BRIDGE REPORT Bridge Salon

Representative Director
Daisuke Yoshida

AI, Inc. (4388)

株式会社エーアイ

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
¥2,218	5,036,000 shares		¥11,169 million	16.7%	100 shares
DPS (Estimate)	Dividend Yield (Estimate)	EPS (Estimate)	PER (Estimate)	BPS (Actual)	PBR (Actual)
TBD	-	¥32.84	67.5 times	¥219.14	10.1 times

*The share price is the closing price on July 1. The number of shares outstanding, ROE, DPS, EPS, and BPS were taken from the brief financial report for the term ended March 2019.

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 (Estimate)	800	220	220	160	32.84	To be determined

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

This report outlines AI, Inc. and includes its business performance, the interview with President Yoshida, 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.**

- **For the term ending March 2020, it is estimated that sales will be 800 million yen, up 8.5% year on year, and operating income will be 220 million yen, up 4.2% year on year. Through the expansion of the speech synthesis market, sales and profit are projected to grow like in the previous term. The dividend amount is still to be determined.**

- **We interviewed President Yoshida about his company's characteristics, strengths, growth strategies, and issues to be solved, and his message toward shareholders and investors, and so on. He mentioned, "The field where speech synthesis is applied is expanding steadily. We will keep up with the expansion of the market and demand, to grow our company"; and "We would like to grasp needs by researching markets carefully, work on business expansion while considering appropriate approaches, and make society more convenient. We hope that shareholders and investors will support us from the mid/long-term perspective."**

- **Although sales and profit increased in this term following the considerable growth in the previous term, their growth rates are single-digit and we were not very satisfied with this result. As the target market is expanding steadily, we would like to pay attention to how much the company will be able to accumulate sales and profit by taking full advantage of the position as a top enterprise and when they will be able to conduct the release of products for Nuance Communications, which is being delayed.**

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】

AI, Inc. upholds the following corporate mission and vision.

Corporate Mission	"Pioneering and culturizing the 21st Century with sound technology." 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.
Vision	*We will provide products and services widening new possibilities for speech synthesis. We will create a new market and contribute to the culture of daily life by providing products and service. *We will capture a dream out of our business, and share this to make everyone involved in realizing this dream to be happy. *We will become the best sound technology provider in the world.

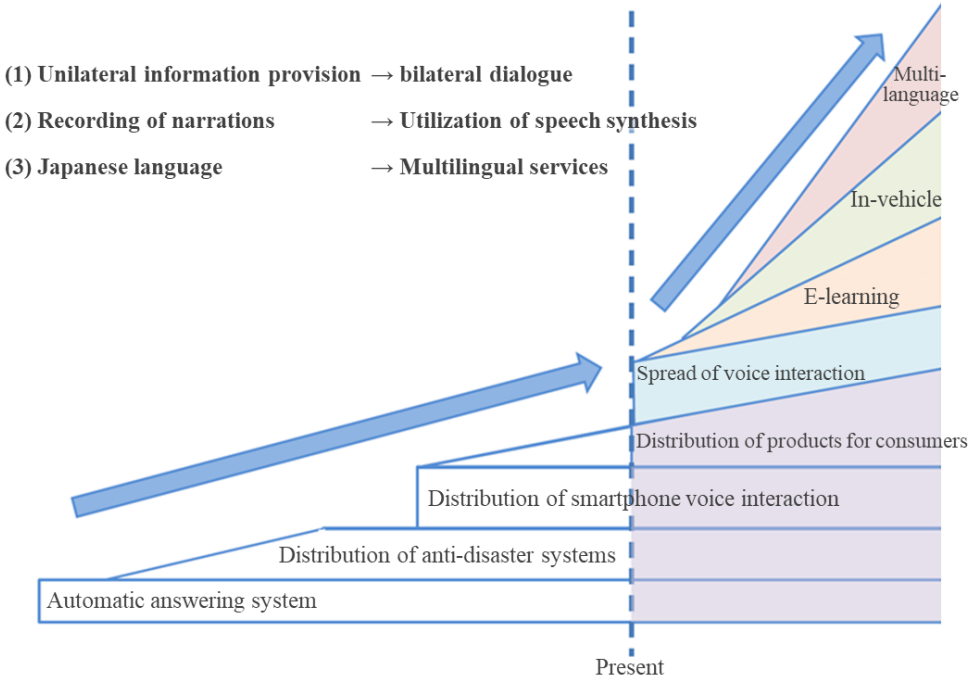
【1-3 Market environment】

(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%).



(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: ToSpeak).

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.

Code	Corporate Name	Sales	Sales growth rate	Operating income	Operating income growth rate	Operating margin	ROE	Market cap.	PER	PBR
4388	**AI**	**737**	**+24.7%**	**211**	**+43.8%**	**28.6%**	**16.7%**	**11,169**	**67.5**	**10.1**
7741	HOYA	565,810	+5.6%	14,4657	+16.4%	25.6%	21.2%	3,156,386	25.7	5.0

*Units: million yen, yen, and times. The table shows the actual sales, operating income, and ROE in the previous term. The share price is the closing price on July 1, 2019.

【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."

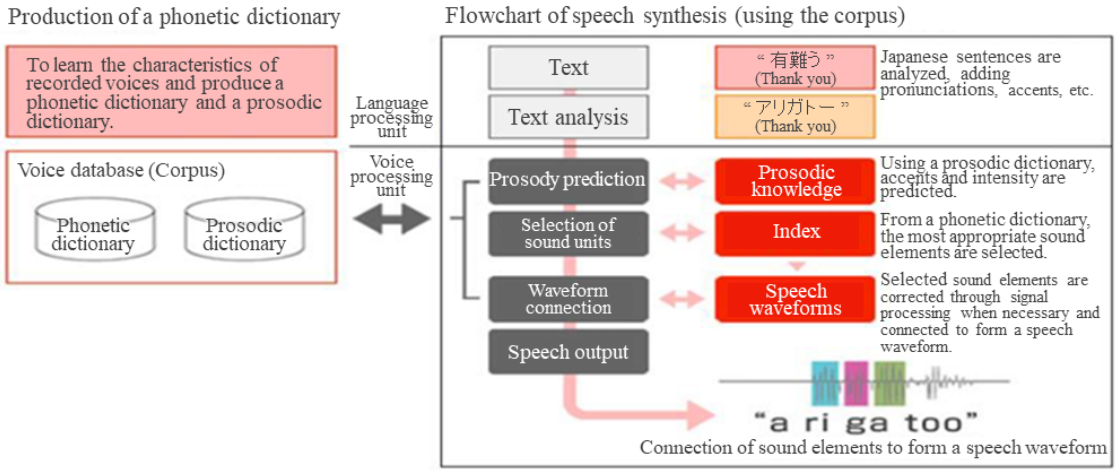
(Outline of the corpus-based text-to-speech method)

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 very similar to 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**

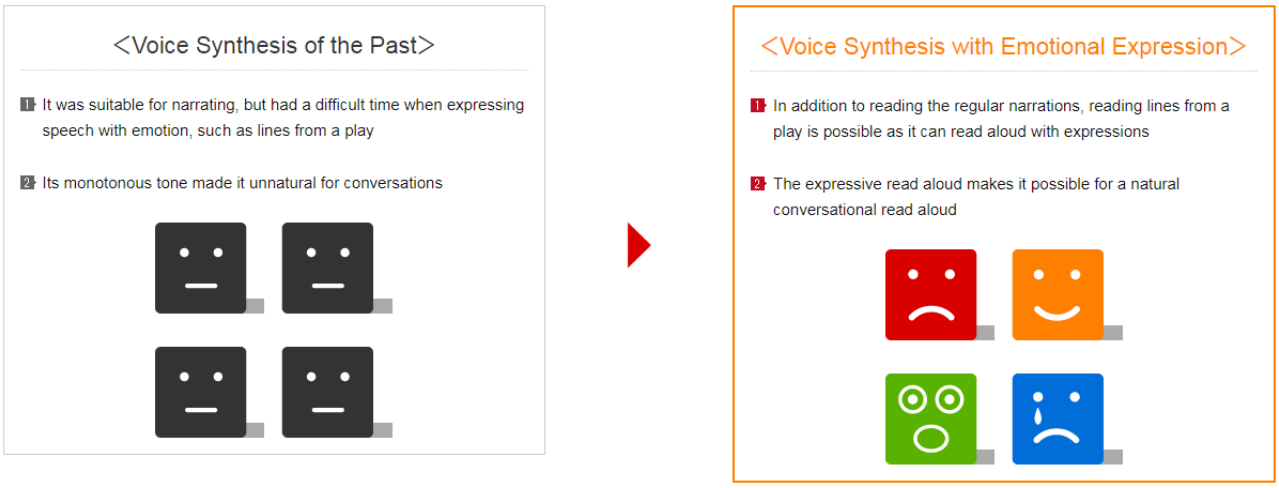
Currently, Japanese speakers of this system range from adults to kids, and speak 17 kinds of male or female languages (15 kinds of standard languages and 2 kinds of Kansai dialects). From this diverse lineup of voices, customers can choose appropriate ones for various scenes.

*Please try the "demonstration of speech synthesis" in the company's website at https://www.ai-j.jp/demonstration/.

(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.



(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.

② Customer 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 Communication robots	The system is utilized for many communication robots, such as "Pepper," which is provided by SoftBank Robotics Corp., and "Matsukoroid," which is provided by Matsukoroid Production Committee.
④Road 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.
⑤ 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.
⑥ 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.
⑦ Reading of websites	The system is utilized as a tool for giving information of websites of municipalities and enterprises throughout Japan with synthesized voices.
⑧ 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.
⑨ 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.
⑩ 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 Mastuko Deluxe.
Going forward, Matsukoroid will speak with AITalk®, which synthesizes speeches with the voices of Matsuko Deluxe, at events, etc.

(Taken from the website of the company)

③ Major products

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

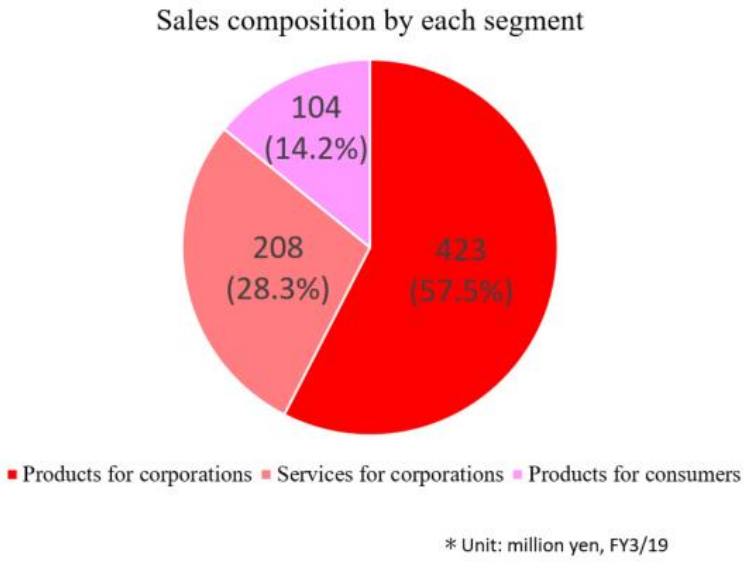
Product name	Outline	Application cases
AITalk® Koe-no-shokunin (Voice Craftsman)	Software for producing narrations, with which you can produce audio files easily just by inputting text into your PC. Anyone can produce high-quality narrations with easy, intuitive procedures. The latest version "AITalk® 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) 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 deals with inquiries through sales promotion (SEO, email newsletters, news releases, etc.), sales staff 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.



① Products 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	900,000 yen for eternal 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

② **Services 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	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

③ **Products 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.

(4) R&D structure

As of March 31, 2019, the number of R&D staff members was 10. The total R&D cost for the term ended March 2019 was 101 million yen.

Until the term ended March 2018, the "language processing" and "voice processing" groups had engaged in R&D, and in the previous term ended March 2019, the "engine development" group joined them, and they conducted the R&D activities described below.

(Language processing group)

It aims to improve the Japanese language processing technology for speech synthesis.

(1) It tried to improve the precision of morphological analysis by upgrading the dictionary development tool of MeCab and the learning tool and adding the dictionary entry.

(2) The company upgraded MeCab and speeded up its operation for speech synthesis, in order to handle tagged text and compress resources for embedded systems.

(3) The company developed a technology for producing a scalable dictionary that can be adjusted according to the purposes of use, while considering the application to various fields, including embedding.

(Voice processing group)

The company is proceeding with the development of a new high-quality speech synthesis engine.

(1) One of the problems with speech synthesis using the deep neural network (DNN) is the deterioration of sound quality when unlearned information is inputted. The company developed a new normalization method, and confirmed that sound quality could be improved.

(2) For the estimation of acoustic parameters using DNN, the company developed a new prosodic model, and confirmed the improvement in quality of prosody prediction. This method is expected to improve quality also for spectrum parameters.

(3) In the collaborative research with Nagoya University, the company completed the fundamental study of application to the speech synthesis engine of a neural vocoder, which is one of next-generation DNN voice technologies.

(Engine development group)
The company is proceeding with the early practical application of new algorithms for languages and voices they have researched and developed.
(1) The company developed a new engine equipped with the DNN voice quality change technology, and checked its performance.
(2) The company upgraded the API of the speech synthesis engine and added new functions, in order to enable its integration into the multilingual speech synthesis engine of Nuance Communications, Inc. as the Japanese engine.

【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 15 speakers, including 7 female speakers, 4 male speakers, 2 boyish speakers, and 2 girlish speakers.

(3) Experience of producing a large number of custom voices

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.

(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 ROE analysis】

	FY 3/16	FY 3/17	FY 3/18	FY 3/19
ROE (%)	**15.0**	**15.4**	**17.8**	**16.7**
Net income margin [%]	15.09	17.03	18.51	20.38
Total asset turnover [times]	0.84	0.77	0.83	0.73
Leverage [times]	1.19	1.17	1.16	1.12

Because the company got listed in June 2018, the procured funds are reflected in the value as of the end of March 2019 only, and it is difficult to compare the values in terms. However, the net income margin for the term ending March 2020 is estimated to be 20%, and it is expected that ROE will remain high this term.

【1-7 ESG activities】

In the term ended March 2019, AI, Inc. carried out the following activities.

ESG	Theme	Outline
S: society	(1) Empowerment of women	・Among 36 employees, 16 (45.7%) are female ones. ・Among 11 managers, 3 (27.3%) are female ones.
	(2) Promotion of child-care support	・A child-care leave was taken by 2 employees. ・The system for shortened working hours was used by 1 employee.
	(3) Promotion of the reform of ways of working	・Working environment where the overtime work amount is small. Average overtime hours: 16 hours/month ・Working environment where employees feel free to take a day off: the average number of paid holidays taken: 12 (26 at a maximum) ・Promotion from part-time workers to full-time employees: In April 2019, two part-time workers were promoted to employees.
	(4) Promotion of social contribution activities	・Accepted the tour of students of a middle school for social studies ・To accept the tour of students of 4 schools in the term ending March 2020.
G: governance	(1) Dialogue with shareholders and investors	・A briefing session for individual investors held once (August). ・A briefing session for institutional investors held once (November). ・A 1-on-1 meeting with an institutional investor held 29 times. ・Interviewed by magazine reporters and others 18 times. ・Appeared in a TV or radio program 5 times.

2. Earnings Trend

(1) Fiscal Year March 2019 Earnings Results

① Earnings Results

	FY 3/18	Ratio to net sales	FY 3/19	Ratio to net sales	YOY	Ratio to the estimates
Net sales	591	100.0%	737	100.0%	+24.7%	+8.4%
Gross profit	438	74.2%	576	78.2%	+31.5%	-
SG&A expenses	292	49.4%	365	49.6%	+25.3%	-
Operating income	146	24.8%	211	28.6%	+43.8%	+27.0%
Ordinary income	147	25.0%	202	27.4%	+36.7%	+21.6%
Net income	109	18.5%	150	20.3%	+37.3%	+30.2%

*Unit: Million yen.

Sales and profit grew from the previous term, exceeding the estimates. Dividends were paid.

Sales grew 24.7% year on year to 737 million yen. The sales of services for corporations and products for consumers increased considerably.

Through the optimization of its product mix, gross profit rate rose as significantly as 4.1%.

Although SGA augmented 25.3% year on year, it was offset, and operating income grew considerably by 43.8% year on year to 211 million yen.

Both sales and profit exceeded the estimates.

The company paid dividends for the first time. Including the dividend of 3.00 yen/share for commemorating listing, the annual dividend amount was 8.00 yen/share, with a payout ratio of 25.9%.

② **Sales in each segment**

	FY 3/18	Composition ratio	FY 3/19	Composition ratio	YOY
Products for corporations	387	65.5%	423	57.5%	+9.5%
Services for corporations	125	21.3%	208	28.3%	+66.0%
Products for consumers	78	13.2%	104	14.2%	+33.7%
Total	591	100.0%	737	100.0%	+24.7%

*Unit: Million yen.

Products for corporations

・The use of Oto-no-shokunin (Voice Craftsman) instead of voice recording for e-learning, etc. increased, leading to sales growth.
・In the anti-disaster field, the transactions for multilingual systems with the translation function increased, and the number of orders from makers rose.
・In the broadcasting field, the utilization of speech synthesis increased, and the number of orders from broadcasting stations grew.

Services for corporations

"my daiz®" service of NTT Docomo contributed significantly. (my daiz® gives the most appropriate proposal to each user through the dialogue with the characters of my daiz and agents of each service.)

Products for consumers

The sales of the VOICEROID series were healthy.

③ **Financial Conditions and Cash Flow**

◎Major BS

	End of March 2018	End of March 2019		End of March 2018	End of March 2019
Current assets	746	1,115	Current liabilities	100	105
Cash and deposits	636	970	Trade payables	11	3
Trade receivables	91	130	Other payables	32	31
Noncurrent assets	50	96	Noncurrent liabilities	4	2
Property, plant and equipment	13	13	Total liabilities	104	108
Intangible assets	21	15	Net assets	692	1,103
Investments and other assets	15	67	Retained earnings	611	761
Total assets	796	1,211	Total liabilities and net assets	796	1,211
*Unit: Million yen			Equity ratio	86.9%	91.1%

Cash and deposits increased as the company procured funds through listing. Through the capital and business tie-ups with Secual, Inc., investments and other assets increased, and total assets grew 415 million yen from the end of the previous term to 1,211 million yen.
Net assets rose 411 million yen to 1,103 million yen.
Capital-to-asset ratio rose 4.2% year on year to 91.1%.

◎Cash flow

	FY3/18	FY3/19	Increase/decrease
Operating CF	121	135	+14
Investing CF	-14	-59	-44
Free CF	106	76	-30
Financing CF	47	257	+209
Cash and cash equivalents	636	970	+334

*Unit: Million yen.

The surplus of financing CF increased due to the issuance of shares.
The cash position improved.

④ Topics

◎AI, Inc. concluded a contract for technical alliance for commercializing a multilingual speech synthesis engine to be mounted on vehicles.

In October 2018, AI, Inc. signed a contract for technical alliance with Nuance Communications, Inc.
The company will offer AITalk® as the "Japanese speech synthesis engine" in the multilanguage speech synthesis engine for vehicles, which is promising among a variety of products of Nuance Communications.

(Outline of Nuance Communications, Inc.)
It is a U.S. maker of software for speech synthesis, voice recognition, and image recognition established in 1992. It handles a variety of software for recognizing telephone voices in multiple languages, reading medical records aloud, retrieving mobile websites with voices, synthesizing speeches for car navigation, managing PDF files in an integrated manner, inputting and handling audio data in PCs, and OCR.
It offers products to the markets of healthcare, mobile communications, consumers, enterprises, and images. It has developed and applied speech synthesis engines in a broad range of languages, and established an enormous customer base with the latest technologies.
The sales for the term ended September 2018 was 2,051 million US dollars (≈ 219.4 billion yen) and its market cap is 4.7 billion US dollars (≈ 500 billion yen).

(Background for the alliance)
AI, Inc. aims to expand its business, by fostering the partnership with Nuance Communications, Inc. and promoting the multilingual speech synthesis engine.
In parallel, Nuance Communications, Inc. aims to expand its business, by providing its customers with the high-quality Japanese speech synthesis engine based on this alliance.

(Details of the alliance)
As AI, Inc. provides Nuance Communications, Inc. with the basic technology of "AITalk®," a high-quality Japanese speech synthesis engine, and it is embedded in "Nuance® Vocalizer*," customers will be able to use "AITalk®," a high-quality Japanese speech synthesis engine, when using "Vocalizer."

*Vocalizer
Based on a next-generation speech synthesis technology that enables the output of high-quality voices, this product enriches each customer's experiences with the advanced capability of expression, enhanced multilingual support, and the optimized function to read long text. It can not only blend static voice output and dynamic voice output smoothly, but also improve the quality and precision of outputted voices, by processing text in an optimized manner, producing a more comprehensive pronunciation dictionary, and refreshing voices thoroughly in many languages.

Note: According to the news release on October 9, 2018, the product is to be released on June 28, 2019, but it is being slightly delayed. As there is progress, the company will announce information.

◎Progress of R&D of a next-generation speech synthesis engine

The project for subsidies for the development of new products and technologies, whose period was 18 months from July 2017 to December 2018, was completed in December 2018.

The company worked on the commercialization of an emotional speech synthesis system, which can express emotions with the speech synthesis engine utilizing the deep neural network (DNN).

The current system has a problem that emotions, such as "sorrow," "anger," and "pleasure," change irregularly in the normal state, but the company can synthesize speeches in which emotions change smoothly in the normal state, by predicting emotion change filters from DNN and producing emotion elements from normal elements. The company are currently applying for a parent on that system.

◎Mid/long-term R&D activities

Since April 2018, the company has engaged in collaborative research with Professor Toda of Nagoya University.

Professor Toda has accumulated his career experiences and achievements at Graduate School of Science and Technology, NAIST since 2005, and has served as a professor of Information Media Division, Information Technology Center, Nagoya University since September 2015. He is a pioneer in audio information processing, music information processing, and acoustic environment information processing.

AI, Inc. and the professor conduct the joint research and development of speech synthesis technologies based on the cutting-edge deep learning, such as WaveNet, which is one of deep neural networks for producing a speech waveform.

As for research results, patent applications will be first made, and then research results will be announced at academic conferences, external sessions, etc. Finally, commercialization will be carried out.

◎Strengthening of the organizational structure

In order to strengthen each function, the company proactively recruited mid-career workers.

*Strengthening of the R&D structure: 3 workers recruited

*Strengthening of the product development structure: 1 worker recruited

*Strengthening of the sales structure: 1 worker recruited

*Strengthening of the management structure: 1 worker recruited

(2) Fiscal Year March 2020 Earnings Estimates

① Earnings Estimates

	FY 3/19	Ratio to net sales	FY 3/20 (Est.)	Ratio to net sales	YOY
Net sales	737	100.0%	800	100.0%	+8.5%
Operating income	211	28.6%	220	27.5%	+4.2%
Ordinary income	202	27.4%	220	27.5%	+8.8%
Net income	150	20.4%	160	20.0%	+6.5%

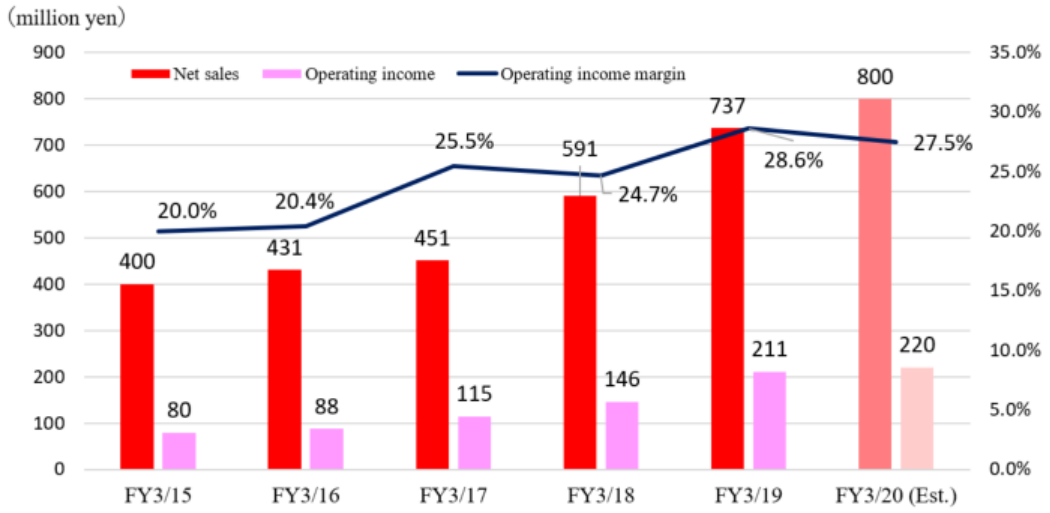
*Unit: Million yen. The estimates were announced by the company.

Sales and profit estimated to grow.

It is projected that sales will increase 8.5% year on year to 800 million yen and operating income will rise 4.2% year on year to 220 million yen.

Due to the expansion of the speech synthesis market, sales and profit are forecasted to increase like in the previous term.

The dividend is still to be determined.



② **Sales in each segment**

	FY 3/19	Composition ratio	FY 3/20 (Est.)	Composition ratio	YOY
Products for corporations	423	57.5%	451	56.4%	+6.4%
Services for corporations	208	28.3%	229	28.6%	+9.7%
Products for consumers	104	14.2%	120	15.0%	+14.9%
Total	737	100.0%	800	100.0%	+8.5%

*Unit: Million yen.

(Products and services for corporations)
Through the market expansion, the number of inquiries is expected to increase further, and it is estimated that the sales of packaged products (Koe-no-shokunin and Koe Plus), which are used instead of voice recording, will increase and the multilingual versions with the translation function will increase in the anti-disaster field.

(Products for consumers)
It is estimated that the sales of the VOICEROID series for producing narrations of videos, etc. will be healthy.
The company will also release new products.

③ **Activities in this term**

◎Collaboration with Nuance Communications
As mentioned above, according to the news release in December 2018, the product is to be released on June 28, 2019, but it is being slightly delayed. As there is progress, the company will announce information.

◎R&D of next-generation speech synthesis engines
Based on the outcomes of the "project for subsidies for the development of new products and technologies" completed in December 2018, the company will proceed with the commercialization of the speech synthesis system utilizing DNN (deep learning).

◎Mid/long-term R&D activities
The company will continue the collaborative research with Professor Toda of Nagoya University.

◎Strengthening of the organizational structure
The company will actively recruit 1-2 workers for the management section, 2-3 workers for the sales section, 3-4 workers for the development section, 1-2 workers for the R&D section, etc. this term, to fortify its organizational structure.

3. Interview with President Yoshida

We interviewed President Yoshida about the characteristics and strengths of AI, Inc., measures and issues to be solved for growth, his message toward shareholders and investors, and so on.

Characteristics and strengths of AI, Inc.: High-quality speech synthesis with a small number of voice samples. It is also possible to express emotions, such as delight, anger, sorrow and pleasure.

The most significant strength is the technology for reproducing someone's voices with a small number of voice samples.
In general, it is necessary to increase voice samples in order to improve the quality of synthesis, but recording time gets longer and the size of a phonetic dictionary gets larger, augmenting the cost for producing the phonetic dictionary, when more voice samples are recorded.
Our company has engaged in development, while aiming to synthesize high-quality speeches with a smaller number of voice samples, with AITalk®, which is a high-quality Japanese speech synthesis engine. Consequently, it became possible to produce a phonetic dictionary with the recording time of one tenth to twentieth of that of competitors.

Furthermore, the production of a phonetic dictionary with a small number of voice samples enabled the provision of various phonetic dictionaries. At present, our company offers 15 speakers, and because of the significant reduction in the cost for producing a phonetic dictionary, users can produce a desirable phonetic dictionary at low cost, and the number of custom voices, original Japanese phonetic dictionary, are growing.

Like this, the dramatic reduction in required time and cost boosted the competitive advantage over other makers.

As a major feature, AITalk® can express emotions, including delight, anger, sorrow, and pleasure, according to situations and purposes of use. By enhancing its technical advantage, our company is proceeding with the commercialization of an unrivaled engine that can express emotions in a more natural manner.
In the conventional technology, when emotions change from a calm state to "sorrow," voices recorded for expressing sorrow are used, but this emotional change is discontinuous, and lacks naturalness.
In order to solve this problem, our company is researching and developing an engine that can smooth the change from a normal state to delight, anger, sorrow, or pleasure, by utilizing deep learning, and hopes to release it as soon as possible.

Growth strategy: The scope of application of speech synthesis is steadily expanding. The company aims to grow by taking advantage of the expansion of the market and demand.

The keywords for its growth strategy are "linkage with voice recognition, translation, and interpretation functions," "multilingual systems," "interactive dialogue," and "collaboration with other companies."

As for the collaboration with other companies, the technical alliance with Nuance Communications, Inc. in the U.S. indicates remarkable progress.
Nuance Communications, Inc. is a global maker of software for sound/image recognition and speech synthesis, whose market cap is about 500 billion yen.
Out of the diverse lineup of Nuance Communications, our company will offer AITalk® as the Japanese speech synthesis engine of the promising multilingual system to be mounted on vehicles.
Nuance Communications had been using another maker's engine for the Japanese language, but it was necessary to improve the quality of the Japanese version, and they researched and found AITalk®, and highly evaluated the technology of AI, Inc. Then, an idea of collaboration emerged.
The release of products is a bit behind schedule, but our company is continuing activities, and is expected to announce the updated information in the near future.

Recently, the projects for e-learning have been increasing in addition to those for automobiles and dialogue (chatbots and smartphones), and there have been growing needs for multilingual functions for attending to foreign visitors to Japan. Then, the scope of application of speech synthesis has been expanding steadily.
By taking advantage of the expansion of the market and demand, our company will grow.

Issues to be solved for growth: To secure excellent personnel for sales, engineering, and R&D. The company also worked on the strengthening of the sales structure.
Needless to say, it is essential to secure excellent personnel for sales, engineering, and R&D.
In this light, listing turned out to be meaningful. Quality and quantity significantly changed through listing.

As for researchers, our company hopes to recruit young people as much as possible because it takes time to train them.
As for marketing, although our company had been just responding to inquiries from customers so far, it strengthened its marketing structure by dividing sales staff into two teams for "outbound" and "inbound" sales in April this year because our company needs to approach customers proactively in order to make large-scale deals, such as in-vehicle items.

Message toward shareholders and investors
Through the advent of AI speakers, such as Amazon Echo and Google Home, audio interfaces have spread in the past several years, and their usefulness has been diffused rapidly.
Since the output of these audio interfaces is speech synthesis, our company has wider opportunities to flourish and hopes to keep running as a top runner. To do so, it is necessary to research new technologies and brush up our company's strengths further, while proceeding with commercialization, and our company has already formulated a roadmap.

Our company will keep researching the market, grasp needs, and expand business with appropriate approaches to make society more convenient. We hope that shareholders and investors will support us from the mid/long-term perspective.

4. Conclusions

Although sales and profit increased in this term following the considerable growth in the previous term, their growth rates are single-digit and we were not very satisfied with this result.
As the target market is expanding steadily, we would like to pay attention to how much the company will be able to accumulate sales and profit by taking full advantage of the position as a top enterprise and when they will be able to conduct the release of products for Nuance Communications, which is being delayed.

<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 27, 2019

<Basic policy>
Recognizing that in order 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 of the basic principles of the Corporate Governance Code.