

CRI Middleware Co., Ltd.

3698

Tokyo Stock Exchange Growth Market

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■ Summary

Enterprise Business expanding rapidly, poised for growth phase

1. Operates Gaming and Enterprise businesses under the CRIWARE brand

CRI Middleware Co., Ltd. <3698> (hereafter, also “the Company”) licenses software products, mainly under the CRIWARE® and OPTPIX brands, and provides contract development and sound production services related to the sale of its product licenses. The Company has two business segments—the Gaming Business and the Enterprise Business. In the Gaming Business, it provides audio and video middleware and image optimization solutions for the smooth and efficient development of video games, as well as sound production services. The Enterprise Business is focused on areas other than gaming, particularly the mobility, embedded, and cloud solutions fields. It leverages audio and video-related technologies cultivated in the Gaming Business to provide audio/video middleware and solutions and conducts related contract development.

2. Strength is digital signal processing technology that compresses audio and video files while retaining quality

The Company has a number of technical and marketing strengths. In technology, the Company's strength lies in digital signal processing technology that can achieve compression ratios of 1/24 for audio and 1/1000 for video while maintaining high quality. The Company's software enables high-level processing, such as improving sound quality and synchronizing audio with video in real time. In marketing, the Company's strength is its ability to utilize these advanced technologies to satisfy market and customer needs based on a market-focused approach. Using this approach, the Gaming Business has supported more than 20 different gaming consoles and platforms, while subsidiary TWOFIVE Co., Ltd. provides one-stop services for voice actor casting and production. In the Enterprise Business, these technologies support the playback of low-load, high-quality audio and an app-based video generator for smartphone browsers.

3. Sustained growth in sales and profits supported by shift to enterprise market and rebuild of overseas business

The Company reported FY9/24 net sales of ¥3,167mn (up 5.9% year on year [YoY]) and operating profit of ¥368mn (up 6.8%). On an underlying basis, which excludes the impact of the sale of a subsidiary, net sales rose 19.0% YoY and operating profit increased 11.0%. This double-digit growth reflected the success of a priority initiative to shift away from the Gaming Business to focus more on the Enterprise Business, with net sales and operating profit both finishing slightly higher than the initial forecast as a result. The Company sees steady growth in FY9/25, forecasting net sales of ¥3,360mn (up 6.1%) and operating profit of ¥384mn (up 4.2%). In terms of other priority initiatives, it aims to continue expanding sales of new products and investing in technology development. In the Gaming Business, it plans to rebuild its overseas operations, accelerate business development, and explore alliances, while in the Enterprise Business, it intends to target resources on strategic areas.

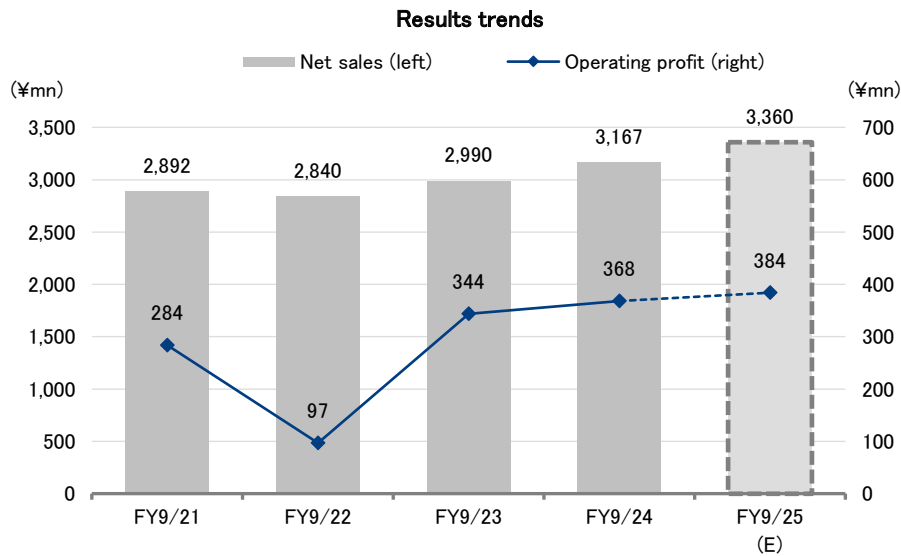
Summary

4. Aims to transform business to become ¥10.0bn company in 5–10 years

The Company’s basic policy is to transform its current game-dependent business into a business structure with three pillars (core businesses) over the medium to long term: gaming, mobility, and TeleXus-related businesses. It also wants to become a ¥10.0bn company in 5–10 years while also significantly lifting profit margins, which have been declining recently. The growth strategy for the Gaming Business is to increase net sales from ¥1.7bn to ¥3.0bn over the next 5–10 years by focusing on alliances in Japan and stepping up expansion overseas. In the mobility field, the Company aims to grow sales from ¥0.3bn to ¥3.0bn in the same timeframe by launching new products for both Japanese and overseas automakers. In the TeleXus-related field, it wants to increase net sales to ¥3.0bn in 5–10 years from currently very low levels by leveraging the advantages of its TeleXus technology, which enables large-scale voice chat and AI-powered interpreting.

Key Points

- Developing licensing business under the CRIWARE brand; strengths in digital signal processing technology
- Sustained growth in sales and profits supported by measures including shift to enterprise market and rebuild of overseas business
- Aims to become ¥10.0bn company in 5–10 years by reinforcing and restructuring around three core businesses



Source: Prepared by FISCO from the Company’s financial results

Company overview

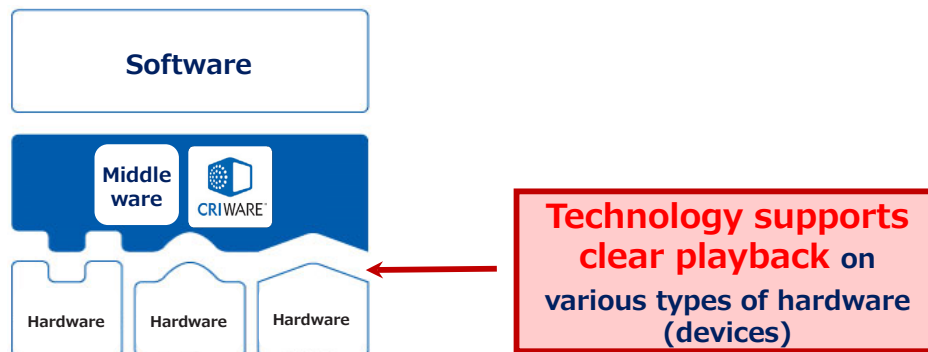
Operates licensing business under the CRIWARE brand

1. Company overview

The Company is engaged in the licensing of specialist audio and video middleware*, primarily under the CRIWARE brand, and the provision of related technical support. The Company is strong in digital signal processing technology for audio and video. It operates a Gaming Business and an Enterprise Business. In the Gaming Business, it provides middleware and image optimization solutions and is involved in audio production through a subsidiary. It has an extremely large share of the domestic gaming market, particularly in audio middleware. In the Enterprise Business, it leverages technology cultivated in the Gaming Business in non-game fields, focusing on mobility, embedded for home appliances and IoT devices, and cloud solutions utilizing web video and image technologies. The Company was founded as a middleware developer in the gaming field, but subsequently expanded into the entertainment field, including amusement equipment, and then into the enterprise field, including mobility and embedded. It has also resumed expansion in overseas markets. The Company aims to transform its domestic game-dependent business structure over the medium to long term. Its goal is to become a ¥10.0bn company in 5–10 years with three pillars—games, mobility, and TeleXus-related businesses.

* Middleware: The software layer that lies between (middle) the hardware or operating system (OS) and the application software. Middleware supports the smooth operation and development of applications by controlling hardware and OS characteristics. Middleware helps to improve software quality, reduce development man-hours, shorten development time, and lower development complexity while also making it easier to deploy applications on a range of different platforms.

Role of middleware



Source: The Company's financial results supplementary materials

Formed from the middleware business of CSK Research Institute

2. Company history

The Company's predecessor company is CSK Research Institute Corporation, a subsidiary of CSK Corporation (now SCSK Corporation <9719>) founded in 1983 as a software technology laboratory. In its early days, the Company conducted research into AI and other technologies, but its research in the audio and video field led to a deepening relationship with SEGA Enterprises, Ltd. (now SEGA Corporation), a CSK Group company at the time. As a result, it began developing basic software (middleware) and application software (games) for SEGA's home video game consoles. The Company later became a SEGA subsidiary, but SEGA decided in January 2001 to withdraw from the home video game hardware business. CSK Research Institute's middleware business therefore needed to start developing software for other home video game consoles (multiplatform strategy). This prompted CSK Research Institute to spin off its middleware business in August 2001, leading to the establishment of CRI Middleware. The Company's middleware is still used in many titles from SEGA, which retains 12.25% of The Company shares, but the Company has a high degree of management independence and a growing customer base in the gaming industry, including Square Enix Holdings Co., LTD. <9684> and Bandai Namco Entertainment Inc. Drawing on its technological capabilities from the gaming field, The Company has rapidly expanded its customer base in non-game fields, starting in 2011 with the launch of a sales presentation system for smart devices, and followed in 2017 by its move into the mobility field with audio middleware for embedded in-vehicle systems. The Company entered the US in 2006, but decided to exit the market as next-generation game consoles were launched and overseas game titles became larger in scale. However, in 2019, the Company decided to resume overseas expansion, starting with China, where video middleware needs were strong. This is supporting the Company's steady growth overseas and it is now looking to re-enter the US and European markets.

Company history

Year	Event
1983	CSK Corporation (now SCSK Corporation) establishes CSK Research Institute Corporation (CRI) in October to conduct R&D into AI, audio/video technology, CD-ROM media
1996	Releases first middleware (CRI ADX, CRI Sofdec, CRI Clipper, etc.) for Sega Saturn™ home video game console
2001	CRI Middleware Co., Ltd. incorporated as wholly owned subsidiary of CRI to develop and sell middleware Created as entity independent from CSK/Sega group to support middleware multiplatform strategy (market diversification) Released middleware for PlayStation®2, Nintendo GameCube® and Xbox® home video game consoles
2002	Opened office (R&D and sales base) in Minami-Aoyama, Minato-ku, Tokyo Launched middleware for game consoles (commercial use) and PCs (Windows)
2004	Becomes independent from parent company through buyout by directors and employees
2005	Head office relocated to Minami-Aoyama, Minato-ku, Tokyo; Japanese company name changed
2006	Established wholly owned consolidated subsidiary CRI Middleware, Inc. in California, US. (currently consolidated subsidiary)
2009	Head office relocated to Shibuya, Shibuya-ku, Tokyo Released "i kyuseisyu" audio middleware for iPhone/iPod touch; moved into smartphone software business
2010	Launched CRI ADX7 audio middleware for embedded devices
2011	Released pharmaceutical sales presentation system for smart devices, developed with CSK, marking first move into non-game field Launched D-Amp Driver, "Karu-i-i-ne," and "Karu-e-e-zo" audio/video middleware for embedded microcomputers
2012	Added CRIWARE support for Unity game engine
2013	Added CRIWARE support for Cocos2d-x and Unreal Engine 4
2014	Listed on Tokyo Stock Exchange (TSE) Mothers Market
2017	Launched CRI ADX Automotive, audio middleware for embedded in-vehicle systems
2018	Acquired all shares in Web Technology Corporation, making it a wholly owned subsidiary
2019	Established consolidated subsidiary CRI Middleware China Co., Ltd. with 70% stake, in Shanghai, China (currently consolidated subsidiary) Acquired all shares in TWOFIVE Co., Ltd., making it a subsidiary (currently consolidated subsidiary)
2020	Acquired all shares in R-FORCE ENTERTAINMENT INC., making it subsidiary (currently excluded from scope of consolidation)
2021	Absorbed wholly owned subsidiary Web Technology Corporation through a merger Head office relocated to Sakuragaoka-cho, Shibuya-ku, Tokyo
2022	Listing transferred to TSE Growth Market Official release of CRI TeleXus, new communication system for virtual spaces such as the metaverse and online games
2023	R-FORCE ENTERTAINMENT INC. excluded from scope of consolidation following sale of all shares

Source: Prepared by FISCO from the Company's securities reports and other materials

Significant room for growth in enterprise market

3. Industry environment

In the gaming industry, the smartphone gaming boom has tailed off and demand is moving back to game consoles and PCs. Also, amid in slump in the popularity of major game titles in recent years due to a range of factors, small-scale indie titles have seen a resurgence. However, the era of strong growth in Japan's gaming market is now long gone, so the Company has switched focus to large domestic titles for multiple platforms, while also targeting indie games. For The Company, the number of titles that use its middleware is more important than the size of the games, so it also cultivating links with indie developers, including providing free products*. In non-game areas, it is seeing growth in the mobility field in particular. The Company's middleware is superior in terms of both price and quality and it is also based on a general-purpose microcontroller, mitigating procurement risk for automakers, which are moving away from voice ICs. We see significant room for growth in the mobility field, as audio functions are needed for multiple places in each vehicle and the Company has not yet tapped business with overseas automakers.

* Free products: Support system for indie game developers; fees are charged only when sales or other performance indicators exceed a certain level.

The Company's competitors in middleware are Audiokinetic, Inc. of Canada, which specializes in audio with its Wwise application, and RAD Game Tools, which is focused on video. Unity supplied by US company Unity Technologies (Unity Software Inc.) and Unreal Engine developed by Epic Games, another US company, are game engines that make it easier to create entire video games. In many cases, developers employ the Company's middleware to further improve the functionality of the game engines, enabling them to coexist with the Company. In addition, following its acquisition by Epic Games, RAD Game Tools appears to be focusing more on the development of titles for its parent company. In this environment, CRI Middleware is reported to have the leading market share in Japan, but its temporary exit from overseas markets allowed Wwise to gain ground in Europe and the US. The Company is of course aiming to capture share in overseas markets from these clear competitors, but the large and expanding global market in the Enterprise Business is also attractive in terms of growth potential.

Business overview

Operator of middleware licensing business

1. Business

The CRI Middleware Group consists of the Company and two subsidiaries. It is primarily engaged in the licensing of software products under the CRIWARE and OPTPiX brands, related contract development, and sound production. The Group's operations can be viewed from several angles, as described below.

Business overview

(1) Business segments

Operations are divided into two business segments—the Gaming Business and the Enterprise Business. In the Gaming Business, the Company, TWOFIVE, and CRI Middleware China serve the gaming industry, providing audio and video-related middleware for smooth and efficient game development, image optimization solutions, and sound production. The Company's middleware is very well known among gamers, with the CRIWARE logo appearing on the packaging of many games and on the startup screens of smartphone games. The Enterprise Business leverages audio and video-related technologies cultivated in the Gaming Business to provide audio/video middleware and solutions in non-game areas. It also conducts related contract development. Specifically, the business is focused on mobility, embedded for home appliances and IoT devices, and cloud solutions that utilize web video and image technologies.

(2) Basic technologies developed for the gaming field

Over the years, the Company has independently conducted research and development into many types of digital signal processing technology, including audio and video, and repeatedly tested them with customers. This experience and expertise, as well as the trust built up with customers, has enhanced the Company's technical reputation and its corporate value, and consequently the CRIWARE brand. In audio, the Company has audio signal processing technology that employs digital filters to apply various effects to sound in real time, as well as audio codecs* compatible with multiple platforms thanks to its audio compression technology developed in house. It also has a number of other technologies in areas such as audio analysis and sound authoring. In video and graphics, the Company has video playback technology that adjusts the timing of rendering and decoding (decompression) processes to match the characteristics of different game consoles and devices, as well as video compression technology that performs real-time processing as an encoding (compression) library, making it more than a simple compression tool. Other technologies include video analytics and video streaming. The Company's technology suite also includes: network technologies, such as web API development, lookahead/delayed loading, and machine learning; application development technologies, such as web application development and UI/UX design and development; and embedded technologies, such as microcontroller control, OS/driver development, and power outage recovery.

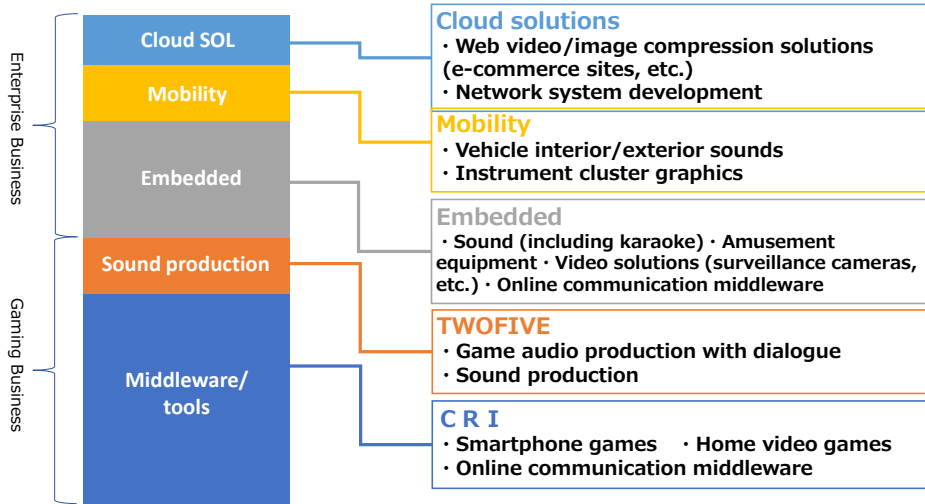
| * Codecs: Technology or a program for compressing and restoring digital data such as audio and video. |

(3) Product services and solutions

The Company monetizes the above basic technologies as product services and solutions. In product services, it utilizes its advanced gaming audio and video technologies in the entertainment field for amusement equipment, karaoke, virtual characters, and VR/AR. Other applications include home appliances, PCs, and signage in the embedded field, instrument clusters, AVAS, and DMS in the mobility field, and e-commerce sites and online exhibitions in the cloud solutions field. In solutions, its technologies support the development of animation authoring tools for VR equipment and well-known game titles, character content for karaoke companies, sound middleware for automaker instrument clusters, image quality optimization systems for automakers, apparel video blogging systems, and online exhibition systems.

Business overview

Business fields



Source: The Company's financial results supplementary materials

Strengths in high-quality, low-load digital signal processing technology

2. Strengths

The Company has a number of technical and marketing strengths. In technology, the Company's strength lies in digital signal processing technology that can achieve compression ratios of 1/24 for audio (using audio codecs) and 1/1000 for video while maintaining high quality. Using its proprietary compression technology tools and methods, the Company is focused on delivering high-quality audio and video, aiming to make them sound clear and synchronizing them in real time, even when platform performance is limited (low-cost production). These technical capabilities have given The Company a competitive advantage in terms of price and quality, spurring the use of its middleware in a wide range of fields beyond games, including karaoke, mobility, and IoT devices.

In marketing, the Company's strength is its ability to utilize these advanced technologies to satisfy market and customer needs based on a market-focused approach. In the Gaming Business, the Company's technology supports the development of high-quality games for various platforms and OS, including compatibility with more than 20 game consoles. Key products in the Gaming Business include the mainstay CRI ADX® integrated sound middleware, CRI Sofdec® high-definition, high-performance movie middleware, and CRI TeleXus® online communication middleware. Subsidiary TWOFIVE also provides a full range of voice actor services, from casting and direction to recording, processing, editing, and databasing, meeting the needs of game developers that want to use well-known voice actors or create soundscapes that align with the image of their games. In the Enterprise Business, the Company supplies a one-chip microcontroller that can play back low-load, high-quality audio files, as well as an app-based video generator for smartphone browsers. These technologies address needs for clear voice playback, functional switching from buzzer sounds to voice guidance, reduced component numbers, and voice rearrangement in response to situational changes. Key products in the Enterprise Business include: CRI D-Amp Driver®, a reduced circuit high-output sound middleware for the embedded field; CRI SOLIDAS, a full digital audio solution; CRI DietCoder® and CRI TeleXu, high-compression transcoding systems; CRI ADX Automotive (CRI ADX-AT), a sound development solution for the mobility field; CRI Glassco®, a graphics development solution; CRI LiveAct®, a web video solution for the cloud solutions field; and OPTPIX SmartJPEG, an image compression solution.

Results trends

Promoting a shift to the Enterprise Business to secure higher sales and profits

1. FY9/24 results

The Company's results for FY9/24 were net sales of ¥3,167mn (up 5.9% YoY), operating profit of ¥368mn (up 6.8%), ordinary profit of ¥383mn (up 1.1%), and profit attributable to owners of parent of ¥304mn (up 30.9%). Compared with the initial forecast, net sales and all levels of profit were slightly higher. The Company was promoting a shift to the Enterprise Business as a key strategy, and the strong results appear to have been due to the success of the strategy.

FY9/24 operating results

	FY9/23		FY9/24		
	Results	Vs. net sales	Results	Vs. net sales	Change %
Net sales	2,990	100.0%	3,167	100.0%	5.9%
Gross profit	1,732	57.9%	1,717	54.2%	-0.9%
SG&A expenses	1,387	46.4%	1,348	42.6%	-2.8%
Operating profit	344	11.5%	368	11.6%	6.8%
Ordinary profit	379	12.7%	383	12.1%	1.1%
Profit attributable to owners of parent	232	7.8%	304	9.6%	30.9%

Source: Prepared by FISCO from the Company's financial results

The Japanese economy saw a gradual recovery in business conditions, as corporate revenues improved amid continued gradual growth in overseas economies, maintaining a favorable level of business confidence, despite weakness observed in some areas. In the business environment for the Company, telework became firmly established as a new work style after becoming popularized during the COVID-19 pandemic, while the use of online communication tools such as voice chat and online meeting tools also become normalized. Furthermore, the development of SDV*, which is drawing attention in the mobility industry, is expected to be an area where the Company can contribute technologies and knowledge after its ongoing development of middleware for the gaming industry. Under these conditions, the Company conducted the development of online communication middleware, CRI TeleXus, set up an R&D system with an eye on businesses and markets that are expected to grow going forward, such as mobility, and focused its efforts on expanding the business foundation and generating Group synergies.

* SDV (Software Defined Vehicle): An automobile whose functions and performance are defined by software, enabling functions to be added and performance improved after sale through software updates.

As a result, the Enterprise Business overall contributed significantly to higher sales and profits, the subsidiary TWOFIVE also achieved record high sales and profits, absorbing the impact of losing the sales of a game development and operation subsidiary that was transferred at the end of FY7/23 to secure higher sales. Stripping out the impact of transferring this subsidiary, net sales in real terms were extremely favorable, rising 19.0% YoY. On the profit front, operating profit increased due to the impact of higher sales, although gross profit and SG&A expenses decreased, partly due to the impact of the subsidiary transfer. Operating profit achieved double digit growth in real terms, rising 11.0% ignoring the impact of the subsidiary transfer. Furthermore, performance was higher than the initial forecast in the embedded and cloud solutions fields, supported by strong performance of TWOFIVE, with achievement rates of 104.5% for net sales and 103.8% for operating profit.

Results trends

A decrease in profit in the Gaming Business was covered by strong performance in the Enterprise Business

2. Business segment results

Looking at results by segment, a decrease in profit in the Gaming Business was covered by a substantial increase in the Enterprise Business. In the Gaming Business, net sales were ¥1,676mn (down 15.0% YoY) and segment profit was ¥116mn (down 36.9%). In the Enterprise Business, net sales were ¥1,490mn (up 46.2%) and segment profit was ¥251mn (up 57.4%).

FY9/24 segment results

Net sales	FY9/23		FY9/24		
	Results	Vs. net sales	Results	Vs. net sales	Change %
	(¥mn)				
Gaming Business	1,971	65.9%	1,676	52.9%	-15.0%
Middleware/tools	1,342	44.9%	1,268	40.0%	-5.5%
Overseas	206	6.9%	157	5.0%	-23.5%
Audio production	300	10.0%	408	12.9%	35.8%
Game development and operation	328	11.0%	-	-	-100.0%
Enterprise Business	1,019	34.1%	1,490	47.1%	46.2%
Embedded	569	19.0%	745	23.5%	30.9%
Mobility	205	6.9%	256	8.1%	24.8%
Cloud solutions	244	8.2%	489	15.5%	100.2%

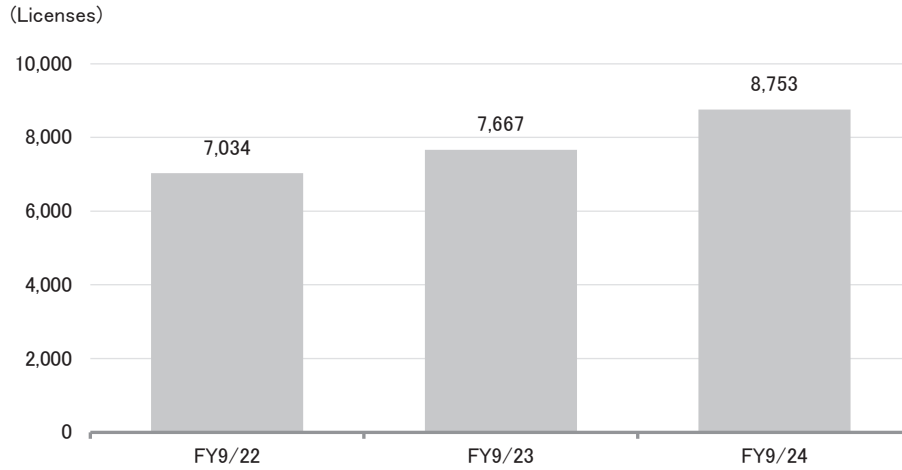
Segment profit	FY9/23		FY9/24		
	Results	Profit margin	Results	Profit margin	Change %
	(¥mn)				
Gaming Business	184	9.4%	116	7.0%	-36.9%
Enterprise Business	159	15.7%	251	16.9%	57.4%

Source: Prepared by FISCO from the Company's financial results supplementary briefing materials

In the Gaming Business, domestic license sales of CRIWARE and others decreased YoY, despite recording a one-time license sale again this year, as the sale was not as large as last year. Overseas sales were lower YoY, reflecting a slump in the content outsourcing business and the licensing business in Europe and the United States, despite a gradual recovery of the license business in China. In audio production, which is operated by the Company's subsidiary, TWOFIVE, record high net sales and profits were recorded, due to favorable performance of services for producing sound effects, music, and so forth, as well as receiving a major order for audio recording services in the second half of the fiscal year. Upon relocating its head office in 2021 to Shibuya where the Company's head office is located, TWOFIVE constructed a new state-of-the-art sound studio, increasing its well-established quality even further. As a result, it retained repeat customers and appears also to have succeeded in attracting latent customers. Moreover, with the transfer of all of the shares of its subsidiary, R-FORCE ENTERTAINMENT, at the end of the previous fiscal year, net sales from game development and operation were removed, leading to a sharp decline in net sales of the Gaming Business. However, excluding the impact of R-FORCE ENTERTAINMENT, net sales in real terms increased steadily by 2.0% YoY. Looking at KPIs, the number of adoptions of CRIWARE in the Gaming Business grew steadily to 8,753 licenses (up 14.2% YoY). The adoption rate in smartphone games grew 5.0 percentage points (pp) to 35.0%, reflecting an increase in market share. The result appears to reflect the use of CRIWARE in popular games and an increase in titles from China as the smartphone game market becomes a red ocean. The adoption rate in home console games was level YoY at 24.0%, with fluctuations becoming smaller due to the wide spread of adoption.

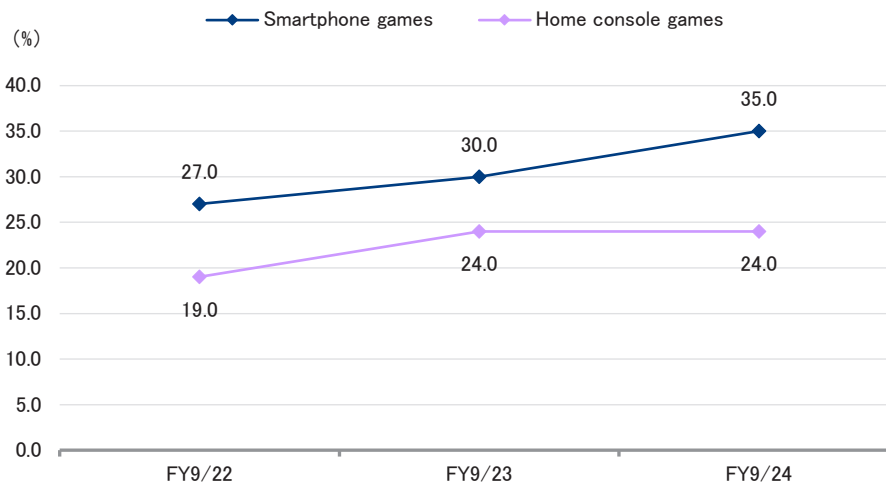
Results trends

Number of adoptions of CRIWARE in the Gaming Business



Source: Prepared by FISCO from the Company's financial results supplementary briefing materials

Adoption rate of CRIWARE in the Gaming Business

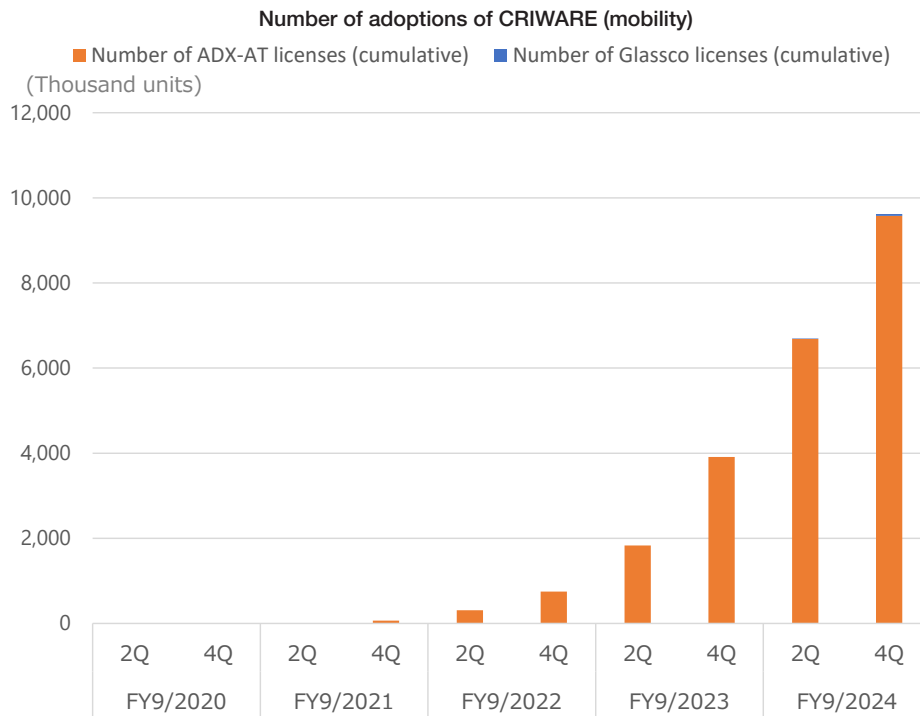


Source: Prepared by FISCO from the Company's financial results supplementary briefing materials

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Results trends

In the Enterprise Business, performance was extremely good overall. Net sales in the embedded field increased, mainly due to continued orders for karaoke customers and an orders for development of an ePICO system for SEGA FAVE CORPORATION. On the other hand, the Company decided to withdraw from the business of pachinko ball dispensing machines for gaming machines in order to focus its management resources on initiatives such as sales promotion of the new-generation fully digital audio solution, CRI SOLIDAS. Net sales in the mobility field increased significantly as the number of license adoptions for the in-vehicle sound solution CRI ADX-AT and in-vehicle graphic display solution CRI Glassco rose sharply to 9.62 million (up 2.5 times YoY). Furthermore, CRI ADX-AT appears to be enjoying a rapid increase in adoptions as Japanese automobile production recovered after a downturn during the COVID-19 pandemic. However, in order for the mobility field to continue growing strongly going forward, it would seem necessary to grow the number of adoptions by overseas automakers and increase adoptions of CRI Glassco, which has a high unit price. In addition, CRI ADX-AT is currently adopted only for meters, even in automobiles; however, since there are many places inside a vehicle where sounds are emitted, the Company is considering expanding the number of licenses per vehicle to two or three. The majority of license revenue in the mobility field is recorded in 2Q and 4Q due to the situation of automakers. Net sales in the cloud solution field increased due to favorable performance in system development projects, with large-scale orders from multiple customers, such as Pole to Win, Inc., mainly for outsourcing game debugging and game release processing. Going forward, however, the Company has set a direction of shifting to the licensing business, which generates continuous sales, and it is promoting R&D for this purpose.



Source: The Company's financial results supplementary briefing materials

Digital sound solutions CRI SOLIDAS awarded JASA Special Award

3. Topics

In new products and projects, the Company started a new initiative in FY9/24 in the Gaming Business with the launch of the new product CRI Clovis, a network video playback middleware capable of streaming playback. Streaming playback is a method of video playback that is able to switch video content without updating the application. Furthermore, streaming playback from any platform can be easily equipped using only CRI Clovis, without needing to undertake individual operation for each platform. The Company aims to achieve net sales of ¥0.3bn by 2029.

In the Enterprise Business, as a new initiative in the mobility sector, the Company participated in an API* creation project for SDVs called the Open SDV Initiative. The Open SDV Initiative project was established with the objective of developing a Japanese standard for vehicle APIs, which connect automobile software and hardware. IT is a field where the Company can utilize its technology and knowledge.

| * API (Application Programming Interface): An interface that connects functions for software, programs, and Web services. |

The Company has also developed a digital sound solution called CRI SOLIDAS, which has been selected for use in two types of gaming speaker made by Pioneer Corporation. The solution can realize high quality sound playback, including spatial audio. In addition, by concentrating digital sound in an ordinary microcomputer or FPGA chip, the solution can greatly reduce the number of parts, enabling products to be made smaller and use less electricity, while also reducing mass production cost and parts procurement risk. In addition, CRI SOLIDAS was also recognized for enabling the building an audio system including physical circuits with software in the development of IoT devices and embedded devices among other benefits, when it received the JASA Special Award at the EdgeTech+ AWARD 2024 of the embedded industry. Developments using CRI SOLIDAS are already in progress in other industries as well, and the Company aims to ship 10 million units per year in five years' time.

The Company has also developed a system for the educational device ePICO of its Sega's sister company SEGA FAVE. The Company provides picture book software development tools that broaden the fields of play and learning and the CRI ADX and CRI Sofdec solutions, which incorporate the Company's knowledge in the field of gaming, to realize an environment expressed through rich sounds and images for the home app* that controls each ePICO device.

| * Home app: An application that enables customization of a home screen |

Further progress on shift to the Enterprise Business

4. FY9/25 forecasts

The Company's results forecast for FY9/25 is for steady growth with net sales of ¥3,360mn (up 6.1% YoY), operating profit of ¥384mn (up 4.2%), ordinary profit of ¥394mn (up 2.8%), and profit attributable to owners of parent of ¥312mn (up 2.5%).

Results trends

Results forecast for FY9/25

	FY9/24		FY9/25		
	Results	Vs. net sales	Forecast	Vs. net sales	Change %
Net sales	3,167	100.0%	3,360	100.0%	6.1%
Gross profit	1,717	54.2%	-	-	-
SG&A expenses	1,348	42.6%	-	-	-
Operating profit	368	11.6%	384	11.4%	4.2%
Ordinary profit	383	12.1%	394	11.7%	2.8%
Profit attributable to owners of parent	304	9.6%	312	9.3%	2.5%

Source: Prepared by FISCO from the Company's financial results

In the Japanese economy, as overseas economies continue to grow slowly, a positive cyclical mechanism appears to be gradually gaining momentum as higher incomes are translating to increased spending against a backdrop of accommodative financial conditions. In addition, corporate earnings appear to be on an improving trend, as internal and external demand edge higher. Under these conditions, the Company intends to set up an R&D system with an eye on businesses and markets that are expected to grow going forward, such as mobility, and focus its efforts on expanding the business foundation and generating Group synergies. In addition, it will continuously invest in technology development of the online communication middleware CRI TeleXus, while promoting R&D of new products that concentrate real time processing technologies and video/still image-related technologies. In core measures not related to TeleXus, the Company will rebuild its overseas gaming market infrastructure in areas such as China, Europe and the United States and accelerate overseas business development, as well as expanding sales of its new products CRI Glassco, CRI SOLIDAS, and CRI Clovis. It also plans to move forward with initiative such as the start of R&D investment for establishing new cloud solutions products.

Sales forecast for FY9/25 by segment

	FY9/24		FY9/25		
	Results	Vs. net sales	Forecast	Vs. net sales	Change %
Gaming Business	1,676	52.9%	1,840	54.8%	9.7%
Middleware/tools	1,268	40.0%	1,460	43.5%	15.1%
Overseas	157	5.0%	280	8.3%	77.6%
Audio production	408	12.9%	380	11.3%	-6.9%
Enterprise Business	1,490	47.1%	1,520	45.2%	2.0%
Embedded	745	23.5%	800	23.8%	7.4%
Mobility	256	8.1%	380	11.3%	48.2%
Cloud solutions	489	15.5%	340	10.1%	-30.5%

Source: Prepared by FISCO from the Company's financial results supplementary briefing materials

Looking at the results forecast by segment, the Company is forecasting net sales of ¥1,840mn (up 9.7% YoY) for the Gaming Business and net sales of ¥1,520mn (up 2.0% YoY) for the Enterprise Business. The Company will shift its focus even further from the Gaming Business to the Enterprise Business, but each field is in a transitional phase and the Company appears to have taken somewhat conservative assumptions for the Enterprise Business.

Results trends

As a key measure for the Gaming Business, in the middleware/tools category, the Company plans to focus on expanding sales of its new product CRI Clovis, and to increase adoptions of CRIWARE by leveraging the effects of an alliance with the spatial sound offering Sound xR of Yamaha Corporation <7951>. In particular, given the increasing demand for voice chat amid growing popularity of fan activities and community games, the Company plans to strengthen sales activities to increase the number of titles adopting CRI TeleXus. Through these efforts, the Company expects to achieve net sales of ¥1,460mn (up 15.1% YoY) in middleware/tools. Within middleware/tools, there is strong demand for the Company's imaging middleware in the Chinese, European, and U.S. markets, and the Company's policy is to aggressively promote this offering as a lead-in product. In addition, while the Company will work to enhance its direct sales capabilities, for the time being it has concluded agreements with several sales agents, and aims to reinvigorate its sales expansion with direct sales and agents in China and North America, and mainly with agents in Europe. As a result, the Company expects of overseas middleware/tools net sales to be ¥280mn (up 77.6%). In audio production, the Company plans to focus on increasing orders from Chinese companies, where there is high demand for Japanese voice actors, by making full use of the advantages of having a local subsidiary in China and its local connections. In addition, the Company aims to increase recognition of TWOFIVE by restarting events that were cancelled due to COVID-19. As a result of these initiatives, the Company expects audio production net sales of ¥380mn (down 6.9%).

As a key measure in the Enterprise Segment, the Company is promoting selection and concentration in the embedded field, terminating its business in pachinko ball dispensers for gaming machines and looking to shift its management resources to growth fields, expand sales of the new product CRI SOLIDAS, and increase orders in the karaoke services field. Furthermore, among its mainstay products, the Company will also strengthen non-game applications of CRI TeleXus, and has already fielded a number of inquiries, with plans to finalize an agreement for a major project in 3Q. As a result, the Company expects net sales of ¥800mn (up 7.4% YoY) in the embedded field. In the mobility field, the Company completed software investment for the voice product CRI ADX-AT and the high-priced graphics product CRI Glassco in FY9/24. Accordingly, CRI ADX-AT has entered the profit recovery phase, and is expected to see growth in licensing revenue, while CRI Glassco is also to enter the profit recovery phase after a delay. Partly because of this, the Company plans to expand the types of vehicle for which CRI Glassco is adopted. Through these efforts, the Company expects net sales in the mobility field of ¥380mn (up 48.2%). In the cloud solutions field, a portion of the multiple large-scale system development projects that the Company has undertaken were completed, with a substantial impact on net sales. However, Company's policy is to adjust the volume of orders received in the outsourcing business and strategically shift its focus to the licensing business. For this reason, the Company will begin R&D investment in a new product that concentrates its real time processing technologies and video/still image-related technologies aiming to release the product in FY9/26. Accordingly, the Company expects net sales in the cloud solutions field of ¥340mn (down 30.5%).

Growth strategies

Becoming a ¥10.0bn company in 5–10 years' time

1. Basic policy

The Company's basic policy in its growth strategy is to take the technologies, expertise, knowledge, and funds obtained in the Gaming Business and invest them in R&D and in strengthening sales in the Enterprise Business, thereby expanding its business domains and achieving dramatic growth for the overall CRI Group. Within this strategy, the Company plans to transform its current gaming-reliant business structure to a one with gaming, mobility, and TeleXus-related businesses as its three pillars (core businesses) over the medium to long term. On top of that, the Company aims to become a ¥10.0bn company in 5–10 years' time. In tandem, the Company's policy is to achieve a significant increase in its profit margin, which is currently at a low level due to the CRI TeleXus investment phase, mainly by expanding the licensing business.

Gaming, mobility, and TeleXus-related businesses are the three growth pillars

2. Growth strategies for core businesses

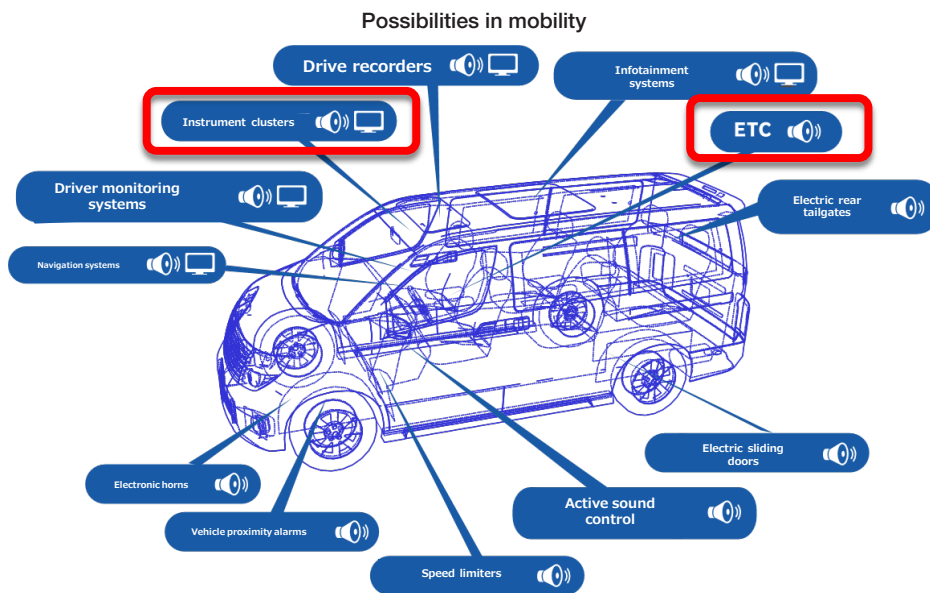
(1) Gaming Business

In Japan, the Company will focus on alliances, and overseas on accelerating its entry into markets. In Japan the Company will maintain its existing middleware business while expanding its market share by launching new products, strengthening functions and expanding its product lineup through alliances with the products of other companies, such as Yamaha Corporation, aiming to achieve involvement of the Company's technologies and products in as many game titles as possible. In particular, the new product CRI Clovis enables linking of real-world information inside a game, and is expected to be adopted in sports games, fan activities, and communication games. Overseas, the Company aims to re-grow its business in China and re-enter the markets of Europe and the United States. In China, the game market has entered a recovery trend after being suspended due to factors such as COVID-19. The Company therefore aims to expand its licensing business through the CRIWARE brand by adopting it not only to iOS and Android, but also to Chinese OS, such as Harmony OS NEXT by Huawei Technologies Co., Ltd. (Huawei). To achieve this, the Company's policy is to strengthen its sales capabilities and return to a growth trajectory. In Europe and the United States, the Company aims to achieve re-entry to the market with an exhibition at the Game Developers Conference (GDC). The plan is to strengthen local sales functions by establishing subsidiaries and forming alliances with sales agents. The sales expansion in Europe and the United States could also be surprisingly smooth due to the established track record of middleware implementation in major titles such as Destiny and Hitman, a strong local reputation for image-related middleware such as CRI Sofdec, and the increasing trend of Indy games. As a result, the Company's policy is to expand net sales from ¥1.7bn to ¥3.0bn in 5–10 years' time.

Growth strategies

(2) Mobility

As mentioned above, implementation of CRI ADX-AT and CRI Glassco in mobility has been proceeding smoothly, and appears to have strong growth potential. The Company therefore aims to achieve adoption by overseas manufacturers in addition to Japanese ones. Since the technology for organizing important information and communicating it to the driver is the same as that used in games, the Company is in a good position for demonstrating its advantages. Accordingly, for the time being, the plan is to promote lateral expansion of CRI ADX-AT and CRI Glassco across vehicle types and manufacturers, and build up a track record of adoption. The Company has a large number of growth driver products, but CRI ADX-AT in particular has been extremely highly rated due to its ability to control various sounds in and outside the vehicle cabin, and significantly reduce the cost, number of parts, installation surface area, and electricity consumption without compromising sound quality or volume. The Company aims to achieve adoption in just under 20% (15 million vehicles) of global automobile production of cars, and to expand its functionality from meters to other functions, such as ETC, in an effort to increase revenues per vehicle. The strengths of the new solution CRI SOLIDAS include being composed of a small amount of ordinary parts that have little procurement or inventory risk and being able to comply with any product with a minimum system configuration. The Company will leverage these strengths to achieve its adoption for mobility. CRI Glassco has a background of strengths in intuitive operability with UI technologies developed in the gaming field. By building up a track record in the motorcycle market before expanding into the automobile market, the Company aims to achieve adoption in just under 10% (10 million vehicles) of global production of motorcycles and automobiles. As a result, the Company's policy is to increase net sales from ¥0.3bn to ¥3.0bn in 5–10 years' time.



* Areas outside the red border indicate areas where CRIWARE is not yet in use.
 Source: The Company's financial results supplementary briefing materials

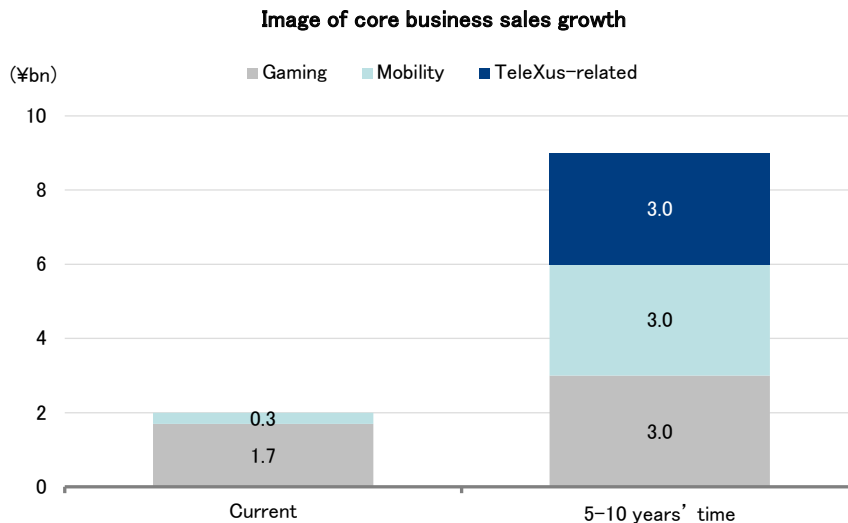
CRI Middleware Co., Ltd. | 17-Jan.-2025
 3698 Tokyo Stock Exchange Growth Market | <https://www.cri-mw.co.jp/en/ir/>

Growth strategies

(3) TeleXus-related

CRI TeleXus has strengths in function such as simultaneous conversation among a large number of people, spatial sound and spatial presentation, and AI interpreting. The solution is therefore able to build an online communication platform through real time communication technology, video in communication spaces, and advanced voice relay technologies. In particular, the AI interpreting function, a new feature under development, will enable language barriers to be removed with ease in settings where users are communicating with foreigners thanks to its strengths in practical translation accuracy, translation speed, and multilingual capabilities. Supported by these strengths, the Company will focus on increasing the number of titles for which CRI TeleXus is adopted in the gaming market while aiming to enter new non-game markets such as mobility, events, and education. Specifically, the Company's strategy is to build up a track record of adoption for the gaming market in order to win recognition for excellence in other voice chat aspects such as low latency and low load, thereby increasing usage among users. The solution has already been adopted for the virtual reality battle action game Brazen Blaze. In addition, in the mobility field, it can support MaaS* communities, which are expected to form with the spread of connected cars. In other areas, the solution is envisaged creating another source of revenue alongside real-world events by realizing online events with spatial sound that enables users to experience even the cheers and passion of spectators. TeleXus is also expected to be able to alleviate the sense of isolation felt during online learning by recreating the soundscape inside a classroom with the positional relationship of the teacher and classmates. TeleXus-related net sales are currently virtually zero, but the Company's policy is to expand sales to ¥3.0bn through these measures in 5–10 years' time.

* MaaS (Mobility as a Service): A service that is capable of responding to individual mobility needs of travelers and others, conducting all functions such as search, reservation, and payment by optimally combining multiple public transport options and various mobility services.

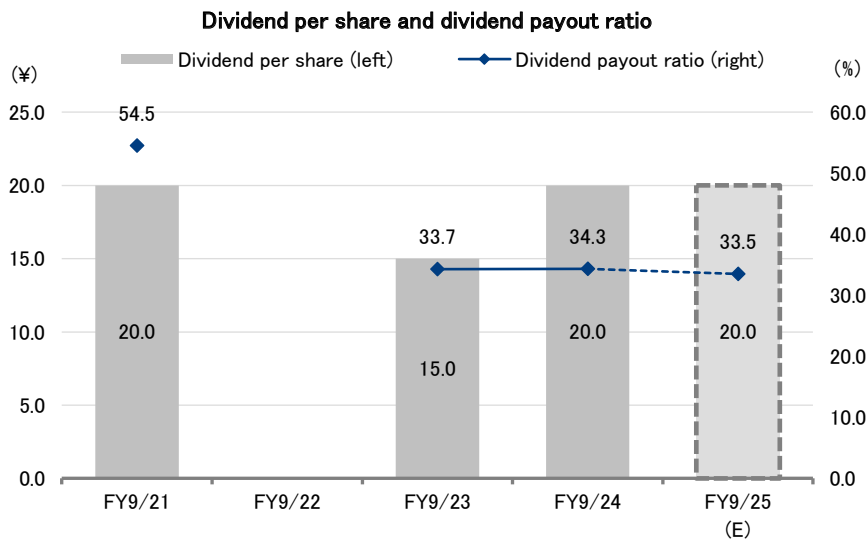


Source: Prepared by FISCO from the Company's financial results supplementary briefing materials

Shareholder return policy

The Company aims to maintain a consolidated dividend payout ratio of 30%

The Company considers the expansion of business and increase in corporate value to be the greatest return of profit to shareholders. With regard to dividends of surplus, the Company's policy is to set a consolidated dividend payout ratio of 30%, having given overall consideration to the balance of growth investments and shareholder returns. Furthermore, the Company's Articles of Incorporation stipulate that the Company may pay a dividend of surplus by a resolution of the board of Directors in accordance with the stipulation of Article 459 paragraph 1 of the Companies Act, except where otherwise provided by laws and regulations, and that the record date for the year-end dividend shall be September 30 of each year and the record date for the interim dividend March 31 of each year. Based on the above policy and operating results, the Company has determined that the dividend per share for FY9/24 shall be ¥20.0 per share, an increase of ¥5.0 from the initial forecast. Furthermore, the dividend per share for FY9/25 is forecast at ¥20.0.



* A commemorative dividend was paid in FY9/21
 Source: Prepared by FISCO from the Company's financial results



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