



Representative Director
Daisuke Yoshida

AI, Inc. (4388)



Corporate Information

Exchange	TSE Mothers
Industry	Information and communications
Representative Director	Daisuke Yoshida
Address	KDX Kasuga Building 10F, 1-15-15 Nishikata, Bunkyo Ward, Tokyo
Year-end	March
URL	https://www.ai-j.jp/english

Stock Information

Share Price	Shares Outstanding		Total Market Cap	ROE (Actual)	Trading Unit
¥2,258	5,146,000 shares		¥11,619 million	16.0%	100 shares
DPS (Estimate)	Dividend Yield (Estimate)	EPS (Estimate)	PER (Estimate)	BPS (Actual)	PBR (Actual)
8.00	0.4%	¥40.82	55.3x	¥208.84	10.8x

*The share price is the closing price on December 10. Shares outstanding, DPS, EPS are taken from the brief financial report for the second quarter of the FY ending March 2021. ROE, BPS are from the brief financial report for the FY March 2020.

Earnings Trends

Fiscal Year	Net Sales	Operating Income	Ordinary Income	Net Income	EPS	DPS
March 2017 (Actual)	451	115	116	76	19.57	0.00
March 2018 (Actual)	591	146	147	109	24.73	0.00
March 2019 (Actual)	737	211	202	150	30.84	8.00
March 2020 (Actual)	819	273	273	172	34.12	7.00
March 2021 (Estimate)	840	280	280	205	40.82	8.00

*Unit: Million yen, yen. The estimated values are provided by the company.

*DPS ¥8.00 for FY 2019 includes ¥3.00 commemorative dividend.

This report presents AI, Inc.'s earning results for the second quarter of fiscal year ending March 2021 and its forecast, etc.

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Key Points

- AI, Inc. offers a speech synthesis engine and solutions regarding speech synthesis. The company provides corporations and consumers with products and services based on “AITalk®,” a speech synthesis engine developed by the company, for automatic answering systems, car navigation systems, anti-disaster wireless systems, smartphones, communication robots, in-vehicle devices, and games. The company has unrivaled characteristics and strengths; for example, it can synthesize high-quality speeches from a few voice samples and offer many speakers.
- In the second quarter of the term ending March 2021, sales grew 15.7% year on year to 360 million yen. While negative factors such as (1) delayed orders for projects related to the Tokyo Olympics, (2) a decrease of multiple languages projects due to the decline in the number of tourists from overseas, and (3) exhibition cancellations, worked as a drag, these were outweighed by the growth of demand for applications for creating narrations for e-learning content, video, etc., due partly to telecommuting at companies and online class for schools. The rise in demand for products for consumers, stemming from people staying at home, also contributed to sales growth. Operating income soared 66.5% year on year to 105 million yen. R&D costs increased due to the release of next-generation speech synthesis engine AITalk®5, but this was handily offset by boosts from larger sales as well as lower costs associated with exhibition cancellations, refrained business trips, and postponement of hiring activities. Ordinary income and net income also saw sharp growth.
- The company’s earnings estimates for the term ending March 2021 are unchanged, calling for sales of 840 million yen, up 2.5% year on year, and an operating income of 280 million yen, up 2.3% year on year. While the impact from the spread of COVID-19 is a concern, the company expects sales and operating income to increase due to the expansion of the speech synthesis market. The dividend is to be 8 yen/share, which is 1 yen/share higher than the previous term’s 7 yen /share. The expected payout ratio is 19.6%.
- The company launched the next-generation speech synthesis engine AITalk 5.0. Attention is being placed on the news release on concrete application cases and the situation with existing customers switching to the new engine. Our eyes are also on the effects of its first TV commercial “Have you heard of AITalk®?” to be aired in the second half of the term. In addition, the company is aiming to develop the market through direct sales, starting with A.I. VOICE, a voice reading software for personal use under the original brand, which is scheduled to go on sale in February 2021. We thus consider it necessary to also pay close attention to changes in advertising expenses and other factors.

1. Company Overview

AI, Inc. offers a speech synthesis engine and solutions regarding speech synthesis. “AITalk®,” which is a speech synthesis engine developed by the company, is offered to corporations for producing voices for automatic answering, car navigation, and anti-disaster wireless systems, and also as an audio communication system for smartphones, communication robots, in-vehicle devices, and automated call center operation. It also sells products targeted at consumers, including VOICEROID.

【1-1 Corporate history】

When the founder Daisuke Yoshida (representative director of AI, Inc.) was working for Advanced Telecommunications Research Institute International*, he encountered a speech synthesis technology, and had an intuition that it is a promising technology that would contribute to society. The technology was still immature, but he established AI, Inc. in April 2003, for the purpose of substantiating, diffusing, and commercializing that technology.

In 2007, the company started granting the license of the series of “AITalk®,” which is a speech synthesis engine developed by the company. Later, it developed a variety of products and services based on “AITalk®.” Its unique features, including “a wide array of speakers and languages” and “reduction of time and expenses with a small amount of voice samples,” were highly evaluated. Since it was adopted by the government for anti-disaster wireless communication, it has been adopted by many institutions and applied in a wider variety of cases.

In June 2018, the company was listed in Mothers of Tokyo Stock Exchange.

*Advanced Telecommunications Research Institute International (ATR)

It was established in 1986, under the concept of the preparatory meeting held by the then Posts and Telecommunications Ministry, NTT, Japan Business Federation, Kansai Economic Federation, universities, etc., with the mission to promote pioneering, unique research in the field of information and communications based on the international collaboration among government, industry and academia. 111 companies hold a stake in the company such as NTT and KDDI.

【1-2 Corporate Mission, Vision】

On November 11, 2019, the company renewed its logo, corporate philosophy, and vision; it newly added a mission, value, and action guidelines.

CORPOLATE MISSION	<p>Enriching our society with sound technology</p> <p>To create a new culture of sound information and contribute to the improvement of daily life culture through application development and service provision of sound technology.</p>
MISSION	Providing “convenience” and “joy” through creating voices
VISION	To continue providing sound technology to thrive our society
VALUE	<p>To keep being the pioneer and NO.1 company for sound technology</p> <p>1.To provide Joy and happiness through our service and technology 2.To grow and create a prosperous future with our customers and employees 3.To thrive each day with each step we take</p>

ACTION GUIDELINES	<ul style="list-style-type: none"> ▪ To always achieve new skills and technology ▪ To be a considerate employee and progress with our customers and friends ▪ To thrive with ambition and achieve a prosperous growth
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Amid the changes in internal or external business environments, the company has set forth the way they should be as its new

corporate mission, corporate logo, and action guidelines, through which it aims to get recognized and become a company that provides value to society.

【1-3 Market environment, etc.】

(1) Market environment

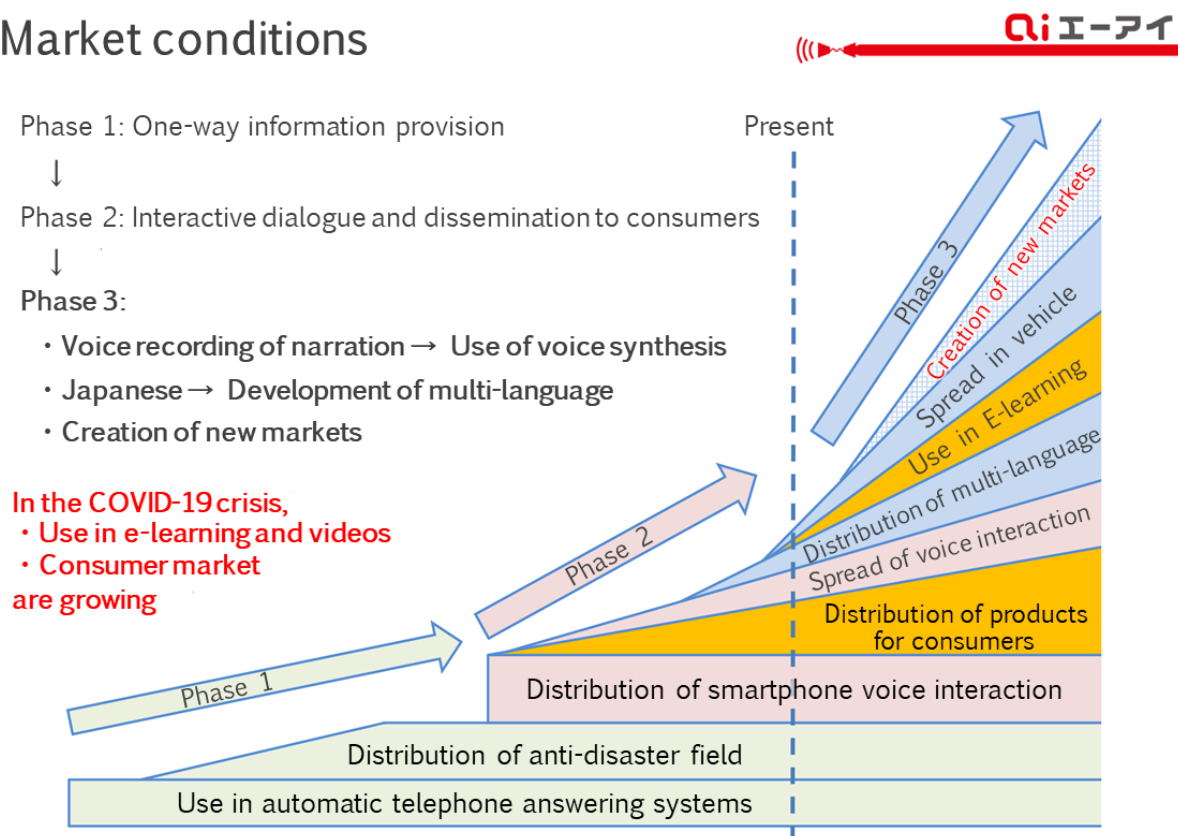
The development of the speech synthesis technology has a long history. However, the expansion of the scope of application was slow because the mainstream method has been to produce audio data mechanically although it has been adopted for automatic answering machines, anti-disaster announcement, voice interaction via smartphones, etc.

As the technology for producing sounds pronounced by human beings has advanced and artificial intelligence (AI) has evolved in recent years, we have seen the improvements in functions, including the shift from voice-over recording to “the utilization of speech synthesis,” the shift from unilateral provision of information to “the actualization of interactive communication,” and the shift from the Japanese language only to “multiple languages.” Going forward, the scope of application is expected to expand rapidly, and it will be used for e-learning, mobility, robots, AI speakers, etc.

A private research firm predicted that the scale of the global market of voice recognition and speech synthesis technologies will grow from about 47 billion dollars in 2011 to 200 billion dollars in 2025 (compound annual growth rate [CAGR]: about 10%).

Following “Phase 1: One-way information provision” and “Phase 2: Interactive dialogue and dissemination to consumers,” AI, Inc. believes that the speech synthesis market has entered “Phase 3,” a period of rapid growth, with alternatives to narration by speech synthesis, development of multiple languages, creation of new markets, etc. In the current COVID-19 crisis, demands for e-learning and videos and the consumer market are also growing rapidly.

Market conditions



(Taken from the reference material of the company)

(2) Competitors

Major competitors of “AITalk®,” a speech synthesis engine of AI, Inc., include HOYA Corporation (1st section of TSE, 7741, product name: Voice Text) and Toshiba Digital Solutions Corporation (unlisted, product name: To Speak).

Specializing in speech synthesis, AI, Inc. meets the requests from users swiftly and flexibly and secures its market share, by offering services of R&D, product development, sale, and support in an integrated manner.

【1-4 Business contents】

(1) What is the speech synthesis technology?

The voice technology can be roughly classified into the “voice recognition technology” for recognizing voices and translating them into characters, etc., and the “speech synthesis technology” for converting text information into audio data. AI, Inc. has been conducting the “speech synthesis” business since it was established.

R&D in the speech synthesis field has a long history and dates back to around the 1850s. “Speech synthesis” reminds us of “mechanical sounds and robot voices” developed in around 1940, but AI, Inc. adopted the “corpus-based text-to-speech method.”

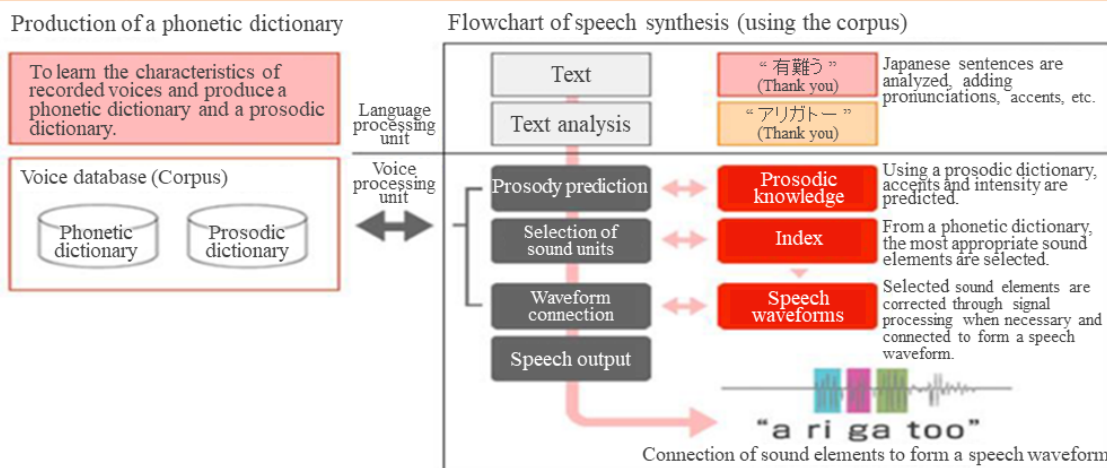
(Outline of the corpus-based text-to-speech method)

While the conventional “speech synthesis by rule” produces audio data mechanically, the “corpus-based text-to-speech method” produces a waveform by combining recorded human voices in units of vowels and consonants. Accordingly, sounds are derived from human voices rather than mechanical sounds.

The technology for “corpus-based text-to-speech synthesis” is constituted by the two technologies: “a technology for producing a phonetic dictionary” and “a speech synthesis technology for producing audio data from text information.”

Technology for producing a phonetic dictionary	This technology records the voices of a specific person, breaks down recorded voices into sound elements, that is, vowels and consonants, and produces a phonetic dictionary (a collection of sound elements) and a prosodic dictionary (prosodic information of recorded voices). The precision of the task of producing a phonetic dictionary is essential for enhancing the reproducibility of recorded human voices.
Speech synthesis technology	This technology is composed of “a language processing unit,” which analyzes Japanese text and adds information on pronunciations and accents, and “a voice processing unit,” which predicts prosodic information with reference to the prosodic dictionary, selects the most appropriate sound elements from the phonetic dictionary, connects them to the sound waveform again, and outputs a speech. Both units require the precisions in the analysis of the Japanese language, prosody prediction, and the connection to sound waveforms. When these precisions are improved, it is possible to produce synthetic sounds that are like recorded human voices, as the sound elements of recorded voices are recombined to output a speech.

	Conventional speech synthesis method		The company’s speech synthesis method
Synthesis type	Recording and editing	Synthesis by rule	Corpus-based text-to-speech synthesis
Synthesis method	Replay of recorded voices as they are	Mechanical voice production	Production of a speech waveform by extracting and combining vowels and consonants
Voice quality	○	× (Robot voice)	○
Degree of freedom	×	○	○



(Taken from the reference material of the company)

(2) “AITalk®”, a high-quality Japanese speech synthesis engine

“AITalk®” is a high-quality speech synthesis engine researched and developed by the company based on the “corpus-based text-to-speech synthesis technology,” which produces sounds based on human voices.

The following section will describe the features of “AITalk®,” which can synthesize speeches freely with more human-like and natural voices, major application cases, and outlines of products based on “AITalk®.”

① Characteristics of “AITalk®”

***A diverse lineup of speakers and languages**

Currently, Japanese speakers of this system range from adults to kids and speak 18 kinds of male or female languages (16 kinds of standard languages and 2 kinds of Kansai dialects). From this diverse lineup of voices, customers can choose appropriate ones for various scenes.

*Please try the “demonstration of speech synthesis” in the company’s website at <https://www.ai-j.jp/demonstration/>.

Introducing the Japanese Speakers



Nozomi 😊 通常 😊 喜 😊 怒 😊 悲
 Corresponding Expression of Emotion: Normal, joy, anger, sadness
 Her voice is pleasant and youthful. Her voice can be used for various situations such as for narrations, automatic telephone answering system, wireless-activated disaster warning system, entertainment, etc.



Sumire
 Her voice gives a mature and sophisticated impression. Applicable to various scenes, it is also the same voice * used for VOICEROID and Yuzuki Yukari.



Kaho
 Her voice is extremely clear and easy to understand. Available for a wide range of use including automatic telephone answering (CTI, IVR) and narration for the making of animation.



Maki 😊 通常 😊 喜 😊 怒 😊 悲
 Corresponding Expression of Emotion: Normal, joy, anger, sadness
 Her voice is best suited for the use of characters in animes and games or other areas of entertainment.



Akari
 Her voice gives a cheerful and bright impression. Most suitable for the use of product guidance and promotions.



Nanako
 Features a very calming voice. Her voice is best suited for reading news and audio guidance.



Reina 😊 通常 😊 喜
 Corresponding Expression of Emotion: Normal, joy
 Features a very sweet and gentle voice. This voice goes great with anime characters, apps and toys, and games.



Seiji
 His voice has a very sincere tone. Suitable for persuasion and calling attention.



Osamu
 His voice features high applicability. Applicable to various scenes.



Hiroshi
 His voice gives a homely and honest impression. Very suitable for literary recitation.



Taichi 😊 通常 😊 喜
 Corresponding Expression of Emotion: Normal, joy
 His voice gives a youthful and unique impression. Most suitable for using in the field of entertainment.



Kenta 😊 通常 😊 喜 😊 怒 😊 悲
 A gentle, luminous and modest voice.



Anzu
 Features a very loving and earnest voice.



Chihiro
 A charming nasal voice.



Koutarou
 Features a slow-paced and cute voice.



Yuuto
 A brisk and intelligent sounding boy's voice.

Japanese Speakers (Kansai)



Miyabi
 She speaks slowly and gently.



Yamato
 He speaks clearly, briskly, and youthfully.

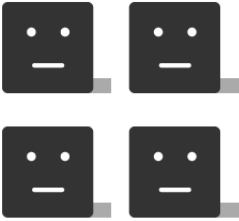
(Taken from the website of the company)

***It is also possible to express emotions.**

It is possible to express emotions, including delight, anger, sorrow, and pleasure, according to situations and purposes of use.

<Voice Synthesis of the Past>

- ❶ It was suitable for narrating, but had a difficult time when expressing speech with emotion, such as lines from a play
- ❷ Its monotonous tone made it unnatural for conversations




<Voice Synthesis with Emotional Expression>

- ❶ In addition to reading the regular narrations, reading lines from a play is possible as it can read aloud with expressions
- ❷ The expressive read aloud makes it possible for a natural conversational read aloud



(Taken from the website of the company)

***Anyone’s voice can be converted into synthetic data.**

The voices of entertainers, voice actors, and users recorded for a short period of time can be converted into data for speech synthesis.

Since it is possible to easily produce speeches of real people just by inputting text, it is possible to offer a variety of contents, including online campaigns, smartphone applications, and games.

②Customer segments and major application cases

As the “corpus-based text-to-speech synthesis technology” has advanced, the speech synthesis engine has been adopted in various scenes where recorded voices of voice actors and narrators had been used.

AI, Inc. has a broad range of client enterprises in the fields of communications, disaster prevention, finance, railways, transportation, in-vehicle devices, games, sightseeing, municipalities, and libraries. Over 500 companies adopted the system, and we heard that the number of clients is increasing by 20-30% every term.

As IoT and robots have been popularized and the number of sightseers visiting Japan has increased over the past several years, there are an increasing number of cases in which the system is used as a dialogue solution combining voice recognition and the interpretation of intentions or a speech translation solution combining translation and multilingual speech synthesis. The company expects that the speech synthesis technology will be used for interactive dialogue as part of artificial intelligence, indicating the evolution from the conventional unilateral information provision.

Application case	Outline
(1) Anti-disaster wireless communication	Many municipalities use the system for producing audio announcements to citizens in anti-disaster wireless communication and the national early warning system (J-ALERT).
(2) Smartphone voice interaction	The voice interaction apps for smartphones, such as “Shabette Chara®,” which is provided by NTT Docomo, Inc., and “Yahoo! Audio Assist,” which is provided by Yahoo Japan Corporation, are increasingly used.
(3) Road traffic information and car navigation	The system is utilized for road traffic information, which offers real-time road traffic information, such as “road traffic information” of Japan Road Traffic Information Center and car navigation, which guides an enormous number of place-names throughout Japan, such as “Docomo Drive Net Info” of NTT Docomo.
(4) E-learning	Lightworks (CAREERSHIP®), Tokyo Customs, Chugai Pharmaceutical, Taiho Pharmaceutical, etc. use the system.

(5) Broadcasting	The system is used by TBS (IRASUTO Virtual Caster), TV Tokyo (Morning Satellite), BS JAPAN (Nikkei Morning Plus), etc.
(6) Communication Robot	The system is used in many robots such as “Pepper” by SoftBank Robotics Corp and Matsukoroid by Matsukoroid Production Committee.
(7) Public-address in buildings and stations	The system is utilized for announcing information at stations, airports, commercial facilities, such as JR Kyoto Station and Memanbetsu Airport Bldg.
(8) Automatic answering system	The system is used for notifying library users of the dates when a library is closed by telephone, answering customers’ calls at banks, and attending to customers at call centers. It is applied broadly to automatic answering systems, including telephone banking.
(9) Reading of websites	The system is utilized as a tool for giving information of websites of municipalities and enterprises throughout Japan with synthesized voices.
(10) Production of audio files	The system is utilized as a tool for producing audio files used for narrations of e-learning content, guidance about equipment, such as ticket dispensers, and so on.
(11) Video games	The system is utilized for voice-overs of video games, such as the series of “StarHorse,” an arcade horse racing game provided by SEGA Interactive Co., Ltd., and “Kuma-Tomo (Teddy Together)” of BANDAI NAMCO Entertainment Inc.
(12) Packaged products for consumers (Package for reading contents aloud)	The system is utilized for producing audio files for packaged products for consumers, including the “VOICEROID®” series offered by AHS Co., Ltd.

Matsukoroid



This is an android entertainer developed by making a cast of the entire body, including the head and toes, accurately mimicking facial expressions, behavior, habits, etc., and applying the cutting-edge android technology, with the aim of producing an android that is like two peas in a pod with Matsuko Deluxe.

It was born under the supervision of Professor Hiroshi Ishiguro of Osaka University, who is a pioneer in android research.

AITalk®, a speech synthesis engine of AI, Inc., was adopted for producing some voices of “Matsukoroid.” AI, Inc. recorded the actual voices of Matsuko Deluxe in a short period of time, and produced “AITalk® CustomVoice®,” an original phonetic dictionary for speech synthesis. This enabled Matsukoroid to read a variety of texts aloud with the voices of Matsuko Deluxe.

Going forward, Matsukoroid will speak with AITalk®, which synthesizes speeches with the voices of Matsuko Deluxe, at events, etc.

③Major products

Based on AITalk®, AI, Inc. develops and sells products and services suited for various scenes of corporations and individuals.

Product name	Outline	Application cases
AITalk® Koe-no-shokunin (Voice Craftsman)	Software for producing narrations, with which you can produce audio files easily just by inputting text into your PC. Anyone can produce high-quality narrations with easy, intuitive procedures. The latest version “AITalk® 4” can adjust emotions.	Narrated video manuals for e-learning, sightseeing guides, public-address announcements, etc.

AITalk® Koe Plus (Voice Plus)	Add-in software for PowerPoint®, which can add voices to the slides of PowerPoint® easily. You can easily produce high-quality voices in PowerPoint® files.	Production of narrated e-learning content with PowerPoint® only, addition of voices to presentation material for use inside and outside your company, etc.
AITalk® SDK	This software development kit (SDK) can synthesize speeches freely from human-like, natural voices and offer them via libraries. The latest version “AITalk® 4 SDK” can adjust emotions.	To integrate into package software / voice of automatic telephone answering system / integration into devices/ WEB campaign and WEB service
AITalk® Server	This engine is suited for cases where a network is used and synthesis is conducted with multitasking, such as automatic answering and online services.	Voice for automatic telephone response / WEB campaign, WEB service
AITalk® Custom Voice®	This is a service of recording the voices, etc. of entertainers, voice actors, and customers and producing an original Japanese phonetic dictionary for speech synthesis. Just by inputting text, it is possible to produce speeches with real voices.	It can be applied to a variety of content, including online campaigns, smartphone apps, and video games.
Kantan (Easy)! AITalk®	Packaged software for individual users, with which you can produce high-quality narrations just by inputting text.	Inputting your own voices for narrations of videos, production of original audio teaching material which can be used in trains and vehicles for listening.
AITalk® Anata-no-koe (Your Voice)	Your voice, etc. can be reproduced with the speech synthesis technology. With your PC and this packaged software, including Custom Voice®, you can produce speeches in various words anywhere, anytime.	It is possible to read a closing address of a funeral with the voice of the deceased. You can give lectures and presentations without speaking, by synthesizing speeches with your voice.

(3) The next-generation speech synthesis engine, AITalk®5.

In May 2020, AI, Inc. released the next-generation speech synthesis engine, AITalk®5 (provisional name), which utilizes the Deep Neural Network (DNN) to express emotions with the speech synthesis engine.

(Background for development)

For the company’s current AITalk®4, which is a corpus-based speech synthesis engine, it is necessary to create a separate emotion sound dictionary for emotions, such as happiness, sadness, and anger, needed to create interactive sound synthesis. This has problems like the large cost and that the change in the emotion of the synthesized speech was random and not smooth. Therefore, the company has been working on “subsidies for developing new products and technologies project” for 18 months from July 2017 to December 2018 in order to successfully transition from a calm state to an emotional state smoothly, by predicting emotion change filters from DNN and producing emotion elements from normal elements; they succeeded in commercialization. The company is currently applying for a patent on that system.

(Overview of the next-generation speech synthesis engine, AITalk®5)

(1) Characteristics

1 According to the usage scene, it offers the option of a conventional corpus-based speech synthesis system or the DNN speech synthesis system.

- 2 The system can synthesize a more natural and human-like high-quality sound thanks to the sound improvement achieved by using deep learning. Moreover, it eliminates the problem of jarring transition between emotions associated with AITalk®4 and now can synthesize an emotion-rich voice that transitions smoothly between happiness, sadness, and anger.
- 3 The conventional AITalk®4 required separate emotion sound dictionaries for each emotion and entailed recording separate sounds assigned to each emotion happiness, anger, and sadness. Comparatively, the next-generation speech synthesis engine, AITalk®5 utilizes Deep Learning to create sound dictionaries from a much shorter recording than usual. Therefore, shortening the time of recording and creating sound dictionaries lead to reducing the costs of creating sound dictionaries and allowed the company to offer the speech synthesis engine at a much lower price.

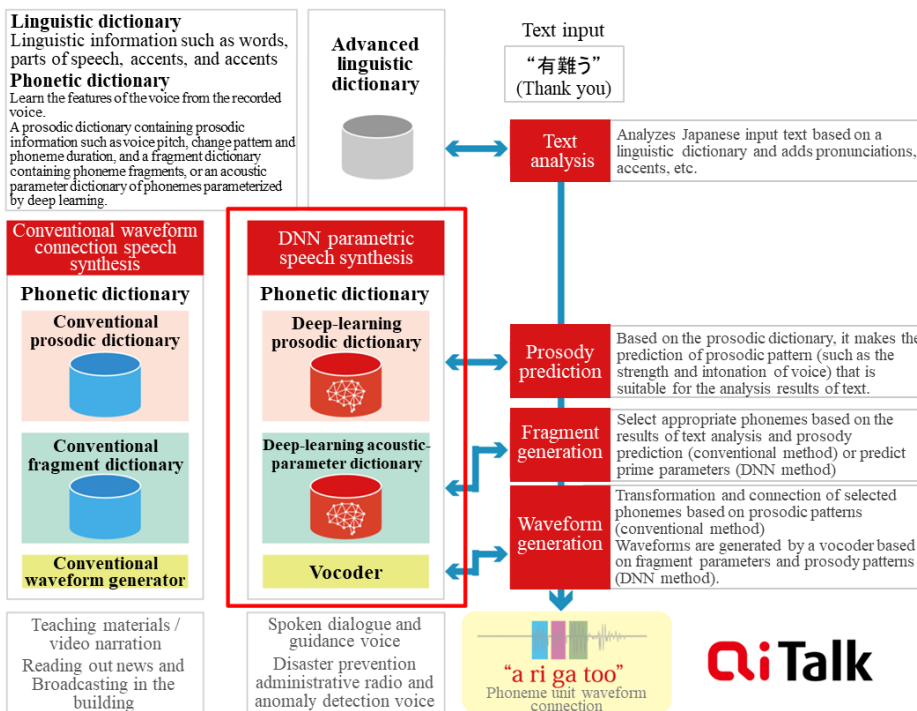
(2) Products lineup

- AITalk®5 SDK: development kit/library
- AITalk®5 Custom Voice®: Original sound dictionary creation service
- AITalk®5 Editor: A narration/guidance sound creation software
- AITalk®5 Server: server-based speech synthesis
- AITalk®5 WebAPI: Cloud-based speech synthesis service
- etc.

In May 2020, the company started providing “AITalk®5 Koe-no-shokunin (Voice Craftsman) ® Package Edition” and “AITalk®5 SDK.”

In November, the company upgraded the speech synthesis API, AITalk®5 WebAPI, to AITalk®5, newly providing it as AITalk®5 WebAPI.

AITalk®5 WebAPI is a service that enables the use of high-quality speech synthesis engine AITalk®, part of cloud-based speech synthesis series AICloud®, in SaaS (Software as a Service) form via online services, etc. Since users do not need to build and operate in-house server for voice synthesis, they can easily start services using voice synthesis such as online services, smartphone apps, and campaigns.



(Taken from the reference material of the company)

(4) Business model and commercial distribution

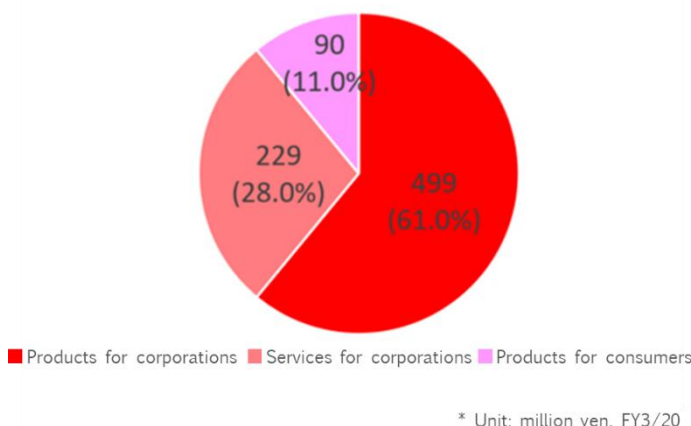
The company’s products and services are classified into “products for corporations,” “services for corporations,” and “products for consumers.”

To corporations, AI, Inc. offers the most appropriate products or cloud services according to the characteristics of each client.

As for marketing targeted at corporations, the company owns “Inside sales” staff, who deal with inquiries through sales promotion (SEO, email newsletters, news releases, etc.), and “Field sales” staff, who strive to increase new customers and orders from existing customers, and sales partners sell packaged software.

As for marketing targeted at consumers, the company does not sell its products directly to customers, but entrusts distributors with sale, and receives royalties from them on a quarterly basis.

Sales composition by each segment



①Products for corporations

AI, Inc. sells packaged software, grants licenses, and carries out entrusted development.

◎Sale of packaged software

The company sells packaged software with which you can easily produce audio files just by inputting text into your PC. Through easy, intuitive operation, it is possible to produce high-quality voice-overs.

Major products and services	Business model	Fee example
AITalk® Koe-no-shokunin (Voice Craftsman)® AITalk® Koe Plus (Voice Plus)	One-shot revenue type	800,000 yen for five-year use

◎Licensing

This is a major business model of AI, Inc. The company concludes a licensing contract for use with each client and receives some fees for the use of the speech synthesis engine.

The company individually set the basic license fee, monthly fees for use, royalties, which depend on sales results, and so on. The company offers the most appropriate speech synthesis engine according to the purposes of use.

Major products and services	Business model	Fee example
AITalk® SDK AITalk® Server micro AITalk®	Recurring-revenue type	Basic license fee + Royalties (set individually)

◎Entrusted development

AI, Inc. is entrusted by clients with the development of original phonetic dictionaries for respective clients.

Major products and services	Business model	Fee example
AITalk® Custom Voice®	One-shot revenue type	400,000 to 5,000,000 yen according to plans

②Services for corporations

◎Cloud service

The company offers speech synthesis services utilizing the cloud environment. Users can use services utilizing speech synthesis via the Internet.

Major products and services	Business model	Fee example
AITalk® WebAPI AITalk® Web-yomi Shokunin (Website Reading Expert)® AITalk® Koe-no-shokunin (Voice Craftsman)® Cloud Version	Recurring-revenue type	From 5,000 yen/month

◎Support services

The company provides clients of products for corporations with continuous technical support.

Major products and services	Business model	Fee example
Technical support	Recurring-revenue type	Annual contract

③Products for consumers

The company sells packaged software, with which you can easily produce audio files.

Major products and services	Business model	Fee example
Kantan (Easy)! AITalk® AITalk® Anata-no-koe (Your Voice)® VOICEROID® Series – Kotoha, Akane® and Aoi®	One-shot revenue type	The company outsources sales and sets royalties according to sales performance.

(5) R&D structure

As of the second quarter of fiscal year ending March 2021, the number of R&D staff members was 11. The total R&D cost for this term was 62 million yen, up approximately 17% year on year.

The three groups, "language processing", "voice processing" and "engine development", are working on improving Japanese language processing technology for speech synthesis, developing a new high-quality speech synthesis engine, and putting new algorithms for language and speech developed in the early stages of development to practical use, respectively.

【1-5 Characteristics, strengths, and competitive advantage】

AI, Inc., which developed AITalk®, a high-quality speech synthesis engine, and offers products and services, has the following characteristics, strengths, and competitive advantage.

(1) The required number of voice samples is small.

The general approach for improving speech synthesis quality in the “corpus-based text-to-speech synthesis” is to increase voice samples. However, it has a disadvantage; if voice samples increase, then recording time is prolonged and the size of a phonetic dictionary increases, augmenting the cost for producing the phonetic dictionary.

AI, Inc. is proceeding with R&D, with the aim of synthesizing high-quality speeches with a small number of voice samples. In general, it is necessary to record voices for several tens of hours (several to ten thousand sentences), but the company can produce a phonetic dictionary with 2 to 6 hours of recording (200 to 600 sentences).

(2) Provision of a variety of speakers

Since a phonetic dictionary can be produced with a small number of voice samples, it is possible to offer a wide array of phonetic dictionaries. At present, the company offers a total of 18 speakers, including 8 female speakers, 6 male speakers, 2 boyish speakers, and 2 girlish speakers. (including Kansai dialect speakers.)

(3) Multiple introductions and sales results

The production of a phonetic dictionary used to cost tens of millions of yen, but the company developed a technology for producing it with a small number of voice samples at a cost of 0.5 to 5 million yen. As a result, it is now possible to inexpensively produce a phonetic dictionary desired by each user, including the voices of specific voice actors, narrators, and characters, and the scope of application of the speech synthesis engine has expanded.

Up until now, the company has produced over 300 custom voices.

Also, the company's technology has been exceptionally highly evaluated, with 1,200 companies using AI's products, 648 local governments using AI's products for anti-disaster wireless systems, 1,300 licenses for corporate package software sales, and more than 60,000 licenses for consumer package software sales.

(4) System for offering services of R&D, product development, sale, and support in an integrated manner

Most competitors that offer speech synthesis engines are large makers, in which R&D and product development/sale sections are separated.

Meanwhile, AI, Inc. deals with almost all processes including R&D, product development, sale, and support, by itself, so that it can operate business flexibly and swiftly. For the speech synthesis engines for foreign languages, it collaborates with overseas makers.

【1-6 ESG activities】

In the second quarter of the term ending March 2021, AI, Inc. carried out the following activities.

ESG	Theme	Outline
S: society	(1) Empowerment of women	<ul style="list-style-type: none"> Among 43 employees, 21 (48.8%) are female ones. Among 12 managers, 4 (33.3%) are female ones.
	(2) Promotion of child-care support	<ul style="list-style-type: none"> A child-care leave was taken by 3 employees.
	(3) Promotion of the reform of ways of working	<ul style="list-style-type: none"> Working environment where the overtime work amount is small. Average overtime hours of 1H: 9.99h/month (previous term: 10.17h) Working environment where employees feel free to take a day off: Employees can take up to ten days off in the first half of the term
G: governance	(1) Dialogue with shareholders and investors	<ul style="list-style-type: none"> A briefing session for institutional investors held once. A small meeting which is presented by securities company held once. A 1-on-1 meeting with an institutional investor held 29 times.

2. The Second Quarter of Fiscal Year ending March 2021 Earning Results

(1) Earnings Results

	1H of FY3/20	Ratio to net sales	1H of FY3/21	Ratio to net sales	YoY	Ratio to the estimates
Net sales	311	100.0%	360	100.0%	+15.7%	+5.9%
Gross profit	248	79.7%	311	86.4%	+25.4%	-41.6%
SG&A expenses	185	59.5%	205	56.9%	+10.8%	+21.5%
Operating income	63	20.3%	105	29.2%	+66.5%	+128.3%
Ordinary income	63	20.3%	105	29.2%	+66.5%	+128.3%
Quarterly net income	49	15.8%	77	21.4%	+58.1%	+120.0%

*Unit: Million yen.

Double-digit growth of sales and profit, also exceeding revised estimates for the first half.

In the second quarter of the term ending March 2021, sales grew 15.7% year on year to 360 million yen. While negative factors such as (1) delayed orders for projects related to the Tokyo Olympics, (2) a decrease of multiple languages projects due to the decline in the number of tourists from overseas, and (3) exhibition cancelations, worked as a drag, these were outweighed by the growth of demand for applications for creating narrations for e-learning content, video, etc., due partly to telecommuting at companies and online class for schools. The rise in demand for products for consumers, stemming from people staying at home, also contributed to sales growth. Operating income soared 66.5% year on year to 105 million yen. R&D costs increased due to the release of next-generation speech synthesis engine AITalk®5, but this was handily offset by boosts from larger sales as well as lower costs associated with exhibition cancelations, refrained business trips, and postponement of hiring activities. Ordinary income and net income also saw sharp growth.

The company upwardly revised its projections for the first half of the term ending March 2021 on August 12, but both sales and profit exceeded these revised figures.

(2) Sales in each segment

	1H of FY3/20	Ratio to net sales	1H of FY3/21	Ratio to net sales	YoY
Products for corporations	155	50.0%	188	52.4%	+21.3%
Services for corporations	111	36.0%	111	31.0%	-0.4%
Products for consumers	43	14.0%	59	16.6%	+36.7%
Total	311	100.0%	360	100.0%	+15.7%

*Unit: Million yen.

Products for corporations

Amid the spread of COVID-19, demand for applications for creating narrations for e-learning content, videos, etc., grew due partly to telecommuting at companies and online class for schools, leading to strong sales of packaged software (Koe-no-shokunin, Koe Plus).

Products for consumers

Demand for products for consumers also increased due to people staying at home.

(3) Financial Conditions and Cash Flow**◎Major BS**

	End of Mar. 2020	End of Sep. 2020		End of Mar. 2020	End of Sep. 2020
Current assets	1,137	1,128	Current liabilities	138	75
Cash and deposits	964	1,031	Trade payables	13	2
Trade receivables	159	84	Other payables	55	24
Noncurrent assets	51	41	Noncurrent liabilities	2	2
Property, plant, and equipment	16	16	Total liabilities	141	78
Intangible assets	8	6	Net assets	1,047	1,092
Investments and other assets	26	19	Retained earnings	894	936
Total assets	1,189	1,170	Total liabilities and net assets	1,189	1,170
			Equity ratio	88.1%	93.3%

*Unit: Million yen

Equity ratio increase by 5.2% from the end of previous term to 93.3%.

◎Cash flow

	1H of FY3/20	1H of FY3/21	Increase/decrease
Operating CF	50	103	+53
Investing CF	-6	-2	+4
Free CF	44	101	+57
Financing CF	-30	-33	-3
Cash and cash equivalents	983	1,031	+48

*Unit: Million yen.

In the second quarter of fiscal year ending March 2021, investing CF fell year on year amid little spending on the acquisition of property, plant, and equipment. The net inflow of free CF grew significantly, partly owing to growth in operating CF. The cash position steadily improved.

3. Fiscal Year ending March 2021 Earnings Estimates

(1) Earnings Estimates

	FY 3/20	Ratio to net sales	FY 3/21 (Est.)	Ratio to net sales	YoY	Progress rate
Net sales	819	100.0%	840	100.0%	+2.5%	42.9%
Operating income	273	33.4%	280	33.3%	+2.3%	37.7%
Ordinary income	273	33.4%	280	33.3%	+2.5%	37.7%
Net income	172	21.1%	205	24.4%	+18.8%	37.9%

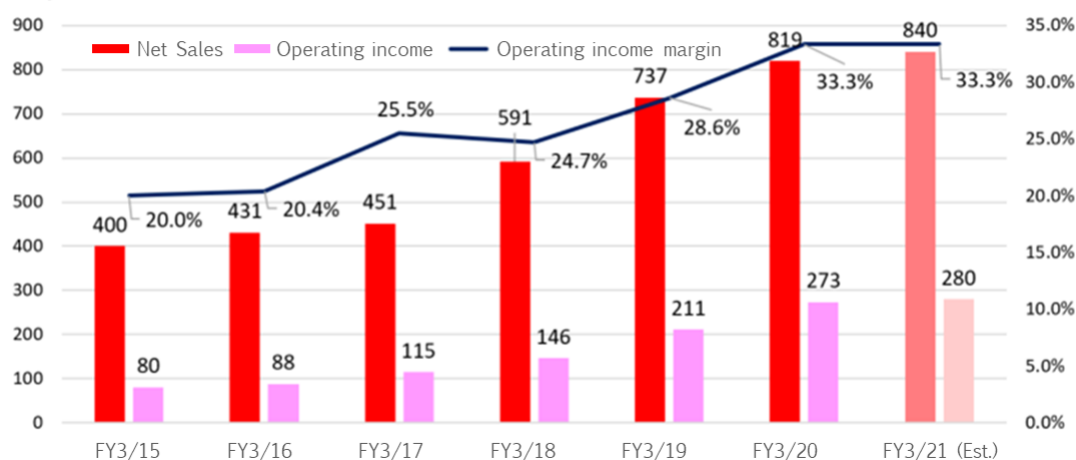
*Unit: Million yen. The estimates were announced by the company.

Full-year plan remains unchanged. Sales and profit estimated to grow.

Although the forecast for the first half of fiscal year revised upward, the full-year plan remains unchanged from the initial forecast at this time. The company's earnings estimates for the term ending March 2021 are unchanged, calling for sales of 840 million yen, up 2.5% year on year, and an operating income of 280 million yen, up 2.3% year on year. While the impact from the spread of COVID-19 is a concern, the company expects sales and operating income to increase due to the expansion of the speech synthesis market.

The dividend is to be 8 yen/share, which is 1 yen/share higher than the previous term's 7 yen /share. The expected payout ratio is 19.6%.

(million yen)



(2) Sales in each segment

	FY 3/20	Composition ratio	FY 3/21 (Est.)	Composition ratio	YoY
Products for corporations	499	61.0%	490	58.3%	-1.9%
Services for corporations	229	28.0%	230	27.4%	+0.2%
Products for consumers	90	11.0%	120	14.3%	+32.8%
Total	819	100.0%	840	100.0%	+2.5%

*Unit: Million yen.

(Products for corporations)

Demand for applications for creating narrations for e-learning content, videos, etc., grew due partly to telecommuting at companies and online class for schools, leading to strong sales of packaged software (Koe-no-shokunin, Koe Plus).

Meanwhile, the spread of COVID-19 has caused a decline in entrusted projects related to Custom Voice, which involves voice recording, and those related to the Tokyo Olympics. Considering these positive and negative factors, the company projects sales to drop 1.9% year on year to 490 million yen.

(Services for corporations)

In addition to contributions from NTT Docomo's my daiz service, the company anticipates sales of AITalk® WebAPI and AITalk® Koe-no-shokunin Cloud Version to be in line with the year-earlier levels at 230 million yen.

(Products for consumers)

The company estimates sales to jump 32.8% year on year to 120 million yen thanks to higher demand for products for consumers due to people staying at home.

(3) Major Initiatives

① Commercialization of the next-generation speech synthesis engine AITalk 5.0

AI, Inc. commercialized the speech synthesis engine that utilizes Deep Neural Network (DNN), and started providing AITalk®5 Koe-no-shokunin® Package Edition and AITalk®5 SDK on May 7, 2020. In November, the company upgraded the speech synthesis API, AITalk®5 WebAPI, to AITalk®5, newly providing it as AITalk®5 WebAPI.

Using deep learning improves voice quality and achieves more human-like, natural, and high-quality speech synthesis. It also reduces phonetic dictionary creation costs by shortening recording time and phonetic dictionary creation time, making it possible to provide a speech synthesis engine at lower costs.

② Promotion of work-style reform

The company has been working to create a comfortable work environment for employees. In this term, it will further promote work-style reforms through the adoption of a flextime system, the adoption of telecommuting, and reviewing its personnel evaluation system.

③ Accelerating collaboration with Cerence

AI, Inc. has indicated that it plans to accelerate its collaboration with the American company, Cerence, in the automotive field. Cerence has expertise in AI, natural language understanding, voiceprint recognition, gesture and gaze detection, augmented reality (AR), etc. It collaborates with major automobile manufacturers around the world as an innovation partner to provide unique solutions, and are promoting business in connected cars, autonomous driving, electric vehicles, etc.

It was announced that Cerence TTS, a next-generation speech synthesis technology incorporating AITalk® that enables high-quality speech output, had been launched on June 1, 2020. This indicates that the collaboration is progressing smoothly.

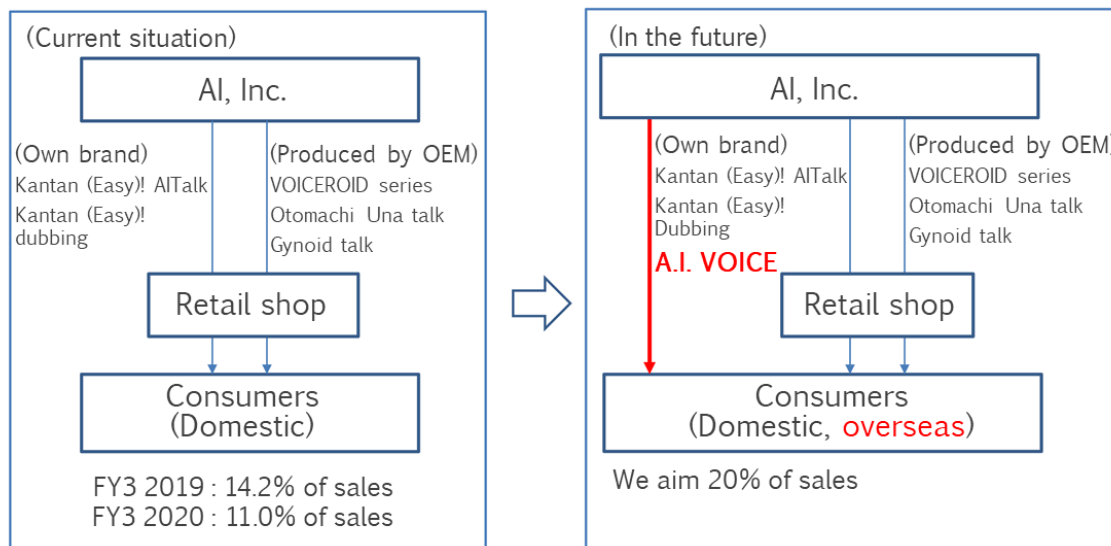
④ R&D of next-generation engines

The company is promoting the research and development of speech synthesis technology based on innovative deep learning technology, such as WaveNet (one of the deep neural networks for generating speech waveforms) with Professor Toda of Nagoya University (from April 2018 to March 2021 [planned]). The plan is to file a patent application, then presenting the research results at academic conferences and outside the company, proceeding with commercialization from April 2021.

⑤ Development of the consumer market

As the first product under the original brand, A.I.VOICE™, geared toward individuals, Akane/Aoi Kotonoha and Yuzuru Iori will be commercialized, and in February 2021, the company will also move forward with market cultivation through direct sales, beginning with the start of sales of a Japanese language speech synthesis package. In December 2021, they will also launch a singing voice synthesis package and foreign languages (English, Chinese) speech synthesis packages.

Development of consumer market



- Feb. 2021 Launch (plan)
 - Japanese language speech synthesis package
- Dec. 2021 Launch (plan)
 - Singing voice synthesis package
 - Foreign languages (English, Chinese) speech synthesis package

(Taken from the reference material of the company)

4. Conclusions

The company launched the next-generation speech synthesis engine AITalk 5.0. Attention is being placed on the news release on concrete application cases and the situation with existing customers switching to the new engine. Our eyes are also on the effects of its first TV commercial “Have you heard of AITalk®?” to be aired in the second half of the term. In addition, the company is aiming to develop the market through direct sales, starting with A.I. VOICE, a voice reading software for personal use under the original brand, which is scheduled to go on sale in February 2021. We thus consider it necessary to also pay close attention to changes in advertising expenses and other factors.

<Reference: Regarding Corporate Governance>

◎Organization type and the composition of directors

Organization type	Company with audit and supervisory committee
Directors	5 directors, including 3 outside ones

◎Corporate Governance Report

Last update date: June 24, 2020

<Basic policy>

Recognizing that for an enterprise to grow and develop stably, it is indispensable to enhance the efficiency and soundness of business administration and establish a fair, transparent management system, the company considers thoroughgoing corporate governance as the most important mission.

<Reasons for Non-compliance with the Principles of the Corporate Governance Code (Excerpts)>

Our company follows all the basic principles of the Corporate Governance Code.

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