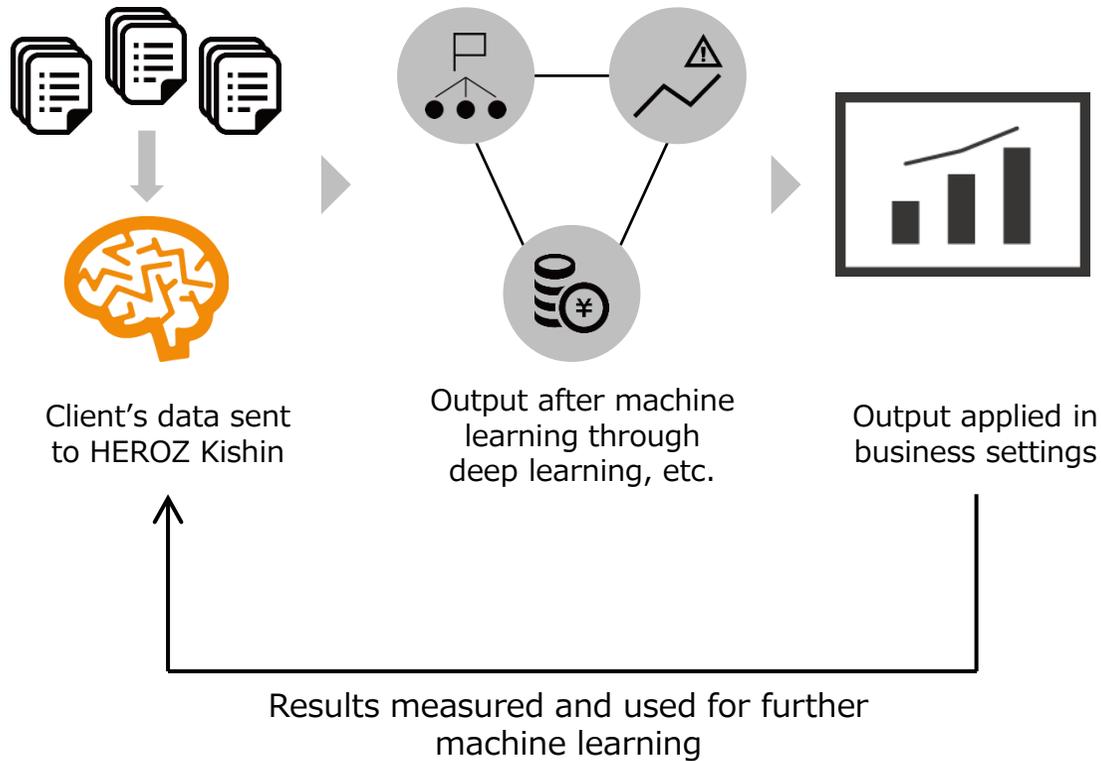
## Go AI



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

**Google**

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



**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)

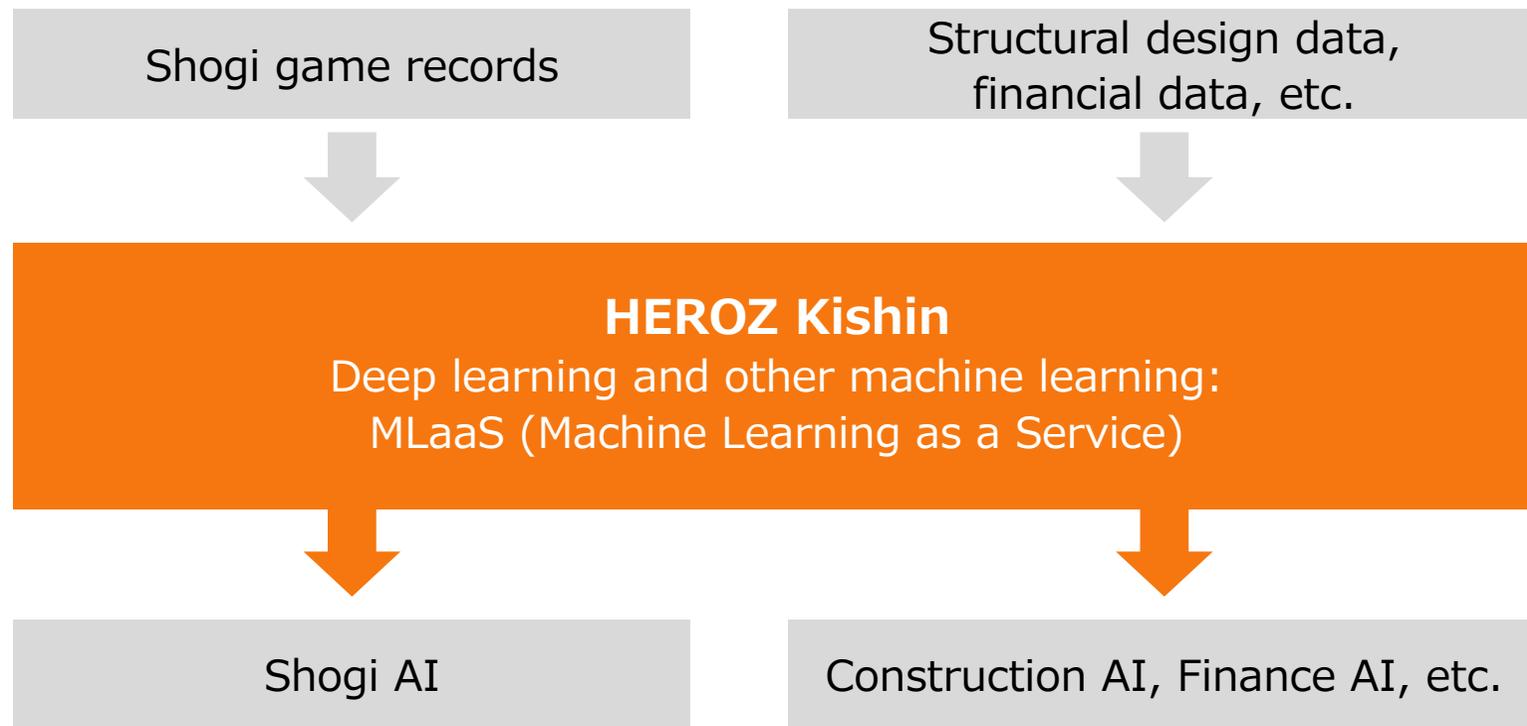
Establish an infrastructure which allows HEROZ to provide AI services efficiently to solve various challenges in various industries just by changing input data

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: Provide Services by Replacing Shogi Game Records with Corporate Data

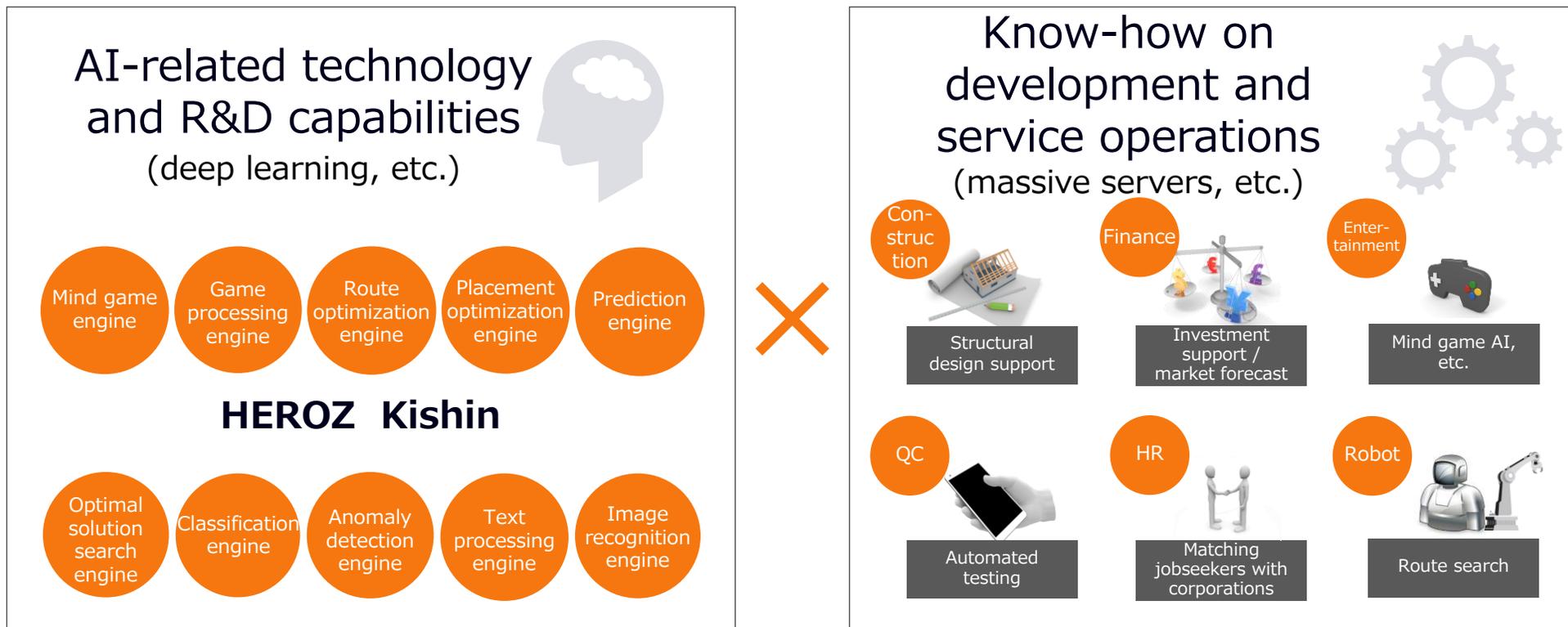


MLaaS : What is Machine Learning as a Service?

Business model which provides machine learning/deep learning as service, similar to SaaS (Software as a Service) and IaaS (Infrastructure as a Service)

# 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



- In construction AI, which is one area of our focus, we entered into a capital and business alliance with Takenaka Corporation in 2017 and became a member of i-Construction, aiming to create a new, productive and attractive construction site using AI



# 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



Structural design support, etc.

## Fin- -nance



Investment support,  
market forecasts, etc.

## Enter- -tainment



**netmarble**

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)

In addition to fixed ongoing fees, ongoing fees in the form of revenue sharing will be introduced in FY04/2019

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

- Leveraging AI-related technology to provide mind games such as shogi, chess, and backgammon worldwide
- Shogi Wars has remained cash cow backed by increasing # of paid users in Q3



Shogi Wars



Animal  
Shogi Wars



Igo Wars



CHESS HEROZ  
(English)



BackgammonAce  
(English)



Pokémon Comaster  
(Pokémon Duel)

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

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1. Business Overview
- 2. FY04/2019 Q3 Performance**
3. Growth Strategy
4. Reference Materials

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

$$\text{EBITDA} = \text{Operating Profit} + \text{Depreciation/Amortization Expenses}$$

- 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.

# Performance Overview (May 2018–January 2019)

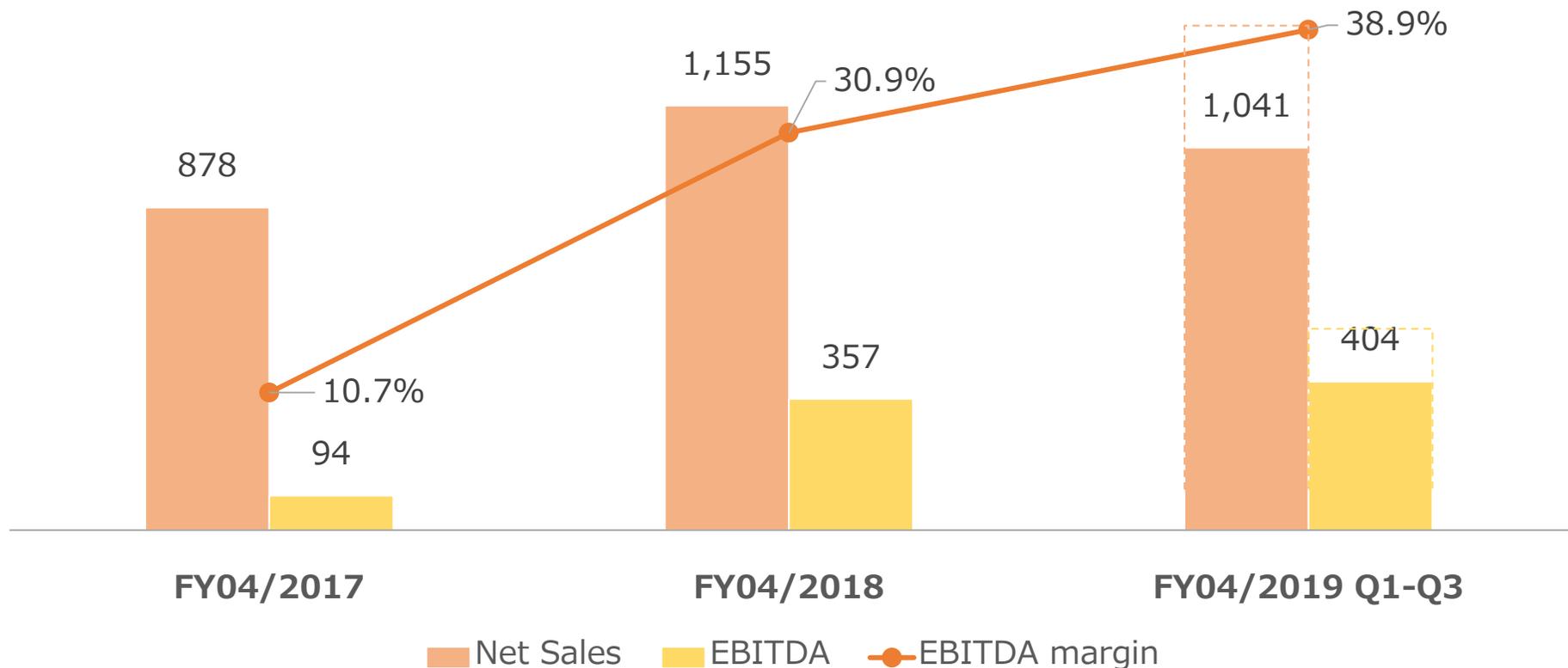
- We made steady progress towards achievement of fiscal year forecasts
- However, in Q4, we plan to engage in proactive efforts to standardize development tools and to step up our advertising and publicity efforts, leading to a one-time cost increase. As a result, we forecast that EBITDA and operating margin will decrease in Q4.

(Units: JPY millions)	FY04/2019 Q1-Q3 Actual	FY04/2019 Forecast	Progress (%)	(Reference) FY04/2018 Results
Net Sales	1,041	1,300	80.1%	1,155
EBITDA*	404	450	90.0%	357
<i>EBITDA Margin</i>	<i>38.9%</i>	<i>34.6%</i>		<i>30.9%</i>
Operating Profit	375	400	93.7%	354
<i>Operating Margin</i>	<i>36.0%</i>	<i>30.8%</i>		<i>30.6%</i>
Ordinary Profit	369	400	92.3%	338
Net Income	255	280	91.4%	247

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

# Performance Trends

- We forecast that revenues from AI (B-to-B) services, which is the core pillar of our growth strategy, will more than double on a year-on-year basis in FY04/2019
  - On the other hand, we expect revenues from AI (B-to-C) services to decrease on a year-on-year basis as full year revenue contributions will not be recorded from several unprofitable services terminated during the last fiscal year. We expect a slight increase in revenues from Shogi Wars, etc.
- (Units: JPY millions)

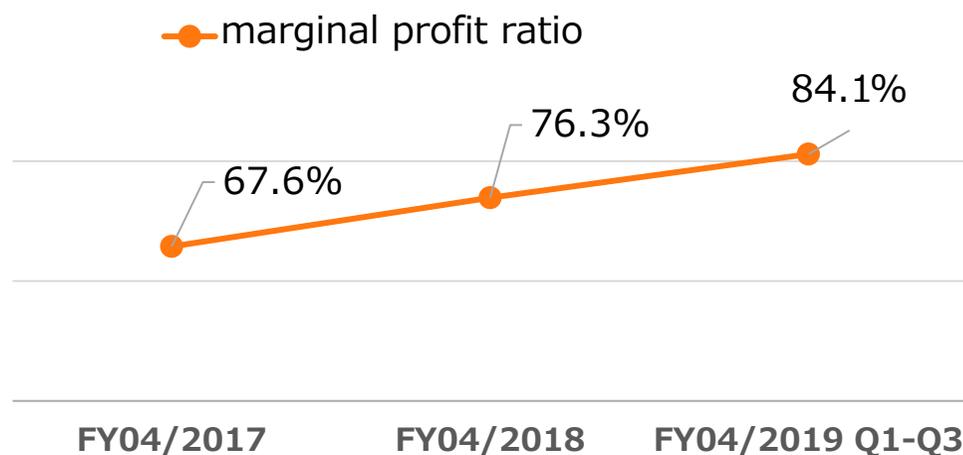


# Service Overview and Marginal Profit

- Characteristics of AI (B-to-B) and AI (B-to-C) services are summarized below

Service	AI (B-to-B) Services	AI (B-to-C) Services
Summary	B-to-B machine learning service HEROZ Kishin	Shogi Wars, etc.
Input Data	Structural Design data, financial data, etc.	Shogi game records
Earning Structure	Initial setup and ongoing fees	Monthly membership fees, Kishin (AI) usage fees, etc.
Major Costs of Goods/Services	(Fixed) labor cost, server related cost	(Fixed) labor cost, server related cost (Variable) app commission fees, royalties

- HEROZ's overall marginal profit ratio, defined as  $\frac{\text{net sales} - \text{app commission fees} - \text{royalties}}{\text{net sales}}$ , is as shown on the right.
- Note that marginal profit ratio improves as the composition of AI (B-to-B) services increases.



# Balance Sheet (as of January 31, 2019)

- We expect to continue to invest cash and deposits in efforts to achieve the medium-to-long-term growth strategy (computing servers, R&D, etc.)
- Tangible fixed assets increased due to the purchase of computing servers for about 200 million yen totally during Q1-Q3. Investments and other assets are also increasing as a result of the capital/business alliance and other strategic investments

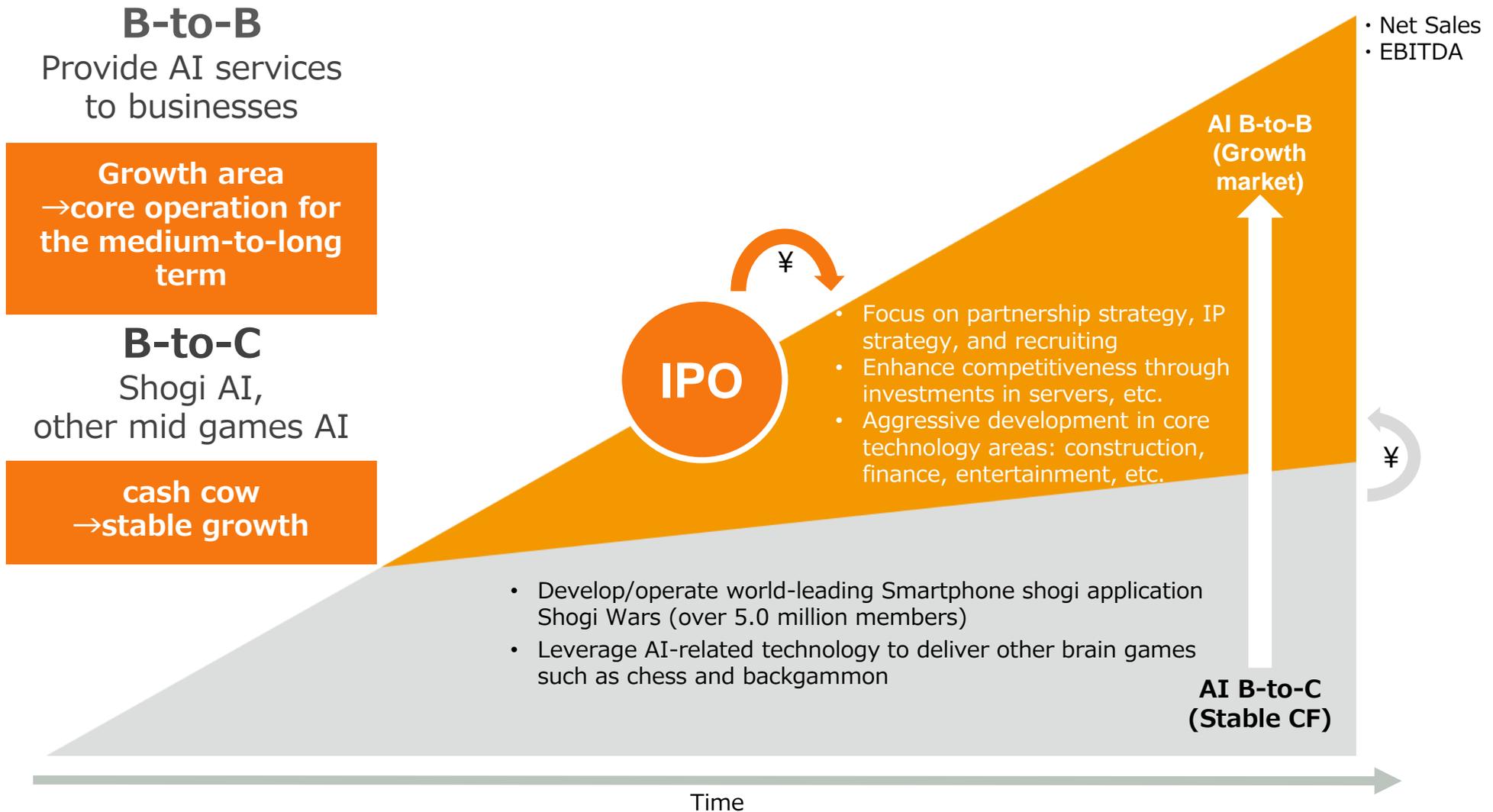
Units: JPY millions	As of 1/31/2019	As of 4/30/2018
Current Assets	1,568	1,684
Cash and deposits	1,419	1,555
Fixed Assets	523	63
Property, plant and equipment	169	30
Intangible assets	0	0
Investments and other assets	354	32
Total Assets	2,091	1,748
Current Liabilities	154	243
Fixed Liabilities	-	-
Net Assets	1,937	1,504

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1. Business Overview
2. FY04/2019 Q3  
Performance
- 3. Growth Strategy**
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# Medium-to-long-term Growth Strategy



- Completed investment of about 200 million yen in proprietary computing server for machine learning by the third quarter
  - Established the largest DGX-1 cluster environment among domestic AI start-ups
  - Allows for R&D efforts using larger, more complicated data (e.g. CAD or BIM data)
  - Can shorten time required for initial setup in the AI (B-to-B) services
  - Server depreciation costs (by 5-year declining balance method), etc. will increase but the focus will be placed on continued EBITDA growth

<Comment from the manager of the Enterprise Division at NVIDIA G.K. >

NVIDIA Tesla V100 GPU is a state-of-the-art data center GPU optimized for high-speed AI processing, including deep learning. NVIDIA DGX-1 is an AI system equipped with 8 Tesla V100 GPUs, allowing for ultrahigh-speed processing, and can also be easily installed and operated. We have high expectations that HEROZ will leverage the largest DGX-1 cluster environment among domestic AI ventures to develop and provide innovative AI services
- HEROZ's Go AI "Kishin" mounted on our mobile app "Go Wars" defeated a professional Go player in a best-of-five match (3 wins, 2 ties) using a 9x9 board in Japanese TV program
  - This victory follows in the footsteps of Shogi (Japanese chess) AI developed by our engineers, which defeated a professional shogi player in 2013

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2. FY04/2019 Q3  
Performance
3. Growth Strategy
- 4. Reference Materials**

# Company Overview

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

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- 2018**  
Listed on Tokyo Stock Exchange (TSE) Mothers  
Capital and business alliance with Netmarble Games Corporation
- 
- 2017**  
Capital and business alliances with Takenaka Corporation, Hearts United Group, and Koei Tecmo Games
- 
- 2016**  
Capital and business alliance with Bandai Namco Entertainment
- 
- 2013**  
Shogi AI, developed by HEROZ engineers, defeated a shogi professional
- 
- 2012**  
Launched mobile app, “Shogi Wars”
- 



Representative Director and CEO  
**Takahiro Hayashi**

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



Representative Director and COO  
**Tomohiro Takahashi**

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

## Shogi Track Record

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

Director and CFO, Business Planning Manager

## Daisuke Asahara

Graduated from Kyoto University Graduate School  
MBO from Wharton School, University of Pennsylvania (delivered graduation speech as student body representative)  
Investment Banking Division, Goldman Sachs



The contents set out in this material are prepared based on generally acknowledged economic, social and other conditions, and on certain assumptions deemed rational by HEROZ, Inc. and may therefore be subject to change without prior notice due to changes in the managerial environment or for other reasons.

The forward-looking statements set out in this material including performance outlooks are based on information currently available to HEROZ, Inc. and on certain assumptions deemed rational, and may therefore differ materially from actual results due to uncertainties in judgements or assumptions, or for other reasons.

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