

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

WASHINGTON, D. C. 20549

FORM 20-F

- REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934
OR
- ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2022
OR
- TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
OR
- SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission File Number: 000-30540

GIGAMEDIA LIMITED

(Exact name of registrant as specified in its charter)

N/A

(Translation of Registrant's name into English)

REPUBLIC OF SINGAPORE

(Jurisdiction of incorporation or organization)

8 TH FLOOR, NO. 22, LANE 407, SECTION 2 TIDING BOULEVARD, TAIPEI 114-740, TAIWAN, R.O.C.
(Address of principal executive offices)

CHENG-MING HUANG, Chief Executive Officer

8 TH FLOOR, NO. 22, LANE 407, SECTION 2 TIDING BOULEVARD, TAIPEI 114-740, TAIWAN, R.O.C.
Tel: 886-2-2656-8000; Fax: 886-2-2656-8003

Securities registered or to be registered pursuant to Section 12(b) of the Exchange Act:

<u>Title of Each Class</u>	<u>Trading Symbol</u>	<u>Name of Each Exchange on Which Registered</u>
Ordinary Shares	GIGM	The Nasdaq Stock Market LLC

Securities registered or to be registered pursuant to Section 12(g) of the Exchange Act: None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report:

11,052,235 ordinary shares

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

If this annual report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act.:

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Emerging growth company	<input type="checkbox"/>

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards† provided pursuant to Section 13(a) of the Exchange Act.

† The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards

Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that require a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery pursuant to §240.10D-1(b).

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP	<input checked="" type="checkbox"/>	International Financial Reporting Standards as issued by the International Accounting Standards Board	<input type="checkbox"/>	Other	<input type="checkbox"/>
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If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow. Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

Auditor Firm Id: 1060 Auditor Name: Deloitte & Touche Auditor Location: Taipei, Taiwan

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CERTAIN TERMS AND CONVENTIONS

In this annual report, all references to

- (i) “we,” “us,” “our,” “our Company” or “GigaMedia” are to GigaMedia Limited and, unless the context requires otherwise, its subsidiaries, or where the context refers to any time prior to the incorporation of any of its subsidiaries, the businesses which predecessors of the present subsidiaries were engaged in and which were subsequently assumed by such subsidiaries;
- (ii) “Shares” are to ordinary shares of our Company;
- (iii) “FunTown” are to our digital entertainment service business operated through our two operating subsidiaries, Hoshin GigaMedia and FunTown World Limited;
- (iv) “GigaMedia Cloud” are to GigaMedia Cloud Services Co. Ltd., a wholly owned subsidiary incorporated under the laws of Taiwan, Republic of China (“Taiwan” or “R.O.C.”);
- (v) “Hoshin GigaMedia” are to Hoshin GigaMedia Center Inc., a wholly owned subsidiary incorporated under the laws of Taiwan; and
- (vi) “Aeolus” are to Aeolus Robotics Corporation, a private company incorporated in the Cayman Islands (“Cayman”).

For the purpose of this annual report only, geographical references to “China” and the “PRC” are to the People’s Republic of China and do not include Taiwan, the Hong Kong Special Administrative Region (“Hong Kong”) or the Macau Special Administrative Region (“Macau”). Except if the context otherwise requires, and for the purpose of this annual report only, references to “Greater China” include the PRC, Taiwan, Hong Kong and Macau. References to “Korea” or “South Korea” are to the Republic of Korea.

All references in this annual report to “U.S. dollar,” “\$” or “US\$” are to the legal currency of the United States; all references to “NT dollar” or “NT\$” are to the legal currency of Taiwan; all references to “RMB,” “Rmb” or “Renminbi” are to the legal currency of the PRC; all references to “Hong Kong dollar” or “HK\$” are to the legal currency of Hong Kong; all references to “Korean won” or “KRW” are to the legal currency of the Republic of Korea and all references to “Singapore dollar” or “S\$” are to the legal currency of the Republic of Singapore.

The functional currency of each individual consolidated entity is determined based on the primary economic environment in which the entity operates. While our Company’s consolidated financial statements are presented in U.S. dollars, a large portion of our operations are conducted through subsidiaries located in Taiwan, and therefore adopt NT dollars as their functional currency. Assets and liabilities reported in our consolidated balance sheets denominated in currencies other than U.S. dollars are translated into U.S. dollars using year-end exchange rates. With respect to NT dollars, the year-end exchange rates used are 30.71, 27.68 and 28.48 to one U.S. dollar as of December 31, 2022, 2021 and 2020, respectively, which are each based on the middle rate quoted by the Bank of Taiwan. Income and expense items reported in our consolidated statements of operations denominated in currencies other than U.S. dollars are translated into U.S. dollars using average exchange rates. Certain other operating financial information denominated in currencies other than U.S. dollars, not included in our consolidated financial statements and provided in this annual report, are translated using average exchange rates.

We have approximated certain numbers in this annual report to their closest round numbers or a given number of decimal places. Due to rounding, figures shown as totals in tables may not be arithmetic aggregations of the figures preceding them.

DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This annual report includes “forward-looking statements” within the meaning of, and intended to qualify for the safe harbor from liability established by, the United States Private Securities Litigation Reform Act of 1995. These statements, which are not statements of historical fact, may consist of or contain estimates, assumptions, projections and/or expectations regarding future events, which may or may not occur. These statements involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Some of the risks are listed under Item 3, “Key Information — D. Risk Factors” and elsewhere in this annual report. In some cases, you can identify these forward-looking statements by words such as “aim,” “anticipate,” “believe,” “consider,” “continue,” “estimate,” “expect,” “forecast,” “going forward,” “intend,” “ought to,” “plan,” “potential,” “predict,” “project,” “propose,” “seek,” “can,” “could,” “may,” “might,” “will,” “would,” “should,” “shall,” “is likely to” or similar expressions, including their negatives. These forward-looking statements include, without limitation, statements relating to:

- our business plan and strategies;
- our future business development and potential financial condition, results of operations and other projected financial information;
- our ability to manage current and potential future growth;

- expected continued acceptance of our revenue model;
- our plans for strategic partnerships, licenses and alliances;
- our acquisitions and strategic investments, and our ability to successfully integrate any acquisitions into our operations;
- our ability to protect our intellectual property rights and the security of our customers' information;
- the launch of new digital entertainment services according to our timetable;
- expected continued acceptance of our digital entertainment services, including expected growth of the digital entertainment industry, and consumer preferences for our products and services;
- the in-house development of new digital entertainment products;
- our plans to license additional digital entertainment products from third parties, and the launch of these new products, including the timing of any such development, licenses or launches, in various geographic markets;
- our ability to maintain and strengthen our position as one of the largest online MahJong operators in Taiwan;
- changes in the competitive environment in which we operate, including the potential entry of new competitors in any of our business lines;
- the outcome of ongoing, or any future, litigation or arbitration;
- our corporate classification by various governmental entities;
- direct and indirect impact from disease outbreaks and similar public health threats, including the coronavirus disease 2019 (COVID-19) global pandemic;
- fluctuations in foreign currency rates, in particular, any material appreciation of the NT dollar against the U.S. dollar, and our ability to manage such risks;
- the political stability of our local region; and
- general local and global economic conditions and the impact of geopolitical tensions on such conditions.

These forward-looking statements are based on our own information and on information from other sources we believe to be reliable. Our actual results may differ materially from those expressed or implied by these forward-looking statements as a result of risk factors and other factors noted throughout this annual report, including those described under Item 3, "Key Information — D. Risk Factors" and those detailed from time to time in other filings with the United States Securities and Exchange Commission (the "SEC"). We do not guarantee that the transactions and events described in this annual report will happen as described or that they will happen at all. We undertake no obligation to update or revise any forward-looking statements to reflect events or circumstances after the date of this annual report or to reflect the occurrence of unanticipated events. Whether actual results will conform to our expectations and predictions is subject to a number of risks and uncertainties, many of which are beyond our control, and reflect future business decisions that are subject to change. Given this level of uncertainty, you are advised not to place undue reliance on such forward-looking statements.

PART I

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

ITEM 3. KEY INFORMATION

A. [Reserved]

B. Capitalization and Indebtedness

Not applicable.

C. Reasons for the Offer and Use of Proceeds

Not applicable.

D. Risk Factors

Risks Related to Our Business and Industry

We may not be successful in operating and improving our existing digital entertainment services to satisfy the changing demands and preferences of consumers.

The level of demand and market acceptance of our existing digital entertainment services is subject to a high degree of uncertainty. Our future operating results will depend on numerous factors, many of which are beyond our control. These factors include:

- the popularity of existing and new digital entertainment services operated by us;
- the introduction of new digital entertainment services by us or third parties, competing with or replacing our existing services;
- general economic conditions, particularly economic conditions adversely affecting discretionary consumer spending;
- changes in our customer demands and preferences;
- regulatory and other risks associated with our operations in Taiwan and Hong Kong;
- the availability of other forms of amusement and entertainment; and
- critical reviews and public tastes and preferences, all of which change rapidly and cannot be predicted.

Our ability to plan for product development and distribution and promotional activities will be significantly affected by how well we anticipate and adapt to relatively rapid changes in consumer tastes and preferences. Currently, a substantial portion of our digital entertainment services revenue is derived from revenues from PC-based online games including MahJong games and other casual games offered in Taiwan and Hong Kong by FunTown and the licensed online games such as *Tales Runner*, a multi-player sports game, and *Yume100*, a single player role-playing game. In recent years, revenues from our PC-based games have been largely flat or declining, reflecting the overall shift in player preferences, and the lack of growth momentum in PC-based games. This decline in the popularity of PC-based online games, and declines in the popularity of online games in general, is likely to adversely affect our business, financial condition and results of operations. To maintain competitiveness of our digital entertainment services, we must regularly invest in enhancing, improving, expanding or upgrading our services. If we fail to do so, revenues generated from our existing services will likely decline.

As our services are currently accessed primarily through PC and, increasingly, mobile devices, successful development of services for such devices will be imperative if we are to maintain or increase our revenues, and our inability to do so may result in lower growth of or a decline in revenues.

Devices other than personal computers, such as mobile phones and tablets, are used increasingly to access the Internet. We believe that, for our business to be successful, we will need to develop versions of our existing digital entertainment offerings, our pipeline offerings and any future offerings that work well with such devices. Manufacturers of such devices may establish restrictive conditions for developers of applications to be used on such devices, and as a result our offerings may not work well, or at all, on such devices. As new devices are released or updated, we may encounter problems in developing versions of our offerings for use on such devices and we may need to devote significant resources to the creation, support, and maintenance of games for such devices. If we are unable to successfully expand the types of devices on which our existing and future offerings are available, or if the versions of our offerings that we create for such devices do not function well or are not attractive to consumers, our revenues may fail to grow and may decline.

The digital entertainment industry is characterized by rapid technological change, and failure to respond quickly and effectively to new Internet technologies or standards may have a material adverse effect on our business.

The digital entertainment industry is evolving rapidly. Any new technologies or new standards may require increases in expenditures for development and operations. In addition, we use internally developed software systems that support nearly all aspects of our billing and payment transactions in our digital entertainment service business. All of our businesses may be adversely affected if we are unable to upgrade our systems effectively to accommodate future traffic levels, to avoid obsolescence or to successfully integrate any newly developed or acquired technology with our existing systems. Capacity constraints could cause unanticipated system disruptions and slower responses, which could adversely affect data transmission and service experience. These factors could, among other things, cause us to lose existing or potential users and existing or potential service development partners.

In operating our digital entertainment service business, we may fail to launch new products according to our timetable, and our new products may not be commercially successful.

In order for our digital entertainment service business strategy to succeed over time, we will need to license, acquire or develop new digital entertainment products that can generate additional revenue and further diversify our revenue sources. A number of factors, including technical difficulties, government approvals and licenses of intellectual property rights required for launching new products, lack of sufficient development personnel and other resources, and adverse developments in our relationship with the licensors of our new licensed products could result in delay in launching our new products. Therefore, we cannot assure you that we will be able to meet our timetable for new launches.

There are many factors that may adversely affect the popularity of our new products. For example, we may fail to anticipate and adapt to future technical trends and new business models, fail to satisfy consumer preferences and requirements, fail to effectively plan and organize marketing and promotion activities, fail to effectively detect and prevent programming errors or defects in the products, and fail to operate our new products at acceptable costs. We cannot assure you that our new products will gain market acceptance and become commercially successful. If we are not able to license, develop or acquire additional digital entertainment products that are commercially successful, our future revenues and profitability may decline.

Our digital entertainment service business faces intense competition, which may adversely affect our revenues, profitability and planned business expansion.

The digital entertainment market is highly competitive. Online game operators in Taiwan and Hong Kong are currently our primary competitors. Our major competitors in Taiwan and Hong Kong include Soft-World International Corporation (“Soft-World”), International Games System, Co., Ltd. (“IGS”), UserJoy Technology Co., Ltd. (“UserJoy”) and GodGame Inc. (“GodGame”). In addition, we compete for users against various offline amusement and entertainment, such as console games, arcade games and handheld games, as well as various other forms of traditional or online entertainment.

We expect more digital entertainment service providers to enter the markets where we operate, and a wider range of digital entertainment products to be introduced to these markets, given the relatively low entry barriers to the digital entertainment industry and the increasing popularity of Internet-based businesses. Our competitors vary in size and include private and public companies, many of which have greater financial, marketing and technical resources as well as name brand recognition than us. We intend to continue to enhance our market position through providing competitive products and quality services that meet market trends and users’ preferences, as well as strengthening sales effectiveness. As a result of the above, significant competition may reduce the number of our users or the growth rate of our user base, reduce the average hours spent on our services, or cause us to reduce usage fees. All of these competitive factors could have a material adverse effect on our business, financial condition and results of operations.

Our results of operations are subject to significant fluctuations. We have incurred operating and net losses in past years, and we may experience losses in the future.

Our revenues, expenses and results of operations have varied in the past and may fluctuate significantly in the future due to a variety of factors, many of which are beyond our control. In 2022, 2021 and 2020, we incurred consolidated operating losses of US\$3.0 million, US\$4.0 million and US\$2.2 million as well as net losses of US\$2.8 million, US\$3.4 million and US\$1.3 million, respectively. Our future profitability will depend to a great extent upon the performance of our digital entertainment service business. The key factors affecting our businesses include:

- our ability to retain existing users;
- attracting new users and maintaining user satisfaction;
- the pace of rolling out new offerings or updating existing ones by us or our competitors;
- the amount and timing of operating costs and capital expenditures relating to our business operations and expansion;
- seasonal trends in Internet use;
- price competition in the industry;
- regulatory and other risks associated from our operations in Taiwan and Hong Kong.

In addition, our operating expenses are based on our expectations of the future demand for our services and are relatively fixed in the short term. We may be unable to adjust spending quickly enough to offset any unexpected demand shortfall. A decrease in revenues in relation to our expenses could have a material and adverse effect on our business, results of operations and financial condition. You should not place undue reliance on year-to-year or quarter-to-quarter comparisons of our results of operations as indicators of our future performance and we cannot assure you that we will not experience operating or net losses in future periods.

Our business strategy, which contemplates growth through acquisitions and strategic investments, exposes us to significant risks.

We have pursued and may continue to pursue growth through acquisitions and strategic investments. Any acquisition or investment is subject to a number of risks. Such risks include the diversion of management time and resources, disruption of our ongoing business, lack of familiarity with new markets, difficulties in supporting the acquired business, and dilution to existing stockholders if our common stock is issued in consideration for an acquisition or investment, incurring or assuming indebtedness or other liabilities in connection with an acquisition.

We entered into multiple strategic alliances in the past and later recognized related impairment losses on investments and goodwill. We may incur debts in the future upon an acquisition or suffer losses related to impairment of these investments. We will continue to examine the merits, risks and feasibility of potential transactions, and expect to explore additional acquisition opportunities in the future. Such examination and exploration efforts, and any related discussions with third parties, may or may not lead to future acquisitions and investments. We may not be able to complete acquiring or investing transactions that we initiate. Our ability to grow through such acquisitions and investments will depend on many factors, including the availability of suitable acquisition candidates at an acceptable cost, our ability to reach agreement with acquisition candidates or investee companies on commercially reasonable terms, the availability of financing to complete transactions and our ability to obtain any required governmental approvals.

We also face challenges in integrating any acquired business. These challenges include eliminating redundant operations, facilities and systems, coordinating management and personnel, retaining key employees, managing different corporate cultures, maintaining the relationship with the suppliers, vendors and/or distributors of acquired businesses, and achieving cost reductions and cross-selling opportunities. There can be no assurance that we will be able to successfully integrate all aspects of acquired businesses. The process of integrating the acquired business may disrupt our business and divert our resources, including the resources of our management. In addition, the benefits of an acquisition or investment transaction may take considerable time to be fully realized and we cannot assure you that any particular acquisition or investment and the subsequent integration will produce the intended benefits.

Our business could suffer if we do not successfully achieve and manage current growth and potential future growth.

We are pursuing a number of growth strategies. Some of these strategies relate to services, products or markets in which we lack experience and expertise. Anticipated expansion of our operations will place a significant strain on our management, operation systems and resources. In addition to training and managing our workforce, we will need to continue to develop and improve our financial and management controls and our reporting systems and procedures, including those of acquired businesses. We cannot assure you that we will be able to effectively manage the growth of our operations, and any failure to do so may limit our future growth and materially and adversely affect our business, financial condition and results of operations.

Undetected programming errors or defects in our software, services and games and the proliferation of cheating programs could materially and adversely affect our digital entertainment service business, financial condition and results of operations.

Our digital entertainment services may contain undetected programming errors or other defects. These errors or other defects could damage our reputation and subject us to liability. As to online games, parties unrelated to us may develop cheating programs that enable users to acquire superior features for their game characters that they would not have otherwise. Furthermore, certain cheating programs could cause the loss of a character's superior features acquired by a user. The occurrence of undetected errors or defects in our digital entertainment services, and our failure to discover and disable cheating programs affecting the fairness of our service environment, could disrupt our operations, damage our reputation and ruin our users' experiences. As a result, such errors, defects and cheating programs could materially and adversely affect our business, financial condition and results of operations. If such errors, defects and cheating programs occur in software, services and games we operate, our business operations and, in turn, our business and financial condition, could be materially and adversely affected.

Increased energy costs, power outages, and limited availability of electrical resources may adversely affect our operating results.

Our data centers are susceptible to increased costs of power and to electrical power outages. Our customer contracts do not contain provisions that would allow us to pass on any increased costs of energy to our customers, which could affect our operating margins. Any increases in the price of our services to recoup these costs could not be implemented until the end of a customer contract term. Further, power requirements at our data centers are increasing as a result of the increasing power demands of today's servers. Increases in our power costs could impact our operating results and financial condition. Since we rely on third parties to provide our data centers with power sufficient to meet our needs, our data centers could have a limited or inadequate amount of electrical resources necessary to meet our customer requirements. We attempt to limit exposure to system downtime due to power outages by using backup generators and power supplies. However, these protections may not limit our exposure to power shortages or outages entirely. Any system downtime resulting from insufficient power resources or power outages could damage our reputation and lead us to lose current and potential customers, which would harm our operating results and financial condition.

We may need additional capital in the future, and it may not be available on acceptable terms.

The development of our business may require significant additional capital in the future to:

- fund our operations;
- enhance and expand the range of products and services we offer; and
- respond to competitive pressures and perceived opportunities, such as investment, acquisition and international expansion activities.

We cannot assure you that additional financing will be available on terms favorable to us, if at all. If adequate funds are not available on acceptable terms, we may be forced to curtail or cease our operations. Moreover, even if we are able to continue our operations, any failure to obtain additional financing could have a material and adverse effect on our business, financial condition and results of operations, and we may need to delay the deployment of our services. See Item 5, "Operating and Financial Review and Prospects — B. Liquidity and Capital Resources."

Risks Related to Our Reliance on Third Parties

Dependence on network suppliers may adversely affect our operating results.

Our success depends in part upon the capacity, reliability, and performance of our network infrastructure, including the capacity leased from our Internet bandwidth suppliers. We depend on these companies to provide uninterrupted and error-free service through their telecommunications networks. We exercise little control over these providers, which increases our vulnerability to problems with the services they provide. We have experienced and expect to continue to experience interruptions or delays in network service. Any failure on our part or the part of our third-party suppliers to achieve or maintain high data transmission capacity, reliability or performance could significantly reduce customer demand for our services and damage our business. As our customer base grows and their usage of telecommunications capacity increases, we will be required to make additional investments in our capacity to maintain adequate data transmission speeds, the availability of which may be limited or the cost of which may be on terms unacceptable to us. If adequate capacity is not available to us as our customers' usage increases, our network may be unable to achieve or maintain sufficiently high data transmission capacity, reliability or performance. In addition, our business would suffer if our network suppliers increased the prices for their services and we were unable to pass along the increased costs to our customers.

We rely on Google Cloud for certain of our mobile-based digital entertainment services. Any disruption of or interference with our use of the Google Cloud operation would negatively affect our operations and seriously harm our business.

Google provides a distributed computing infrastructure platform for business operations, or what is commonly referred to as a “cloud” computing service, and we currently rely on Google Cloud for certain of our mobile-based digital entertainment services. Any significant disruption of or interference with our use of Google Cloud would negatively impact our operations and our business would be seriously harmed. If our users are not able to access our products through Google Cloud or encounter difficulties in doing so, we may lose users. The level of service provided by Google Cloud may also impact the usage of and our users’ satisfaction with our products and could seriously harm our business and reputation. If Google Cloud experiences interruptions in service regularly or for a prolonged basis, or other similar issues, our business would be seriously harmed. Hosting costs will also increase as our user base and user engagement grows and may seriously harm our business if we are unable to grow our revenues faster than the cost of utilizing the services of Google or similar providers.

In addition, Google may take actions beyond our control that could seriously harm our business, including:

- discontinuing or limiting our access to its Google Cloud platform;
- increasing pricing terms;
- terminating or seeking to terminate our contractual relationship altogether;
- establishing more favorable relationships with one or more of our competitors; or
- modifying or interpreting its terms of service or other policies in a manner that impacts our ability to run our business and operations.

Google has broad discretion to change and interpret its terms of service and other policies with respect to us, and those actions may be unfavorable to us. Google may also alter how we are able to process data on the Google Cloud platform. If Google makes changes or interpretations that are unfavorable to us, our business would be seriously harmed.

Any failure to maintain a stable and efficient distribution and payment network could have a material and adverse impact on our digital entertainment service business, financial condition and results of operations.

Our digital entertainment service business operation relies heavily on a multi-layer distribution and payment network composed of third-party distributors for our sales to, and collection of payment from, our users. As we do not enter into long-term agreements with any of our distributors, we cannot assure you that we will continue to maintain favorable relationships with them. If we fail to maintain a stable and efficient distribution and payment network, our business, financial condition and results of operations could be materially and adversely affected.

In addition, our ability to process electronic commerce transactions depends on bank processing and credit card systems. In order to prepare for certain types of system problems, we have a formal disaster recovery plan. Nevertheless, any system failure, including network, software or hardware failure, which causes a delay or interruption in our e-commerce services could have a material adverse effect on our business, revenues, results of operations and financial condition.

Risks Related to Intellectual Property

We may be subject to claims of intellectual property right infringement by third parties, which could subject us to significant liabilities and other costs.

Our success depends largely on our ability to use and develop our technology and know-how without infringing upon the intellectual property rights of third parties. There has been substantial litigation in the various segments of the technology, PC application and mobile application markets, including with respect to the online content, electronics, and related industries regarding intellectual property rights. From time to time, third parties may claim infringement by us of their intellectual property rights. Our broad range of application of current technology and technology under development increases the likelihood that third parties may claim infringement by us of their intellectual property rights. The validity and scope of claims relating to the intellectual property may involve complex scientific, legal and factual questions and analysis, and tend to be uncertain. If third parties assert copyright or patent infringement or violation of other intellectual property rights against us, we will have to defend ourselves in legal or administrative proceedings, which can be costly and time consuming and may significantly divert the efforts and resources of our technical and management personnel. An adverse determination in any such proceedings to which we may become a party could subject us to significant liability to third parties, require us to seek licenses from third parties, or prevent us from selling our products and services. The imposition of liabilities that are not covered by insurance, in excess of insurance coverage or for which we are not indemnified by a content provider, could have a material adverse effect on our business, results of operations and financial condition.

Certain technologies necessary for us to provide our services may, in fact, be patented by other parties either now or in the future. If such technology were held under patent by another person, we would have to negotiate a license for the use of that certain technology. We may not be able to negotiate such a license at a price that is acceptable. The existence of such patents, or our inability to negotiate a license for any such technology on acceptable terms, could force us to cease using such technology and offering products and services incorporating such technology. If we were found to be infringing on the intellectual property rights of any third party in lawsuits or other claims and proceedings that may be asserted against us in the future, we could be subject to liabilities for such infringement, which could be material. We could also be required to refrain from using, manufacturing or selling certain products or using certain processes, either of which could have a material adverse effect on our business and operating results. From time to time, we may receive in the future, notices of claims of infringement, misappropriation or misuse of other parties' proprietary rights. We cannot assure you that we will always prevail in these discussions and actions or that other actions alleging infringement by us of third-party patents will not be asserted or prosecuted against us. Furthermore, lawsuits like these may require significant time and expense to defend, may divert management's attention away from other aspects of our operations and, upon resolution, may have an adverse effect on our business, results of operations, financial condition and cash flows.

We may need to incur significant expenses to protect our intellectual property rights, and if we are unable to adequately protect our intellectual property rights, our competitive position could be harmed.

We regard our copyrights, service marks, trademarks, trade secrets, patents and other intellectual property as critical to our success. We rely on a combination of copyright and trademark laws, trade secret protection, confidentiality and non-disclosure agreements, and other contractual provisions to protect our proprietary software, trade secrets and similar intellectual property. We have patents, copyrights and trademarks in certain jurisdictions and may apply for further trademark and copyright registrations and additional patents, which may provide such protection in relevant jurisdictions. However, we cannot assure you that our efforts will prove to be sufficient or that third parties will not infringe upon or misappropriate our proprietary rights. Unauthorized use of the intellectual property, whether owned by or licensed to us, could adversely affect our business and reputation.

The validity, enforceability and scope of protection of intellectual property in Internet-related industries are evolving, and therefore, uncertain. In particular, the laws and enforcement procedures of Taiwan and Hong Kong are uncertain or do not protect intellectual property rights to the same extent as the laws and enforcement procedures of the United States do. We may have to engage in litigation or other legal proceedings to enforce and protect our intellectual property rights, which could result in substantial costs and diversion of our resources, and have a material adverse effect on our business, financial condition and results of operations.

Our future results of operations or the growth of our business may suffer if the licensors of our digital entertainment services fall short of providing us sufficient and continual support for the operation of licensed games.

While we are focused on strengthening our ability to develop our own casual games, we have historically sourced, and may in the future source, casual games, advanced casual games and other forms of digital entertainment services through licensing from developers in various regions where digital entertainment development is relatively established. We depend on our licensors to provide the necessary technical support for the operation of the licensed games as well as expansion packs and upgrades that sustain continuing interest in the games. The licensors' ability and willingness to continually provide us sufficient support is very critical. Therefore, apart from the ability of our licensors' continual development of the licensed games, we also need to maintain stable and satisfactory working relationships with our licensors in order to ensure the steady operation of our licensed games and our continued access to upgrades and new content of the games. Our ability to maintain satisfactory working relationships with our licensors may also influence our access to license new products developed by the same or other licensors. If our licensors fall short of providing us sufficient and continual support for the operation of licensed games, or if we are unable to maintain satisfactory relationships with our licensors, our financial condition, results of operations, future profitability and growth prospects may be materially and adversely affected.

Risks Related to Cybersecurity and Technology Infrastructure

Our digital entertainment service business depends on the reliability of the network infrastructure and related services provided by ourselves and third parties, which is subject to physical, technological, security and other risks. We could suffer a loss of revenue and increased costs, exposure to significant liability, reputational harm and other serious negative consequences if we sustain damages, cyber-attacks or other data security breaches that disrupt our operations or result in the dissemination of proprietary or confidential information about us or our customers or other third parties.

The development and operation of our online networks are subject to physical, technological, security and other risks which may result in interruption in service or reduced capacity. These risks include physical damage, power loss, telecommunications failure, capacity limitation, hardware or software failures or defects and breaches of physical and cybersecurity by computer viruses, system break-ins or otherwise. An increase in the volume of usage of online services could strain the capacity of the software and hardware employed to prevent and identify such failures, breaches and attacks, which could result in slower response time or system failures. In particular, our industry has witnessed an increase in the number, intensity and sophistication of cybersecurity incidents caused by hackers and other malicious actors such as foreign governments, criminals, hacktivists, terrorists and insider threats. Hackers and other malicious actors may be able to penetrate our network security and misappropriate or compromise our confidential, sensitive, personal or proprietary information, or that of third parties, and engage in the unauthorized use or dissemination of such information. They may be able to create system disruptions, or cause shutdowns. Hackers and other malicious actors may be able to develop and deploy viruses, worms, ransomware and other malicious software programs that attack our products or otherwise exploit any security vulnerabilities of our systems. In addition, sophisticated hardware and operating system software and applications that we procure from third parties may contain defects in design or manufacture, including “bugs,” cybersecurity vulnerabilities and other problems that could unexpectedly interfere with the operation or security of our systems.

We have a variety of backup servers at our primary site to deal with possible system failures. However, we do not have redundant facilities in the event of an emergency. The occurrence of any of these events could result in interruptions, delays or cessation in service to users of our online services, which could have a material adverse effect on our business and results of operations. We may be required to expend significant capital or other resources to protect against the threat of security breaches and attacks or to alleviate problems caused by such actions, including the following:

- expenses to rectify the consequences of the damage, security breach or cyber attack;
- liability for stolen assets or leaked information;
- costs of repairing damage to our systems;
- lost revenue and income resulting from any system downtime caused by such breach or attack;
- loss of competitive advantage if our proprietary information is obtained by competitors as a result of such breach or attack;
- increased costs of cyber security protection;
- costs of incentives we may be required to offer to our customers or business partners to retain their business; and
- damage to our reputation.

In addition, any compromise of security from a security breach or cyber attack could deter customers or business partners from entering into transactions that involve providing confidential information to us. As a result, any compromise to the security of our systems could have a material adverse effect on our business, reputation, financial condition, and operating results.

While we have implemented industry-standard physical and cybersecurity measures, our network may still be vulnerable to unauthorized access, computer viruses, denial of service and other disruptive problems. For example, in recent years, we have detected and mitigated a few incidents of denial-of-service attacks against network providers that affected latency of connections to our games, and those incidents did not result in significant financial impact on our operations and financial results. We have experienced in the past, and may experience in the future, security breaches or attacks. There can be no assurance that any measures implemented will not be circumvented in the future.

The board of directors oversees our cyber risk management by periodical review of a summary for recent cybersecurity incidents and the execution of our risk management program. If a major and urgent incident were to occur, our board of directors would be responsible to make a prompt assessment of our countermeasures and mitigation actions.

Our business is also vulnerable to delays or interruptions due to our reliance on infrastructure and related services provided by third parties. End-users of our offerings depend on Internet Service Providers ("ISPs") and our system infrastructure for access to the Internet games and services we offer. Some of these services have experienced service outages in the past and could experience service outages, delays and other difficulties due to system failures, stability or interruption. For example, prior earthquakes in Taiwan, Indonesia and Japan have caused damage to undersea fiber optic cables linking Malaysia, Singapore, Australia, Japan, South Korea, China, the United States and Europe, causing disruptions in Internet traffic worldwide. We may lose customers as a result of delays or interruption in service, including delays or interruptions relating to high volumes of traffic or technological problems, which may prevent communication over the Internet and could materially adversely affect our business, revenues, results of operations and financial condition.

We could be liable for breaches of security on our web site, fraudulent activities of our users, or the failure of third-party vendors to deliver credit card transaction processing services.

A fundamental requirement for operating our Internet-based, international communications service and electronic billing of our customers is the secure transmission of confidential information and media (such as customers' credit card numbers and expiration dates, personal information and billing addresses) over public networks. Although we have developed systems and processes that are designed to protect consumer information and prevent fraudulent credit card transactions and other security breaches and are not aware of any breaches of security on our websites having occurred, failure to mitigate such fraud or breaches may expose us to litigation and possible liability for failing to secure confidential customer information and could harm our reputation and ability to attract and retain customers, consequently adversely affect our operating results. The laws relating to the liability of providers of online payment services are currently unsettled and certain jurisdictions may enact their own rules with which we may not comply. We rely on third-party providers to process and guarantee payments made by our subscribers up to certain limits, and we may be unable to prevent our customers from fraudulently receiving goods and services. Our risk of liability will increase if a larger portion of our transactions involve fraudulent or disputed credit card transactions. Any costs we incur as a result of fraudulent or disputed transactions could harm our business. In addition, the functionality of our current billing system relies on certain third-party vendors delivering services. If these vendors are unable or unwilling to provide services, we will not be able to charge for our services in a timely or scalable fashion, which could significantly decrease our revenue and have a material adverse effect on our business, financial condition and operating results.

We may experience losses due to subscriber fraud and theft of service.

Subscribers may in the future obtain access to our service without paying for service by unlawfully using our authorization codes or by submitting fraudulent credit card information. To date, no material losses from unauthorized credit card transactions and theft of service have occurred. We have implemented anti-fraud procedures in order to control losses relating to these practices, but these procedures may not be adequate to effectively limit all of our exposure in the future from fraud. If our procedures are not effective, consumer fraud and theft of service could significantly decrease our revenue and have a material adverse effect on our business, financial condition and operating results.

Risks Related to Legal and Regulatory Compliance

We may face litigation risks and regulatory disputes in the course of our business.

In the ordinary course of our business, claims and disputes involving business partners, customers, regulatory authorities and other parties may be brought against us and by us in connection with our business. Claims may be brought against us for alleged defective or incomplete work, breaches of contractual obligations, infringement of intellectual property or otherwise. Such claims can involve actual damages and liquidated damages and could be expensive to defend, even if we believe that they are without merit. If found to be liable, we would have to incur a charge against earnings to the extent a reserve had not been established for the matter in our accounts, or to the extent the claims were not sufficiently covered by our insurance. The defense of such claims and any adverse ruling against us could have an adverse impact on our business, financial condition and results of operations.

On January 15, 2018, Ennoconn Corporation (“Ennoconn”) filed a complaint against one of our subsidiaries, GigaMedia Cloud Services Co., Ltd. (“GigaMedia Cloud”), in the Taiwan Taipei District Court. The complaint alleged that GigaMedia Cloud is obligated to pay Ennoconn NTD 79,477,648 (approximately \$2,697,471) in connection with a transaction to purchase taximeters in 2015. GigaMedia Cloud filed an answer to the complaint denying Ennoconn’s allegations for a lack of factual and legal basis on March 1, 2018. On November 15, 2018, the Taiwan Taipei District Court determined that all of Ennoconn’s claims were without merit and made a judgment denying the complaint. On January 3, 2019, Ennoconn filed an appeal demanding the judgment entered by the District Court be reversed and amended. The civil court of the second instance, the Taiwan High Court, ruled on January 8, 2020, that the decision of the Taiwan Taipei District Court should be partially modified and Ennoconn is entitled to NTD 27,084,180 (approximately \$892,763). GigaMedia Cloud filed another appeal with the Taiwan Supreme Court on February 4, 2020. On May 5, 2021, the Taiwan Supreme Court revoked the previous ruling of the Taiwan High Court, and sent the case back to the Taiwan High Court for a retrial. Under the Taiwan Supreme Court’s ruling, the appeal made by Ennoconn should be reviewed by the Taiwan High Court by following the instructions of the Taiwan Supreme Court. On May 18, 2022, the Taiwan High Court found such appeal meritless and made a civil judgment denying the complaint by Ennoconn. On June 15, 2022, Ennoconn filed an appeal and demanded that the Taiwan Supreme Court reverse this civil judgment and remand the case to the Taiwan High Court. On February 22, 2023 the Taiwan Supreme Court revoked the previous ruling of the Taiwan High Court, and sent the case back to the Taiwan High Court for a retrial. On April 21, 2023, we made a court appearance before the Taiwan High Court for the preliminary proceeding. As of the date of this annual report, the Taiwan High Court has not made any further decisions.

Our transactions with related parties may not benefit us and may harm our Company.

We have entered into several transactions with certain related parties in the past. We believe that we have conducted our related-party transactions on an arm’s-length basis and on terms comparable to, or more favorable to us than, similar transactions we would enter into with independent third parties. However, we cannot assure you that all our future transactions with related parties will be beneficial to us. See Item 7, “Major Shareholders and Related Party Transactions” in this annual report.

Risks Related to Geopolitical and Macroeconomic Factors

An outbreak of disease or similar public health threat, such as a novel strain of coronavirus, could have a material adverse impact on our business, operating results and financial condition.

We are vulnerable to the general economic effects of disease outbreaks and similar public health threats. In March 2020, the World Health Organization declared the outbreak of COVID-19, a novel strain of coronavirus, to be a pandemic. The COVID-19 pandemic resulted in quarantines, travel restrictions, and the temporary closure of business and facilities globally, and impacted global economic activity. A public health pandemic, including COVID-19, poses the risk that we or our employees, contractors, suppliers, customers and other business partners may be prevented from conducting business activities for an indefinite period of time, including due to shutdowns that may be requested or mandated by governmental authorities. We have offices in Taiwan and Hong Kong, which have not been as severely affected as compared to other regions in the world. Nonetheless, we have implemented strict hygiene and social distancing practices in our daily operations in order to protect the safety and health of our employees. We have also established a contingency plan to ensure our business continuity against the COVID-19 pandemic and future disease outbreaks.

During the course of the COVID-19 pandemic, governmentally imposed stay-at-home requirements resulted in some people, especially students (one of our target markets), utilizing online entertainment at a higher rate than prior to the pandemic. However, other groups were reluctant to spend on entertainment in light of the prolonged economic uncertainty resulting from the pandemic. As COVID-19 restrictions continue to be lifted or reduced, we may experience reduced usage of online entertainment. In addition, during the course of the COVID-19 pandemic, our Japanese and Korean licensors have experienced considerable adverse impacts, which resulted in delays in providing support, upgrades and new content, which negatively impacted our ability to sustain interest in games licensed from these licensors.

If there are future health crises, or if there are resurgence events with respect to the COVID-19 pandemic, that result in further impositions of prolonged and intensified shutdowns in Taiwan or Hong Kong, our daily operations may be further hindered, and our offline marketing activities could be indefinitely postponed, which would impact our sales and operating results. Further, if such developments have an increased or sustained adverse impact on the ability of our licensors to provide quality content updates and support in a timely manner, our sales and operating results could be adversely impacted.

The extent to which COVID-19 or any future epidemic or pandemic will impact our business and results, including the ability of our customers to spend on online entertainment, is dependent on future developments, which are uncertain and unpredictable, including the severity of such outbreaks and the actions taken to contain it or treat its impact. Although business operations have begun to normalize, the resumption of fully normal business operations may be delayed or constrained by lingering effects of the COVID-19 pandemic on us or our suppliers and third-party service providers and the potential occurrence of COVID-19 resurgence events. Notwithstanding the continuing normalization of business operations as the COVID-19 pandemic has subsided, we may experience material and adverse impacts as a result of the long-term global economic impact of the COVID-19 pandemic.

The impact of COVID-19 may also exacerbate other risks discussed in this annual report, which could have a material effect on us. This situation is continuing to evolve and impacts may arise that we are not currently aware of.

Our results of operations and financial condition may be affected by political instability as well as the occurrence of natural disasters and epidemics.

We operate our digital entertainment business in Taiwan, Hong Kong and Macau. Political unrest, war, acts of terrorism and other instability, as well as natural disasters such as earthquakes and typhoons, which are common in Taiwan, can result in disruption to our business. For example, the 2019 civil unrest in Hong Kong caused a few days of disruption to our Hong Kong operations. Our business also could be adversely affected by the effects of regional or global epidemics or pandemics, as has occurred with respect to influenza A virus subtypes, such as H1N1 and H5N1, SARS, and COVID-19. Any prolonged recurrence of such adverse public health developments in the regions where we operate may have material adverse effects on our business operations. These could include illness and loss of our management and key employees, or reduced productivity in an emergency remote working plan due to part or all of our personnel being under voluntary or compulsory home quarantine requirements. Natural disasters or outbreak of epidemics may result in a decrease in economic activities or temporary closure of many businesses and disruption in our operations. In addition, other major natural disasters may also adversely affect our business by, for example, causing disruptions of the Internet network or otherwise affecting access to our services.

There are economic risks associated with doing business in Taiwan, particularly due to the tense relationship between Taiwan and the PRC.

Our principal executive offices and a significant portion of our assets are located in Taiwan and a major portion of our revenues of digital entertainment service business are derived from our operations in Taiwan. Taiwan, as part of the Republic of China, has a unique international political status. The PRC asserts sovereignty over mainland China and Taiwan and does not recognize the legitimacy of the Taiwan government. Concerns regarding relations between Taiwan and the PRC and the United States and the PRC and other factors affecting the political or economic conditions of Taiwan could adversely affect our business and results of operations, including as a result of foreign investors withdrawing regional investments, limitations to our ability to access the capital markets, and other regional or global economic effects.

Game players' spending on our games may be adversely affected by slower growth in the Greater China economy and adverse conditions in the global economy.

We rely for our revenues on the spending of our game players, which in turn depends on the players' level of disposable income, perceived future earnings capabilities and willingness to spend. Any slowdown of the economy in Greater China, especially Taiwan or Hong Kong, could in turn result in a reduction in spending by our game players.

In addition, the global economy has experienced significant instability and there has been volatility in global financial and credit markets in recent years, particularly as a result of the ramifications of the COVID-19 global pandemic and government measures undertaken in response to the pandemic and the current inflationary environment. It is unclear how long such instability and volatility will continue, and how much adverse impact such instability and volatility or any such downturn might have on the economies of Greater China and other jurisdictions where we operate our games. Any such instability, volatility or adverse impact in Greater China or in overseas markets could cause our game players to reduce their spending on our games and reduce our revenues. While Taiwan and Hong Kong have not been impacted as severely by the COVID-19 as compared to other regions, consumer confidence in both regions had dipped to its lowest levels in recent years before recovering, which tend to decrease ability and willingness to spend on entertainment. A deterioration of the local COVID-19 situation, including as a result of any resurgence events or the emergence of new disease variants, and any resulting government measures, such as intensified stay-at-home order or even full shutdown in Taiwan or Hong Kong, could further decrease such spending.

Fluctuations in the exchange rates between the U.S. dollar and other currencies in which we conduct our business could adversely affect our profitability.

The operations of our digital entertainment service business are conducted in NT dollars and Hong Kong dollars. Accordingly, fluctuations in the exchange rates could have a positive or negative effect on our reported results. Generally, an appreciation of NT dollars or Hong Kong dollars against U.S. dollars results in a foreign exchange loss for monetary assets denominated in U.S. dollars, and a foreign exchange gain for monetary liabilities denominated in U.S. dollars. On the contrary, a devaluation of NT dollars, Hong Kong dollars, or Singapore dollars against U.S. dollars results in a foreign exchange gain for monetary assets denominated in U.S. dollars, and a foreign exchange loss for monetary liabilities denominated in U.S. dollars. Given the constantly changing currency exposures and the substantial volatility of currency exchange rates, we cannot predict the effect of exchange rate fluctuations upon future operating results. There can be no assurance that we will not experience currency losses in the future, which could have a material adverse effect on our business, revenues, results of operations and financial condition.

Risks Related to Ownership of our Shares

Our Shares are listed on The Nasdaq Capital Market and if we fail to meet the standards for continued listing of our Shares on Nasdaq, the Shares could be delisted from The Nasdaq Capital Market.

Our Shares are listed on The Nasdaq Capital Market. The Nasdaq Capital Market has several quantitative and qualitative requirements companies must comply with to maintain listing, including a US\$1.00 minimum bid price per share. If a company trades for 30 consecutive business days below the US\$1.00 minimum bid price requirement, Nasdaq will commence delisting proceedings if compliance is not regained within a 180-day compliance period.

In the past we have failed to satisfy the US\$1.00 minimum bid price requirement at times. Although we were able to regain compliance with this requirement, there can be no assurance that we will maintain compliance and continue to meet all of the requirements for continued Nasdaq listing. If we fail to comply again in the future, our Shares could still be delisted from Nasdaq, which could have a material adverse effect on our stock prices and our standing with current and future investors.

The price of our Shares has been volatile historically and may continue to be volatile, which may make it difficult for holders to resell our Shares when desired or at attractive prices.

The trading price of our Shares has been and may continue to be subject to wide fluctuations. In 2022, the closing prices of our Shares on The Nasdaq Capital Market ranged from US\$1.17 to US\$2.32 per share, and the closing price on April 11, 2023 was US\$1.41. Our Share price may fluctuate in response to a number of events and factors. In addition, the financial markets in general, and the market prices for Internet-related companies in particular, have experienced extreme volatility that often has been unrelated to the operating performance of such companies. These broad market and industry fluctuations may adversely affect the price of our Shares, regardless of our operating performance.

A substantial percentage of our outstanding Shares are beneficially owned by Mr. John-Lee Andre Koo, who accordingly has considerable influence to the outcome of any corporate transaction or other matters submitted to our shareholders for approval, and his interests may differ from yours.

As of March 31, 2023, Mr. John-Lee Andre Koo beneficially owned 19.54% of our outstanding Shares. Accordingly, he has considerable influence over the outcome of any corporate transaction or other matters submitted to our shareholders for approval, including but not limited to mergers, consolidations, and the power to prevent or cause a change in control. The interests of Mr. Koo may differ from your interests.

The ability of our subsidiaries in Taiwan to distribute dividends to us may be subject to restrictions under the laws of Taiwan.

We are a holding company, and some of our assets constitute our ownership interests in our subsidiaries in Taiwan, including Hoshin GigaMedia, which owns the Taiwan-based operations of our digital entertainment service business. Accordingly, part of our primary internal source of funds to meet our cash needs is our share of the dividends, if any, paid by our subsidiaries, including those in Taiwan. The distribution of dividends to us from these subsidiaries in Taiwan is subject to restrictions imposed by the applicable corporate and tax regulations in these countries, which are more fully described in Item 5, “Operating and Financial Review and Prospects—B. Liquidity and Capital Resources—Dividends from Our Subsidiaries” in this annual report. In addition, although there are currently no foreign exchange control regulations which restrict the ability of our subsidiaries in Taiwan to distribute dividends to us, the relevant regulations may be changed and the ability of these subsidiaries to distribute dividends to us may be restricted in the future.

We are a Singapore company, and because the rights of shareholders under Singapore law differ from those under U.S. law, you may have difficulty in protecting your shareholder rights or enforcing any judgment obtained in the U.S. against us or our affiliates.

Our Company is incorporated under the laws of the Republic of Singapore. Our corporate affairs are governed by our memorandum and articles of association (collectively, our “Constitution”) and by the applicable laws governing corporations incorporated in Singapore. The rights of our shareholders and the responsibilities of members of our board of directors under Singapore law are different from those applicable to a corporation incorporated in the United States and, therefore, our shareholders may have more difficulty protecting their interests in connection with actions against us or our affiliates, including our management or members of our board of directors, than they would as shareholders of a corporation incorporated in the United States.

Many of our directors and senior management reside outside the United States. As a result, it may be difficult for investors to effect service of process within the United States upon us or any of these persons or to enforce in the United States any judgment obtained in the U.S. courts against us or any of these persons, including judgments based upon the civil liability provisions of the U.S. federal securities laws or any state or territory of the United States. Judgments of the U.S. courts based upon the civil liability provisions of the U.S. federal securities laws may not be enforceable in Singapore courts, and it is unclear whether Singapore courts will enter judgments in original actions brought in Singapore courts based solely upon the civil liability provisions of the U.S. federal securities laws.

Anti-takeover provisions under the Singapore Securities and Futures Act 2001 and the Singapore Code on Takeovers and Mergers may delay, deter or prevent a future takeover or change of control of our Company, which could adversely affect the price of our Shares.

The Singapore Code on Take-overs and Mergers (the “Code”), issued pursuant to Section 321 of the Singapore Securities and Futures Act 2001 regulates the acquisition of ordinary shares of, inter alia, listed public companies and contains certain provisions that may delay, deter or prevent a future takeover or change of control of our Company. Any person acquiring an interest, either on his own or together with parties acting in concert with him, in 30% or more of the voting shares in our Company must, except with the prior consent of the Singapore Securities Industry Council (the “SIC”), extend a takeover offer for the remaining voting shares in our Company in accordance with the provisions of the Code. Likewise, any person holding between 30% and 50% of the voting shares in our Company, either on his own or together with parties acting in concert with him, must, except with the prior consent of the SIC, make a takeover offer in accordance with the provisions of the Code if that person together with parties acting in concert with him acquires additional voting shares in excess of one percent of the total number of voting shares in any six-month period.

Under the Code, an offeror must treat all shareholders of the same class in an offeree company equally. A fundamental requirement is that shareholders in the company subject to the takeover offer must be given sufficient information, advice and time to consider and decide on the offer.

These provisions contained in the Code may discourage or prevent transactions that involve an actual or threatened change of control of our Company. This may harm you because an acquisition bid may allow you to sell your Shares at a price above the prevailing market price.

Our shareholders may be subject to Singapore taxes.

Singapore tax law may differ from the tax laws of other jurisdictions, including the United States. Gains from the sale of our Shares by a person not tax resident in Singapore may be taxable in Singapore if such gains are part of the profits of any business carried on in Singapore. For additional information, see Item 10, “Additional Information—E. Taxation—Singapore Tax Consideration” in this annual report. You should consult your tax advisors concerning the overall tax consequences of acquiring, owning or selling the Shares.

We may be deemed to be an investment company under the United States Investment Company Act of 1940, which could have a significant negative impact on our results of operations.

We may be deemed to be an investment company under the United States Investment Company Act of 1940 (the “1940 Act”), and may suffer adverse consequences as a result. Generally, the 1940 Act provides that a company is an investment company if the company (i) is, holds itself out as or proposes to be engaged primarily in the business of investing, reinvesting or trading in securities or (ii) is engaged or proposes to engage in the business of investing, reinvesting, owning, holding or trading in securities and owns or proposes to acquire “investment securities” having a value exceeding 40% of the value of its total assets (exclusive of U.S. government securities or cash items) on an unconsolidated basis. Under the 1940 Act, investment securities include, among other things, securities of non-majority owned businesses. However, a company that is primarily engaged, directly or through wholly owned subsidiaries, in a business or businesses other than that of investing, reinvesting, owning, holding or trading in securities is not an investment company.

In the past, we disposed of our online gambling business and made several significant investments in online game developers and operators. As a result of these transactions, we have a significant amount of cash and securities. Consequently, there is a risk that we could be deemed to be an investment company because our investment securities may be deemed to comprise more than 40% of our total assets (exclusive of U.S. government securities or cash items) on an unconsolidated basis pending investment of disposal proceeds into our businesses.

However, based on our historical and current business activities, our intentions, the manner in which we hold ourselves out to the public, the primary activities of our officers and directors and an analysis of our non-cash assets and income during 2022, the first quarter of 2023 and in prior periods, we believe that we are not an investment company. Nevertheless, a part of the determination of whether we are an investment company is based upon the composition and value of our non-cash assets, a significant portion of which presently comprise our strategic investments. As a result, we could be deemed to be an investment company.

We intend to continue to conduct our businesses and operations so as to avoid being required to register as an investment company. We have sought opportunities to deploy our capital in a manner which would result in the Company acquiring majority interests in entities or businesses that complement or enhance our remaining businesses or would otherwise assist the Company in achieving our current corporate objectives. We have also limited, and intend to continue to limit, new strategic investments to those opportunities which would present excellent opportunities to complement or enhance our remaining businesses or would otherwise assist the Company in achieving our current corporate objectives. If, nevertheless, we were to be required to register as an investment company, because we are a foreign company, the 1940 Act would prohibit us and any person deemed to be an underwriter of our securities from offering for sale, selling or delivering after sale, in connection with a public offering, any security issued by the Company in the United States. Additionally, we may be unable to continue operating as we currently do and might need to acquire or sell assets that we would not otherwise acquire or sell in order to avoid being treated as an “investment company” as defined under the 1940 Act. We may incur significant costs and management time in this regard, which could have a significant negative impact on our results of operations.

We may be classified as a passive foreign investment company for U.S. federal income tax purposes. As a result, you may be subject to materially adverse tax consequences with respect to Shares.

In light of our significant cash balances and portfolio of investment securities, we believe that it is likely that we were classified as a passive foreign investment company, or PFIC, for the taxable year ended December 31, 2022, and we will likely be a PFIC for our current taxable year ending December 31, 2023, unless our share value increases substantially and/or we invest a substantial amount of the cash and other passive assets we hold in assets that produce or are held for the production of non-passive income. In addition, it is possible that one or more of our subsidiaries may be or become classified as a PFIC for U.S. federal income tax purposes. We generally will be classified as a PFIC for any taxable year in which 75% or more of our gross income consists of certain types of “passive” income or 50% or more of the average quarterly value of our assets (as generally determined on the basis of fair market value) during such year produce or are held for the production of passive income. For this purpose, cash and other assets readily convertible into cash are generally classified as passive and goodwill and other unbooked intangibles associated with active business activities may generally be classified as non-passive.

If we were to be classified as a PFIC in any taxable year during which a U.S. person (as defined in “E. Taxation—U.S. Tax Considerations—Passive Foreign Investment Company”) holds our Shares, such U.S. person may incur significantly increased United States income tax on gain recognized on the sale or other disposition of the Shares and on the receipt of distributions on the Shares to the extent such gain or distribution is treated as an “excess distribution” under the U.S. federal income tax rules. Furthermore, a U.S. person will generally be treated as holding an equity interest in a PFIC in the first taxable year of the U.S. person’s holding period in which we become a PFIC and subsequent taxable years (“PFIC-Tainted Shares”) even if we cease to be a PFIC in subsequent taxable years. Accordingly, a U.S. person, who acquires our Shares during the current taxable year or subsequent taxable years, should, to the extent an election is available, consider making a “mark-to-market” election in the first taxable year of such holder’s holding period to avoid owning PFIC-Tainted Shares. For more information, see the section entitled “E. Taxation—U.S. Tax Considerations—Passive Foreign Investment Company”.

ITEM 4. INFORMATION ON THE COMPANY

A. History and Development of Our Company

Our business was founded as Hoshin GigaMedia in Taiwan in October 1998. For the purpose of a public equity offering, GigaMedia Limited was incorporated in Singapore in September 1999 as a company limited by shares. We acquired a 99.99% equity interest in Hoshin GigaMedia in November 1999 and the remaining 0.01% in October 2002. In more recent years, we have established additional subsidiaries inside and outside Taiwan to conduct parts of our operations. Please see Item 4.C, “Organizational Structure” for our organizational chart.

In February 2000, we completed the initial public offering of our Shares. Our Shares are traded on The Nasdaq Capital Market of The Nasdaq Stock Market under the symbol GIGM.

In January 2006, we acquired FunTown, a digital entertainment business operated in Taiwan and Hong Kong.

Our Singapore company registration number is 199905474H. Our principal executive offices are located at 8F, No. 22, Lane 407, Section 2, Tiding Boulevard, Taipei, Taiwan, and our telephone number is 886-2-2656-8000. Our agent in the U.S. is Computershare Limited and its office address is 480 Washington Blvd., Jersey City, New Jersey.

The SEC maintains an Internet site that contains reports and other information we filed electronically with the SEC. The address of the SEC’s website is <http://www.sec.gov>. Our website address is: <http://www.gigamedia.com>. Information contained on our website is not incorporated herein by reference and does not constitute part of this annual report.

B. Business Overview

We are a diversified provider of digital entertainment services in Taiwan, Hong Kong and Macau. We do not utilize variable-interest entities in our operations.

We currently operate in the digital entertainment services, where we own 100% of and operate FunTown, a leading digital entertainment portal in Taiwan and Hong Kong. FunTown is focused on the high-growth mobile and browser-based casual games market in Asia.

Digital Entertainment Service Business

Overview

Our digital entertainment service business, FunTown, has a strong track record of developing and monetizing PC-based casual games in Asia. FunTown also had one of the largest online social gaming platforms in Taiwan by revenue and still maintains strong brand awareness, which we now leverage as we restructure our business and extend our offerings to mobile and browser-based games in select areas and geographies.

We also publish and operate PC- and mobile-based games under licensing agreements, predominantly in the territories of Taiwan, Hong Kong and Macau. Our understanding of local markets enables us to introduce foreign niche products by concentrating marketing efforts on a specific and well-defined segment of the population.

Most of our digital entertainment products are operated or expected to be operated under the item-billing revenue model, which we refer to as the Item-Billing model. Under the Item-Billing model, users are able to access the basic functions of a casual online game for free. Players may choose to purchase in-game value-added services as well as in-game virtual items and premium features to enhance the game experience. This allows players to utilize more functions, improve performance and skills, and personalize the appearance of a game character. Game points are consumed as users purchase value-added services and in-game items.

To complement our offerings and strengthen their appeal, we are focusing on building community-based online platforms that cater to different social networking needs of our users and provide various channels to facilitate communications among them. We intend to continue to grow and enhance our market position in the digital entertainment industry by increasing focus on mobile and browser-based games. We expect to drive growth both organically and through accretive transactions.

While the COVID-19 pandemic had required people to stay home more, which caused some people, especially students (one of our target markets), to seek online entertainment at a higher rate, other groups became reluctant to spend on entertainment in light of the prolonged economic uncertainty resulting from the pandemic. In addition, our Japanese and Korean licensors were considerably impacted by the COVID-19 pandemic, and delays in providing support, upgrades and new content had a negative impact on the ability to sustain interest in the games licensed from these licensors. As life is gradually returning to a post-COVID normal routine, we expect there to be a slight decline of revenues from our student customers, but also better coordination with our licensors.

Our Digital Entertainment Products

MahJong and Other Casual Games

MahJong is a traditional and highly popular Chinese tile-based game that is widely played in Taiwan, Hong Kong, the PRC, Japan, South Korea and other regions throughout Asia. Similar to poker, MahJong involves skill, strategy and calculation, as well as a certain degree of chance.

Through our FunTown-branded platform, we develop and offer various local versions of MahJong for players in Asia, particularly in Taiwan and Hong Kong. To play our online MahJong games, players install software that can be downloaded free of charge from our game websites. Players can compete with anyone on the FunTown network. Our MahJong games are designed for players of all levels of skill and experience. To accommodate various needs of players, we offer different online MahJong rooms based on skill levels or stakes. We believe our online MahJong game site is one of the most popular online MahJong networks in Taiwan.

Players may play our online MahJong free of charge. While a player may win virtual currency in the game without paying, an average player typically has to pay to continue playing on a regular basis or to establish a track record inside our online MahJong community. Players may choose to purchase game points through various distribution channels, such as convenience stores, payment processing terminals or online/mobile payment channels. Players may exchange purchased game points for virtual currency and deposit into their virtual bank accounts. The virtual currency may be used to play MahJong and other games on the FunTown game site or to purchase in-game virtual items, but cannot be redeemed for cash.

Our PC-based MahJong offering has faced strong competition in recent years from the growth of mobile and browser-based online games, driven by the popularity of social networks and high mobile device usage in our markets. We responded by launching our MahJong game application which uses a web or browser-based technology with no download required. This simplified user sign-in procedures and enabled tighter integration with social networking platforms by allowing users to log into our game directly via their accounts at a given social networking platform.

We also offer various other casual card and table games through our FunTown-branded platform. These online games are Internet-based and developed through computer simulation and adaptation of non-computer games, which are traditionally played offline. The FunTown platform targets players in different regions, particularly Taiwan and Hong Kong.

Our offerings include many different online card games which are popular in various regions in Asia. Players can select their desired table based on the level of skill or stakes. These games are designed with online multiplayer features that allow players to compete against one another. We also offer chance-based games, including bingo, lotto, horse racing, Sic-Bo, slots and other simple casual games.

Like online MahJong, players may play our other casual games for free. They may choose to purchase virtual currency to play on a continuous and regular basis. Virtual currencies may be used to play all games on the FunTown game site or to purchase virtual items, but cannot be redeemed for cash.

Our revenues generated from MahJong and other casual games were approximately US\$1.3 million in 2022, decreased from US\$1.5 million in 2021 and US\$1.8 million in 2020.

Role-Playing and Sports Games

In Taiwan and Hong Kong, we offer through our FunTown platform online games of various sub-genres besides MahJong and other card or table games.

In June 2006, we launched the PC-based online sports game *Tales Runner*. *Tales Runner* is a PC-based multiplayer obstacle running game in which players compete by running, jumping, dashing and using items. With its fairy-tale style and constantly changing running tracks, *Tales Runner* has been a popular game in Hong Kong.

Our revenues generated from *Tales Runner* were approximately US\$3.4 million in 2022, significantly increased from US\$2.4 million in 2021 and US\$2.7 million in 2020. The increase was mainly due to our efforts in revitalizing and boosting this 16-year-old game in light of Hong Kong students' prolonged periods under stay-home requirement arising from the COVID-19 pandemic.

Traditionally, for our PC-based online games, players download and install client software from our websites. Our online games are offered free-of-charge to all players. Players may purchase virtual items that enhance their characters' performance and game playing experience, or personalize their characters.

From 2015 to 2022, we launched eleven mobile role-playing online games, or RPGs. In particular, *Yume100*, which was launched at the end of September 2015, outperformed other mobile role-playing games. *Yume100* is a story-based game that primarily targets female players in the age range of 15 to 35 years old. In the game, which has certain romantic elements, players assume game characters and complete challenges. As of December 31, 2022, the accumulated sales revenues of *Yume100* since its launch were approximately US\$12.4 million. Leveraging the operating experience of *Yume100*, in mid-December 2017, we launched *Akaseka*, a similarly female-oriented game. Furthermore, we launched *Shinobi Master New Link*, a male-oriented game, in April 2019.

For our mobile games, players usually download the game software, or "app", from third-party digital distribution platforms, such as "Google Play" or the "Apple App Store." Like our PC-based games, while our mobile games are offered free-of-charge, players may purchase virtual items to progress more quickly in the game, to enhance their characters' performance and game playing experience, or to personalize their characters.

Game Sources

In-house development of Casual Games

We develop the casual games offered on our FunTown game platform, including online MahJong, card games, and other simple casual games. Our in-house development enables us to have better control of the game features and allow for seamless integration onto our FunTown platform. In order to support product development capabilities and develop our proprietary online games, we intend to expand our browser/mobile-based games development capabilities. We made a direct investment of more than \$1.1 million during 2022 in developing our own offerings.

Sources of Role-playing and Sports Games

Historically, we have sourced role-playing and sports games through licensing from developers in various regions where game development is well established. We monitor markets in the United States, South Korea, the PRC, Japan, Southeast Asia and Europe, and maintain communications with a number of leading game development studios to identify and source new online games.

In selecting games, we evaluate the key factors that indicate the market trend and player demand and interest in the regions where we operate. We believe that our market analysis enables us to better assess the quality, risks, costs and potential returns of the games.

Prior to negotiating a license agreement with a game developer, our game testing team evaluates the game and prepares detailed evaluation reports covering the theme, storyline, in-game culture and environment, character progression, system architecture, game art, design, virtual articles and items. Based on the results of our evaluation, we may enter into a license agreement to operate select games. The cost of licensing games from developers generally consists of an upfront licensing fee, which we typically pay in several installments, and ongoing licensing fees, or royalties, which are equal to a percentage of revenues generated from operation of the game. We may also agree to provide certain minimum guarantees in royalties to developers.

In preparing for the commercial launch of each new game, we cooperate with the game developer to localize the game to make it suitable for the target markets where we plan to launch. Once the developer completes the localization and provides the first-built version, we conduct closed beta testing of the game with a select group of users. During the test period, we identify and eliminate any technical problems, assess how likely users will be to play the game regularly over a period of time (referred to as user “stickiness”), and modify and add certain game features in order to increase user stickiness. The closed beta testing is followed by open beta testing, during which we operate our games under open market conditions and monitor the performance, consistency and stability of operational systems for the game.

Following the commercial launch of a game, we regularly implement improvements and upgrades to our games.

FunTown Platform and Services

Our FunTown platform provides many digital entertainment services for users to enhance their playing and entertainment experiences, facilitate information communication among them and support the development of a strong player community. These services include:

- **Player Clubs.** FunTown offers online club services in its game community. FunTown players can also form their own clubs, invite other players with similar interests or skill levels to join, and organize online and offline events for club members. Player clubs complement the strong social features of online games by helping to maintain an online game community.
- **Tournaments.** FunTown provides various tournaments for its online MahJong players. After players join a club, they can participate in biweekly online inter-club tournaments.
- **Avatars.** To enhance players’ overall entertainment experience, FunTown offers many in-game virtual items which may be purchased by players to customize their online personal graphic profiles, or avatars. Players use avatars to create their own unique look while participating in the online community. The virtual items for avatars include facial expressions, clothes and different accessories. These items are particularly popular with younger players, who customize their avatars to establish unique identities and pursue distinct fashions in the online community.
- **Friends and Family Messenger and Online Chatting System.** The FunTown platform has a unique function designed for players’ personal contacts, which is similar to the contact list of instant message programs. This enables players to see when their friends and family members are online and invite people in their personal network to play games together.
- **Social Networking.** The FunTown platform provides an online social networking community called FunTown Village, in which players meet each other through their online avatars. In FunTown Village, players can interact and communicate, purchase virtual items, and even get married virtually. FunTown plans to introduce more virtual items within FunTown Village to address the strong social interests of its players and to help increase FunTown’s overall appeal as a distinct online game community.
- **Customer Services.** FunTown provides support and services to its customers primarily through walk-in customer service centers in Taipei and Hong Kong, via e-mail and through an in-game report system where players can inquire and receive responses from FunTown.
- **Mobile Platforms.** FunTown now provides a mobile platform for casual games, which works on both Google’s Android and Apple’s iOS operating systems and allows data synchronization between the two systems.

- Customer Platform. FunTown now provides a customer platform called Dream Village, which began as a community space constructed for players of our female-oriented games. Now it not only runs an online shop for game-related virtual goods and character merchandise, but is also capable of intermediating as a payment gateway for third-party online and offline retailers.

Our Marketing

Our marketing strategy is to capitalize on our established brand names and utilize our diverse distribution networks to retain our existing users and attract new users. We use various qualitative and quantitative market research methods to analyze our target market and differentiate our product offerings from those of our competitors. We are engaged in a variety of traditional and online marketing programs and promotional activities, including the following:

In-Game Events and Online Marketing

We organize in-game events for our users, which we believe encourages the development of online communication and teamwork among our users and increases user interest in our games. Examples of in-game events include scheduled challenges or competitions for prizes. In addition, we use in-game events to introduce and market new features of our games to our current users.

We advertise our brands and our digital entertainment products across a variety of online media, including traditional online advertisements like YouTube, Google and Facebook. We also collaborate with new media channels, including micro-blogging services provided with websites and search engine services.

Offline Promotions and Advertisements

We advertise our brand names and our digital entertainment products across a variety of offline platforms, including television and outdoor advertisements. From time to time we distribute game-related posters, promotional prepaid virtual points for new users and souvenirs at trade shows and other locations. We conduct events at popular venues to stage exhibitions, distribute software and game content-related merchandise, and interact directly with our users. For our role-playing games, we also collaborate with book shops, coffee shops and similar businesses to host fan meetings, where we provide immersive customer experience to promote and strengthen customers' emotional connections with our role-playing games.

Open Beta Testing

We conduct our open beta testing under open market conditions. During open beta testing, we do not charge users to play the new game. Open beta testing serves important marketing functions, including developing initial interest, establishing an initial user base, and generating word-of-mouth publicity to support the commercial launch of the game.

Our Distribution and Payment Channels

We sell game points for our digital entertainment services through various channels. Our distribution and payment channels are described below.

Internet-Based Distribution Channels

Internet-based distribution channels consist of various websites, including the official website of FunTown. Users may purchase game points through these websites with their credit cards or computer-based payment processing terminals.

We also use third-party digital distribution platforms, such as "Google Play" or the "Apple App Store," to provide our mobile game apps to users of various types of mobile devices.

Telecommunication Network Operators

We also distribute game points through cooperation with telecommunication network operators and their service providers. Our cooperating operators and service providers charge fees to the purchasers' phone bills, which are prepared and collected by the network operators.

Payment Aggregators

We also work with established payment aggregators. These payment aggregators allow users to pay for a variety of products and services, such as mobile phone calls and game points of different game operators, using their pre-paid scratch cards, vouchers or codes printed on receipts.

Offline Physical Distribution Channels

Physical distribution channels mainly consist of convenience chain stores, where users may use interactive kiosk machines to purchase pre-paid game points with varying amounts.

Our Operation Architecture

We have a scalable and modular operation architecture that enables us to support and expand our digital entertainment offerings. The architecture consists of several key subsystems, including game services, a central user database, billing and payment, online customer service, game telemetry and monitoring. FunTown has its own unified user account system, which allows players to use a single account to access all FunTown games. Our billing and game management system supports various billing models and deposit options, and accommodate in-house developed games and licensed games. Our customer service system enables us to assist our players inside and outside the games. Our game telemetry and monitoring system allows us to track our concurrent online users in real time and effectively identify and fix technical problems in our server network.

Technology Infrastructure

Due to the real-time interaction among thousands of users, the stable operation of our online games requires a significant number of servers and a significant amount of connectivity bandwidth. We have developed an extensive technology infrastructure that supports the operation of our online games. We seek to adapt our infrastructure promptly in response to changing circumstances.

Our Customers

In Taiwan and Hong Kong, as of December 31, 2022, we had an aggregate of approximately 9.0 million unique registered customers of our digital entertainment services, most of which were located in Taiwan. During the year ended December 31, 2022, we recorded approximately 43,000 active paying users.

Competition

Our primary competitors in the digital entertainment business are online game operators based in Taiwan and Hong Kong. Our major competitors in Taiwan include Soft-World, IGS, UserJoy and GodGame.

In addition, we compete for users against various offline entertainment products, such as console games, arcade games and handheld games, as well as various other forms of traditional or online entertainment.

We expect more digital entertainment companies to enter into the markets where we operate, and a wider range of digital entertainment products to be introduced to the market given the relatively low entry barriers to entry in the industry. Our competitors vary in size and include private and public companies, many of which have greater financial, marketing and technical resources as well as name recognition. We intend to continue to enhance our market position through providing competitive products and quality services that meet market trends and users' preferences, as well as strengthening sales effectiveness.

Seasonality

Our business experiences seasonality in the form of slower sales of FunTown's digital entertainment business in the second and fourth quarters. In recent years, our first and third quarters have been our strongest revenue periods due to the Chinese New Year holidays, students' winter and summer vacations, as well as anniversary promotion campaigns in the third quarter for one of our popular games. The prolonged school closures arising from the COVID-19 pandemic also had significant positive impact on our revenues as students (one of our target markets) sought online entertainment at a higher rate.

Regulation

Our business is subject to various laws and regulations in the jurisdictions we operate relating to the digital entertainment industry, and is regulated by various government authorities.

Regulations Relating to Digital Entertainment

Taiwan

At present, there is no specific law in Taiwan governing digital entertainment services, nor are there any specific licensing requirements imposed on Internet content providers in connection with offering online game services.

The Protection of Children and Youths Welfare and Rights Act

The rating of internet content is governed by Article 46 of the Protection of Children and Youths Welfare and Rights Act, which requires that all internet platform providers adopt their own rules implementing “clear and practicable” protection measures in accordance with the internet content supervisory institutions engaged by the National Communications Commission (the “NCC”) and other relevant authorities to prevent youth and children from having access to harmful internet content. An internet platform provider is required to restrict children and youths from having access to internet content upon the relevant authority’s notification that such internet content may be harmful or that such internet platform provider failed to implement “clear and practicable” protection measures.

Computer Software Ratings

In July 2006, the Ministry of Economic Affairs announced the Computer Software Ratings pursuant to the Protection of Children and Youths Welfare and Rights Act, which took effect in January 2007. These regulations were amended on May 29, 2012 and renamed the Game Software Rating Management Regulations, and were last amended on May 23, 2019. Matters related to game software rating have been changed to the jurisdiction of the Ministry of Digital Development after August 27, 2022, they are originally under the jurisdiction of the Ministry of Economic Affairs. The definition of “game software” and the rating system have been significantly modified in the 2012 amendment. Game software means software that integrates digitalized text, sound, visual effects, music, pictures, images or animation, which allows users to achieve certain goals of the game by operation of electronic equipment such as computer, hand-held or wearable reality devices, but excluding software installed upon the “electronic game arcade” as defined in the Electronic Game Arcade Business Regulation Act. Manufacturers, distributors, agents, sellers, rental service operators, disseminators, exhibitors and download providers are responsible for the administration of ratings. There are five ratings: (i) Restricted (allowed for ages 18 and above); (ii) Parental Guidance 15 (allowed for ages 15 and above); (iii) Parental Guidance 12 (allowed for ages 12 and above); (iv) Parent Protection (allowed for ages 6 and above); and (v) General Audience (suitable for all ages). According to the 2012 amendment, game software that uses virtual currency to play simulated MahJong, poker, dice, steel ball, horse racing, roulette, slot machine and other games of similar nature, and the outcome of the games may result in increase or decrease of the virtual currency, must be rated as Parental Protection. If the contents of such game software meet the requirements under the rating criteria for Restricted, Parental Guidance 15 or Parental Guidance 12, such games must be rated accordingly. Furthermore, according to the 2018 amendment, games adopting chess or puzzle as the main content must be provided with warning statements showing that it may not be used for gambling or the engagement of any violation of laws and regulations or other similar conducts. In addition, according to the 2019 amendment, “card and intelligence-beneficial entertainment games” differ from the “chess games.” However, games shall be rated “PG 15” (age of 15 or above), if virtual game tokens are used and increase or decrease when performing the games. If that is not the situation, the games shall be rated “PG 12” (age of 12 or above). The rating must be indicated on the product package or next to the user’s guide, downloaded page, homepage or link for the game. If the purchase of game points (cards), virtual game currencies or virtual treasures are used as payment methods, the content and amount of payment, content or services that require additional payment, or other similar warnings shall be also provided.

Online Game Regulations and Standard Contract Template

The Ministry of Economic Affairs and the Consumer Protection Commission, pursuant to the Consumer Protection Act, announced the Regulations Mandatory and Prohibitory Provisions of Standard Contracts to Be Used for the Online Game Services, and also published a standard contract template that sets out permitted terms and limitations with respect to online game services offered in Taiwan. The regulations and the standard contract template were last amended in August 2022. Generally, consumers should be given at least three days to review such contract. Amendments or changes to fees payable for services offered must be publicly announced at least thirty days prior to such amendment and notification of such amendment was provided to consumers. For lucky draw events in which consumers pay for opportunities to obtain goods or activities, the online game operator is required to provide full disclosure of complete information, including by clarifying the content of lucky draw events and potential awards. Furthermore, since January 1, 2023, in order to ensure that consumers can correctly identify and monitor their own consumption, the online game operator must clearly specify the “probability” of the consumer obtaining the goods or activities. When a consumer’s ID and/or password has been compromised, the online game operator must provide assistance and information to him or her. Consumer game records must be maintained by each online game operator for a minimum period of thirty days and shall be open to inspection by such consumers. Suspension periods for consumers who have breached the terms of their online game contracts may not exceed seven days. The termination date of online game operation must be publicly announced at least thirty days prior to such date, and notification must be provided to consumers. The online game operator cannot limit the use period of purchasing the game points in the online game contract. Furthermore, the online game operator cannot specify in the online game contract that it has the right to interpret the contract terms and conditions. Under the Consumer Protection Act, an online game operator using the online game contract that violates the above mandatory or prohibitory provisions and fails to take corrective actions ordered within the time limit prescribed by the competent authorities shall be punished by an administrative fine of NT\$30,000 to NT\$300,000, unless the law provides otherwise. Moreover, if an online game operator fails to take corrective actions within the time limit prescribed by the competent authorities, it shall be punished for each violation by an administrative fine of NT\$50,000 to NT\$500,000.

Personal Data Protection Act

On April 27, 2010, the Legislative Yuan passed a bill to amend the Computer-processed Personal Data Protection Act, which was renamed as the Personal Data Protection Act. The Personal Data Protection Act was last amended on December 30, 2015. Personal data includes the name, date of birth, I.D. card number, passport number, characteristics, fingerprints, marital status, family, education, occupation, medical record, medical treatment, genetic information, sexual life, health examination, criminal record, contact information, financial conditions, social activities and other information that may be used to identify a natural person, both directly and indirectly. Whenever an entity collects personal data from any individual, it shall inform such individual about (i) the name and identity of the collecting entity; (ii) the purpose of collection; (iii) how the collected personal data will be used; (iv) his/her rights; and (v) the consequences of his/her failure to provide the required personal data. If personal data is not provided by individuals, in addition to the information required to be disclosed as described above, the collecting entity shall inform such individual of the source of the data before processing or using the data. Prior consent from the individual is required for use of his/her personal data. These requirements shall be exempted if relevant personal data of the individual (i) is used for public interests; or (ii) is available from the public domain and the interest to be protected is more important than the privacy of such individual. Depending on the gravity of a violation, damages of NT\$500 to NT\$20,000 may be claimed against a person for each violation of the Personal Data Protection Act even if the actual damage cannot be proved. If there is more than one victim in a single violation, the maximum damages would be up to NT\$200,000,000. However, if the interests involved therein exceed NT\$200,000,000, restrictions on maximum amount for damages to be claimed and on minimum amount for damages to be claimed (NT\$500 per person for each violation) shall not apply.

Hong Kong

Personal Data (Privacy) Ordinance

The Personal Data (Privacy) Ordinance (Cap. 486) came into effect in Hong Kong on December 20, 1996. A significant amendment to this Ordinance took effect on October 1, 2012, and the latest amendment was on October 8, 2021. The Hong Kong government has set up the Office of the Privacy Commissioner, which is an independent statutory body to oversee the enforcement of the Ordinance. The objective of the Personal Data (Privacy) Ordinance is to protect the privacy rights of a person in relation to personal data (Data Subject). Everyone who is responsible for handling data (Data User) should follow the Six Data Protection Principles ("DPPs"), including: (i) Data Collection Principle; (ii) Accuracy & Retention Principle; (iii) Data Use Principle; (iv) Data Security Principle; (v) Openness Principle; and (vi) Data Access & Correction Principle. Non-compliance with DPPs does not itself constitute a criminal offence. However, the Commissioner may serve an Enforcement Notice to direct the data user to remedy the contravention and/or instigate a prosecution action. Contravention of an enforcement notice is an offense that could result in a maximum fine of HK\$50,000 and imprisonment for two years. Moreover, the Ordinance also criminalizes misuse or inappropriate use of personal data in direct marketing activities (Part VI A), non-compliance with Data Access Request (section 19), or unauthorized disclosure of personal data obtained without data user's consent (section 64). An individual who suffers damage, by reason of a contravention of the Ordinance in relation to his or her personal data may seek compensation from the data user concerned. Following the passing of the Personal Data (Privacy) (Amendment) Bill 2021 (the Amendment Bill) on September 29, 2021, the amended provisions of the Personal Data (Privacy) Ordinance, which target doxxing acts, take effect on October 8, 2021. Most significantly, the amendments introduce changes that create offences to curb doxxing acts, empower the Privacy Commissioner to carry out criminal investigations and to institute prosecution, and confer on the Privacy Commissioner statutory powers to demand the cessation of doxxing contents.

Dividends from Our Subsidiaries

Under Singapore tax regulations, foreign-sourced dividend income used for capital expenditures, including investments, and repayment of borrowings, is not deemed as remitted to Singapore and is therefore not taxable.

Listing and Offering

Under Nasdaq Rule 5210(c), as amended ("Rule 5210(c)"), all securities listed on Nasdaq must be eligible for a direct registration program, or DRS, operated by a registered clearing agency, unless the foreign private issuer is prohibited from complying by a law or regulation in its home country.

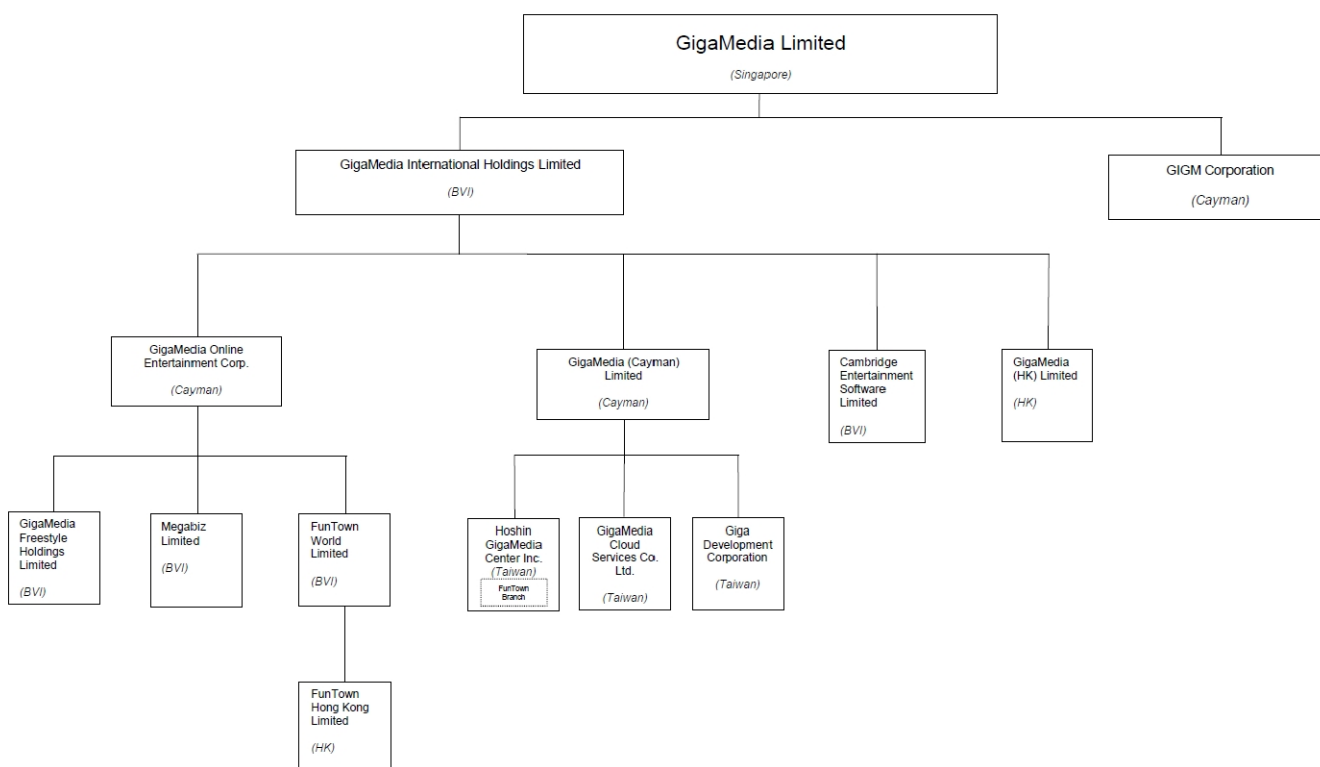
Our Company is incorporated under the laws of the Republic of Singapore and is subject to the provisions of the Companies Act 1967 of Singapore (the "Companies Act"). Under the Companies Act, Singapore-incorporated companies are required to issue physical share certificates to registered shareholders as prima facie evidence of a registered shareholder's title to the shares and there are no exceptions to or exemptions from this requirement that would enable us to amend our constitutional documents to allow for the issue of non-certificated shares. Therefore, we are not able to comply with the DRS eligibility provisions of Rule 5210(c).

However, as a foreign private issuer, we are allowed under Nasdaq listing rules to follow our home country practice in lieu of the requirements set out in Rule 5210(c). We rely on this accommodation for foreign private issuers for an exemption from compliance with the DRS eligibility requirements under Rule 5210(c). We have informed The Nasdaq Stock Market about our election to comply with the laws of Singapore in lieu of the DRS eligibility provisions of Rule 5210(c).

C. Organizational Structure

We were incorporated in Singapore as a company limited by shares on September 13, 1999. As of the date of this annual report, our principal operating subsidiaries include Hoshin GigaMedia and FunTown World Limited. Hoshin GigaMedia, our wholly owned subsidiary incorporated in Taiwan, operates our digital entertainment service business in Taiwan. FunTown World Limited, our wholly owned subsidiary incorporated in the British Virgin Islands, operates our digital entertainment service business in Hong Kong and Macau. We do not utilize variable-interest entities in our operations.

The following organization chart and table set forth our business structure and selected information for each of our principal subsidiaries as of the date of this annual report:



* Includes our operating subsidiaries or companies holding material investments or contracts only. All subsidiaries are 100% owned.

Entity	Place of Incorporation	Relationship
<i>Held by our Company</i>		
GigaMedia International Holdings Limited	British Virgin Islands	Wholly owned subsidiary
GIGM Corporation	Cayman Islands	Wholly owned subsidiary
<i>Held by GigaMedia International Holdings Limited</i>		
GigaMedia Online Entertainment Corp.	Cayman Islands	Wholly owned subsidiary
Cambridge Entertainment Software Limited	British Virgin Islands	Wholly owned subsidiary
GigaMedia (HK) Limited	Hong Kong	Wholly owned subsidiary
GigaMedia (Cayman) Limited	Cayman Islands	Wholly owned subsidiary
<i>Held by GigaMedia Online Entertainment Corp.</i>		
FunTown World Limited	British Virgin Islands	Wholly owned subsidiary
GigaMedia Freestyle Holdings Limited	British Virgin Islands	Wholly owned subsidiary
Megabiz Limited	British Virgin Islands	Wholly owned subsidiary
<i>Held by FunTown World Limited</i>		
FunTown Hong Kong Limited	Hong Kong	Wholly owned subsidiary
<i>Held by GigaMedia (Cayman) Limited</i>		
Hoshin GigaMedia Center Inc.	Taiwan	Wholly owned subsidiary
GigaMedia Development Corporation	Taiwan	Wholly owned subsidiary
GigaMedia Cloud Services Co. Ltd.	Taiwan	Wholly owned subsidiary

D. Property, Plant and Equipment

As of April 6, 2023, we leased approximately 28,000 square feet as office premises as our corporate head office in Taipei, Taiwan and approximately 4,000 square feet as office premises for FunTown's office in Hong Kong.

ITEM 4A. UNRESOLVED STAFF COMMENTS

None.

ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

Unless stated otherwise, the discussion and analysis of our financial condition and results of operations in this section apply to our consolidated financial statements as prepared in accordance with U.S. GAAP. You should read the following discussion of our financial condition and results of operations together with the consolidated financial statements and the notes to these statements included elsewhere in this annual report.

A. Operating Results

The following selected consolidated balance sheet data as of December 31, 2022 and 2021 and the selected consolidated statement of operations data for the years ended December 31, 2022, 2021 and 2020 have been derived from our audited consolidated financial statements included in Item 18 in this annual report. The selected consolidated balance sheet data as of December 31, 2020, 2019 and 2018, and the selected consolidated statement of operations data for the years ended December 31, 2019 and 2018 have been derived from our audited consolidated financial statements for the years ended December 31, 2019 and 2018, which are not included in this annual report. The consolidated financial statements have been prepared and presented in accordance with accounting principles generally accepted in the United States of America, or U.S. GAAP. You should read the following selected consolidated financial data in conjunction with the consolidated financial statements and the accompanying notes to those statements included in this annual report.

For the Years Ended December 31,
(in thousands US\$, except for per share data)

	2022	2021	2020	2019	2018
CONSOLIDATED STATEMENTS OF OPERATIONS DATA:					
OPERATING REVENUES					
Digital entertainment service revenues	\$ 5,585	\$ 5,492	\$ 6,875	\$ 6,645	\$ 7,101
COSTS OF REVENUES					
Cost of digital entertainment service revenues	(2,335)	(2,584)	(2,956)	(3,064)	(3,585)
GROSS PROFIT	<u>3,250</u>	<u>2,908</u>	<u>3,919</u>	<u>3,581</u>	<u>3,516</u>
OPERATING EXPENSES					
Product development and engineering expenses	(1,110)	(1,449)	(1,327)	(1,186)	(1,091)
Selling and marketing expenses	(1,644)	(1,729)	(1,618)	(1,995)	(3,297)
General and administrative expenses	(3,515)	(3,697)	(3,121)	(3,182)	(3,684)
Impairment loss on property, plant, and equipment	—	—	—	(109)	—
Impairment loss on intangible assets	—	—	—	(15)	—
Impairment loss on prepaid licensing and royalty fees	—	—	—	(85)	(244)
Other	(2)	(7)	(5)	(24)	(23)
Total operating expense	<u>(6,271)</u>	<u>(6,882)</u>	<u>(6,071)</u>	<u>(6,596)</u>	<u>(8,339)</u>
Loss from operations	<u>(3,021)</u>	<u>(3,974)</u>	<u>(2,152)</u>	<u>(3,015)</u>	<u>(4,823)</u>
Income tax benefit	—	—	—	—	—
Net income (loss) attributable to shareholders of GigaMedia	<u>\$ (2,752)</u>	<u>\$ (3,425)</u>	<u>\$ (1,293)</u>	<u>\$ (1,659)</u>	<u>\$ (3,193)</u>
Earnings (loss) per share (in dollars):					
Basic and diluted	<u>\$ (0.25)</u>	<u>\$ (0.31)</u>	<u>\$ (0.12)</u>	<u>\$ (0.15)</u>	<u>\$ (0.29)</u>

There were no dividends declared in 2022, 2021, 2020, 2019 and 2018.

As of December 31,
(in thousands US\$, except for number of issued shares)

	2022	2021	2020	2019	2018
CONSOLIDATED BALANCE SHEET DATA:					
Total current assets	\$ 47,826	\$ 42,582	\$ 46,525	\$ 58,893	\$ 60,595
Investment in securities - noncurrent	2,371	10,322	10,000	—	—
Property, plant and equipment-net	103	88	22	—	121
Intangible assets-net	19	12	4	—	38
Total assets	52,136	55,518	57,023	59,222	61,445
Total current liabilities	2,637	3,216	2,923	3,584	3,273
Total GigaMedia's shareholders' equity	48,606	50,852	54,097	55,544	58,172
Ordinary shares, no par value, and additional paid-in capital	308,752	308,752	308,752	308,751	308,750
Number of issued shares (in thousands)	11,052	11,052	11,052	11,052	11,052

Overview

We are a diversified provider of digital entertainment services. Our only segment and principal business is our digital entertainment service business, which operates a portfolio of digital entertainment products, primarily targeting digital entertainment service users across Asia. We operate our digital entertainment business in Taiwan, Hong Kong and Macau through FunTown.

In 2022, we had total operating revenues of approximately US\$5.6 million, which represents an increase of approximately US\$0.1 million year-over-year. Our total costs and expenses decreased by approximately US\$0.9 million year-over-year to US\$8.6 million, primarily due to our efforts in improving gross margin and curbing growth of expenditures in the current inflationary environment. We incurred an operating loss of approximately US\$3.0 million, which represents a decrease of loss of approximately US\$1.0 million year-over-year. We recognized a non-operating income of approximately US\$269 thousand, compared to income of approximately US\$0.5 million in the prior year, primarily because of the increased interest income and the gain on changes in the fair value of a financial instrument, partly offset by the foreign exchange loss. We did not recognize any significant income tax benefits or expenses in 2022 or 2021. We recognized a net loss of approximately US\$3.0 million, which represents a decrease of loss of US\$0.4 million year-over-year, primarily resulting from the aforementioned factors.

Online game operators in Taiwan and Hong Kong are currently our primary competitors. Given the low barriers to entry in the digital entertainment industry and the increasing popularity of Internet-based businesses, there are a large number of potential competitors scattered throughout many different segments of the software and Internet industries. In addition to the aforementioned competitors, traditional entertainment service providers and other entities, many of which have significant financial resources and brand name recognition, may provide digital entertainment services in the future, and thus become our competitors.

Faced with our known competitors, and most likely additional new competitors that may be established in the near future, we will continue to improve on the principal competitive factors that we believe can differentiate our product offerings from those offered by our competitors, including: brand, technology, financial stability and resources, proven track record, independent oversight and transparency of business practices in our industry.

Certain Significant Events Affecting Our Results of Operations for 2022, 2021 and 2020

Purchase and Partial Conversion of Convertible Note of Aeolus Robotics Corporation

On August 31, 2020, we entered into a convertible note purchase agreement to purchase a US\$10,000,000 principal amount convertible promissory note (the "Note") issued by Aeolus Robotics Corporation ("Aeolus"), a global company primarily engaged in designing, manufacturing, processing and sales of intellectual robotics.

The Note, which bears interest at a rate of 2% per annum, was due on August 30, 2022 but was extendable to August 30, 2023 at Aeolus's option, and all or a portion of the principal amount under the Note may be converted at our option upon maturity, upon prepayment, or when certain events occur, into ordinary shares of Aeolus at a price of US\$3.00 per share, or into preferred shares in Aeolus's nearest next round equity financing where Aeolus issues further preferred shares, at a price equal to the purchase price offered in such financing or with certain discount. Assuming full conversion of the Note into ordinary shares and the exercise or conversion of all other Aeolus rights, options and convertible securities outstanding as of August 31, 2020, we would beneficially own 3,333,333 shares representing approximately 4.62% of the total ordinary shares of Aeolus as of August 31, 2020.

Effective December 30, 2021, we received 735,835 shares of the Series B preferred shares issued by Aeolus by converting 20% of the US\$10,000,000 principal amount of the Note. The conversion was exercised in accordance with the right under the Note at the conversion price of US\$2.718 per share. After the conversion, the outstanding principal amount under the Note was US\$8,000,000.

On July 29, 2022, Aeolus notified GigaMedia that it had decided to exercise its right of extension under the Note to extend the original August 30, 2022 maturity date to August 30, 2023.

If assuming full conversion of the remaining principal amount of the Note into ordinary shares, we would beneficially own 2,666,666 ordinary shares. Along with the above 735,835 preferred shares, that would represent, assuming the exercise or conversion of all other rights, options and convertible securities, approximately 3.16% of the total voting shares of Aeolus as of December 31, 2022.

COVID-19

While our operations in Taiwan and Hong Kong have not been severely affected through the date of this Annual Report, we are unable to predict whether there will be significant COVID-19 resurgence events or the extent to which the global COVID-19 pandemic, or its long-term consequences, may adversely impact our business operations, financial performance and results of operations for fiscal year 2023. We have implemented strict hygiene and social distancing practices in our daily operations in order to protect the safety and health of our employees. We have also established a contingency plan to ensure our business continuity against the COVID-19 pandemic and future epidemics or pandemics. We will continue to monitor global events and respond accordingly to any potential business disruptions that may occur.

Results of Operations

Factors Affecting Our Performance

We believe that competition is the principal factor affecting our results of operations.

Our digital entertainment service business operates in an extremely competitive industry. Our digital entertainment service business is characterized by rapid technological change and we face significant and intense competition from entertainment software design houses, application service providers and casual games operators.

We cannot assure you that we will be successful in establishing and maintaining quality of player experience, brand awareness, reputation and access to distribution channels more successfully than our competitors. We also may be unable to adapt to technological developments before our competitors. As a consequence, we may lose our existing customers and not expand our client base, which would have a material adverse effect on our revenues and financial condition.

The table below presents, for the years indicated, information regarding our revenues, costs and expenses for our consolidated operations.

For the Year Ended December 31,

	2022		2021		2020	
	Amount in US\$ thousands	% of total revenues	Amount in US\$ thousands	% of total revenues	Amount in US\$ thousands	% of total revenues
OPERATING REVENUES						
Digital entertainment service revenues	\$ 5,585	100.0	\$ 5,492	100.0	\$ 6,875	100.0
COSTS OF REVENUES						
Cost of digital entertainment service revenues	(2,335)	(41.8)	(2,584)	(47.1)	(2,956)	(43.0)
Gross profit	3,250	58.2	2,908	52.9	3,919	57.0
OPERATING EXPENSES						
Product development and engineering expenses	(1,110)	(19.9)	(1,449)	(26.4)	(1,327)	(19.3)
Selling and marketing expenses	(1,644)	(29.4)	(1,729)	(31.5)	(1,618)	(23.5)
General and administrative expenses	(3,515)	(63.0)	(3,697)	(67.3)	(3,121)	(45.4)
Other	(2)	0.0	(7)	(0.1)	(5)	(0.1)
Total operating expenses	(6,271)	(112.3)	(6,882)	(125.3)	(6,071)	(88.3)
Loss from operations	(3,021)	(54.1)	(3,974)	(72.4)	(2,152)	(31.3)
NON-OPERATING INCOME (EXPENSES), NET	269	4.8	549	10.0	859	12.5
LOSS BEFORE INCOME TAXES	(2,752)	(49.3)	(3,425)	(62.4)	(1,293)	(18.8)
INCOME TAX BENEFIT	—	0.0	—	0.0	—	0.0
NET LOSS ATTRIBUTABLE TO SHAREHOLDERS OF GIGAMEDIA	<u>\$ (2,752)</u>	<u>(49.3)</u>	<u>\$ (3,425)</u>	<u>(62.4)</u>	<u>\$ (1,293)</u>	<u>(18.8)</u>

The key items included in our consolidated statements of operations are:

OPERATING REVENUES. Our operating revenues consist of revenues from our digital entertainment service business. Digital entertainment service revenues are related to our digital entertainment business in Asia and are collected through the sale of virtual points, pre-paid cards and game packs, and through licensing fee revenues. Revenues are collected in accordance with contracts and through monthly payment or in advance payments with discounts, and are recognized when (or as) we satisfy the related performance obligation.

COSTS OF REVENUES. Costs of revenues consist primarily of digital entertainment service processing costs, licensing and royalty fees, bandwidth costs, production costs for prepaid cards and game packs, amortization of intangible assets, cost of products, customer service department costs, operational department costs, depreciation, maintenance and other overhead expenses directly attributable to the provision of our digital entertainment services.

OPERATING EXPENSES. Operating expenses include product development and engineering expenses, selling and marketing expenses, general and administrative expenses, bad debt expenses and impairment losses on long-lived assets and prepaid licensing and royalty fees.

NON-OPERATING INCOME (EXPENSES), NET. Non-operating income and expenses include interest income and expenses, gain or loss on sales and fair value changes of investment in securities, and foreign exchange gain or loss.

INCOME TAX EXPENSES (BENEFIT). Taxes include current income tax in various jurisdictions in which our subsidiaries operate and deferred tax expenses related to temporary tax assets or liabilities that arise due to the timing differences between book profits and taxable profits that originate in one period and are capable of reversal in one or more subsequent periods. Taxes are measured using the tax rates and laws that have been enacted or subsequently enacted as of the date of the financial statements.

Year to Year Comparisons

Please refer to the Item 5 in our previously filed Annual Report on Form 20-F for the year ended December 31, 2021 for the comparisons of our results of operations in fiscal years 2021 and 2020.

In late 2017, we conducted a comprehensive strategic business review. Our review led us to conclude that:

- Compared to our in-house offerings, the operations of licensed games bear an uncompetitive cost structure where licensing costs and channel costs usually take a huge bite out of earnings, leaving little room for any marketing strategies.
- The operations of licensed games are inherently dependent on the licensors and it is therefore difficult for us to take the initiative in driving changes. As a result, these games are often slow in responding to a fad, a market trend or even a permanent change in customers' preference.

Accordingly, in recent years we have been implementing a strategy of optimizing our product portfolio by trimming off or terminating products or services that were below requirements, and selectively introducing licensed games. At the same time, we continued consolidating substantial resources for developing our own offerings, into which direct investment was US\$1.1 million, US\$1.4 million and US\$1.3 million during 2022, 2021 and 2020, respectively.

In prior years, we also invested further to enhance our customer relationship management system, which will contribute to our operations in building up relationships, saving marketing costs, and creating capacity for providing augmented products and services. The cultivation of a loyal customer base will eventually further boost customer value and create revenues and profits.

Operating Revenues and Gross Margin

	For the Year Ended December 31,				
	2022		2021		2020
	Amount in US\$ thousands	% Change from 2021	Amount in US\$ thousands	% Change from 2020	Amount in US\$ thousands
Operating revenues	\$ 5,585	1.7%	\$ 5,492	(20.1)%	\$ 6,875
Cost of revenues	(2,335)	(9.6)%	(2,584)	(12.6)%	(2,956)
Gross profit	\$ 3,250	11.8%	\$ 2,908	(25.8)%	\$ 3,919
Gross margin	58.2%		52.9%		57.0%

Operating Revenues

Our operating revenue in 2022 increased by 1.7% from 2021. Revenues from mobile games declined to US\$0.8 million in 2022 from US\$1.5 million in 2021, while revenues from a certain licensed sports game increased by US\$1.0 million, or 42.9%, to US\$3.4 million in 2022 from US\$2.4 million in 2021, mainly because repeated school closures in Hong Kong created more chances for pupils to seek online entertainments, offsetting the negative impact of delays in our Japanese and Korean licensors' provision of support, upgrades and new content, resulting from the COVID-19 pandemic. Revenues from our legacy *MahJong* and casino games were US\$1.3 million in 2022, down from US\$1.5 million in 2021.

Gross Margin

Our gross margin fluctuates with players paying through different channels, changes in price and product mix, cost improvement, and exchange rate, among other factors. Furthermore, our gross margins are negatively impacted in the year when upfront fees or initial costs are amortized for a newly introduced licensed game.

Our gross profit was US\$3.3 million in 2022 as compared to US\$2.9 million in 2021. Gross profit margin was 58.2 % in 2022 as compared with 52.9% in 2021, as a large portion of the revenues were from the aforementioned licensed sports game, which carry lower costs in licensing and royalty fees compared to other licensed games.

Operating Expenses

	For the Year Ended December 31,					
	2022		2021		2020	
	Amount in US\$ thousands	% Change from 2021	Amount in US\$ thousands	% Change from 2020	Amount in US\$ thousands	
Product development and engineering expenses	\$ (1,110)	(23.4)%	\$ (1,449)	9.2%	\$ (1,327)	
Selling and marketing expenses	(1,644)	(4.9)%	(1,729)	6.9%	(1,618)	
General and administrative expenses	(3,515)	(4.9)%	(3,697)	18.5%	(3,121)	
Other	(2)	(71.4)%	(7)	40.0%	(5)	
Total operating expenses	<u>\$ (6,271)</u>	<u>(8.9)%</u>	<u>\$ (6,882)</u>	<u>13.4%</u>	<u>\$ (6,071)</u>	
Percentage of operating revenues	(112.3)%		(125.3)%		(88.3)%	
Loss from operations	<u>\$ (3,021)</u>	<u>(24.0)%</u>	<u>\$ (3,974)</u>	<u>84.7%</u>	<u>\$ (2,152)</u>	
Operating margin	(54.1)%		(72.4)%		(31.3)%	

Operating expenses decreased by US\$0.6 million, or 8.9%, to US\$6.3 million in 2022.

In 2022, our efforts to curb expenditure growth in the current inflationary environment resulted in the decrease in overall operating expenses.

Product Development and Engineering Expenses

Our product development and engineering expenses amounted to US\$1.1 million in 2022, which comprised mainly personnel related expenses. This amount was reduced from the amounts in 2021 and 2020 as we streamlined the workforce of our development team. With a slimmer team in place for 2023, we plan to continue our exploration of digital entertainment to further develop our own products and services.

Selling and Marketing Expenses

Selling and marketing expenses decreased by 4.9% from US\$1.7 million in 2021 to US\$1.6 million in 2022, primarily due to the effect of a stronger U.S. dollar against NT dollar in 2022, resulting in a smaller U.S. dollar amount for local expenses.

General and Administrative and Marketing Expenses

General and administrative expenses amounted to US\$3.5 million in 2022, slightly decreased from US\$3.7 million in 2021, primarily due to the effect of a stronger U.S. dollar against NT dollar in 2022, resulting in a smaller U.S. dollar amount for local expenses.

Non-Operating Income and Expenses

	For the Year Ended December 31,				
	2022		2021		2020
	Amount in US\$ thousands	% Change from 2021	Amount in US\$ thousands	% Change from 2020	Amount in US\$ thousands
Interest income	\$ 718	184.9%	\$ 252	(58.9)%	\$ 613
Gain on sales of investment - debt securities	—	(100.0)%	125	N/A	—
Foreign exchange gain (loss), net	(941)	(871.3)%	122	(38.7)%	199
Changes in the fair value of investment in equity securities recognized at fair value	409	N/A	—	—	—
Other non-operating income (expenses), net	83	66.0%	50	6.4%	47
Non-operating income (expenses), net	<u>\$ 269</u>	(51.0)%	<u>\$ 549</u>	(36.1)%	<u>\$ 859</u>

Non-operating income, net was US\$269 thousand in 2022 as compared to income of US\$0.5 million in 2021 and income of US\$0.9 million in 2020. Non-operating income, net in 2022 primarily included (1) interest income of US\$718 thousand generated from bank deposits and accrued from the convertible note of Aeolus, (2) gain of US\$409 thousand on changes in the fair value of the preferred shares of Aeolus, and (3) foreign exchange loss of US\$941 thousand. Non-operating income, net in 2021 primarily included (1) interest income of US\$0.3 million generated from bank deposits and accrued from the convertible note of Aeolus, (2) foreign exchange gain of US\$122 thousand, and (3) gain on sales of investment - debt securities of US\$125 thousand, including a gain of US\$46 thousand from the partial conversion of the convertible note of Aeolus. In 2022, 2021 and 2020, the foreign exchange gain or loss were mainly arising from inter-company accounts between our wholly-owned entities using different functional currencies. While the balances of the inter-company accounts were fully eliminated in the consolidation, the foreign exchange gain or loss resulted remained in our consolidated statements of operations. The increase in foreign exchange loss, net in 2022 was primarily attributable to the effect of a stronger U.S. dollar against the NT dollar as compared to 2021.

Income Tax Benefit

	For the Year Ended December 31,				
	2022		2021		2020
	Amount in US\$ thousands	% Change from 2021	Amount in US\$ thousands	% Change from 2020	Amount in US\$ thousands
Loss before income taxes	\$ (2,752)	(19.6)%	\$ (3,425)	164.9%	\$ (1,293)
Income tax benefit	—	N/A	—	N/A	—
Net loss attributable to shareholders of GigaMedia	<u>\$ (2,752)</u>	(19.6)%	<u>\$ (3,425)</u>	164.9%	<u>\$ (1,293)</u>

In 2022 and 2021, no significant income tax benefits or expenses were incurred in our operations in respective tax jurisdictions, and full allowance was provided against all deferred tax assets.

B. Liquidity and Capital Resources

Our principal source of liquidity in the year ended December 31, 2022, was our cash on hand. Our cash and cash equivalents are held primarily in U.S. dollars and NT dollars. Our policy with respect to liquidity management is to maintain sufficient cash and cash equivalents to fund operations and strategic transactions, while placing remaining funds in higher yield investment instruments. While we have zero bank borrowing as of December 31, 2022 and 2021, we have established strong relationships with financial institutions and expect to be able to secure lines of credit to fulfill operating and strategic needs.

Our future cash requirements will depend on a number of factors including:

- the rate at which we enter into strategic transactions;
- the rate at which we expand our operations and employee base;
- the timing of entry into new markets and new services offered;
- changes in revenues and cost splits with our business partners;
- the rate at which we invest in developing and licensing our products and upgrading and maintaining our network and future technologies; and
- the rate at which we grow and monetize our customer bases.

The following table set forth the summary of our cash flows for the years indicated:

(in US\$ thousands)	For the Year Ended December, 31		
	2022	2021	2020
Net cash used in operating activities	\$ (2,509)	\$ (4,135)	\$ (2,075)
Net cash used in investing activities	(70)	(17)	(10,041)
Net cash used in financing activities	—	—	—
Exchange difference	(75)	(89)	(156)
Net decrease in cash, cash equivalents and restricted cash	(2,654)	(4,241)	(12,272)
Cash, cash equivalents and restricted cash at beginning of year	41,761	46,002	58,274
Cash, cash equivalents and restricted cash at end of year	<u>\$ 39,107</u>	<u>\$ 41,761</u>	<u>\$ 46,002</u>

OPERATING ACTIVITIES. In 2022, our net cash used in operating activities was approximately US\$2.5 million. We collected US\$6.5 million in cash from our customers, paid US\$2.6 million for license fees, royalties and channel costs, and paid approximately US\$6.3 million to employees, suppliers and vendors. In 2021, our net cash used in operating activities was approximately US\$4.1 million. We collected US\$5.4 million in cash from our customers, paid US\$1.9 million for license fees, royalties and channel costs, and paid approximately US\$7.8 million to employees, suppliers and vendors. In 2020, our net cash used in operating activities was approximately US\$2.1 million. We collected US\$6.5 million in cash from our customers, paid US\$2.6 million for license fees, royalties and channel costs, and paid approximately US\$6.3 million to employees, suppliers and vendors.

INVESTING ACTIVITIES. Our net cash used in investing activities in 2022 was US\$70 thousand, which was primarily used for the purchase of property, plant and equipment. Our net cash used in investing activities in 2021 was US\$17 thousand, which was primarily used for the purchase of property, plant and equipment. Our net cash used in investing activities in 2020 was US\$10.1 million, which was primarily used for the purchase of the convertible note of Aeolus (please refer to note 8 of our consolidated financial statements for additional information).

FINANCING ACTIVITIES. Our net cash flow in financing activities in 2022, 2021 and 2020 was nil.

We believe that our existing cash, cash equivalents and restricted cash, and our ability to obtain short-term borrowings will be sufficient to meet our capital expenditure, debt, and operating cash obligations through 2023. We believe our working capital is sufficient for our present requirements. We continue to seek and review potential merger and acquisition opportunities on an ongoing basis, which may be funded through cash on our balance sheet, proceeds from sales of investments, bank borrowings or equity offerings. We do not believe that any potential merger or acquisition that we may be engaged in would alter our goal of preserving sufficient cash, cash equivalents and restricted cash to fund future operations.

Obligations and Capital Expenditures

As of December 31, 2022, we had the following contractual obligations:

	As of December 31, 2022				
	Payment Due by Period (in US\$ thousands)				
	Within 1 year	1-3 years	3-5 years	>5 years	Total
Operating leases	\$ 455	\$ 838	\$ 69	\$ —	\$ 1,362
Royalty fees	20	—	—	—	20
Total contractual cash obligations	<u>\$ 475</u>	<u>\$ 838</u>	<u>\$ 69</u>	<u>\$ —</u>	<u>\$ 1,382</u>

Operating leases represent obligations under lease agreements with respect to certain office premises that we rent for operation.

In addition, we have contractual obligations under various license agreements to pay the licensors license fees and minimum guarantees against future royalties. There were no committed license fees and minimum guarantees against future royalties set forth in our significant license agreements as of December 31, 2022. For a specific licensed game, we are committed to paying an incentive fee of \$20 thousand to the licensor for every \$600 thousand in additional revenues generated from the game during the agreement period from January 2022 to January 2024. Since the revenues from particular games are unpredictable, the table above only reflects incentive fee commitments that have been triggered by crossing the relevant revenue thresholds.

We typically finance our capital expenditures through cash holdings. Our gross capital expenditures in continuing operations for equipment, furniture and fixtures, intangible assets and other deferred assets were US\$70 thousand, US\$93 thousand and US\$32 thousand for 2022, 2021 and 2020, respectively. Capital expenditures during 2022 were primarily for software and computer hardware equipment for our digital entertainment business and for general corporate use. Our capital expenditure plans for 2023, which we expect to be primarily in software and computer hardware equipment, will aim to support our lean growth initiatives in our digital entertainment service business. We believe our working capital is sufficient for our 2023 needs but we may adjust the amount of our capital expenditures upward or downward based on cash flow from operations, the progress of our expansion plans, and market conditions.

Dividends from Our Subsidiaries

Under Singapore tax regulations, foreign-sourced dividend income used for capital expenditures, including investments, and repayment of borrowings, is not deemed as remitted to Singapore and is therefore not taxable.

In accordance with R.O.C. law, an appropriation for legal reserve amounting to 10% of a company's net profit is required until the reserve equals the aggregate par value of such Taiwan company's issued capital stock. As of December 31, 2022, 2021 and 2020, the legal reserves of Hoshin GigaMedia were approximately US\$1.5 million, US\$1.5 million and US\$1.5 million, respectively. The reserve can only be used to offset a deficit or be distributed as a dividend of up to 50% of the reserve balance when the reserve balance has reached 50% of the aggregate paid-in capital of Hoshin GigaMedia.

C. Research, Development, Patents and Licenses, etc.

We make investments in research and development to keep pace and remain competitive with technology advancements and product development relating to our digital entertainment service business. For the years 2022, 2021 and 2020, we incurred US\$1.1 million, US\$1.4 million and US\$1.3 million, respectively, in research and development activities.

D. Trend Information

In the digital entertainment industry, the entire global business landscape is changing. Driven by the popularity of mobile phones and tablets and social networks, games are rapidly moving from PC-based formats to browser and mobile platforms. This in turn is causing changes in game content, as casual browser and mobile games require "light" content. In our markets, Taiwan and Hong Kong, the strongest demand is for casual browser/mobile games.

We are in the process of extending our products and services from a PC-based platform to browser/mobile platforms. We have a strong offering of casual games including Asian card-based games and *MahJong* and a good track record of developing and monetizing them, especially in the types of games that are most popular – casino games, such as poker, slots and *MahJong*. We are now leveraging that expertise to transition our game portfolio from social casino games designed for PC usage to other genres of digital entertainment for casual leisure and mobile play.

Please see Item 3, "Key Information — D. Risk Factors" and Item 5, "Operating and Financial Review and Prospects — A. Operating Results — Certain Significant Events Affecting Our Results of Operations for 2022, 2021 and 2020" for a discussion of the most recent trends in our operating costs and revenues since the end of 2022. In addition, please refer to discussions included in this Item for a discussion of known trends, uncertainties, demands, commitments or events that we believe are reasonable likely to have a material effect on our net operating revenues, income from continuing operations, profitability or capital resources, or that would cause reported financial information not necessarily to be indicative of future operating results or financial condition.

E. Critical Accounting Estimates

The discussion and analysis of our financial condition and results of operations are derived from our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the U.S., or U.S. GAAP. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and the related disclosure of contingent assets and liabilities as of the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting periods. For a discussion of our Company's significant accounting policies, please refer to note 1 of our consolidated financial statements.

Critical accounting estimates are defined as those reflective of significant judgments, estimates and uncertainties, which may result in materially different results under different assumptions and conditions. While our estimates and assumptions are based on our knowledge of current events and actions we may undertake in the future, actual results may ultimately differ from these estimates and assumptions. We believe that the following are our critical accounting estimates:

- Revenue Recognition and Deferral
- Valuation of Debt and Equity Securities

Revenue Recognition and Deferral

Our digital entertainment product and service revenues are mainly generated through sale of virtual points and in-game items, and those virtual goods purchased in our games can only be consumed in our games. Therefore, we regard the sale of a virtual good as a service, where the related performance obligation is satisfied over time, and revenues are recognized by measuring progress toward satisfying the performance obligation in a manner that best depicts the transfer of goods or services to the customer. Accordingly, we recognize revenues from the sale of virtual goods over the period of time using the output method, which is generally the estimated service period.

The virtual goods for our games may have different service periods. We use the weighted average number of days of a player's payment interval as the estimate for the service period of each game. We evaluate the appropriateness of such estimates quarterly to see if they are in line with our observations in the operations. We believe this provides a reasonable depiction of the transfer of services to our customers, as it is the best representation of the time period during which our customers play our games. Determining the estimated service period is subjective and requires management's judgment. Future usage patterns may differ from historical ones, and therefore the estimated service period may change in the future. The estimated service periods for players of our current games are generally less than 6 months.

Deferred revenues representing contract liabilities consist mainly of the advanced income related to our digital entertainment business. Deferred revenue represents proceeds received relating to the sale of virtual points and in-game items that are activated or charged to the respective user account by users, but which have not been consumed by the users or expired. Deferred revenue is credited to profit or loss when the virtual points and in-game items are consumed or have expired.

For deferred revenues, some users may not exercise all of their contractual rights, and those unexercised rights are referred to as breakage. We estimate and recognize the breakage amount as revenue when the likelihood of the customer exercising the remaining rights becomes remote. We consider a variety of data points when determining the estimated breakage amount, including the time when we ceased selling prepaid products for certain services and when such prepaid products were last used in charging users' accounts.

We have not made any material changes in the accounting methodology used to estimate the service period of the virtual goods and the breakage amount during the last three fiscal years. We do not believe there is a reasonable likelihood there will be a material change in the estimates or assumptions used to calculate the deferral and recognition of revenues. However, if actual results are not consistent with our estimates and assumptions used to calculate the deferral and recognition of revenues, we may be exposed to risks of inappropriately early or late recognition of the related revenues.

Valuation of Investment in Securities

Our Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible. We determine fair value of investment in securities based on assumptions that market participants would use in pricing an asset or a liability in the principal or most advantageous market. When considering market participant assumptions in fair value measurements, the following fair value hierarchy distinguishes between observable and unobservable inputs, which are categorized in one of the following levels:

- Level 1 Inputs: Unadjusted quoted prices in active markets for identical assets or liabilities accessible to the reporting entity at the measurement date.
- Level 2 Inputs: Other than quoted prices included in Level 1 inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the asset or liability.
- Level 3 Inputs: Unobservable inputs for the asset or liability used to measure fair value to the extent that observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at measurement date.

Our Company generally determines or calculates the fair value of financial instruments using quoted market prices in active markets when such information is available; otherwise we apply appropriate present value or other valuation techniques, such as the income approach, incorporating adjusted available market discount rate information and our Company's estimates for non-performance and liquidity risk, or the market approach, where we derive the implied value of financial instruments for the target company from a recent transaction involving the target company's own securities. These techniques rely extensively on the use of a number of assumptions, including the discount rate, credit spreads, and estimates of future cash flows. Please see note 4 to our consolidated financial statements for additional information.

We have not made any material changes in the accounting methodology used to evaluate investment in securities during the last three fiscal years. We do not believe there is a reasonable likelihood there will be a material change in the estimates or assumptions used to evaluate fair values of the securities. However, if actual results are not consistent with our estimates and assumptions used to calculate estimated future cash flows, we may be exposed to impairment losses that could be material.

ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

A. Directors and Senior Management

The following table sets forth information with respect to our directors and executive officers as of the date of this annual report:

Name	Age	Position	Year Appointed to Current Position
HUANG, James Cheng-Ming	68	Chairman of the Board, Chief Executive Officer, Chief Financial Officer and Director	2017 ⁽¹⁾
HUANG, John Ping Chang	71	Chairman of the Compensation Committee of the Board and Independent Non-Executive Director	2012/2011 ⁽²⁾
LIU, Nick Chia-En	61	Independent Non-Executive Director	2011 ⁽³⁾
HONG, Chin Fock (Damian)	75	Independent Non-Executive Director	2013 ⁽⁴⁾
TUNG, Casey K.	72	Chairman of the Audit Committee of the Board and Independent Non-Executive Director	2012/2011 ⁽⁵⁾
HUANG, Billy Bing-Yuan	65	Independent Non-Executive Director	2013 ⁽⁶⁾

(1) Mr. James Cheng-Ming HUANG was appointed as Chairman of the Board, Chief Executive Officer and Chief Financial Officer of our Company on May 5, 2017.

(2) Mr. John Ping Chang HUANG was appointed as an Independent Non-Executive Director of the Board on January 31, 2011. He was also appointed as Chairman of the Compensation Committee on November 26, 2012.

(3) Mr. Nick Chia-En LIU was appointed as an Independent Non-Executive Director of the Board on March 15, 2011. He was also appointed as a member of the Audit Committee on March 15, 2011.

(4) Mr. Damian HONG was appointed as an Independent Non-Executive Director of the Board on October 31, 2013.

(5) Mr. Casey K. TUNG was appointed as an Independent Non-Executive Director of the Board on November 24, 2011, and Chairman of the Audit Committee on November 5, 2012. He was also appointed as a member of the Compensation Committee on March 18, 2013.

(6) Mr. Billy Bing-Yuan HUANG was appointed as an Independent Non-Executive Director of the Board and a member of the Audit Committee on April 18, 2013.

Biographical information with respect to each of our directors and executive officers is set forth below.

Directors

JAMES CHENG-MING HUANG is the Chairman of the Board of Directors, Chief Executive Officer and Chief Financial Officer of our Company. He has more than 30 years of experience in finance, investment and direct marketing. Mr. Huang served as President at Grand Pacific Investment & Development Co., Ltd., for eight years before joining the Company. Prior to that, he was the Director of two publicly listed companies in Thailand and Singapore, and the Chairman/ CEO of Otto-Chailease Mailorder Co., Ltd. Mr. Huang holds a master's degree of Science in Management from MIT Sloan School of Management, U.S.

JOHN PING CHANG HUANG is an independent non-executive director of our Company. He is currently the Chairman of the Global Hospitality Group Inc. Mr. Huang served as the Chairman of Grand Pacific Investment & Development Co., Ltd., as well as Beijing He Qiao Property Management Co., Ltd., and CTC Group INC. Mr. Huang holds a Bachelor of Arts degree from Soochow University and a degree of EMBA Program at National Taiwan University in Taiwan. Mr. Huang is the elder brother of Mr. Billy Bing-Yuan Huang.

NICK CHIA-EN LIU is an independent non-executive director of our Company. He was the managing director in Taiwan for a U.S. based game development company. Mr. Liu holds an MBA degree from the Stern School of Business at NYU and a bachelor's degree from the University of Southern California.

CHIN FOCK (DAMIAN) HONG is an independent non-executive director of our Company. He has more than 38 years of experience in taxation and tax law. Mr. Hong began his career with the Inland Revenue Authority of Singapore before joining KPMG and working with the firm in various capacities, including post-retirement, for more than two decades. He was also a tax consultant to the law firm Allen & Gledhill in Singapore for 12 years. Mr. Hong served as an independent director of Chailease Holding Co Ltd. and Riverstone Holdings Ltd until his retirement in 2020. In the same year he had also stepped down from being a director of Binjaitree. He is a non-executive director of Prima Limited. Mr. Hong lectured on a part-time basis at the Singapore Management University. He earned a bachelor's degree in Social Science at the University of Singapore and attended an international tax program at Harvard Law School.

CASEY K. TUNG is an independent non-executive director of our Company. Mr. Tung is a retired Certified Public Accountant in California after 40 years of serving local companies and public listed companies in Taiwan and China. He practiced in the areas of assurance, taxation and advisory on matters such as mergers and acquisitions, financing, and reorganizations. Mr. Tung is a member of the American Institute of Certified Public Accountants and the California Society of Certified Public Accountants. He has served as an independent director of Chailease Holding Co Ltd. in 2020. He holds a Master of Science degree in Business Administration from California State University, Long Beach and a Bachelor of Commerce degree from Soochow University in Taiwan.

BILLY BING-YUAN HUANG is an independent non-executive director of our Company. He has over 21 years of experience as an executive in the technology/media industry and a proven track record of driving growth. At The Walt Disney Company, where he served as vice president responsible for the China, Hong Kong and Taiwan markets, he launched Disney Channel and Disney Junior Channel and expanded services to new online media. At Taiwan's Videoland Communications, where he served as vice president from 1996-1998, Mr. Huang implemented a restructuring plan that transformed the business from an old production house into a modern cable television consortium distributing content for global television brands including CNN, Cartoon Network, and Discovery Channel. Prior to that, Mr. Huang was vice president of Fantasmic International, a public relations and advertising firm in Taipei, and held numerous positions with prominent advertising firms in Taipei. Mr. Huang earned a master's degree in Mass Communication from Texas Tech University and has a bachelor's degree in Journalism from Chinese Culture University in Taipei. Mr. Huang is the younger brother of Mr. John Ping Chang Huang.

Board Diversity

The table below provides certain information regarding the diversity of our board of directors.

Board Diversity Matrix (As of April 20, 2023)				
Country of Principal Executive Offices:	Taiwan			
Foreign Private Issuer	Yes			
Disclosure Prohibited under Home Country Law	No			
Total Number of Directors	6			
	Female	Male	Non-Binary	Did Not Disclose Gender
Part I: Gender Identity				
Directors	0	6	0	0
Part II: Demographic Background				
Underrepresented Individual in Home Country Jurisdiction	0			
LGBTQ+	0			
Did Not Disclose Demographic Background	0			

Family Relationships

There are no family relationships among any of our executive officers or directors, except that Mr. Billy Bing-Yuan Huang is the younger brother of Mr. John Ping Chang Huang.

B. Compensation

Compensation of Directors and Executive Officers

For the year ended December 31, 2022, the aggregate cash compensation paid by us to our directors and executive officers was approximately US\$0.5 million. For information regarding pension and retirement benefits, see note 12 to our consolidated financial statements.

As of December 31, 2022, the total outstanding number of share options granted to our directors and officers was 12,000. As of December 31, 2022, the total number of restricted stock units granted to our directors and officers was zero.

The following table summarizes, as of March 31, 2023, the outstanding options granted under our employee share option plans and equity incentive plans to our directors and executive officers as a group.

Date of Grant	Ordinary Shares Underlying Outstanding Options	Exercise Price (\$/Share)	Date of Expiration
October 28, 2013	4,000	5.05	October 28, 2023
March 28, 2014	4,000	7.15	March 28, 2024
May 5, 2017	4,000	2.90	May 5, 2027
Total	<u>12,000</u>		

All options granted to our directors and executive officers were granted pursuant to the option plans and the equity incentive plans as described under “— Employee Share Option Plans and Equity Incentive Plans” below.

Employee Share Option Plans and Equity Incentive Plans

2004 Employee Share Option Plan

At the June 2004 Annual General Meeting, our shareholders approved the GigaMedia Limited 2004 Employee Share Option Plan (the “2004 Plan”) under which up to 7,000,000 ordinary shares (1,400,000 shares after the 2015 reverse share split) of our Company were reserved for issuance. All employees, officers, directors, advisors and consultants of our Company are eligible to participate in the 2004 Plan. The 2004 Plan is administered by a committee designated by the board of directors. The committee as plan administrator has complete discretion to determine the exercise price for the option grants, to determine which eligible individuals are to receive option grants, the time or times when options grants are to be made and the number of shares subject to grant vesting schedule. The maximum contractual term under the 2004 Plan is 10 years. Options will be forfeited upon termination of employment, unless the relevant award agreement extends the exercisability of the outstanding options.

2006 Equity Incentive Plan

At the June 2006 Annual General Meeting, our shareholders approved the GigaMedia Limited 2006 Equity Incentive Plan (the “2006 Plan”) under which up to 1,000,000 ordinary shares (200,000 shares after the 2015 reverse share split) of our Company were reserved for issuance. The 2006 Plan is administered by a committee designated by the board of directors. The committee as plan administrator has complete discretion to determine the grant of awards under the 2006 Plan. The maximum contractual term under the 2006 Plan is 10 years. Options will be forfeited upon termination of employment, unless the relevant award agreement extends the exercisability of the outstanding options. In the event that the employee’s employment with or service to our Company is terminated prior to the lapsing of restrictions with respect to any portion of the RSUs, such portion of the RSUs shall become forfeited.

2007 Equity Incentive Plan

At the June 2007 Annual General Meeting, our shareholders approved the GigaMedia Limited 2007 Equity Incentive Plan (the “2007 Plan”) under which up to 2,000,000 ordinary shares (400,000 shares after the 2015 reverse share split) of our Company were reserved for issuance. The 2007 Plan is administered by a committee designated by the board of directors. The committee as plan administrator has complete discretion to determine the grant of awards under the 2007 Plan. The maximum contractual term under the 2007 Plan is 10 years. Options will be forfeited upon termination of employment, unless the relevant award agreement extends the exercisability of the outstanding options. In the event that the employee’s employment with or service to our Company is terminated prior to the lapsing of restrictions with respect to any portion of the RSUs, such portion of the RSUs shall become forfeited.

Employment of Executive Officers

Officers are selected by and serve at the discretion of our board of directors. No executive officer is entitled to any severance benefits upon termination of his or her employment with our Company.

C. Board Practices

Our board of directors currently comprises six directors, including five independent non-executive members. Each of our directors is elected by our Company’s shareholders or appointed by the directors pursuant to the Constitution and hold office until such director’s successor is elected and duly qualified or until such director’s earlier death, bankruptcy, insanity, resignation or removal. During fiscal 2022, our board of directors met three times, and all members of the board of directors participated in the meetings of the board of directors. No director is entitled to any severance benefits on termination of his or her service. Our board of directors currently has a standing audit committee and compensation committee. Each of these standing committees operates under a written charter adopted by our board of directors. During fiscal 2022, our directors attended all meetings held by each committee on which such director was a member.

Our audit committee currently consists of Casey K. Tung, Nick Chia-En Liu and Billy Bing-Yuan Huang. The principal duties and responsibilities of our audit committee include: (1) overseeing and reporting on various auditing and accounting matters to our board of directors, including the selection of our independent accountants, the scope of our annual audits, fees to be paid to the independent accountants, the performance of our independent accountants and our accounting practices; (2) overseeing and reporting on various risk management matters to our board of directors; (3) considering and approving or disapproving all related-party transactions; (4) reviewing the financial statements and reports and discussing the statements and reports with our independent registered public accounting firm and management; (5) reviewing and pre-approving the engagement of our independent registered public accounting firm to perform audit services and any permissible non-audit services; (6) evaluating the performance of our independent registered public accounting firm and deciding whether to retain their services; and (7) establishing procedures for the receipt, retention and treatment of complaints received by us regarding financial controls, accounting or auditing matters. In accordance with our Constitution and our audit committee charter, all of the members of our audit committee must be persons who qualify as independent directors under the standards set forth in Nasdaq Rules 5605(c)(2)(A)(i) and (ii) and each of them is able to read and understand fundamental financial statements. During fiscal 2022, our audit committee met five times.

Our compensation committee currently consists of Casey K. TUNG and John Ping Chang HUANG. The principal duties and responsibilities of our compensation committee include: (1) reviewing and approving the goals and objectives relevant to the chief executive officer's and other executive officers' compensation; (2) evaluating the performance of the chief executive officer and other executive officers in light of those goals and objectives; (3) making recommendations to the Board with respect to non-employee director compensation; and (4) making recommendations to the Board with respect to incentive-compensation plans and equity-based plans. In accordance with our compensation committee charter, all of the members of the compensation committee are qualified independent directors under the standards set forth in Nasdaq Rules 5605(c)(2)(A)(i) and (ii). During fiscal 2022, our compensation committee met two times.

We do not have a separate nominations committee of the board of directors. In accordance with Nasdaq Rule 5605(e), director nominees are recommended for the board's selection by the independent directors constituting a majority of the board's independent directors in a vote in which only independent directors participate.

D. Employees

The following table sets out a breakdown of the number of our full-time employees by function as of December 31, 2022, 2021 and 2020, respectively:

Function	December 31		
	2022	2021	2020
Development	27	41	48
Operation	37	41	43
Customer Service	13	16	19
Administrative Support	24	25	25
	<u>101</u>	<u>123</u>	<u>135</u>

The following table sets out, as of the dates indicated, a breakdown of the number of our full-time employees by geographic location:

Location	December 31		
	2022	2021	2020
Taipei City, Taiwan	87	108	117
Hong Kong	14	15	18
	<u>101</u>	<u>123</u>	<u>135</u>

E. Share Ownership

Share Ownership of Directors and Executive Officers

The table below sets forth information as to our directors' and executive officers' share ownership in our Company as of March 31, 2023:

<u>Person</u>	<u>Number of Common Shares</u>	<u>Number of Shares Issuable upon exercise of options</u>
HUANG, James Cheng-Ming	1,073,566	*
HUANG, John Ping Chang	—	*
LIU, Nick Chia-En	—	*
TUNG, Casey K.	—	*
HUANG, Bing-Yuan	—	*
HONG, Chin Fock	—	*
Directors and executive officers as a group of 6 individuals	<u>1,073,566</u>	<u>12,000</u>

* Less than 1%

ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

A. Major Shareholders

The following table sets forth information known to us with respect to the ownership of our shares as of March 31, 2023 by each shareholder known by us to own more than 5% of our shares:

Name of Owner	Shares Owned	Percentage of Shares Owned
John-Lee Andre Koo ⁽¹⁾	2,159,999	19.54%
James Cheng-Ming Huang ⁽²⁾	1,073,566	9.71%
Collin Hwang ⁽³⁾	696,435	6.30%
Jonathan Honig ⁽⁴⁾	1,105,145	9.99%

- (1) Based on a Schedule 13G/A filed on August 14, 2017, through Champion Allied Limited, a British Virgin Islands company, and Symporium (PTC) Ltd, as trustee for Citadelle Trust, John-Lee Andre Koo has beneficial ownership of 2,159,999 ordinary shares of our Company. On the 16th of November, 2015, John-Lee Andre Koo transferred his shareholding vehicle for shares of GigaMedia Limited from Best Method Limited to Champion Allied Limited. On the 14th of August, 2017, John-Lee Andre Koo transferred his share in Champion Allied Limited to Symporium (PTC) Ltd, in its capacity as trustee of Citadelle Trust. John-Lee Andre Koo is the settlor of Citadelle Trust and exercises sole voting and investment power over all of the shares of GigaMedia Limited held by Symporium (PTC) Ltd, in its capacity as trustee of Citadelle Trust. The Citadelle Trust is a revocable trust and John-Lee Andre Koo is the sole beneficiary of the trust. The address for John-Lee Andre Koo is No.6-1, Aly. 72, Ln. 114, Sec. 7, Zhongshan N. Rd., Shilin Dist., Taipei City 111, Taiwan, Republic of China.
- (2) James Cheng-Ming Huang has beneficial ownership of 1,073,566 ordinary shares of our Company as of March 31, 2022. James Cheng-Ming Huang's address is 8F, No.22, Lane 407, Sec. 2 Tiding Blvd., Neihu Dist., Taipei City 114, Taiwan, Republic of China.
- (3) Based on the Schedule 13G filed with the SEC on June 19, 2017, Collin Hwang has beneficial ownership of 696,435 shares of our Company. Collin Hwang's address is 11F, No.36-10, Sec. 1, Fu-hsing South Rd., Taipei, Taiwan
- (4) Based on the Schedule 13G/A filed with the SEC on February 2, 2023, Jonathan Honig has beneficial ownership of 1,105,145 ordinary shares of our Company as follows:
 - (a) Includes (i) 5,145 shares held by Mr. Jonathan Honig ("Mr. Honig") as UTMA custodian for Morgan Honig, (ii) 5,400 shares held by Mr. Honig as UTMA custodian for Skylar Honig and (iii) 6,800 shares held by Mr. Honig as UTMA custodian for Jett Honig.
 - (b) Includes (i) 22,000 shares held by Titan Multi-Strategy Fund, Inc. ("Titan") (ii) 187,000 shares held by Titan Multi-Strategy Fund, Inc. Profit Sharing Plan (the "Plan"); (iii) 17,225 shares held by Titan Multi-Strategy Fund 401k Roth FBO Jonathan Honig; (iv) 11,700 shares held by Titan Multi-Strategy Fund 401k Roth FBO Elizabeth Honig; and (v) 130,500 held by Titan Multi-Strategy Fund I, Ltd ("TMSFL"). Mr. Honig is the President of Titan Multi-Strategy Fund, Inc., which is the General Partner of TMSF, and Mr. Honig is trustee of the Plans, and in such capacities has voting and dispositive power over the securities held by such entities.
 - (c) Includes (i) 5,400 shares held by Elizabeth Honig, (ii) 80,000 shares held by Elizabeth Honig Lifetime Trust, (iii) 1,200 shares held by Elizabeth Honig IRA TD Ameritrade Clearing, Custodian, (iv) 13,500 shares held by Elizabeth Honig as UTMA custodian for Jett Honig (v) 13,000 shares held by Elizabeth Honig as UTMA Custodian for Skylar Honig and (vi) 12,800 shares held by Elizabeth Honig UTMA Custodian for Morgan Honig. Elizabeth Honig and Mr. Honig are married, and Mr. Honig has voting and dispositive power of the securities held by the foregoing.

The address of Jonathan Honig is 5825 Windsor Court, Boca Raton, FL 33496.

As of March 31, 2023, we had 11,052,235 Shares outstanding, of which 6,017,090 Shares representing 54.44% of our total outstanding Shares were not held by our major shareholders as disclosed above. As of March 31, 2022, one shareholder of record with a registered address in the United States, Cede & Co., nominee of The Depository Trust Company, held 8,733,747 shares.

The amounts and percentages of ordinary shares beneficially owned are reported on the basis of regulations of the SEC, governing the determination of beneficial ownership of securities. Under the rules of the SEC, a person is deemed to be a "beneficial owner" of a security if that person has or shares "voting power," which includes the power to vote or to direct the voting of such security, or "investment power," which includes the power to dispose of or to direct the disposition of such security. A person is also deemed to be a beneficial owner of any securities of which that person has a right to acquire beneficial ownership within 60 days. Under these rules, more than one person may be deemed a beneficial owner of securities as to which such person has no economic interest. None of our major shareholders have voting rights different from those of our other shareholders.

B. Related Party Transactions

Since January 1, 2022 through March 31, 2023, we were not a party to any transaction with any related party that did not arise in the ordinary course of business or that was material to us.

Stock Option Grants and Employee Share Purchase

See Item 6, "Directors, Senior Management and Employees — E. Share Ownership."

C. Interests of Experts and Counsel

Not applicable.

ITEM 8. FINANCIAL INFORMATION

A. Consolidated Statements and Other Financial Information

Financial Statements

See pages beginning on page F-1 in this annual report.

Dividend Policy

We have neither declared nor paid any dividends on our Shares. We anticipate that we will continue to retain any earnings for use in the operation of our business, and we do not intend to pay dividends in the foreseeable future. See Item 10, “Additional Information — B. Memorandum and Articles of Association — Dividends” in this annual report.

B. Significant Changes

Except as disclosed in this annual report, no significant change has occurred since the date of our consolidated financial statements.

ITEM 9. THE OFFER AND LISTING

Our Shares have been listed and traded on The Nasdaq Capital Market of The Nasdaq Stock Market under the symbol “GIGM” since February 18, 2000.

ITEM 10. ADDITIONAL INFORMATION

A. Share Capital

Not Applicable.

B. Memorandum and Articles of Association

Our current amended and restated memorandum and articles of association (the “Constitution”), the full text of which was filed as an exhibit to our annual report on Form 20-F with the SEC on April 30, 2014, were first adopted on our date of incorporation and have been amended since that date. We incorporate by reference into this annual report the description of certain significant provisions of our Constitution contained in our annual report for the year ended December 31, 2007 on Form 20-F, filed with the SEC on June 30, 2008.

There are no limitations imposed by Singapore law or by our Constitution on the right of a non-resident or foreign owner to hold or vote the Shares.

C. Material Contracts

On August 31, 2020, we entered into a convertible note purchase agreement to purchase a US\$10,000,000 principal amount convertible promissory note (the “Note”) issued by Aeolus, a global company primarily engaged in designing, manufacturing, processing and sales of intellectual robotics. The Note, which bears interest at a rate of 2% per annum, was due on August 30, 2022 but was extendable to August 30, 2023 at Aeolus’s option, and all or a portion of the principal amount under the Note may be convertible at GigaMedia’s option upon maturity, upon prepayment, or when certain events occur, into ordinary shares or preferred shares of Aeolus at a price of US\$3.00 per share, or into preferred shares in Aeolus’s nearest next round equity financing where Aeolus issues further preferred shares, at a price equal to the purchase price offered in such financing or with certain discount. Assuming full conversion of the Note into ordinary shares and the exercise or conversion of all other Aeolus rights, options and convertible securities outstanding as of August 31, 2020, we would beneficially own 3,333,333 shares representing approximately 4.62% of the total ordinary shares of Aeolus as of August 31, 2020.

On November 3, 2021, Aeolus notified GigaMedia that it intended to issue series B preferred shares, par value US\$0.0001 per share (“Series B Preferred Shares”), to certain new series B preferred shareholders for a subscription price of US\$3.02 per share (the “Next Round Financing”). The Next Round Financing constituted a Qualified Financing, as defined in the said Note. GigaMedia exercised its conversion right in accordance with the Note with respect to US\$2,000,000 of principal amount at the conversion price of US\$2.718 per share, effective December 30, 2021. After the conversion, the remaining outstanding principal amount of the Note was US\$8,000,000. GigaMedia received 735,835 Series B Preferred Shares.

On July 29, 2022, Aeolus notified GigaMedia that it had decided to exercise its right of extension under the Note to extend the original August 30, 2022 maturity date to August 30, 2023.

D. Exchange Controls

Exchange Controls in the R.O.C.

The R.O.C. Foreign Exchange Control Statute and regulations provide that all foreign exchange transactions must be executed by banks designated to handle such business by the Financial Supervisory Commission of the R.O.C. and by the Central Bank of the Republic of China (Taiwan). Current regulations favor trade-related foreign exchange transactions. Consequently, foreign currency earned from exports of merchandise and services may now be retained and used freely by exporters, and all foreign currency needed for the importation of merchandise and services may be purchased freely from the designated foreign exchange banks.

Trade aside, R.O.C. companies and resident individuals may, without foreign exchange approval, remit to and from the R.O.C. foreign currency of up to US\$50 million (or its equivalent) and US\$5 million (or its equivalent), respectively, in each calendar year. Furthermore, any remittance of foreign currency into the R.O.C. by a R.O.C. company or resident individual in a year will be offset by the amount remitted out of R.O.C. by such company or individual (as applicable) within its annual quota and will not use up its annual inward remittance quota to the extent of such offset. The above limits apply to remittances involving a conversion of NT dollars to a foreign currency and vice versa. A requirement is also imposed on all enterprises to register medium- and long-term foreign debt with the Central Bank of the Republic of China (Taiwan).

In addition, foreign persons may, subject to certain requirements, but without foreign exchange approval of the Central Bank of the Republic of China (Taiwan), remit outside and into the R.O.C. foreign currencies of up to US\$100,000 (or its equivalent) for each remittance. The above limit applies to remittances involving a conversion of NT dollars to a foreign currency and vice versa. The above limit does not, however, apply to the conversion of NT dollars into other currencies, including U.S. dollars, in respect of the proceeds of sale of any underlying shares withdrawn from a depositary receipt facility.

E. Taxation

Singapore Tax Considerations

Taxation of Dividends Received by Singapore Resident Shareholders

On the basis that we are not tax resident in Singapore, dividends paid by us would be taxable in Singapore if they are received in Singapore or if they are considered, in the hands of a particular shareholder, to be derived in Singapore (for example if they constitute the income of a trade or business carried out in Singapore).

Foreign-sourced dividends received on or after June 1, 2003 by any person, not being an individual, resident in Singapore, or on or after January 1, 2004 by any individual resident in Singapore through a partnership in Singapore will be exempt from tax if certain conditions are met. The main conditions to be satisfied for such exemption are that:

- the income is subject to tax of a similar character to income tax (by whatever name called) under the law of the territory from which the income is received; and
- at the time the income is received in Singapore by the person resident in Singapore, the highest rate of tax of a similar character to income tax (by whatever name called) levied under the law of the territory from which the income is received on any gains or profits from any trade or business carried on by any company in that territory at that time is not less than 15%.

The normal tax rate for corporate profits in Singapore is 17%, with a certain amount of normal chargeable income exempt from tax. Resident individuals deriving chargeable income above certain amount are subject to tax at progressive rates ranging from 2% to 22% with effect from Year of Assessment 2017 (income year 2016) to 2023 (income year 2022). From Year of Assessment 2024 (income year 2023) onwards, the tax on income of resident individuals will range from 2% to 24%.

If our shareholders are corporations, our shareholders will be regarded as being tax resident in Singapore if the control and management of our shareholders' business is exercised in Singapore. For example, if the board of directors of a company meets and conducts the business of such company in Singapore, such company would generally be regarded as tax resident in Singapore. An individual will be regarded as being a tax resident in Singapore in a year of assessment if, in the preceding year, he was physically present in Singapore or exercised an employment in Singapore (other than as director of a company) for 183 days or more, or if he ordinarily resides in Singapore.

All foreign-sourced income received or deemed received in Singapore by tax resident individuals (except for income received or deemed received through a partnership in Singapore) on or after January 1, 2004 will be exempt from taxation.

Gains on Disposal of Shares

Singapore does not impose taxes on capital gains. However, there are no specific laws or regulations that concern the characterization of capital gains and hence, gains on disposal of shares may be construed to be income in nature and subject to Singapore income taxation if they arise from or are otherwise connected with the activities which the Inland Revenue Authority of Singapore regards as the carrying on of a trade or business in Singapore. You should consult your tax advisors concerning the Singapore tax consequences of acquiring, owning, selling or otherwise disposing the Shares.

Stamp Duty

There is no stamp duty payable in respect of the issuance and holding of our Shares. Where existing shares are acquired in Singapore, stamp duty is payable on the instrument of transfer (including electronic documents) of the shares at the rate of S\$2.00 for every S\$1,000 or any part thereof, of the consideration for or market value of the Shares, whichever is higher. The stamp duty is borne by the purchaser unless there is an agreement to the contrary.

Where an instrument is executed outside Singapore (and not received in Singapore), or no instrument of transfer is executed, no stamp duty is payable on the acquisition of existing Shares. However, stamp duty would be payable if an instrument of transfer which is executed outside Singapore is received in Singapore. An electronic instrument that is executed outside Singapore is considered received in Singapore if (a) it is retrieved or accessed by a person in Singapore; (b) an electronic copy of it is stored on a device (including a computer) and brought into Singapore; or (c) an electronic copy of it is stored on a computer in Singapore.

Under Singapore law, our directors may not register a transfer of our Shares unless the instrument of transfer has been duly stamped.

Singapore Estate Duty

Estate duty has been abolished for deaths occurring on or after February 15, 2008.

You should consult your tax advisors regarding the non-Singapore estate duty consequences of your ownership of our Shares.

Goods and Services Tax (“GST”)

The sale of our Shares by an investor belonging in Singapore to another person belonging in Singapore is an exempt supply not subject to GST. Any GST directly or indirectly incurred by the investor in respect of this exempt supply would be a cost to the investor.

Where our Shares are sold by a GST-registered investor to a person belonging outside Singapore and that person is outside Singapore when the sale is executed, the sale should generally be considered as a taxable supply subject to GST at zero-rate. Any GST incurred by the investor in the making of such a supply, if the same is a supply in the course of or furtherance of a business, may be fully recoverable from the Comptroller of GST.

Services such as brokerage, handling and clearing services rendered by a GST-registered person to an investor belonging in Singapore in connection with the investor’s purchase, sale or holding of our Shares will be subject to GST at the rate of 7%. Similar services rendered to an investor belonging outside Singapore should generally be subject to GST at zero-rate.

U.S. Tax Considerations

U.S. Federal Income Tax Considerations for U.S. Persons

The following is a discussion of certain U.S. federal income tax considerations for U.S. persons (as defined below) that are investors in Shares. This discussion applies only to U.S. persons that will acquire and hold the Shares as “capital assets” (generally, property held for investment). This discussion is for general information only and does not address all of the tax considerations that may be relevant to you in light of your particular circumstances or if you are subject to special treatment under the U.S. federal income tax laws, including if you are a:

- bank;
- broker-dealer;
- financial institution or insurance company;
- tax-exempt entity;
- person holding Shares as part of a straddle, hedge, conversion or other integrated investment;
- a real estate investment trust or regulated investment company;

- an individual retirement or other tax deferred account;
- person owning (actually or constructively, as determined under U.S. federal income tax law), 10% or more of the combined voting power all classes of our stock entitled to vote, or 10% or more of the total value of all classes of our stock;
- person whose “functional currency” is not the U.S. dollar;
- an entity which is classified for U.S. federal income tax purposes as a “partnership” or an owner of such equity interests in such an entity; or
- trader in securities that has elected the mark-to-market method of accounting for securities.

This discussion does not address any U.S. state, local or non-United States tax considerations, or any U.S. federal estate, gift or alternative minimum tax considerations.

As used in this discussion, the term “U.S. person” means:

- an individual who is a citizen or resident (as determined under U.S. federal income tax laws) of the United States;
- an entity which is treated as a corporation for U.S. federal income tax purposes, created in or organized under the laws of the United States, any state thereof or the District of Columbia;
- an estate, the income of which is includible in gross income for U.S. federal income tax purposes regardless of its source; or
- an arrangement which is treated for U.S. federal income tax purposes as a trust if (1) it is subject to the primary supervision of a court within the United States and one or more U.S. persons have the authority to control all substantial decisions of the trust, or (2) it has otherwise elected to be treated as a U.S. person under the Internal Revenue Code of 1986, as amended (the “Internal Revenue Code”).

If an entity treated as a partnership for U.S. federal income tax purposes holds Shares, the tax treatment of a holder of equity interests in such entity will generally depend upon the status of such holder and the activities of such entity. If you are a holder of equity interests in an entity which is treated as a partnership for U.S. federal tax purposes, and such entity holds Shares, you are urged to consult your tax advisor as to the particular U.S. federal income tax consequences of an investment in the Shares that are applicable to you.

This section is based on the Internal Revenue Code, existing and proposed income tax regulations issued under the Internal Revenue Code, legislative history, and judicial and administrative interpretations thereof, all as of the date of this annual report. All of the foregoing are subject to change at any time, and any change could be retroactive and could affect the accuracy of this discussion. In addition, the application and interpretation of certain aspects of the passive foreign investment company (“PFIC”) rules, referred to below, require the issuance of regulations which in many instances have not been promulgated and which may have retroactive effect. There can be no assurance that any of these regulations will be enacted or promulgated, and if so, the form they will take or the effect that they may have on this discussion. This discussion is not binding on the U.S. Internal Revenue Service (“IRS”) or the courts. No ruling has been or will be sought from the IRS with respect to the positions and issues discussed herein, and there can be no assurance that the IRS or a court will not take a different position concerning the U.S. federal income tax consequences of an investment in the Shares or that any such position would not be sustained.

You are urged to consult your tax advisor concerning the particular U.S. federal, state, local and non-United States income and other tax considerations regarding the ownership and disposition of the Shares, including the application of the passive foreign investment company rules discussed below. Investors should carefully review the discussion below under “—Passive Foreign Investment Company.”

Passive Foreign Investment Company

Due to the price of our Shares during 2022 and the composition of our assets (in particular, the retention of a large amount of cash), we believe that it is likely that we were classified as a passive foreign investment company (“PFIC”), for United States federal income tax purposes, for the taxable year ended December 31, 2022, and that we will likely be a PFIC for our current taxable year ending December 31, 2023, unless our share value increases substantially and/or we invest a substantial amount of the cash and other passive assets we hold in assets that produce or are held for the production of non-passive income. In general, we will be classified as a PFIC for any taxable year if either (i) 75% or more of our gross income for such year is passive income or (ii) 50% or more of the average quarterly value of our assets (as generally determined on the basis of fair market value) produce or are held for the production of passive income. For this purpose, cash and assets readily convertible into cash are generally classified as passive and goodwill and other unbooked intangibles associated with active business activities may generally be classified as non-passive. We will be treated as owning a proportionate share of the assets and earning a proportionate share of the income of any other corporation more than 25% (by value) of whose stock is owned, directly or indirectly, by us.

If we are classified as a PFIC for any taxable year during which you hold Shares, and unless you make a mark-to-market election (as described below), you will generally be subject to special tax rules that have a penalizing effect, regardless of whether we remain a PFIC, on (i) any excess distribution that we make to you (which generally means any distribution received by you in a taxable year that is greater than 125% of the average annual distributions received by you in the three preceding taxable years or your holding period for the Shares, if shorter), and (ii) any gain realized on the sale or other disposition, including a pledge, of our Shares. Under the PFIC rules:

- such excess distribution or gain will be allocated ratably over your holding period for the Shares;
- such amount allocated to the current taxable year and any taxable year prior to the first taxable year in which we are classified as a PFIC (a “pre-PFIC year”) will be taxable as ordinary income;
- such amount allocated to each prior taxable year, other than a pre-PFIC year, will be subject to tax at the highest tax rate in effect applicable to you for that year; and
- an interest charge generally applicable to underpayments of tax will be imposed on the tax attributable to each prior taxable year, other than the current taxable year or a pre-PFIC year.

As an alternative to the foregoing rules, a holder of “marketable stock” in a PFIC may make a mark-to-market election, provided that the Shares are “regularly traded” on a “qualified exchange”. Based on the current level of trading activity of our Shares on The Nasdaq Capital Market, no assurance can be given that the Shares qualify, or will qualify, as being regularly tradable on a qualified exchange in the United States. If you make this election, you will generally (i) include in gross income as ordinary income for each taxable year the excess, if any, of the fair market value of your Shares at the end of the taxable year over the adjusted tax basis of the Shares and (ii) deduct as an ordinary loss the excess, if any, of the adjusted tax basis of the Shares over the fair market value of the Shares at the end of the taxable year, but only to the extent of the amount previously included in income as a result of the mark-to-market election. Your adjusted tax basis in the Shares would be adjusted to reflect any income or loss resulting from the mark-to-market election. If you make a mark-to-market election in respect of a corporation classified as a PFIC and such corporation ceases to be classified as a PFIC, you will generally not be required to take into account the gain or loss described above during any period that such corporation is not classified as a PFIC. If you make a mark-to-market election, any gain you recognize upon the sale or other disposition of Shares will be treated as ordinary income and any loss will be treated as ordinary loss, but such loss will only be treated as ordinary to the extent of the net amount previously included in income as a result of the mark-to-market election. If a U.S. person makes a mark-to-market election, the tax rules that apply to distributions by corporations which are not PFICs would apply to distributions, except that the reduced tax rate applicable to qualified dividend income (as discussed below in “–Dividends”) would not apply.

Furthermore, a U.S. person will generally be treated as holding an equity interest in a PFIC in the first taxable year of the U.S. person’s holding period in which we become a PFIC and subsequent taxable years even if we cease to be a PFIC in subsequent taxable years. In the case of a U.S. person who has held Shares during any taxable year in which we are classified as PFIC and continues to hold such Shares (or any portion thereof), and who is considering making a mark-to-market election, special tax rules may apply relating to purging the PFIC taint of such Shares.

Because a mark-to-market election cannot be made for any lower-tier PFICs that we may own, a U.S. person may continue to be subject to the PFIC rules with respect to such U.S. person’s indirect interest in any investment held by us that is treated as an equity interest in a PFIC for United States federal income tax purposes.

We do not intend to provide U.S. persons with the information necessary to permit U.S. persons to make qualified electing fund elections (a “QEF election”), which, if available, would result in tax treatment different from (and generally less adverse than) the general tax treatment for PFICs described above. Please consult your U.S. tax advisor regarding the requirements and consequences to you of making such a QEF election with respect to your Shares.

Each U.S. person who holds an interest in a PFIC is required to file an annual report containing such information as the U.S. Treasury may require. In addition, if a U.S. person holds Shares in any year in which we are a PFIC, such holder will be required to file Internal Revenue Service Form 8621 regarding distributions received on the Shares, any gain realized on the disposition of the Shares, and any “reportable election.” You are urged to consult your tax advisor regarding the application of the PFIC rules, including the possibility and advisability of making a mark-to-market election or, where applicable, making purging elections with respect to PFIC Tainted Shares.

Taxation of Dividends

The following description of the taxation of dividends is subject to the discussion above with respect to the passive foreign investment company tax rules. The amount of distributions you receive on your Shares (other than certain pro rata distributions of our Shares or rights to subscribe for Shares) will generally be reported as dividend income to you if the distributions are made from our current or accumulated earnings and profits as calculated according to U.S. federal income tax principles. Because we do not intend to determine our earnings and profits on the basis of U.S. federal income tax principles, any distribution paid will generally be reported as a “dividend” for U.S. federal income tax purposes. You will include such dividends in your gross income as ordinary income on the day you actually or constructively receive them. The amount of any distribution of property other than cash will be the fair market value of such property on the date it is distributed. A non-corporate recipient of dividend income will generally be subject to tax on dividend income from a “qualified foreign corporation” at a reduced United States federal tax rate rather than the marginal tax rates generally applicable to ordinary income, so long as certain holding period requirements are met. A non-U.S. corporation generally will be considered to be a qualified foreign corporation (i) if it is eligible for the benefits of a comprehensive tax treaty with the United States which the Secretary of Treasury of the United States determines is satisfactory for purposes of this provision and which includes an exchange of information program or with respect to any dividend it pays on stock which is readily tradable on an established securities market in the United States and (ii) the corporation is not a PFIC and is not treated as a PFIC with respect to you for the taxable year in which the dividend was paid and the preceding taxable year. There is currently no tax treaty in effect between the United States and Singapore. Although the Shares are currently tradable on The Nasdaq Capital Market, which is an established securities market in the United States, no assurance can be given that the Shares will continue to be readily tradable on an established securities market in the United States. U.S. corporate holders will generally not be eligible for the dividends received deduction allowed to corporations unless the U.S. corporation holds stock representing at least 10% of the total voting power or the total value of all of our stock, in which case the U.S. corporation may be entitled to a 100% deduction for dividends we pay. As noted above, we believe that it is likely that we were classified as a PFIC for the taxable year ended December 31, 2022, and that we will likely be a PFIC for our current taxable year ending December 31, 2023.

The amount of any distribution paid in a currency other than the U.S. dollar will equal the U.S. dollar value of the foreign currency you receive, calculated by reference to the exchange rate in effect on the date you actually or constructively receive the distribution, regardless of whether the foreign currency is actually converted into U.S. dollars. If you do not convert the foreign currency you receive as a dividend on the date of receipt, you will have a basis in such foreign currency equal to its U.S. dollar value on the date of receipt. Any gain or loss you realize when you subsequently sell or otherwise dispose of such foreign currency generally will be ordinary income or loss from sources within the United States for U.S. foreign tax credit limitation purposes.

Dividends on Shares will generally be treated as foreign source income for U.S. foreign tax credit purposes and generally will constitute passive category income or, in certain cases, general category income or foreign branch income. A U.S. person may be eligible, subject to a number of complex limitations, to claim a foreign tax credit in respect of any foreign withholding taxes imposed on dividends received on Shares. A U.S. person who does not elect to claim a foreign tax credit for foreign tax withheld may instead claim a deduction for U.S. federal income tax purposes, in respect of such withholding, but only for a year in which such holder elects to do so for all creditable foreign income taxes. The rules governing U.S. foreign tax credits are complex. Accordingly, you are urged to consult your tax advisor regarding the availability of a U.S. foreign tax credit under your particular circumstances.

Sale or Other Disposition of Shares

Except as discussed above with respect to the passive foreign investment company tax rules, a U.S. person generally will recognize capital gain or loss for U.S. federal income tax purposes upon a sale or other disposition of Shares in an amount equal to the difference between the amount realized from the sale or disposition and the holder’s adjusted tax basis in the Shares. Such gain or loss generally will be long-term (taxable at a reduced rate for individuals) if, on the date of sale or disposition, the Shares were held by the holder for more than one year and will generally be treated as gain or loss from U.S. sources for foreign tax credit purposes. The deductibility of a capital loss may be subject to limitations. You are urged to consult your tax advisor regarding the consequences if a foreign withholding tax is imposed on a disposition of Shares, including the availability of the foreign tax credit under your particular circumstances.

Information with Respect to Foreign Financial Assets

U.S. persons that are individuals (and, to the extent provided in regulations, certain entities) that own “specified foreign financial assets,” including possibly the Shares, with an aggregate value in excess of \$50,000 are generally required to file IRS Form 8938 with information regarding such assets. Depending on the circumstances, higher threshold amounts may apply. Specified foreign financial assets include any financial accounts maintained by foreign financial institutions, as well as any of the following, but only if they are not held in accounts maintained by financial institutions: (i) stocks and securities issued by non-U.S. persons, (ii) financial instruments and contracts held for investment that have non-U.S. issuers or counterparties and (iii) interests in non-U.S. entities. If a U.S. person is subject to this information reporting regime, the failure to timely file IRS Form 8938 may subject the U.S. holder to penalties. In addition to these requirements, U.S. persons may be required to annually file FinCEN Report 114, Report of Foreign Bank and Financial Accounts with the U.S. Department of Treasury. You are thus encouraged to consult their U.S. tax advisors with respect to these and other reporting requirements that may apply to their acquisition of the Shares.

Backup Withholding and Information Reporting

U.S. persons may be subject to information reporting to the Internal Revenue Service with respect to dividends on and proceeds from the sale or other disposition of our Shares. Dividend payments with respect to our Shares and proceeds from the sale or other disposition of our Shares are not generally subject to United States backup withholding (provided that certain certification requirements are satisfied). You are advised to consult your tax advisor regarding the application of the United States information reporting and backup withholding rules to your particular circumstances.

Individuals who are U.S. person, and who hold “specified foreign financial assets”, including stock of a non-U.S. corporation that is not held in an account maintained by a U.S. “financial institution”, whose aggregate value exceeds US\$50,000 during the tax year, may be required to attach to their tax returns for the year certain specified information. An individual who fails to timely furnish the required information may be subject to a penalty. Each U.S. person who is an individual is advised to consult its tax advisor regarding its reporting obligations under this legislation.

F. Dividends and Paying Agents

Not applicable.

G. Statements by Experts

Not applicable.

H. Documents on Display

The SEC allows us to “incorporate by reference” the information we file with the SEC. This means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference in this annual report is considered to be part of this annual report. We therefore incorporate by reference in Item 19 of this annual report certain exhibits, which we filed with the SEC in prior filings. You may read and copy this annual report, including the exhibits incorporated by reference in this annual report, at the public reference room maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You can request copies of these documents upon payment of a duplicating fee, by writing to the SEC. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference rooms. Additional information may also be obtained over the Internet at the SEC’s website at www.sec.gov.

You may also request a copy of our SEC filings, at no cost, upon written request to our investor relations department at 8th Floor, No. 22, Lane 407, Section 2, Tiding Boulevard, Taipei 114740, Taiwan R.O.C, or by e-mail to: IR@Gigamedia.com.tw. A copy of each report submitted in accordance with applicable U.S. law is also available for public review at our principal executive offices.

As a foreign private issuer, we are exempt under the Securities Exchange Act from, among other things, the rules prescribing the furnishing and content of proxy statements, and our executive officers, directors and principal shareholders are exempt from the reporting and short-swing profit recovery provisions contained in Section 16 of the Securities Exchange Act. In addition, we will not be required under the Securities Exchange Act to file periodic reports and financial statements with the SEC as frequently or as promptly as U.S. companies whose securities are registered under the Securities Exchange Act.

I. Subsidiary Information

Not applicable.

ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market risk is the risk of loss related to adverse changes in market prices, including interest rates and foreign exchange rates, of financial instruments. We are exposed to various types of market risks in the normal course of business, including changes in interest rates and foreign currency exchange rates.

There may be material limitations that cause the information disclosed below not to fully reflect the net market risk exposures of our Company. The limitations include financial instruments that we may utilize in the future, and transactions we may enter into for managing risks, that have not yet been determined. The limitations may also include mismatches in our positions, and other features of the instruments, positions and transactions that are mentioned below.

Foreign Currency Risk

Our subsidiaries conduct most of their business transactions in their own measurement currencies; therefore, the foreign currency risks derived from operations are not significant. However, we hold some assets or liabilities in foreign currencies other than measurement currency and the value of these assets and liabilities are subject to foreign currency risks resulting from fluctuations in exchange rates between the foreign-denominated currency and the measurement currency. We have not used hedging transactions to reduce our exposure to exchange rate fluctuations; however, we may choose to do so in the future. For more information on foreign currency translations for our financial reporting purposes, see note 1(c) to our audited consolidated financial statements beginning on page F-1 in this annual report.

As of December 31, 2022, we had bank deposits of approximately US\$829 thousand and financial instruments, net, of US\$322 thousand denominated in foreign currencies other than measurement currencies of the entities holding such assets. These assets are subject to foreign currency exchange risk. We also had certain inter-company accounts between our wholly-owned entities using different functional currencies. While the balances of the inter-company accounts, totaled at approximately US\$27.0 million as of the end of 2022, were fully eliminated in the consolidation, the foreign exchange gain or loss resulted remained in our consolidated statements of operations. We recognized a realized foreign exchange gain of approximately US\$35 thousand and unrealized foreign exchange loss of approximately US\$976 thousand in the year ended December 31, 2022.

Based on the sensitivity analysis of our exposure to foreign currency exchange rate risk related our bank deposits and investment - debt and equity securities which were denominated in a foreign currency other than functional currencies of the entities holding such assets, a hypothetical 10% change in the exchange rate between the U.S. dollar and the underlying currencies of those instruments subject to foreign currency exchange rate risk would result in a change of 0.23% in our total equity as of December 31, 2022.

From January 1, 2022 to April 11, 2023, while the Hong Kong dollar to U.S. dollar exchange rate fluctuated moderately 1.1%, the NT dollar to U.S. dollar exchange rate fluctuated approximately 15%, mainly due to the great volatility in global financial markets resulted by the ongoing Russia-Ukraine War as well as global central banks' interest rate hikes. Nonetheless, we maintain the bulk of our financial assets in U.S. dollar-denominated assets to limit the foreign currency risk we are exposed to.

Interest Rate Risk

Our exposure to interest rates related primarily to our short-term loans from various banks. As of December 31, 2022 and 2021, we did not have outstanding bank loans.

Other Market Risks

We are also exposed to other market risks, which are mainly derived from our investments. We have investments of minority stake equity and debt instruments in Aeolus Robotics Corporation, a privately held company. These investments are recorded in fair values. As of December 31, 2022, the aggregate carrying value of investments on our balance sheet was \$10.3 million. We monitor these investments for impairment and make appropriate reductions in carrying value. There were no impairments losses for the years ended on December 31, 2022, 2021 and 2020.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

Not applicable.

PART II

ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

None.

ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

A. Material Modification to the Instruments Defining the Rights of Security Holders

None.

B. Material Modification to the Rights of Registered Securities by Issuing or Modifying or any Other Class of Securities

None.

C. Withdrawal or Substitution of a Material Amount of the Assets Securing any Registered Securities

Not applicable.

D. Change of Trustees or Paying Agents for any Registered Securities

None.

E. Use of Proceeds

Not applicable.

ITEM 15. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined by Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act) as of December 31, 2022. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, in designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable, rather than absolute, assurance of achieving the desired control objectives, and management was required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Based upon that evaluation, and taking into account the foregoing, our Chief Executive Officer and Chief Financial Officer have concluded that, as of December 31, 2022, our disclosure controls and procedures were effective in providing reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act was recorded, processed, summarized and reported on a timely basis, and these controls and procedures were effective in ensuring that information required to be disclosed by us in the reports that we file or submit under the Exchange Act was accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Annual Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined by Rules 13a-15(f) and 15d-15(f) under the Exchange Act). Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States ("US GAAP"). Our internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with US GAAP and that receipts and expenditures are being made only in accordance with authorizations of our management and directors and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect all misstatements. Also, projections of any evaluation of the effectiveness of internal control to future periods are subject to the risk that controls may become inadequate because of changes in conditions, and that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2022. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO 2013") in Internal Control - Integrated Frameworks. Based on our assessment using those criteria, our management has concluded that our internal control over financial reporting as of December 31, 2022 was effective.

Attestation Report of the Independent Registered Public Accounting Firm

This annual report does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting, as we are a non-accelerated filer exempted from section 404(b) of the Sarbanes-Oxley Act.

Changes in Internal Control Over Financial Reporting

During the year ended December 31, 2022, there were no changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 16. RESERVED

ITEM 16A.AUDIT COMMITTEE FINANCIAL EXPERT

Our board of directors has determined that Mr. Casey K. TUNG, an independent director and member of our audit committee, is the audit committee financial expert.

ITEM 16B.CODE OF ETHICS

We have adopted a code of ethics, as defined in Item 16B of Form 20-F. Our code of ethics applies to our Chief Executive Officer, Chief Financial Officer and persons performing similar functions, as well as to our directors, other officers, employees and consultants. The full text of our code of ethics is available on our website, www.gigamedia.com. If we further amend any provisions of our code of ethics that apply to our Chief Executive Officer, Chief Financial Officer or persons performing similar functions, or if we grant any waiver of such provisions, we will disclose such amendment or waiver on our website at the same address. We will also provide any person without charge a copy of our code of ethics upon written request to our investor relations department at 8th Floor, No. 22, Lane 407, Section 2, Tiding Boulevard, Taipei 114, Taiwan R.O.C., or by e-mail to: IR@Gigamedia.com.tw.

On December 19, 2005, our board of directors adopted an anti-fraud policy for the purpose of preventing fraud schemes, including fraudulent financial reporting misappropriation of assets, any fraud committed by senior management, and information technology fraud. The anti-fraud policy was also amended on February 13, 2009. According to our anti-fraud policy, our audit committee is responsible for monitoring the implementation of our anti-fraud policy and procedures, and an anti-fraud taskforce is assigned by our audit committee to be responsible for the anti-fraud hotline management, risk assessment, complaint investigation and resolution, and reporting to our Chief Executive Officer, Chief Financial Officer and audit committee.

On May 10, 2006, our audit committee adopted a whistleblower program pursuant to our anti-fraud policy. The whistleblower program enables all employees to know how and when to use the whistleblower hotline and communicate or report, on a confidential or anonymous basis, without fear of retribution, concerns related to wrongdoings or violations, and ensures that all reported incidents are properly investigated.

On April 30, 2010, our board of directors adopted a non-competition provision under which all of our employees, consultants, officers and directors may not participate, invest, license, employ or being employed, or cooperate with any company or entity engaged in a line of business which may be competitive with the business of the Company within three months after termination of their employment of the Company, except in cases where the local law or the contract states otherwise. An amended non-solicitation provision was also adopted, under which all our employees, consultants, officers and directors may not, during their employment or within twelve months after termination of the employment, directly or indirectly, solicit, entice, or attempt to approach, solicit or entice any of the other employees of the Company or its affiliates to terminate the employment.

ITEM 16C.PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table summarizes the aggregate fees billed to us by Deloitte & Touche (PCAOB ID No. 1060) for the fiscal years ended December 31, 2022 and 2021, respectively.

For the Years Ended December 31	2022	2021
	(in US\$)	(in US\$)
Audit Fees	\$ 265,000	\$ 261,000
Audit-Related Fees	0	0
Tax Fees	7,000	7,000
All Other Fees	0	0

A. Audit Fees

Audit fees consist of fees billed for the annual audit of our consolidated financial statements. Audit fees also include fees for services that are normally provided by the independent registered public accounting firm in connection with statutory and regulatory filings or engagements.

B. Tax Fees

Tax fees include fees billed for tax compliance services.

C. Audit Committee Pre-Approval Policies and Procedures

In May 2005, we adopted our audit committee charter. Consistent with the SEC's policies regarding auditor independence, our audit committee is directly responsible for the appointment, compensation, retention and oversight of the work of auditors engaged to provide us with audit, review or attest services. Our audit committee has sole discretion to review and pre-approve the appointment of auditors, subject to the appointment, replacement or removal from office of our independent public accountants as approved by our shareholders at our Annual General Meeting, and to set their fees for the performance of audit and non-prohibited non-audit services in accordance with the Sarbanes-Oxley Act of 2002 and the SEC rules and regulations promulgated thereunder.

The appointment of our independent registered public accounting firm, Deloitte & Touche, as well as the scope of each audit, audit-related or non-prohibited, as well as any non-audit services provided pursuant to such appointment, and our auditors' fees for all such services, were approved by our audit committee.

ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES

Not applicable.

ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS

Not applicable.

ITEM 16F. CHANGE IN REGISTRANT'S CERTIFYING ACCOUNTANT

Not applicable.

ITEM 16G. CORPORATE GOVERNANCE**Summary of Significant Differences in Corporate Governance Practices**

Our Shares are currently listed on The Nasdaq Capital Market of The Nasdaq Stock Market and, for so long as our securities continue to be listed, we will remain subject to the rules and regulations established by Nasdaq as being applicable to listed companies. Under Nasdaq Rule 5615(a)(3), a foreign private issuer such as our Company may follow its home country practice in lieu of the requirements of the Nasdaq Rule 5600 Series, with certain exceptions, provided that it discloses each requirement that it does not follow and describes the home country practice followed in lieu of such requirements. In addition, Nasdaq has amended its Rule 5615(a)(3) to permit foreign private issuers to follow certain home country corporate governance practices without the need to seek an individual exemption from Nasdaq. However, a foreign private issuer must disclose in its annual report filed with the SEC each requirement it does not follow and the alternative home country practice it does follow.

We are incorporated under the laws of Singapore. We currently comply with the specifically mandated provisions of Nasdaq Rule 5615(a)(3). We are currently exempt from the DRS eligibility provisions of Nasdaq Rule 5255(c) as we are not allowed to issue of non-certificated securities under Singapore law. See Item 9, "The Offer and Listing" in this annual report. We have elected to voluntarily comply with other requirements of Nasdaq Rule 5600 Series in all material aspects, notwithstanding that our home country does not mandate compliance; although we may in the future determine to cease voluntary compliance with those provisions of Nasdaq Rule 5600 Series.

ITEM 16H. MINE SAFETY DISCLOSURE

Not applicable.

ITEM 16I. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

ITEM 16J. INSIDER TRADING POLICIES

Not yet applicable.

PART III

ITEM 17. FINANCIAL STATEMENTS

See Item 18.

ITEM 18. FINANCIAL STATEMENTS

Our consolidated financial statements and the reports thereon by our independent registered public accounting firms listed below are attached hereto as follows:

	<u>Page</u>
(a) Report of Independent Registered Public Accounting Firm	F-2
(b) Consolidated Balance Sheets as of December 31, 2022 and 2021	F-4
(c) Consolidated Statements of Operations for the years ended December 31, 2022, 2021 and 2020	F-6
(d) Consolidated Statements of Comprehensive Income (Loss) for the years ended December 31, 2022, 2021 and 2020	F-7
(e) Consolidated Statements of Changes in Shareholders' Equity for the years ended December 31, 2022, 2021 and 2020	F-8
(f) Consolidated Statements of Cash Flows for the years ended December 31, 2022, 2021 and 2020	F-9
(g) Notes to the consolidated financial statements	F-11

ITEM 19. EXHIBITS

<u>EXHIBIT</u>	<u>INDEX</u>
1.1	Amended Memorandum and Articles of Association of our Company, incorporated by reference to Exhibit 1.1 to our annual report for the year 2013 on Form 20-F filed with the SEC on April 30, 2014
2.1*	Description of Securities Registered Pursuant to Section 12 of the Securities Exchange Act
4.1	Convertible Note Purchase Agreement between GigaMedia Limited and Aeolus Robotics Corporation, dated August 31, 2020, incorporated by reference to Exhibit 1.1 to our annual report for the year 2013 on Form 20-F filed with the SEC on April 29, 2021
4.1.1	Convertible Promissory Note of Aeolus Robotics Corporation, dated August 31, 2020 (included in Exhibit 4.1)
8.1*	List of Subsidiaries
11.1	Code of Ethics, as last amended by the board of directors on April 30, 2010, incorporated by reference to Exhibit 11.1 to our annual report for the year 2013 on Form 20-F filed with the SEC on April 30, 2014
12.1*	Certification by our Chief Executive Officer pursuant to Rule 13a-14(b) of the Securities Exchange Act
12.2*	Certification by our Chief Financial Officer pursuant to Rule 13a-14(b) of the Securities Exchange Act
13.1*	Certification by our Chief Executive Officer pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
13.2*	Certification by our Chief Financial Officer pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
15.1*	Consent of Deloitte & Touche, Independent Registered Public Accounting Firm
101.INS*	Inline XBRL Instance Document
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104*	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

* Filed herewith

SIGNATURE

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

GIGAMEDIA LIMITED

By: /s/ HUANG, CHENG-MING
HUANG, CHENG-MING
Chief Executive Officer

Date: April 28, 2023

GIGAMEDIA LIMITED AND SUBSIDIARIES
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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders

GigaMedia Limited

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of GigaMedia Limited and subsidiaries (the “Company”) as of December 31, 2022 and 2021, the related consolidated statements of operations and comprehensive income (loss), shareholders’ equity, and cash flows for each of the three years in the period ended December 31, 2022, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the result of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Fair Value — Level 3 Assets — Refer to Note 4 to the consolidated financial statements

Critical Audit Matter Description

The Company holds investment in securities amounted to \$10,321 thousand issued by a private company. The fair value of the investments is based on complex valuation methods with unobservable inputs, therefore, classified as Level 3.

Unlike the valuation of assets with readily observable market prices, therefore, more easily independently corroborated, the valuation of financial instruments classified as Level 3 is inherently subjective, and often involves the use of complex proprietary methods and unobservable inputs.

We identified the valuation of the Level 3 assets as a critical audit matter because of the complex valuation methods and unobservable inputs, including the discount rate, discount of lack of marketability and volatility management uses to estimate the fair value. This requires a high degree of auditor's professional judgment and an increased extent of effort, including the involvement of our fair value specialists, when evaluating the methods and related inputs.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures included the following, among others:

- We obtained an understanding and evaluated the design and implementation of controls over management's valuation of the Level 3 assets, including controls over the Company's valuation methods and significant unobservable inputs.
- With the assistance of our fair value specialists, (1) we evaluated the appropriateness of the valuation methodologies and techniques used in determining the fair value of the Level 3 asset;(2)we tested the underlying data used in the methods calculations and the mathematical accuracy of the calculation; (3)we evaluated the appropriateness of the judgements and estimates of the key inputs used in determining the fair value of the Level 3 assets including but not limited to the discount rate, discount of lack of marketability and volatility.

/s/ Deloitte & Touche

Taipei, Taiwan

Republic of China

April 28, 2023

We have served as the Company's auditor since 2017.

GIGAMEDIA LIMITED AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
DECEMBER 31, 2022 AND 2021
(in thousands of US dollars)

	December 31	
	2022	2021
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents (Note 5)	\$ 38,794	\$ 41,455
Investment in securities - current (Note 8)	7,950	—
Accounts receivable - net (Note 6)	199	265
Prepaid expenses	60	401
Restricted cash (Note 5)	313	306
Other current assets (Note 7)	510	155
Total Current Assets	47,826	42,582
INVESTMENT IN SECURITIES - NONCURRENT (Note 8)	2,371	10,322
PROPERTY, PLANT AND EQUIPMENT, NET	103	88
INTANGIBLE ASSETS - NET	19	12
OTHER ASSETS		
Refundable deposits	192	211
Prepaid licensing and royalty fees (Note 3)	177	35
Right-of-use assets (Note 9)	1,306	1,971
Other (Note 12)	142	297
TOTAL ASSETS	\$ 52,136	\$ 55,518

GIGAMEDIA LIMITED AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS - (Continued)
DECEMBER 31, 2022 AND 2021
(in thousands of US dollars, except share data)

	December 31	
	2022	2021
LIABILITIES & SHAREHOLDERS' EQUITY		
CURRENT LIABILITIES		
Accounts payable	\$ 53	\$ 118
Accrued expenses (Note 10)	1,151	1,435
Deferred revenue (Note 11)	817	880
Other current liabilities (Notes 9 and 17)	616	783
Total Current Liabilities	2,637	3,216
NONCURRENT LIABILITIES		
Lease liabilities (Note 9)	893	1,450
Total Liabilities	3,530	4,666
COMMITMENTS AND CONTINGENCIES (Note 17)		
	—	—
SHAREHOLDERS' EQUITY (Note 13)		
Ordinary shares, no par value, and additional paid-in capital; issued and outstanding 11,052 thousand shares in 2022 and 2021	308,752	308,752
Accumulated deficit	(238,431)	(235,679)
Accumulated other comprehensive loss (Note 14)	(21,715)	(22,221)
Total GigaMedia Shareholders' Equity	48,606	50,852
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	\$ 52,136	\$ 55,518

The accompanying notes are an integral part of these consolidated financial statements.

GIGAMEDIA LIMITED AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
FOR THE YEARS ENDED DECEMBER 31, 2022, 2021 AND 2020
(in thousands of US dollars, except for earnings per share amounts)

	2022	2021	2020
OPERATING REVENUES			
Digital entertainment service revenues (Note 18)	\$ 5,585	\$ 5,492	\$ 6,875
COSTS OF REVENUES			
Cost of digital entertainment service revenues	(2,335)	(2,584)	(2,956)
GROSS PROFIT	<u>3,250</u>	<u>2,908</u>	<u>3,919</u>
OPERATING EXPENSES			
Product development and engineering expenses	(1,110)	(1,449)	(1,327)
Selling and marketing expenses	(1,644)	(1,729)	(1,618)
General and administrative expenses	(3,515)	(3,697)	(3,121)
Bad debt expense (Note 6)	(2)	(7)	(5)
	<u>(6,271)</u>	<u>(6,882)</u>	<u>(6,071)</u>
LOSS FROM OPERATIONS	<u>(3,021)</u>	<u>(3,974)</u>	<u>(2,152)</u>
NON-OPERATING INCOME (EXPENSES)			
Interest income	718	252	613
Gain on disposal of investment in securities (Note 8)	—	125	—
Foreign exchange gain (loss), net	(941)	122	199
Changes in the fair value of investment in equity securities recognized at fair value (Note 4)	409	—	—
Other	83	50	47
	<u>269</u>	<u>549</u>	<u>859</u>
LOSS BEFORE INCOME TAXES	<u>(2,752)</u>	<u>(3,425)</u>	<u>(1,293)</u>
INCOME TAX EXPENSE (Note 16)	<u>—</u>	<u>—</u>	<u>—</u>
NET LOSS ATTRIBUTABLE TO SHAREHOLDERS OF GIGAMEDIA	<u>\$ (2,752)</u>	<u>\$ (3,425)</u>	<u>\$ (1,293)</u>
LOSS PER SHARE ATTRIBUTABLE TO GIGAMEDIA			
Basic and Diluted:	<u>\$ (0.25)</u>	<u>\$ (0.31)</u>	<u>\$ (0.12)</u>
WEIGHTED AVERAGE SHARES USED TO COMPUTE LOSS PER SHARE ATTRIBUTABLE TO GIGAMEDIA SHAREHOLDERS (Note 2)			
Basic	<u>11,052</u>	<u>11,052</u>	<u>11,052</u>
Diluted	<u>11,052</u>	<u>11,052</u>	<u>11,052</u>

The accompanying notes are an integral part of these consolidated financial statements.

GIGAMEDIA LIMITED AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
FOR THE YEARS ENDED DECEMBER 31, 2022, 2021 AND 2020
(in thousands of US dollars)

	<u>2022</u>	<u>2021</u>	<u>2020</u>
NET LOSS	\$ (2,752)	\$ (3,425)	\$ (1,293)
OTHER COMPREHENSIVE INCOME (LOSS) - NET OF TAX:			
Defined benefit pension plan adjustment	76	14	(28)
Foreign currency translation adjustment	(190)	203	224
Unrealized holding gain (loss) on investment in securities	620	(124)	(351)
Reclassification adjustment for loss included in net income	—	97	—
Other	—	(10)	—
	<u>506</u>	<u>180</u>	<u>(155)</u>
COMPREHENSIVE LOSS ATTRIBUTABLE TO GIGAMEDIA SHAREHOLDERS	<u>\$ (2,246)</u>	<u>\$ (3,245)</u>	<u>\$ (1,448)</u>

The accompanying notes are an integral part of these consolidated financial statements.

GIGAMEDIA LIMITED AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY
FOR THE YEARS ENDED DECEMBER 31, 2022, 2021 AND 2020
(in thousands of US dollars and shares)

	GIGAMEDIA SHAREHOLDERS				Total
	Ordinary shares and additional paid-in capital		Accumulated deficit	Accumulated other comprehensive loss	
	Shares	Amount	(Note 13)	(Note 14)	
Balance as of January 1, 2020	11,052	\$ 308,751	\$ (230,961)	\$ (22,246)	\$ 55,544
Stock-based compensation	—	1	—	—	1
Net loss	—	—	(1,293)	—	(1,293)
Other comprehensive income	—	—	—	(155)	(155)
Balance as of December 31, 2020	11,052	308,752	(232,254)	(22,401)	54,097
Net loss	—	—	(3,425)	—	(3,425)
Other comprehensive loss	—	—	—	180	180
Balance as of December 31, 2021	11,052	308,752	(235,679)	(22,221)	50,852
Net loss	—	—	(2,752)	—	(2,752)
Other comprehensive income	—	—	—	506	506
Balance as of December 31, 2022	<u>11,052</u>	<u>\$ 308,752</u>	<u>\$ (238,431)</u>	<u>\$ (21,715)</u>	<u>\$ 48,606</u>

The accompanying notes are an integral part of these consolidated financial statements.

GIGAMEDIA LIMITED AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2022, 2021 AND 2020
(in thousands of US dollars)

	2022	2021	2020
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net loss	\$ (2,752)	\$ (3,425)	\$ (1,293)
Adjustments to reconcile net income (loss) to net cash used in operating activities:			
Depreciation	24	11	3
Amortization	9	9	5
Stock-based compensation	—	—	1
Bad debt expense	2	7	5
Gain on disposal of investment in securities	—	(125)	—
Changes in the fair value of investment in equity securities recognized at fair value	(409)	—	—
Unrealized foreign exchange loss	1,022	—	—
Other	3	—	—
Net changes in:			
Accounts receivable	64	3	89
Prepaid expenses	341	(313)	25
Prepaid licensing and royalty fees	(142)	96	(87)
Prepaid pension assets	(59)	(16)	19
Other assets	(141)	(151)	(90)
Accounts payable	(66)	47	5
Accrued expenses	(284)	(80)	236
Other liabilities	(121)	(198)	(993)
Net cash used in operating activities	<u>(2,509)</u>	<u>(4,135)</u>	<u>(2,075)</u>
CASH FLOWS FROM INVESTING ACTIVITIES:			
Purchase of investment in securities	—	—	(10,000)
Purchases of property, plant and equipment	(52)	(76)	(24)
Increase in intangible assets	(18)	(17)	(8)
Proceeds from disposal of investment in securities	—	80	—
Decrease (increase) in refundable deposits	—	(4)	(9)
Net cash used in investing activities	<u>(70)</u>	<u>(17)</u>	<u>(10,041)</u>

GIGAMEDIA LIMITED AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS - (Continued)
FOR THE YEARS ENDED DECEMBER 31, 2022, 2021 AND 2020
(in thousands of US dollars)

	2022	2021	2020
CASH FLOWS FROM FINANCING ACTIVITIES:			
Net cash used in financing activities	—	—	—
Net foreign currency exchange differences on cash, cash equivalents and restricted cash	(75)	(89)	(156)
NET DECREASE IN CASH, CASH EQUIVALENTS AND RESTRICTED CASH	(2,654)	(4,241)	(12,272)
CASH, CASH EQUIVALENTS AND RESTRICTED CASH AT BEGINNING OF YEAR	41,761	46,002	58,274
CASH, CASH EQUIVALENTS AND RESTRICTED CASH AT END OF YEAR	\$ 39,107	\$ 41,761	\$ 46,002
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:			
Interest paid during the year	\$ —	\$ —	\$ —
Income tax refund during the year	\$ —	\$ (2)	\$ —

The accompanying notes are an integral part of these consolidated financial statements.

GIGAMEDIA LIMITED AND SUBSIDIARIES
Notes To Consolidated Financial Statements
December 31, 2022, 2021 and 2020

NOTE 1. Principal Activities, Basis of Presentation, and Summary of Significant Accounting Policies

(a) Principal Activities

GigaMedia Limited (referred to hereinafter as GigaMedia, our Company, we, us, or our) is a diversified provider of digital entertainment services, with a headquarters in Taipei, Taiwan.

Our digital entertainment service business operates a suite of play-for-fun digital entertainment services, mainly targeting online and mobile-device users across Asia.

(b) Basis of Presentation

The accompanying consolidated financial statements of our Company have been prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”).

(c) Summary of significant accounting policies

Principles of Consolidation

The consolidated financial statements include the accounts of GigaMedia and its subsidiaries after elimination of all inter-company accounts and transactions.

Foreign Currency Transactions

The functional currency of each individual consolidated entity is determined based on the primary economic environment in which the entity operates. Foreign currency transactions denominated in currencies other than the functional currencies are translated into the functional currency using the exchange rate prevailing on the transactions dates. At year-end, the balances of foreign currency monetary assets and liabilities are recorded based on prevailing exchange rates and any resulting gains or losses are included in other income and expenses. For the Investments in debt securities that are classified as either trading or available for sale that is denominated in a foreign currency, see Note 1(c), Summary of significant accounting policies - Investment in Securities, for additional information.

Translation of Foreign Currency Financial Statements

The reporting currency of our Company is the U.S. dollars. The functional currency of some of our Company’s subsidiaries is the local currency of the respective entity. Accordingly, the financial statements of the foreign subsidiaries were translated into U.S. dollars at the following exchange rates: assets and liabilities — current rate on the balance sheet date; shareholders’ equity — historical rates; income and expenses — average rate during the period. Cumulative translation adjustments resulting from this process are charged or credited to other comprehensive income.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the dates of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting periods. Management bases its estimates on historical experience and on assumptions that it believes are reasonable. Management assesses these estimates on a regular basis; however, actual results could differ from those estimates. Items subject to such estimates and assumptions include but not limit to the deferral and breakage of revenues; the fair value of unquoted debt and equity securities, the useful lives of property, plant and equipment and right-of-use assets; allowances for doubtful accounts; the valuation of deferred tax assets, long-lived assets, investments and share-based compensation; and accrued pension liabilities (prepaid pension assets), income tax uncertainties and other contingencies. We believe the critical accounting policies listed below affect management’s judgments and estimates used in the preparation of the consolidated financial statements.

Revenue Recognition and Deferral

General

Our recognition of revenue from contracts with customers is in accordance with the five-step revenue recognition model: (1) identify the contract with a customer; (2) identify the performance obligation in the contract; (3) determine the transaction price; (4) allocate the transaction price to each performance obligation; and (5) recognize revenue when or as we satisfy a performance obligation.

Sales taxes assessed by governmental authorities on our revenue transactions are presented on a net basis of digital entertainment service revenues in our consolidated financial statements.

In addition to the aforementioned general policies, the following are the specific revenue recognition policies for revenue from contracts with customers.

Digital Entertainment Product and Service Revenues

Digital entertainment product and service revenues are mainly generated through sale of virtual points and in-game items, and those virtual goods purchased in our games can only be consumed in our games. Therefore, we regard the sale of a virtual good as a service, where the related performance obligation is satisfied over time, and revenues are recognized by measuring progress toward satisfying the performance obligation in a manner that best depicts the transfer of goods or services to the customer. Accordingly, we recognize revenues from the sale of virtual goods over the period of time using the output method, which is generally the estimated service period.

Digital entertainment product and service revenues are generated through the sale of virtual points, prepaid cards and game packs via various third-party storefronts, distributors and payment channels, including but not limited to the “Google Play Store,” the “Apple App Store,” convenience stores, telecom service providers and other payment service providers. Proceeds from sales of prepaid cards and game packs, net of sales discounts, and virtual points are deferred when received, and revenue is recognized upon the actual usage of the playing time or in-game virtual items by the end-users, or over the estimated useful life of virtual items, when the game is terminated and the period of refund claim for any sold virtual items is ended in accordance with our published policy, or when the likelihood of the customer exercising the remaining rights becomes remote. (Please see “Deferred Revenues and Breakage” below for more discussion of accounting treatments of the unexercised rights.)

Estimated Service Period

The virtual goods for our games may have different service periods. We use the weighted average number of days of a player’s payment interval as the estimate for the service period of each game. We evaluate the appropriateness of such estimates quarterly to see if they are in line with our observations in the operations. We believe this provides a reasonable depiction of the transfer of services to our customers, as it is the best representation of the time period during which our customers play our games. Determining the estimated service period is subjective and requires management’s judgment. Future usage patterns may differ from historical ones and therefore, the estimated service period may change in the future. The estimated service periods for players of our current games are generally less than 6 months.

Principal Agent Considerations

For the revenues generated from our digital entertainment offerings which are licensed to us for using, marketing, distributing, selling and publishing, and for the sales of our products and services via third-party storefronts and other channels, we evaluate to determine whether our revenues should be reported on a gross or net basis. Key indicators that we evaluate in determining whether we are the principal in the sale (gross reporting) or an agent (net reporting) include, but are not limited to:

- which party is primarily responsible for fulfilling the promise to provide the specified good or service; and
- which party has discretion in establishing the price for the specified good or service.

Based on our evaluation of various indicators, we report revenues on a gross basis for games that we publish and operate, as we are, and we present ourselves as, responsible for fulfilling the promise of delivering the virtual goods in the game and maintaining the game environment for customers’ consumption of such virtual goods. We have the discretion in establishing the price for those virtual goods, including the power to decide the range and extent of price discount or quantity discount, while the licensors or the third-party channels charge a fixed percentage of fees for such sales. And any loss on the receivables has to be absorbed by us and not the third-party channels.

Deferred Revenues and Breakage

Deferred revenues representing contract liabilities consist mainly of the advanced income related to our digital entertainment business. Deferred revenue represents proceeds received relating to the sale of virtual points and in-game items that are activated or charged to the respective user account by users, but which have not been consumed by the users or expired. Deferred revenue is credited to profit or loss when the virtual points and in-game items are consumed or have expired. Pursuant to relevant requirements in Taiwan, as of December 31, 2022 and 2021, cash totaling \$313 thousand and \$306 thousand, respectively, had been deposited in escrow accounts in banks mainly as a performance bond for the users' prepayments and virtual points, and is included within restricted cash in the consolidated balance sheets.

For deferred revenues, some users may not exercise all of their contractual rights, and those unexercised rights are referred to as breakage. We estimate and recognize the breakage amount as revenue when the likelihood of the customer exercising the remaining rights becomes remote. We consider a variety of data points when determining the estimated breakage amount, including the time when we ceased selling prepaid products for certain services and when such prepaid products were last used in charging users' accounts.

Prepaid Licensing and Royalty Fees

Our Company, through our subsidiaries, routinely enters into agreements with licensors to acquire licenses for using, marketing, distributing, selling and publishing digital entertainment offerings.

Prepaid licensing fees paid to licensors are amortized on a straight-line basis over the shorter of the estimated useful economic life of the relevant product and service or license period, which is usually within one to two years.

Prepaid royalty fees and related costs are initially deferred when paid to licensors and amortized as operating costs based on certain percentages of revenues generated by the licensee from operating the related digital entertainment product and service in the specific country or region over the contract period.

Fair Value Measurements

Our Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible. We determine fair value based on assumptions that market participants would use in pricing an asset or a liability in the principal or most advantageous market. When considering market participant assumptions in fair value measurements, the following fair value hierarchy distinguishes between observable and unobservable inputs, which are categorized in one of the following levels:

- Level 1 Inputs: Unadjusted quoted prices in active markets for identical assets or liabilities accessible to the reporting entity at the measurement date.
- Level 2 Inputs: Other than quoted prices included in Level 1 inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the asset or liability.
- Level 3 Inputs: Unobservable inputs for the asset or liability used to measure fair value to the extent that observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at measurement date.

Our Company generally determines or calculates the fair value of financial instruments using quoted market prices in active markets when such information is available; otherwise we apply appropriate present value or other valuation techniques, such as the income approach, incorporating adjusted available market discount rate information and our Company's estimates for non-performance and liquidity risk, or the market approach, where we derive the implied value of financial instruments for the target company from a recent transaction involving the target company's own securities. These techniques rely extensively on the use of a number of assumptions, including the discount rate, credit spreads, and estimates of future cash flows. (Please see Note 4, "Fair Value Measurements", for additional information.)

Cash Equivalents, Restricted Cash and Presentation of Statements of Cash Flows

Cash equivalents are short-term, highly liquid investments that are readily convertible to known amounts of cash and so near to their maturity that they present relatively insignificant risk from changes in interest rates. Commercial paper, negotiable certificates of deposit, time deposits and bank acceptances with original maturities of three months or less are considered to be cash equivalents.

Our consolidated statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Amounts generally described as restricted cash and restricted cash equivalents are included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the consolidated statement of cash flows.

Investment in Securities

Debt securities

Debt securities for which we have the positive intent and ability to hold to maturity are classified as held-to-maturity and are carried at amortized cost. Debt securities held primarily for the purpose of selling in the near term are classified as trading securities and are reported at fair value, with unrealized gains and losses included in income.

Debt securities not classified as held-to-maturity or trading are classified as available-for-sale and are reported at fair value with unrealized gains and losses, net of income taxes, as a separate component of other comprehensive income. When a trading or available-for-sale security is denominated in a foreign currency, changes in the exchange rate between the foreign currency and an entity's functional currency affect the security's fair value. Therefore, under ASC 320, Investments—Debt Securities, the trading or available-for-sale security must be remeasured from the foreign currency to the functional currency as of each reporting date by using the current exchange rate to determine the fair value of the security. The entire change in the security's fair value (including the portion related to a change in the exchange rates) is classified in accordance with ASC 320.

Losses on debt security transactions and declines in value that are determined to be the result of credit losses, if any, are reported in the consolidated statements of operations. In measuring credit losses, management adopts a current expected credit loss model, where the expected losses are measured on the basis of relevant information about past events, including historical experience, current conditions, and reasonable and supportable forecasts that affect the collectibility of reported amount. Unrealized gains on credit-related recoveries are reported in the consolidated statements of operations.

Equity securities

Equity investments (except those accounted for under the equity method of accounting, or those that result in consolidation of the investee) are to be measured at fair value with changes in fair value recognized in net income.

Receivables

Accounts receivable are recorded at the invoiced amount and do not bear interest. Amounts collected on accounts receivable are included in net cash provided by operating activities in the consolidated statements of cash flows. Our Company maintains an allowance for doubtful accounts for estimated losses inherent in its accounts receivable portfolio. In establishing the required allowance, management adopts a current expected credit loss model based on expected losses. The measurement of expected losses is based on relevant information about past events, including historical losses adjusted to take into account the amount of receivables in dispute, and the current receivables aging and current payment patterns, as well as reasonable and supportable forecasts that affect the collectibility of reported amounts. Account balances are charged off against the allowance after all means of collection have been exhausted and the potential for recovery is considered remote.

Property, Plant and Equipment

Property, plant and equipment are stated at cost, less accumulated depreciation and amortization. Depreciation is recorded on a straight-line basis over useful lives that correspond to categories as follows:

<u>Categories</u>	<u>Years</u>
Information and communication equipment	2 to 5
Office furniture and equipment	3 to 6
Leasehold improvements	Shorter of 5 or lease term

Leasehold improvements are amortized over the shorter of the term of the lease or the economic useful life of the assets. Improvements and replacements are capitalized and depreciated over their estimated useful lives, while ordinary repairs and maintenance are expensed as incurred.

Software Cost

We capitalize certain costs incurred to purchase computer software. These capitalized costs are amortized on a straight-line basis over the shorter of the useful economic life of the software or its contractual license period, which is typically one to three years.

Impairment of Long-Lived Assets

Long-lived assets other than goodwill not being amortized are reviewed for impairment at least annually or whenever events or changes in circumstances indicate that the carrying value of an asset might not be recoverable from its related future undiscounted cash flows. If such assets are considered to be impaired, the impairment to be recognized is measured by the extent to which the carrying amount of the assets exceeds the estimated fair value of the assets. Fair value is determined through various valuation techniques, including discounted cash flow models, quoted market values and third-party independent appraisals, as considered necessary. When impairment is identified, the carrying amount of the asset is reduced to its estimated fair value, and is recognized as a loss from operations. (Please see Note 4, "Fair Value Measurements", for additional information.)

Product Development and Engineering

Product development and engineering expenses primarily consist of research compensation, depreciation and amortization, and are expensed as incurred.

Advertising

Costs of broadcast advertising are recorded as expenses as advertising airtime is used. Other advertising expenditures are expensed as incurred.

Advertising expenses incurred in 2022, 2021 and 2020 totaled \$0.2 million, \$0.2 million and \$0.3 million, respectively and were included in selling and marketing expenses.

Leases

General

We determine if an arrangement is or contains a lease at contract inception. In certain situations, judgment may be required in determining if a contract contains a lease. For these arrangements, there is judgment in evaluating if the arrangement provides us with an asset that is physically distinct, or that represents substantially all of the capacity of the asset, and if we have the right to direct the use of the asset. Lease assets and liabilities are recognized based on the present value of future lease payments over the lease term at the commencement date. Included in the lease liability are future lease payments that are fixed, in-substance fixed, or are payments based on an index or rate known at the commencement date of the lease. Variable lease payments are recognized as lease expenses as incurred, and generally relate to variable payments made based on the level of services provided by the lessor of our leases. The operating lease right-of-use ("ROU") asset also includes any lease payments made prior to commencement, initial direct costs incurred, and lease incentives received. As most of our leases do not provide an implicit rate, we generally use our incremental borrowing rate in determining the present value of future payments. The incremental borrowing rate represents the rate required to borrow funds over a similar term to purchase the leased asset, and is based on the information available at the commencement date of the lease. For leased assets with similar lease terms and asset type we applied a portfolio approach in determining a single incremental borrowing rate to apply to the leased assets.

In determining our lease liability, the lease term includes options to extend or terminate the lease when it is reasonably certain that we will exercise such option. Leases with an initial term of 12 months or less are not recorded on the balance sheet, and we recognize lease expense for these leases on a straight-line basis over the lease term.

Subsequently, lease liabilities are measured at amortized cost using the effective interest method, with interest expense recognized over the lease terms. When there is a change in a lease term, a change in future lease payments resulting from a change in an index or a rate used to determine those payments, or a change in the assessment of an option to purchase an underlying asset, our Company remeasures the lease liabilities with a corresponding adjustment to the ROU assets.

Operating lease ROU assets are presented in "Other assets" and operating lease liabilities are presented in "Other current liabilities" and "Lease liabilities" on our consolidated balance sheets.

Share-Based Compensation

Share-based compensation represents the cost related to share-based awards granted to employees. We measure share-based compensation cost at the grant date, based on the estimated fair value of the award. Share-based compensation is recognized for the portion of the award that is ultimately expected to vest, and the cost is amortized on a straight-line basis (net of estimated forfeitures) over the vesting period. Our Company estimates the fair value of stock options using the Black-Scholes valuation model. The cost is recorded in costs of revenues and operating expenses in the consolidated statements of operations on the date of grant based on the employees' respective function.

For shares and stock options granted to non-employees, we measure the fair value of the equity instruments granted at the earlier of the performance commitment date or when the performance is completed.

Retirement Plan and Net Periodic Pension Cost

Under our defined benefit pension plan, net periodic pension cost, which includes service cost, interest cost, expected return on plan assets, amortization of unrecognized net transition obligation and gains or losses on plan assets, is recognized based on an actuarial valuation report. We recognize the funded status of pension plans and non-pension post-retirement benefit plans (retirement-related benefit plans) as an asset or a liability in the consolidated balance sheets.

Under our defined contribution pension plans, net periodic pension cost is recognized as incurred.

Government Assistance

Government subsidies received by our Company for employment support are recognized as non-operating income. If we have an obligation to repay any of the funds provided by government plus any penalties due to breach of the terms and conditions of the subsidy scheme, we estimate that obligation and recognize the amount as non-operating loss and a liability.

In 2022 and 2020, a Hong Kong subsidiary of ours received subsidies from the first and the second tranches of Employment Support Scheme of the Hong Kong Government as a relief from the COVID-19 pandemic. The scheme provided time-limited financial support to employers to retain their employees who may otherwise be made redundant. Employers who participated in the scheme must provide an undertaking not to implement redundancy during the subsidy period and to spend all the wage subsidies on paying wages to their employees. The scheme was not effected in 2021.

For the years ended December 31, 2022, 2021 and 2020, the amounts of government subsidies were \$44 thousand, \$0 and \$49 thousand, respectively.

Income Taxes

The asset and liability method is used in accounting for income taxes. Under this method, deferred tax assets and liabilities are determined based on the differences between financial reporting and tax bases of assets and liabilities. Deferred tax assets and liabilities, which are classified as noncurrent on the consolidated balance sheets, are measured using the enacted tax rate and laws that will be in effect when the related temporary differences are expected to reverse. A valuation allowance is established when necessary to reduce deferred tax assets to the amount that more-likely-than-not will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences and loss carryforwards become deductible.

In addition, we recognize the financial statement impact of a tax position when it is more-likely-than-not that the position will be sustained upon examination. If the tax position meets the more-likely-than-not recognition threshold, the tax effect is measured at the largest amount that is greater than a 50% likelihood of being realized upon settlement. Interest and penalties on an underpayment of income taxes are reflected as income tax expense in the consolidated financial statements.

Earnings (Loss) Per Share

Basic earnings (loss) per share is computed by dividing the net income (loss) attributable to ordinary shareholders for the period by the weighted average number of ordinary shares outstanding during the period. Diluted earnings (loss) per share is computed by dividing the net earnings (loss) for the period by the weighted average number of ordinary shares and potential ordinary shares outstanding during the period. Potential ordinary shares, composed of incremental ordinary shares issuable upon the exercise of options in all periods, are included in the computation of diluted earnings (loss) per share to the extent such shares are dilutive. Diluted earnings (loss) per share also takes into consideration the effect of dilutive securities issued by subsidiaries. In a period in which a loss is incurred, only the weighted average number of ordinary shares issued and outstanding is used to compute the diluted loss per share, as the inclusion of potential ordinary shares would be anti-dilutive. Therefore, for the years ended December 31, 2022, 2021 and 2020, basic and diluted loss per share were \$0.25, \$0.31 and \$0.12, respectively.

Segment Reporting

Our segment reporting is mainly based on lines of business. We use the management approach in determining reportable operating segments. The management approach considers the internal organization and reporting used by our Company's chief operating decision maker for making operating decisions, allocating resources and assessing performance as the source for determining our operating segments. Our Company's chief operating decision maker ("CODM") has been identified as the Chief Executive Officer.

Segment profit and loss is determined on a basis that is consistent with how our Company reports operating loss in its consolidated statements of operations. Our Company does not report segment asset information to the CODM. Consequently, no asset information by segment is presented. Because we operate only one segment, there are no intersegment transactions.

(d) Recently Adopted Accounting Pronouncements

Government Assistance

On January 1, 2022, our Company adopted ASU No. 2021-10, *Government Assistance (Topic 832)*, which is an accounting update to increase transparency in financial reporting by requiring business entities to disclose, in notes to their financial statements, information about certain types of government assistance they receive. The adoption of this amendment did not have any material impact on our Company's consolidated financial position, results of operations, cash flows and consolidated financial statement disclosures.

NOTE 2. EARNINGS (LOSS) PER SHARE

The following table provides a reconciliation of the denominators of the basic and diluted per share computations:

(in thousand shares)	2022	2021	2020
Weighted average number of outstanding shares			
Basic	11,052	11,052	11,052
Effect of dilutive securities			
Employee share-based compensation	—	—	—
Diluted	<u>11,052</u>	<u>11,052</u>	<u>11,052</u>

Certain outstanding options were excluded from the computation of diluted EPS since their effect would have been anti-dilutive. The antidilutive stock options excluded and their associated exercise prices per share were 33 thousand shares at the range of \$2.90 to \$7.15 as of December 31, 2022, 37 thousand shares at \$2.90 to \$7.15 as of December 31, 2021, and 49 thousand shares at \$2.90 to \$7.15 as of December 31, 2020. There were no antidilutive Restricted Stock Units ("RSUs") as of December 31, 2022, 2021, and 2020.

NOTE 3. PREPAID LICENSING AND ROYALTY FEES

The following table summarizes changes to our Company's prepaid licensing and royalty fees:

(in US\$ thousands)	2022	2021	2020
Balance at beginning of year	\$ 35	\$ 130	\$ 44
Addition	369	98	340
Amortization and usage	(227)	(193)	(254)
Impairment charges	—	—	—
Balance at end of year	<u>\$ 177</u>	<u>\$ 35</u>	<u>\$ 130</u>

We recognized impairment losses of \$0 at the end of 2022, 2021 and 2020, for the prepaid licensing and royalty fees.

NOTE 4. FAIR VALUE MEASUREMENTS

The following table presents the carrying amounts and estimated fair values of our Company's financial instruments at December 31, 2022 and 2021.

(in US\$ thousands)	2022		2021	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial assets				
Cash and cash equivalents	\$ 38,794	\$ 38,794	\$ 41,455	\$ 41,455
Accounts receivable	199	199	265	265
Restricted cash	313	313	306	306
Refundable deposits	192	192	211	211
Investment in securities - current	7,950	7,950	—	—
Investment in securities - noncurrent	2,371	2,371	10,322	10,322
Financial liabilities				
Accounts payable	53	53	118	118
Accrued expenses	1,151	1,151	1,435	1,435
Lease liabilities - current and noncurrent	1,333	1,333	1,987	1,987

The carrying amounts shown in the table are included in the consolidated balance sheets under the indicated captions.

The fair values of the financial instruments shown in the above table as of December 31, 2022 and 2021 represent the amounts that would be received to sell those assets or that would be paid to transfer those liabilities in an arm's length transaction between market participants at that date. Those fair value measurements maximize the use of observable inputs. In situations where there is little market activity for the asset or liability at the measurement date, the fair value measurement reflects our Company's own judgments about the assumptions that market participants would use in pricing the asset or liability. Those judgments are developed by us based on the best information available in the circumstances, including expected cash flows and appropriately risk-adjusted discount rates, available observable and unobservable inputs.

The following methods and assumptions were used to estimate the fair value of each class of financial instruments:

- Cash and cash equivalents, accounts receivable, restricted cash, accounts payable, accrued expenses: The carrying amounts, at face value or cost plus accrued interest, approximate fair value because of the short maturity of these instruments.
- Refundable deposits: Measurement of refundable deposits with no fixed maturities is based on carrying amounts.
- Investment in securities – current and noncurrent: Valuation techniques are applied for measurement of debt and equity securities.
- Lease liabilities: Measured at discounted amounts of lease payments.

Assets and Liabilities that are Measured at Fair Value on a Recurring Basis

Our Company has segregated all financial assets and liabilities that are measured at fair value on a recurring basis (at least annually) into the most appropriate level within the fair value hierarchy based on the inputs used to determine the fair value at the measurement date in the table below.

Assets and liabilities measured at fair value on a recurring basis are summarized as below:

(in US\$ thousands)	Fair Value Measurement Using			At December 31, 2022
	Level 1	Level 2	Level 3	
Assets				
Restricted cash - time deposits	\$ —	\$ 313	\$ —	\$ 313
Investment in securities - current	—	—	7,950	7,950
Investment in securities - noncurrent	—	—	2,371	2,371
	<u>\$ —</u>	<u>\$ 313</u>	<u>\$ 10,321</u>	<u>\$ 10,634</u>

(in US\$ thousands)

	Fair Value Measurement Using			At December 31, 2021
	Level 1	Level 2	Level 3	
Assets				
Restricted cash - time deposits	\$ —	\$ 306	\$ —	\$ 306
Investment in securities - noncurrent	—	—	10,322	10,322
	<u>\$ —</u>	<u>\$ 306</u>	<u>\$ 10,322</u>	<u>\$ 10,628</u>

Our Company's accounting policy is to recognize transfers between levels of the fair value hierarchy on the date of the event or change in circumstances that caused the transfer. There were no transfers into or out of Level 3 for the years ended December 31, 2022 and 2021.

Level 2 measurements:

Cash equivalents – time deposits and restricted cash – time deposits are interest-earning deposits in banks, and the cash flows are estimated based on the terms of the contracts and discounted using the market interest rates applicable to the maturity of the contracts, which are adjusted to reflect credit risks on counterparties. As the inputs into the valuation techniques are readily observable, these deposits are classified in Level 2 of the fair value hierarchy.

Level 3 measurements:

For assets measured at fair value on a recurring basis using significant unobservable inputs (Level 3) during 2022 and 2021, a reconciliation of the beginning and ending balances are presented as follows:

(in US\$ thousands)

	2022	
	Investment in debt securities	Investment in equity securities
Balance at beginning of year	\$ 8,132	\$ 2,190
Purchase	—	—
Disposal	—	—
Total gains or (losses) (realized/unrealized)		
included in earnings	—	409
included in other comprehensive income - unrealized gain (loss) on security	620	—
included in other comprehensive income - foreign currency items	(802)	(228)
Balance at end of year	<u>\$ 7,950</u>	<u>\$ 2,371</u>
The amount of total gains or (losses) for the period included in earnings attributable to the change in unrealized gains or losses relating to assets still held at the reporting date.	<u>\$ —</u>	<u>\$ 409</u>

(in US\$ thousands)

	2021	
	Investment in debt securities	Investment in equity securities
Balance at beginning of year	\$ 10,000	\$ —
Purchase	—	2,190
Disposal	(2,033)	—
Total gains or (losses) (realized/unrealized)		
included in earnings	—	—
included in other comprehensive income - unrealized gain (loss) on security	(124)	—
included in other comprehensive income - foreign currency items	289	—
Balance at end of year	<u>\$ 8,132</u>	<u>\$ 2,190</u>
The amount of total gains or (losses) for the period included in earnings attributable to the change in unrealized gains or losses relating to assets still held at the reporting date.	<u>\$ —</u>	<u>\$ —</u>

The significant unobservable inputs used in the fair value measurements categorized within Level 3 of the fair value hierarchy, together with a quantitative sensitivity analysis as of December 31, 2022 and 2021 are shown below:

Investment in securities - Level 3 financial assets

Sensitivity of the Input to Fair Value

Calculation Date	Valuation Technique	Significant Unobservable Inputs	Rate for debt investment	Rate for equity investment	Changes of Fair Value (in US\$ thousands)	
					If the Rate of Input changes by -1%	If the Rate of Input changes by +1%
December 31, 2022	The discounted cash flow analysis to estimate the enterprise value, and then the option pricing method to allocate equity value among various classes of stakeholders.	Discount rate for future cash flows	38.5%	38.5%	Debt securities: +\$372 Equity securities: +\$175	Debt securities: -\$262 Equity securities: -\$170
		Discount for lack of marketability ("DLOM")	From 4.0% to 12.0% for different scenarios	From 6.0% to 12.0% for different scenarios	Debt securities: +\$93 Equity securities: +\$26	Debt securities: -\$93 Equity securities: -\$25
		Volatility	From 28% to 31.0% for different scenarios	From 28% to 31.0% for different scenarios	Debt securities: +\$23 Equity securities: +\$16	Debt securities: +\$24 Equity securities: -\$10
December 31, 2021	The backsolve method to estimate the enterprise value, and then the option pricing method to allocate equity value among various classes of stakeholders	Discount for lack of marketability ("DLOM")	From 9.0% to 18.0% for different scenarios	From 11.0% to 18.0% for different scenarios	Debt securities: +\$93 Equity securities: +\$26	Debt securities: -\$92 Equity securities: -\$26
		Volatility	36.0%	36.0%	Debt securities: -\$9 Equity securities: +\$13	Debt securities: +\$2 Equity securities: -\$12

When estimating the value of the early stage enterprise, if there was a recent financing transaction, the backsolve method under market approach was used for inferring the enterprise value implied by the recent financing transaction. The backsolve method involves selecting the future scenarios available to the enterprise, making assumptions for the expected time to liquidity, volatility and risk-free rate, calibrating the allocation of value within those scenarios and the probabilities for each scenario, and then solving for the enterprise value, such that value for the most recent financing equals the amount paid for the subscribed share category. Market and the issuer's company operating conditions are then considered between the recent transaction date and subsequent measurement dates.

In the absence of observable market prices or a recent financing transaction, we obtained sufficient financial and operational information from the issuer's company, using the income approach as our primary method, which reflects the close relationship between the future cash generating ability of the issuer's company and respective enterprise value. As the issuer's company was still at its early stage of development with limited historical track record, market multiples were conducted for supplementary reference only.

The derived enterprise value was then served as a reasonable basis for the subsequent equity value allocation exercise to estimate the portion assignable to the issuer's convertible note and respective share categories as of the measurement date by applying a hybrid method of Probability Weighted Expected Return Method ("PWERM") and Option Pricing Method ("OPM"). Such hybrid method estimates the probability weighted value across multiple scenarios, using OPM to estimate the allocation of value within one or more of those scenarios.

Assets and Liabilities that are Measured at Fair Value on a Nonrecurring Basis

Assets and liabilities measured at fair value on a nonrecurring basis include measuring impairment when required for long-lived assets. For GigaMedia, long-lived assets measured at fair value on a nonrecurring basis include property, plant, and equipment, intangible assets, operating lease ROU assets, and prepaid licensing and royalty fees.

No assets and liabilities measured at fair value on a nonrecurring basis were determined to be impaired as of December 31, 2022 and 2021.

NOTE 5. CASH, CASH EQUIVALENTS AND RESTRICTED CASH

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the consolidated balance sheets that sum to the total of the same such amounts shown in the consolidated statements of cash flows as of December 31, 2022 and 2021.

(in US\$ thousands)	December 31	
	2022	2021
Cash and savings accounts	\$ 38,794	\$ 41,455
Time deposits	—	—
Cash and cash equivalents reported on the consolidated balance sheets	38,794	41,455
Cash restricted as performance bond	313	306
Total cash, cash equivalents and restricted cash reported on the consolidated statements of cash flows	<u>\$ 39,107</u>	<u>\$ 41,761</u>

As of December 31, 2022 and 2021, cash amounting to \$313 thousand and \$306 thousand, respectively, has been deposited in escrow accounts in banks mainly as a performance bond for our players' game points. These deposits are restricted and are included in restricted cash in the consolidated balance sheets.

We maintain cash and cash equivalents, as well as restricted cash, in bank accounts with major financial institutions with high credit ratings located in the following jurisdictions:

(in US\$ thousands)	December 31	
	2022	2021
Taiwan	\$ 38,352	\$ 41,182
Hong Kong	739	564
China	16	15
	<u>\$ 39,107</u>	<u>\$ 41,761</u>

NOTE 6. ACCOUNTS RECEIVABLE – NET

Accounts receivable consist of the following:

(in US\$ thousands)	December 31	
	2022	2021
Accounts receivable	\$ 200	\$ 267
Less: Allowance for doubtful accounts	(1)	(2)
	<u>\$ 199</u>	<u>\$ 265</u>

The following is a summary of the changes in our Company's allowance for doubtful accounts during the years ended December 31, 2022, 2021 and 2020:

(in US\$ thousands)	2022	2021	2020
Balance at beginning of year	\$ 2	\$ 1	\$ 3
Additions: Bad debt expense	2	7	5
Less: Write-off	(3)	(6)	(7)
Translation adjustment	—	—	—
Balance at end of year	<u>\$ 1</u>	<u>\$ 2</u>	<u>\$ 1</u>

NOTE 7. OTHER CURRENT ASSETS

Other current assets consist of the following:

(in US\$ thousands)	December 31	
	2022	2021
Loans receivable - current	\$ 29	\$ 33
Less: Allowance for loans receivable - current	(29)	(33)
Other receivable	374	—
Other	136	155
	<u>\$ 510</u>	<u>\$ 155</u>

The following is a reconciliation of changes in our Company's allowance for loans receivable - current during the years ended December 31, 2022, 2021 and 2020:

(in US\$ thousands)	2022	2021	2020
Balance at beginning of year	\$ 33	\$ 32	\$ 30
Reversal for collection of bad debt	—	—	—
Translation adjustment	(4)	1	2
Balance at end of year	<u>\$ 29</u>	<u>\$ 33</u>	<u>\$ 32</u>

NOTE 8. INVESTMENT IN SECURITIES

Investment in securities – current and noncurrent consist of the following:

(in US\$ thousands)	December 31	
	2022	2021
Debt securities, classified as available-for-sale	\$ 7,950	\$ 8,132
Equity securities	2,371	2,190
	<u>\$ 10,321</u>	<u>\$ 10,322</u>

Our Company's investment in securities - current and noncurrent are invested in convertible promissory notes and preferred shares. During 2021, we recognized gains of \$125 thousand on disposal of investment in securities, consisting of a gain of \$79 thousand on the disposal of an equity security that have been fully impaired years ago, and a gain of \$46 thousand on the deemed disposal arising from the partial conversion of the aforementioned promissory note into the preferred shares. (Please see Note 17, "Commitments and Contingencies, (c) Investment Agreements", for additional information.) Certain of our investment in securities, though denominated in US dollars, are held by an entity of ours whose functional currency is not US dollars, resulting to unrealized exchange gain or loss accounted for as other comprehensive income or loss, and corresponding translation adjustment accordingly.

The promissory notes are convertible into common shares at a price of US\$3.00 per share, subject to certain adjustments, and shall be automatically converted upon certain conditions outlined in the agreements. The promissory notes are also convertible into certain preferred shares in accordance with the terms of the agreements. The convertible promissory notes are redeemable based upon certain agreed-upon conditions.

We assessed the estimated fair values of these investments as of December 31, 2022. See Note 4 "Fair Value Measurements" for additional information.

NOTE 9. LEASE ARRANGEMENTS

We rent certain office premises and automobile for operation use under lease agreements that expire at various dates through 2026.

Right-of-use assets

Right-of-use assets consist of the following:

(in US\$ thousands)	December 31	
	2022	2021
Carrying amount:		
Office premise	\$ 1,306	\$ 1,971

The following tables summarize changes to our Company's right-of use assets during 2022 and 2021:

(in US\$ thousands)	Cost	
	2022	2021
Balance at January 1	\$ 2,390	\$ —
Additions	—	2,364
Exchange differences	(225)	26
Balance at December 31	\$ 2,165	\$ 2,390

	Accumulated depreciation	
	2022	2021
Balance at January 1	\$ 419	\$ —
Depreciation	489	415
Exchange differences	(49)	4
Balance at December 31	\$ 859	\$ 419

	Carrying amounts	
	2022	2021
Balance at January 1	\$ 1,971	\$ —
Balance at December 31	\$ 1,306	\$ 1,971

Lease liabilities

(in US\$ thousands)	December 31	
	2022	2021
Carrying amount:		
Current portion (classified under other current liabilities)	\$ 440	\$ 537
Noncurrent portion	893	1,450
	\$ 1,333	\$ 1,987

Discount rates for the existing lease liabilities ranged from 1.44% to 2.8% as of December 31, 2022, and from 1.44% to 2.88% as of December 31, 2021.

Material terms of right-of-use assets

We lease office premises and automobile for operational use with lease terms of 2 to 5 years. We do not have purchase options to acquire the leasehold office premises at the end of the lease terms.

Supplemental information

Supplemental disclosures of cash flow and noncash information consist of the following:

(in US\$ thousands)	For the Year ended December 31	
	2022	2021
Cash paid for operating leases	\$ 502	\$ 531
Lease liabilities arising from obtaining right-of-use assets	\$ —	\$ 2,364

	As of December 31	
	2022	2021
Weighted-average remaining lease term	3.03 years	4.00 years
Weighted-average discount rate	1.50%	1.54%

Operating lease expenses were \$520 thousand and \$456 thousand during the years ended December 31, 2022 and 2021, respectively.

The table below reconciles the undiscounted cash flows for each of the first five years and total of the remaining years to the operating lease liabilities recorded on the consolidated balance sheet as of December 31, 2022:

(in US\$ thousands)	Operating Leases
Year	
2023	\$ 455
2024	426
2025	412
2026	69
Total minimum lease payments	1,362
Less: amount of lease payments representing interest	(29)
Present value of future minimum lease payments	1,333
Less: current obligation under leases	(440)
Non-current lease obligations	\$ 893

NOTE 10. ACCRUED EXPENSES

Accrued expenses consist of the following:

(in US\$ thousands)	December 31	
	2022	2021
Accrued professional fees	\$ 393	\$ 437
Accrued compensation	201	266
Accrued royalties	122	155
Accrued advertising expenses	21	99
Accrued director compensation and liability insurance	107	107
Other	307	371
	\$ 1,151	\$ 1,435

NOTE 11. DEFERRED REVENUE

Deferred revenue consists of the following:

(in US\$ thousands)	December 31	
	2022	2021
Unused virtual points	\$ 700	\$ 702
Unamortized virtual items	95	168
Advances for pre-order items	22	10
	\$ 817	\$ 880

The breakage amounts recognized as revenue during the years ended December 31, 2022 and 2021 were \$20 thousand and \$62 thousand, respectively.

NOTE 12. PENSION BENEFITS

Our Company and our subsidiaries have defined benefit and defined contribution pension plans that cover substantially all of our employees.

Defined Benefit Pension Plan

We have a defined benefit pension plan in accordance with the Labor Standards Law of the Republic of China (R.O.C.) for our employees located in Taiwan, covering substantially all full-time employees for services provided prior to July 1, 2005, and employees who have elected to remain in the defined benefit pension plan subsequent to the enactment of the Labor Pension Act on July 1, 2005. Under the defined benefit pension plan, employees are entitled to a lump sum retirement benefit upon retirement equivalent to the aggregate of 2 months' pensionable salary for each of the first 15 years of service and 1 month's pensionable salary for each year of service thereafter subject to a maximum of 45 months' pensionable salary. The pensionable salary is the monthly average salary or wage of the final six months prior to approved retirement.

We use December 31 as the measurement date for our defined benefit pension plan. As of December 31, 2022 and 2021, the accumulated benefit obligation amounted to \$247 thousand and \$294 thousand, respectively, and the funded status of prepaid pension assets amounted to \$142 thousand and \$83 thousand, respectively. The fair value of plan assets amounted to \$463 thousand and \$473 thousand as of December 31, 2022 and 2021, respectively. The accumulated other comprehensive loss amounted to (\$4) thousand and (\$80) thousand as of December 31, 2022 and 2021, respectively. The net periodic benefit cost for 2022, 2021 and 2020 amounted to \$1 thousand, \$3 thousand and \$1 thousand, respectively.

The following table sets forth the plan's benefit obligations, fair value of plan assets, and funded status at December 31, 2022 and 2021:

(in US\$ thousands)	December 31	
	2022	2021
Benefit obligation	\$ 321	\$ 390
Fair value of plan assets	463	473
	<u>\$ (142)</u>	<u>\$ (83)</u>
Amounts recognized in the balance sheet consist of:		
Noncurrent liabilities (assets)	\$ (142)	\$ (83)
Accumulated other comprehensive income	—	—
Net amount recognized	<u>\$ (142)</u>	<u>\$ (83)</u>
Amounts recognized in accumulated comprehensive income (loss) consist of:		
Unrecognized net gain (loss)	<u>\$ (4)</u>	<u>\$ (80)</u>

For the years ended December 31, 2022, 2021 and 2020, the net period pension cost consisted of the following:

(in US\$ thousands)	December 31		
	2022	2021	2020
Service cost	\$ —	\$ —	\$ —
Interest cost	2	3	4
Expected return on plan assets	(3)	(3)	(5)
Amortization of net loss	2	3	2
Curtailment gain	—	—	—
	<u>\$ 1</u>	<u>\$ 3</u>	<u>\$ 1</u>

Weighted average assumptions used to determine benefit obligations for 2022 and 2021 were as follows:

	December 31	
	2022	2021
Discount rate	1.750%	0.750%
Rate of compensation increase	2.00%	2.00%

Weighted average assumptions used to determine net periodic benefit cost for end of fiscal year were as follows:

	2022	2021
Discount rate	0.750%	0.750%
Rate of return on plan assets	0.750%	0.750%
Rate of compensation increase	2.00%	2.00%

Management determines the discount rate and rate of return on plan assets based on the yields of fifteen year ROC central government bonds which is in line with the respective employees remaining service period and the historical rate of return on the above mentioned Fund mandated by the ROC Labor Standard Law.

We have contributed an amount equal to 2% of the salaries and wages paid to all qualified employees located in Taiwan to a pension fund (the "Fund"). The Fund is administered by a pension fund monitoring committee (the "Committee") and deposited in the Committee's name in the Bank of Taiwan. Our Company makes pension payments from our account in the Fund unless the Fund is insufficient, in which case we make payments from internal funds as payments become due. We seek to maintain a normal, highly liquid working capital balance to ensure payments are made timely.

We expect to make a contribution of \$0 thousand to the Fund in 2023. We expect to make future benefit payments of \$5 thousand to employees from 2023 to 2027 and \$66 thousand from 2028 to 2032.

Defined Contribution Pension Plans

We have provided defined contribution plans for employees located in Taiwan and Hong Kong. Contributions to the plans are expensed as incurred.

Taiwan

Pursuant to the new "Labor Pension Act" enacted on July 1, 2005, our Company has a defined contribution pension plan for our employees located in Taiwan. For eligible employees who elect to participate in the defined contribution pension plan, we contribute no less than 6% of an employee's monthly salary and wage and up to the maximum amount of NT\$9 thousand (approximately \$293), to each of the eligible employees' individual pension accounts at the Bureau of Labor Insurance each month. Pension payments to employees are made either by monthly installments or in a lump sum from the accumulated contributions and earnings in employees' individual accounts.

Hong Kong

According to the relevant Hong Kong regulations, we provide a contribution plan for the eligible employees in Hong Kong. We must contribute at least 5% of the employees' total salaries. For this purpose, the monthly relevant contribution to their individual contribution accounts is subject to a cap of HK\$1.5 thousand (approximately \$192). After the termination of employment, the benefits still belong to the employees in any circumstances.

The total amount of defined contribution pension expenses pursuant to our defined contribution plans for the years ended December 31, 2022, 2021 and 2020 were \$167 thousand, \$193 thousand, and \$187 thousand, respectively, which are included in operating expenses.

NOTE 13. SHAREHOLDERS' EQUITY

In accordance with Singapore law, the holders of ordinary shares that do not have par value, are entitled to receive dividends as declared from time to time and are entitled to one vote per share at the general meeting of our Company. All Shares rank equally with regard to our Company's residual assets. In addition, we are not required to have a number of authorized ordinary shares to be issued.

NOTE 14. ACCUMULATED OTHER COMPREHENSIVE LOSS

The accumulated balances for each component of other comprehensive income (loss) are as follows:

(in US\$ thousands)	Foreign currency items	Unrealized gain (loss) on securities	Pension and post retirement benefit plans	Accumulated other comprehensive loss
Balance as of January 1, 2020	\$ (22,180)	\$ —	\$ (66)	\$ (22,246)
Foreign currency translation adjustment	224	—	—	224
Pension and post retirement benefit adjustment	—	—	(28)	(28)
Unrealized holding loss arising during period	—	(351)	—	(351)
Balance as of December 31, 2020	(21,956)	(351)	(94)	(22,401)
Foreign currency translation adjustment	203	—	—	203
Pension and post retirement benefit adjustment	—	—	14	14
Unrealized holding loss arising during period	—	(124)	—	(124)
Reclassification adjustment for loss included in net income	—	97	—	97
Other	—	(10)	—	(10)
Balance as of December 31, 2021	(21,753)	(388)	(80)	(22,221)
Foreign currency translation adjustment	(190)	—	—	(190)
Pension and post retirement benefit adjustment	—	—	76	76
Unrealized holding gain arising during period	—	620	—	620
Balance as of December 31, 2022	<u>\$ (21,943)</u>	<u>\$ 232</u>	<u>\$ (4)</u>	<u>\$ (21,715)</u>

There were no significant tax effects allocated to each component of other comprehensive income for the years ended December 31, 2022, 2021 and 2020.

NOTE 15. SHARE-BASED COMPENSATION

During 2022, 2021 and 2020, all the stock-based compensation expenses were recognized in the general and administrative expenses in our consolidated statements of operations. The stock-based compensation expense recognized in the general and administrative expenses in our consolidated statements of operations were \$0 thousand, \$0 thousand and \$1 thousand, respectively.

There were no significant capitalized stock-based compensation costs at December 31, 2022 and 2021. There was no recognized stock-based compensation tax benefit for the years ended December 31, 2022, 2021 and 2020, as our Company recognized a full valuation allowance on net deferred tax assets as of December 31, 2022 and 2021.

(a) Overview of Stock-Based Compensation Plans

Summarized below are the stock-based compensation plans pursuant to which awards have been granted as of December 31, 2022.

2004 Employee Share Option Plan

At the June 2004 annual general meeting of shareholders, the shareholders of our Company approved the GigaMedia Limited 2004 Employee Share Option Plan (the “2004 Plan”) under which up to 1.4 million ordinary shares of our Company have been reserved for issuance. All employees, officers, directors, supervisors, advisors, and consultants of our Company are eligible to participate in the 2004 Plan. The 2004 Plan is administered by a committee designated by the board of directors. The committee as plan administrator has complete discretion to determine the exercise price for the option grants, the eligible individuals who are to receive option grants, the time or times when options grants are to be made, the number of shares subject to grant and the vesting schedule. The maximum contractual term for the options under the 2004 Plan is 10 years.

2006 Equity Incentive Plan

At the June 2006 annual general meeting of shareholders, the shareholders of our Company approved the GigaMedia Limited 2006 Equity Incentive Plan (the “2006 Plan”) under which up to 200 thousand ordinary shares of our Company have been reserved for issuance. The 2006 Plan is administered by a committee designated by the board of directors. The committee as plan administrator has complete discretion to determine the grant of awards under the 2006 Plan. The maximum contractual term for the options under the 2006 Plan is 10 years.

2007 Equity Incentive Plan

At the June 2007 annual general meeting of shareholders, the shareholders of our Company approved the GigaMedia Limited 2007 Equity Incentive Plan (the “2007 Plan”) under which up to 400 thousand ordinary shares of our Company have been reserved for issuance. The 2007 Plan is administered by a committee designated by the board of directors. The committee as plan administrator has complete discretion to determine the grant of awards under the 2007 Plan. The maximum contractual term for the options under the 2007 Plan is 10 years.

Summarized below are the general terms of our stock-based compensation plans, for which awards have been granted as of December 31, 2022.

Stock-Based compensation plan	Granted awards	Vesting schedule	Options’ exercise price	RSUs’ grant date fair value
2004 plan	1,575,037 ⁽¹⁾	immediately upon granting to four years	\$3.95~\$12.75	—
2006 Plan	256,716 ⁽²⁾	immediately upon granting to four years	\$3.85~\$83	\$14.55~\$80.05
2007 Plan	675,057 ⁽³⁾	immediately upon granting to four years	\$2.90~\$90.85	\$12.35~\$76.75

(1) The granted awards, net of forfeited or canceled options, were within reserved shares of 1,400 thousand ordinary shares.

(2) The granted awards, net of forfeited or canceled options or shares, were within reserved shares of 200 thousand ordinary shares.

(3) The granted awards, net of forfeited or canceled options or shares, were within reserved shares of 400 thousand ordinary shares.

Options and RSUs generally vest over the schedule described above. Certain RSUs provide for accelerated vesting if there is a change in control. All options and RSUs are expected to be settled by issuing new shares.

(b) Options

In 2022, 2021 and 2020, no options were exercised for each year.

Our Company uses the Black-Scholes option-pricing model to estimate the fair value of stock options granted to employees on the grant date. No options were granted to employees during 2022, 2021 and 2020.

Option term. The expected term of the options granted represents the period of time that they are expected to be outstanding. Our Company estimates the expected term of options granted based on historical experience with grants and option exercises.

Expected volatility rate. An analysis of historical volatility was used to develop the estimate of expected volatility.

Risk-free interest rate. The risk-free interest rate is based on yields of U.S. Treasury bonds for the expected term of the options.

Expected dividend yield. The dividend yield is based on our Company’s current dividend yield.

Option transactions during the last three years are summarized as follows:

	2022				2021		2020	
	Weighted Avg. Exercise Price	No. of Shares (in thousands)	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value (in thousands)	Weighted Avg. Exercise Price	No. of Shares (in thousands)	Weighted Avg. Exercise Price	No. of Shares (in thousands)
Balance at January 1	\$ 6.13	37			\$ 6.16	49	\$ 11.00	225
Options granted	—	—			—	—	—	—
Options exercised	—	—			—	—	—	—
Options Forfeited / canceled / expired	4.05	(4)			6.25	(12)	12.35	(176)
Balance at December 31	\$ 6.38	33	1.57	\$ —	\$ 6.13	37	\$ 6.16	49
Exercisable at December 31	\$ 6.38	33	1.57	\$ —	\$ 6.13	37	\$ 6.16	49
Vested and expected to vest at December 31	\$ 6.38	33	1.57	\$ —	\$ 6.13	37	\$ 6.16	49

The aggregate intrinsic value in the table above represents the total pre-tax intrinsic value (the difference between GigaMedia’s closing stock price on the last trading day of 2022 and the exercise price of an option, multiplied by the number of in-the-money

options) that would have been received by the option holders had they exercised their options on December 31, 2022. This amount changes based on the fair market value of GigaMedia's stock.

As of December 31, 2022, there was no unrecognized compensation cost related to non-vested options.

The following table sets forth information about stock options outstanding at December 31, 2022:

Options outstanding			Option currently exercisable	
Exercise price	No. of Shares (in thousands)	Weighted average remaining contractual life	Exercise price	No. of Shares (in thousands)
Under \$5	4	4.35 years	Under \$5	4
\$5~\$50	29	1.18 years	\$5~\$50	29
\$50~\$100	—		\$50~\$100	—
	<u>33</u>			<u>33</u>

(c) RSUs

The fair value of RSUs is determined and fixed on the grant date based on our stock price. No RSUs were granted during the years ended December 31, 2022, 2021 and 2020.

As of December 31 2022 and 2021, there was no unrecognized compensation cost related to non-vested RSUs. Our Company received no cash from employees as a result of employee stock award vesting and the forfeiture of RSUs during 2022, 2021 and 2020.

NOTE 16. INCOME TAXES

Income (loss) before income taxes by geographic location is as follows:

(in US\$ thousands)	2022	2021	2020
Taiwan operations	\$ (1,588)	\$ (1,989)	\$ (1,129)
Non-Taiwan operations	(1,164)	(1,436)	(164)
	<u>\$ (2,752)</u>	<u>\$ (3,425)</u>	<u>\$ (1,293)</u>

The components of income tax benefit (expense) by taxing jurisdiction are as follows:

(in US\$ thousands)	2022	2021	2020
Taiwan:			
Current	\$ —	\$ —	\$ —
Deferred	—	—	—
	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
Non-Taiwan:			
Current	\$ —	\$ —	\$ —
Deferred	—	—	—
	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
Total current income tax benefit (expense)	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
Total deferred income tax benefit	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
Total income tax benefit	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>

Our ultimate parent company is based in Singapore.

A reconciliation of our effective tax rate related to the statutory tax rate in Taiwan, where our major operations are based, is as follows:

	2022	2021	2020
Taiwan statutory rate, including taxes on income and retained earnings	24.00%	24.00%	24.00%
Foreign tax differential	(3.03)%	(5.75)%	(0.47)%
Expiration of net operating loss carryforwards	(20.18)%	(6.47)%	(31.92)%
Net operating loss carryforwards not utilized due to dissolution of subsidiaries	(42.73)%	—	—
Other non-deductible expenses	(9.79)%	(1.65)%	(3.99)%
Cumulative effect of initially applying new accounting standards	—	—	—
Change in deferred tax assets and valuation allowance	24.94%	(10.32)%	10.52%
Loss on investment in subsidiaries dissolved	26.62%	—	—
Other	0.17%	0.19%	1.86%
Effective rate	—	—	—

The significant components of our deferred tax assets consist of the following:

(in US\$ thousands)	December 31	
	2022	2021
Net operating loss carryforwards	\$ 11,385	\$ 13,079
Share-based compensation	292	324
Investments	131	145
Lease right-of-use assets	6	4
Intangible assets and goodwill	—	1
Other	66	54
	11,880	13,607
Less: valuation allowance	(11,880)	(13,607)
Deferred tax assets - net	\$ —	\$ —

A reconciliation of the beginning and ending amounts of our valuation allowance on deferred tax assets for the years ended December 31, 2022, 2021 and 2020 are as follows:

(in US\$ thousands)	2022	2021	2020
Balance at beginning of year	\$ 13,607	\$ 13,046	\$ 12,732
Subsequent reversal and utilization of valuation allowance	(94)	(81)	(87)
Changes to valuation allowance	1,158	575	1,585
Expirations	(1,731)	(221)	(1,720)
Exchange differences	(1,060)	288	536
Balance at end of year	\$ 11,880	\$ 13,607	\$ 13,046

Under ROC Income Tax Act, the tax loss carryforward in the preceding ten years would be deducted from income tax for Taiwan operations.

As of December 31, 2022, we had net operating loss carryforwards available to offset future taxable income, shown below by major jurisdictions:

<u>Jurisdiction</u>	<u>Amount</u>	<u>Expiring year</u>
Hong Kong	\$ 15,330	indefinite
Taiwan	41,287	2023~2032
	\$ 56,617	

Unrecognized Tax Benefits

As of December 31, 2022, 2021 and 2020, there were no unrecognized tax benefits that if recognized would affect the effective tax rate.

There were no interest and penalties related to income tax liabilities recognized for the years ended December 31, 2022, 2021 and 2020.

Our major tax paying components are all located in Taiwan. As of December 31, 2022, the income tax filings in Taiwan have been examined for the years through 2021.

NOTE 17. COMMITMENTS AND CONTINGENCIES

Commitments

(a) Operating Leases

We rent certain office premises and automobile for operation use under lease agreements that expire at various dates through 2026. Please refer to Note 9 for more information of our lease arrangements.

(b) License Agreements

We have contractual obligations under various license agreements to pay the licensors license fees and minimum guarantees against future royalties. There were no committed license fees and minimum guarantees against future royalties set forth in our significant license agreements as of December 31, 2022.

For a specific licensed game, we were required to pay an incentive fee of \$30 thousand to the licensor for every \$500 thousand additional revenues generated from the game during the agreement period from January 2020 to January 2022. In January 2022, we entered an extension and amendment agreement to extend the term and modified certain provisions. The extension term commenced on January 27, 2022 and expires on January 26, 2024, and the incentive fee is \$20 thousand for every \$600 thousand additional revenues generated during the extension term.

(c) Investment Agreements

On August 31, 2020, we entered into a convertible note purchase agreement to purchase a US\$10,000,000 principal amount convertible promissory note (the "Note") issued by Aeolus Robotics Corporation ("Aeolus"), a global company primarily engaged in designing, manufacturing, processing and sales of intellectual robotics. The Note, which bears interest at a rate of 2% per annum, was due on August 30, 2022 but was extendable to August 30, 2023 at Aeolus's option, and all or a portion of the principal amount under the Note may be convertible at GigaMedia's option upon maturity, upon prepayment, or when certain events occur, into ordinary shares or preferred shares of Aeolus at a price of US\$3.00 per share, or into preferred shares in Aeolus's nearest next round equity financing where Aeolus issues further preferred shares. GigaMedia may elect to convert all or any part of the principal amount of the Note into the preferred shares to be issued at the Qualified Financing, among which (1) 20% of such outstanding principal amount shall be converted at a conversion price equal to 90% of the purchase price offered to the investors in such qualified financing, and (2) 80% of such outstanding principal amount shall converted at a conversion price equal to 100% of the purchase price offered to the investors in such qualified financing. In the event that any portion of the principal amount is converted into the ordinary or preferred shares, all the interest accrued but unpaid on such portion of principal amount shall be waived. Assuming full conversion of the Note into ordinary shares and the exercise or conversion of all other Aeolus rights, options and convertible securities outstanding as of August 31, 2020, we would beneficially own 3,333,333 shares representing approximately 4.62% of the total ordinary shares of Aeolus as of August 31, 2020.

In November 2021, Aeolus notified GigaMedia that it intended to issue series B preferred shares, par value of US\$0.0001 per share (the "Series B Preferred Shares"), to certain new series B preferred shareholders for a subscription price of US\$3.02 per share (the "Next Round Financing"). The Next Round Financing constituted a Qualified Financing as defined in the said Note. GigaMedia exercised its conversion right in accordance with the Note with respect to US\$2,000,000 of principal amount at the conversion price of US\$2.718 per share, effective December 30, 2021. GigaMedia received 735,835 Series B Preferred Shares.

After the conversion, the outstanding principal amount under the note was US\$8,000,000, and GigaMedia's right to elect to convert the remaining amount upon maturity, upon prepayment, or when certain events occur, into ordinary shares of Aeolus at a price of US\$3.00 per share, is not affected.

On July 29, 2022, Aeolus notified GigaMedia that it had decided to exercise its right of extension under the Note to extend the original August 30, 2022 maturity date to August 30, 2023.

If assuming full conversion of the remaining principal amount of the Note into ordinary shares, we would beneficially own 2,666,666 ordinary shares. Along with the above 735,835 preferred shares, that would represent, assuming the exercise or conversion of all other rights, options and convertible securities, approximately 3.16% of the total voting shares of Aeolus as of December 31, 2022.

Contingencies

We are subject to legal proceedings and claims that arise in the normal course of business.

On January 15, 2018, Ennoconn Corporation (“Ennoconn”) filed a complaint against one of our subsidiaries, GigaMedia Cloud Services Co., Ltd. (“GigaMedia Cloud”) in the Taiwan Taipei District Court. The complaint alleged that GigaMedia Cloud is obligated to pay Ennoconn NTD 79,477,648 (approximately \$2,588,005) in connection with a transaction to purchase taximeters in 2015. GigaMedia Cloud filed an answer to the complaint denying Ennoconn’s allegations in the lack of factual and legal basis on March 1, 2018. On November 15, 2018, the Taiwan Taipei District Court determined that all of Ennoconn’s claims were without merit and made a judgment denying the complaint. On January 3, 2019, Ennoconn filed an appeal demanding the judgment which was entered in the District Court, to be reversed and amended. The civil court of the second instance, the Taiwan High Court, has conducted the session of the preparatory proceedings for several times during 2019. As a result, the Taiwan High Court ruled on January 8, 2020, that the decision of the Taiwan Taipei District Court should be partially modified and Ennoconn is entitled to NTD 27,084,180 (approximately \$881,934). GigaMedia Cloud has filed another appeal with the Taiwan Supreme Court on February 4, 2020. On May 5, 2021, the Taiwan Supreme Court revoked the previous ruling of the Taiwan High Court, and sent the case back to the Taiwan High Court for a retrial. Under the Taiwan Supreme Court’s ruling, the appeal made by Ennoconn should be reviewed by the Taiwan High Court by following the instructions of the Taiwan Supreme Court. On May 18, 2022, the Taiwan High Court found such appeal meritless and made a civil judgment denying the complaint by Ennoconn. On June 15, 2022, Ennoconn filed an appeal and demanded that the Taiwan Supreme Court reverse this civil judgment and remand the case to the Taiwan High Court. On February 22, 2023 the Taiwan Supreme Court revoked the previous ruling of the Taiwan High Court, and sent the case back to the Taiwan High Court for a retrial. On April 21, 2023, we made a court appearance before the Taiwan High Court for the preliminary proceeding. As of the issuance date of the consolidated financial statements, the Taiwan High Court has not made any further decisions.

GigaMedia Cloud accrued its best estimate for the ultimate resolution of this claim. On the other hand, pursuant to Taiwan’s Company Act, the shareholder of GigaMedia Cloud is limitedly liable for GigaMedia Cloud in an amount equal to the total value of shares subscribed. Therefore, we believe that the immediate parent company, the intermediate parent companies, as well as GigaMedia, the ultimate parent company, individually or collectively do not have obligations to absorb GigaMedia Cloud’s loss exceeding GigaMedia Cloud’s net worth and accordingly, it will not have a material adverse impact on our financial condition, results of operations or cash flows.

NOTE 18. SEGMENT, PRODUCT, GEOGRAPHIC AND OTHER INFORMATION

We have only one segment, the digital entertainment business segment, which operates a portfolio of digital entertainment products, primarily targeting digital entertainment service users across Asia.

Our Company uses the income from operations as the measurement for the basis of performance assessment. The basis for such measurement is the same as that for the preparation of consolidated financial statements. Please refer to the consolidated statements of operations and comprehensive income (loss) for the related segment revenue and operating results.

Major Product Lines

Revenues from our Company’s major product lines are summarized as follow:

(in US\$ thousands)	2022	2021	2020
MahJong and casino casual games	\$ 1,308	\$ 1,493	\$ 1,833
PC-based online sports games	3,395	2,376	2,730
Mobile role playing games	801	1,522	2,270
Other games and game related revenues	81	101	42
	<u>\$ 5,585</u>	<u>\$ 5,492</u>	<u>\$ 6,875</u>

Major Customers

No single customer represented 10% or more of GigaMedia’s consolidated total net revenues in any period presented.

Geographic Information

Revenues by geographic area are attributed by country of the operating entity location. Revenue from by geographic region is as follows:

(in US\$ thousands)				
Geographic region / country	2022	2021	2020	
Taiwan	\$ 2,427	\$ 3,050	\$ 3,743	
Hong Kong	3,158	2,442	3,132	
	<u>\$ 5,585</u>	<u>\$ 5,492</u>	<u>\$ 6,875</u>	

Geographic information for property, plant and equipment, intangible assets and operating lease right-of-use assets are as follows:

(in US\$ thousands)	December 31, 2022			December 31, 2021		
Geographic region / country	Property, plant and equipment, net	Intangible assets, net	Operating lease right-of-use assets, net	Property, plant and equipment, net	Intangible assets, net	Operating lease right-of-use assets, net
Taiwan	\$ 103	\$ 19	\$ 1,289	\$ 88	\$ 12	\$ 1,897
Hong Kong	—	—	17	—	—	74
	<u>\$ 103</u>	<u>\$ 19</u>	<u>\$ 1,306</u>	<u>\$ 88</u>	<u>\$ 12</u>	<u>\$ 1,971</u>

NOTE 19. SUBSEQUENT EVENT

There have been no events that have occurred subsequent to December 31, 2022, and through the date that the consolidated financial statements are issued that would require adjustment to or disclosure except as already disclosed in the consolidated financial statements.

Description of Securities Registered Pursuant to Section 12 of the Securities Exchange Act

Description of Ordinary Shares

GigaMedia Limited (the “Company,” “we,” “us” and “our”) is incorporated under the laws of the Republic of Singapore and our affairs are governed by our memorandum and articles of association (collectively, our “Constitution”) and by the applicable laws governing corporations incorporated in Singapore.

As of December 31, 2022, we had the following series of securities registered pursuant to Section 12 of the Exchange Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Ordinary Shares	GIGM	The Nasdaq Stock Market LLC

As of December 31, 2022, we had 11,052,235 ordinary shares (the “Shares”) issued and outstanding. Our Shares have no par value.

Preemptive Rights

Our shareholders do not have preemptive purchase rights.

Transfer of Ordinary Shares

Subject to our Constitution, Shares are freely transferable but our directors may, in their absolute discretion, decline to register any transfer of Shares on which we have a lien. All of our outstanding Shares have been fully paid. In addition, our directors may refuse, at their discretion, to register or transfer Shares to a transferee of whom they do not approve. Shares may be transferred by a duly signed instrument of transfer in the usual common form or in a form approved by our directors. Our directors may decline to register any transfer of Shares evidenced in certificated form unless, among other things, it has been duly stamped and is presented for registration together with the certificate of payment of stamp duty (if any), the Share certificates to which the transfer relates and other evidence of title as they may require. We will replace worn-out or defaced Share certificates upon production thereof to the directors and upon payment of such fee as specified in our Constitution. We will replace lost, destroyed or stolen Share certificates upon, among other things, the applicant furnishing evidence and such indemnity as the directors may require.

Limitations and Qualifications on the Rights of the Securities

The rights evidenced by the Shares are not materially limited or qualified by the rights evidenced by any other class of securities or by the provisions of any contract or other documents.

Rights of Other Types of Securities

Not applicable.

Rights of Ordinary Shares

Dividends

Our Company may by an ordinary resolution declare dividend, but no dividend shall be payable except out of the profits of our Company or in excess of the amount recommended by the directors. Our profits available for dividend and determined to be distributed shall be applied to pay dividends to shareholders according to their respective rights

and priorities. Except for Shares with special rights as to dividends, all dividends shall be declared and paid according to the amounts paid up on Shares.

All dividends unclaimed after having been declared may be invested or otherwise made use of by our board of directors for the benefit of our Company. If any dividend has not been claimed for six years from the date of declaration, such dividend may be forfeited and shall revert to our Company. However, the directors may at any time thereafter at their absolute discretion annul any such forfeiture and pay the dividend so forfeited to the person entitled thereto prior to the forfeiture. No dividend shall bear interest against our Company.

Shareholders' Meetings

We are required to hold an annual general meeting after the end of each financial year within 6 months. The directors may convene an extraordinary general meeting whenever they think fit, and they must do so upon the request in writing of shareholders representing not less than 10 percent of the voting rights of our Company. In addition, two or more shareholders holding not less than 10 percent of the total number of issued Shares (excluding treasury shares) may call a meeting of our shareholders. Unless otherwise required by law or by our Constitution, voting at general meetings is by ordinary resolution, requiring an affirmative vote of a simple majority of those present and voting. An ordinary resolution suffices, for example, in respect of appointments of directors. A special resolution, requiring an affirmative vote of at least 75 percent of those present and voting, is necessary for certain matters under the Singapore Companies Act, such as an alteration of our Constitution. Subject to the Singapore Companies Act, at least 21 days' advance written notice specifying the intention to propose a special resolution must be given of every general meeting convened for the purpose of passing a special resolution. Subject to the Singapore Companies Act, at least 14 days' advance written notice must be given of every general meeting convened for the purpose of passing an ordinary resolution.

Voting Rights

Voting at any meeting of our shareholders is by a poll. On a poll every shareholder who is present in person or by proxy has one vote for every Share held by him.

Liquidation Distribution

In the case of a winding up of our Company and in accordance with applicable laws, our shareholders may pass a special resolution to authorize a liquidator to divide and distribute our assets to our shareholders, or authorize the liquidator to vest the whole or part of our assets in trustees upon such trusts for the benefit of our shareholders but so that no shareholder will be compelled to accept Shares or other securities on which there is any liability.

Share Capital

We generally have the right by obtaining a general mandate at the annual general meeting to repurchase not more than 20 percent of our own Shares in issue.

Our board of directors may make a capital call on our shareholders with respect to the amounts unpaid on their Shares and the shareholders are required to pay the amount called at the time(s) and place(s) as appointed by the board of directors. The board of directors may revoke a call or postpone the time previously fixed for the call payment.

We may by ordinary resolution:

- (i) consolidate and divide all of Shares;
- (ii) subject to the Singapore Companies Act, sub-divide some or all of Shares, provided always that in such sub-division, the proportion between the amount paid and the amount (if any) unpaid on each reduced Share shall be the same as it was in the case of the Share from which the reduced Share is derived; and

(iii) subject to the Singapore Companies Act and our Constitution, convert any class of Shares into any other class of Shares.

We may also by special resolution reduce our share capital or any undistributable reserve in any manner as authorized by law.

Sinking Fund

We are not required to provide any sinking fund pursuant to our Constitution.

Ownership of a Substantial Number of Shares

Our Constitution contains no provision discriminating against any existing or prospective holder of Shares as a result of such shareholder owning a substantial number of Shares.

Change in Rights of Shares

We may vary or abrogate any special rights attached to any class of Shares by a special resolution passed at a separate meeting of holders of the Shares of that class or, where the necessary majority for such special resolution is not obtained at the meeting, with the consent in writing of the holders of three-fourths of the issued Shares of that class within two months of such meeting.

Limitations on the Rights to Own Securities

There are no limitations imposed by Singapore law or by our Constitution on the right of a non-resident or foreign owner to hold or vote the Shares.

Anti-Takeover Provisions

The acquisition of shares or general shares of public companies is regulated by the Singapore Securities and Futures Act 2001 and the Singapore Code on Take-overs and Mergers. Any person, either on his own or together with persons acting in concert with him, acquiring an interest in 30 percent or more of our voting Shares is obliged to extend a takeover offer for the remaining Shares which carry voting rights, in accordance with the provisions of the Singapore Code on Take-overs and Mergers. Unless the contrary is established, “persons acting in concert” are presumed to include a company and its related and associated companies and a person who has provided financial assistance (other than a bank in the ordinary course of business) to such company or any of its related and associated companies for the purchase of voting rights, a company and its directors, including their close relatives and related trusts, a company and its pension funds and employee share schemes, a person and any investment company, unit trust or other fund whose investment such person manages on a discretionary basis and a financial advisor and its client in respect of shares held by the financial advisor and all the funds managed by the financial advisor on a discretionary basis where the shareholdings of the financial advisor and any of those funds in the client total 10 percent or more of the client’s equity share capital. The offer must be in cash or be accompanied by a cash alternative at not less than the highest price, excluding stamp duty and dealing costs, paid by the offeror or persons acting in concert with him for shares of that class within the preceding six months. A mandatory takeover offer is also required to be made if a person holding between 30 percent and 50 percent, both inclusive, of the voting shares, or any person acting in concert with him, acquires additional shares representing more than 1 percent of the voting shares in any six-month period.

Disclosure of Shareholder Ownership

There are no provisions in our bylaws that govern the ownership threshold above which shareholder ownership must be disclosed.

Differences in Corporate Law

We are incorporated under the laws of Singapore. The following discussion summarizes material differences between the rights of holders of our ordinary Shares and the rights of holders of the common stock of a typical corporation incorporated under the laws of the state of Delaware which result from differences in governing documents and the laws of Singapore and Delaware.

This discussion does not purport to be a complete statement of the rights of holders of our ordinary Shares under applicable law in Singapore and our Constitution or the rights of holders of the common stock of a typical corporation under applicable Delaware law and a typical certificate of incorporation and bylaws. This discussion is qualified by reference to the applicable laws in effect in Singapore and Delaware, from time to time.

Delaware	Singapore
Board of Directors	
A typical certificate of incorporation and bylaws would provide that the number of directors on the board of directors will be fixed from time to time by a vote of the majority of the authorized directors. Under Delaware law, a board of directors can be divided into classes and cumulative voting in the election of directors is only permitted if expressly authorized in a corporation's certificate of incorporation.	The constitution of companies will typically state the minimum and maximum number of directors as well as provide that the number of directors may be increased or reduced by shareholders via ordinary resolution passed at a general meeting, provided that the number of directors following such increase or reduction is within the maximum and minimum number of directors provided in the constitution and the Singapore Companies Act, respectively. Our Constitution provides that, the minimum number of directors is two and the maximum number is 15 unless otherwise determined by a general meeting.

Limitation on Personal Liability of Directors	
A typical certificate of incorporation provides for the elimination of personal monetary liability of directors for breach of fiduciary duties as directors to the fullest extent permissible under the laws of Delaware, except for liability (i) for any breach of a director's loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the Delaware General Corporation Law (relating to the liability of directors for unlawful payment of a dividend or an unlawful stock purchase or redemption) or (iv) for any transaction from which the director derived an improper personal benefit. A typical certificate of incorporation would also provide that if the Delaware General Corporation Law is amended so as to allow further elimination of, or limitations on, director liability, then the liability of directors will be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law as so amended.	Pursuant to the Singapore Companies Act, any provision (whether in the constitution, contract or otherwise) purporting to exempt a director (to any extent) from any liability attaching in connection with any negligence, default, breach of duty or breach of trust in relation to the Company will be void except as permitted under the Singapore Companies Act. Nevertheless, a director can be released by the shareholders of the Company for breaches of duty to the Company, except in the case of fraud, illegality, insolvency and oppression or disregard of minority interests. Our Constitution currently provides that, subject to the provisions of the Singapore Companies Act, every director, auditor, secretary or other officer of the Company shall be entitled to be indemnified by the Company against all costs, charges, losses, expenses and liabilities incurred by him in the execution and discharge of his duties or in relation thereto and in particular and without prejudice to the generality of the foregoing no director, manager, secretary or other officer of the

	<p>Company shall be liable for the acts, receipts, neglects or defaults of any other director or officer or for joining in any receipt or other act for conformity or for any loss or expense happening to the Company through the insufficiency or deficiency of title to any property acquired by order of the directors for or on behalf of the Company or for the insufficiency or deficiency of any security in or upon which any of the moneys of the Company shall be invested or for any loss or damage arising from the bankruptcy insolvency or tortious act of any person with whom any moneys, securities or effects shall be deposited or left or for any other loss, damage or misfortune whatever which shall happen in the execution of the duties of his office or in relation thereto unless the same shall happen through his own negligence, wilful default, breach of duty or breach of trust.</p>
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Interested Shareholders

<p>Section 203 of the Delaware General Corporation Law generally prohibits a Delaware corporation from engaging in specified corporate transactions (such as mergers, stock and asset sales, and loans) with an “interested stockholder” for three years following the time that the stockholder becomes an interested stockholder. Subject to specified exceptions, an “interested stockholder” is a person or group that owns 15% or more of the corporation’s outstanding voting stock (including any rights to acquire stock pursuant to an option, warrant, agreement, arrangement or understanding, or upon the exercise of conversion or exchange rights, and stock with respect to which the person has voting rights only), or is an affiliate or associate of the corporation and was the owner of 15% or more of the voting stock at any time within the previous three years.</p> <p>A Delaware corporation may elect to “opt out” of, and not be governed by, Section 203 through a provision in either its original certificate of incorporation, or an amendment to its original certificate or bylaws that was approved by majority stockholder vote. With a limited exception, this amendment would not become effective until 12 months following its adoption.</p>	<p>There are no comparable provisions in Singapore with respect to public companies which are not listed on the Singapore Exchange Securities Trading Limited.</p>
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Removal of Directors

A typical certificate of incorporation and bylaws provide that, subject to the rights of holders of any preferred stock, directors may be removed at any time by the affirmative vote of the holders of at least a majority, or in some instances a supermajority, of the voting power of all of the then outstanding shares entitled to vote generally in the election of directors, voting together as a single class. A certificate of incorporation could also provide that such a right is only exercisable when a director is being removed for cause (removal of a director only for cause is the default rule in the case of a classified board).

According to the Singapore Companies Act, directors of a public company may be removed before expiration of their term of office with or without cause by ordinary resolution (i.e., a resolution which is passed by a simple majority of those shareholders present and voting in person or by proxy). The Company may by ordinary resolution remove any director before the expiration of his period of office, notwithstanding anything in our Constitution or in any agreement between the Company and such director.

Notice of the intention to move such a resolution has to be given to the company not less than 28 days before the meeting at which it is moved. The company shall then give notice of such resolution to its shareholders at the same time and in the same manner as it gives notice of the meeting, and not less than 14 days before the meeting. Where any director removed in this manner was appointed to represent the interests of any particular class of shareholders or debenture holders, the resolution to remove such director will not take effect until such director's successor has been appointed.

Filling Vacancies on the Board of Directors

A typical certificate of incorporation and bylaws provide that, subject to the rights of the holders of any preferred stock, any vacancy, whether arising through death, resignation, retirement, disqualification, removal, an increase in the number of directors or any other reason, may be filled by a majority vote of the remaining directors, even if such directors remaining in office constitute less than a quorum, or by the sole remaining director. Any newly elected director usually holds office for the remainder of the full term expiring at the annual meeting of stockholders at which the term of the class of directors to which the newly elected director has been elected expires.

The constitution of a Singapore company typically provides that the directors have the power to appoint any person to be a director, either to fill a vacancy or as an addition to the existing directors, but so that the total number of directors will not at any time exceed the maximum number fixed in the constitution. Any newly elected director shall hold office until the next following annual general meeting, where such director will then be eligible for re-election.

Our Constitution provides that the directors shall have power at any time and from time to time to appoint any person to be a director either to fill a casual vacancy or as an additional director but so that the total number of directors shall not at any time exceed the maximum number fixed by or in accordance with the Constitution.

Amendment of Governing Documents

<p>Under the Delaware General Corporation Law, amendments to a corporation’s certificate of incorporation require the approval of stockholders holding a majority of the outstanding shares entitled to vote on the amendment. If a class vote on the amendment is required by the Delaware General Corporation Law, a majority of the outstanding stock of the class is required, unless a greater proportion is specified in the certificate of incorporation or by other provisions of the Delaware General Corporation Law. Under the Delaware General Corporation Law, the board of directors may amend bylaws if so authorized in the charter. The stockholders of a Delaware corporation also have the power to amend bylaws.</p>	<p>The Singapore Companies Act provides that the constitution of a company may be altered by a special resolution passed at a general meeting of shareholders. The board of directors has no right to amend the constitution.</p>
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Meetings of Shareholders

<p><i>Annual and Special Meetings</i> Unless directors are elected by written consent, an annual meeting is required to be held for the election of directors. If there is a failure to hold an annual meeting or to take action by written consent and no date has been designated for an annual meeting for a period of 13 months after the last annual meeting, stockholders or any director may petition the Delaware Court of Chancery to convene a stockholder meeting.</p> <p>Typical bylaws provide that annual meetings of stockholders are to be held on a date and at a time fixed by the board of directors. Under the Delaware General Corporation Law, a special meeting of stockholders may be called by the board of directors or by any other person authorized to do so in the certificate of incorporation or the bylaws.</p> <p><i>Quorum Requirements</i> Under the Delaware General Corporation Law, a corporation’s certificate of incorporation or bylaws can specify the number of shares which constitute the quorum required to conduct business at a meeting, provided that in no event shall a quorum consist of less than one-third of the shares entitled to vote at a meeting.</p>	<p><i>Annual General Meetings</i> All companies are required to hold an annual general meeting within a fixed period after the end of each financial year. We are required to hold an annual general meeting within six months after the end of each financial year.</p> <p><i>Extraordinary General Meetings</i> Any general meeting other than the annual general meeting is called an “extraordinary general meeting.”</p> <p>In addition, the constitution usually also provides that general meetings may be convened in accordance with the Singapore Companies Act by the directors. Notwithstanding anything in the constitution, the directors are required to convene a general meeting if required to do so by requisition (i.e., written notice to directors requiring that a meeting be called) by shareholder(s) as provided in Section 176 of the Singapore Companies Act.</p> <p>Our Constitution provides that the directors may, whenever they think fit, convene an extraordinary general meeting.</p> <p><i>Quorum Requirements</i> Our Constitution provides that at least two members entitled to vote holding not less than 33 and 1/3 percent of our issued and fully paid-up Shares, present in person or by proxy at a meeting, shall be a quorum. If within 30 minutes from the time appointed for a general meeting (or such longer interval as the chairman of the meeting may think fit to allow) a quorum is not present, the meeting, if convened on the requisition of members, shall</p>
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	<p>be dissolved. In any other case it shall stand adjourned to the same day in the next week (or if that day is a public holiday then to the next business day following that public holiday) at the same time and place or such other day, time or place as the directors may by not less than ten days' notice appoint. At the adjourned meeting any one or more members present in person or by proxy shall be a quorum.</p>
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Indemnification of Officers, Directors and Employers

Under the Delaware General Corporation Law, subject to specified limitations in the case of derivative suits brought by a corporation's stockholders in its name, a corporation may indemnify any person who is made a party to any third-party action, suit or proceeding on account of being a director, officer, employee or agent of the corporation (or was serving at the request of the corporation in such capacity for another corporation, partnership, joint venture, trust or other enterprise) against expenses, including attorney's fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by him or her in connection with the action, suit or proceeding through, among other things, a majority vote of a quorum consisting of directors who were not parties to the suit or proceeding, if the person:

- acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation or, in some circumstances, at least not opposed to its best interests; and
- in a criminal proceeding, had no reasonable cause to believe his or her conduct was unlawful.

Delaware corporate law permits indemnification by a corporation under similar circumstances for expenses (including attorneys' fees) actually and reasonably incurred by such persons in connection with the defense or settlement of a derivative action or suit, except that no indemnification may be made in respect of any claim, issue or matter as to which the person is adjudged to be liable to the corporation unless the Delaware Court of Chancery or the court in which the action or suit was brought determines upon application that the person is fairly and reasonably entitled to indemnity for the expenses which the court deems to be proper.

To the extent a director, officer, employee or agent is successful in the defense of such an action, suit or proceeding, the corporation is required by Delaware corporate law to indemnify such person for expenses (including attorneys' fees) actually and reasonably incurred thereby. Expenses (including attorneys' fees) incurred by such persons in defending any action, suit or proceeding may be paid in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of that person to repay the amount if it is ultimately determined that that person is not entitled to be so indemnified.

Any provision that purports to exempt an officer of a company (to any extent) that would otherwise attach to him in connection with any negligence, default, breach of duty or breach of trust in relation to the company is void.

However, the Singapore Companies Act specifically provides that the Company is allowed to:

- purchase and maintain for any officer insurance against any liability attaching to such officer in respect of any negligence, default, breach of duty or breach of trust in relation to the Company;
- indemnify any officer against liability incurred by a director to a person other than the Company except when the indemnity is against (i) any liability of the officer to pay a fine in criminal proceedings or a sum payable to a regulatory authority by way of a penalty in respect of non-compliance with any requirement of a regulatory nature (however arising); or (ii) any liability incurred by the officer (1) in defending criminal proceedings in which he is convicted, (2) in defending civil proceedings brought by the Company or a related company of the Company in which judgment is given against him, or (3) in connection with an application for relief under Sections 76A(13) or 391 of the Singapore Companies Act in which the court refuses to grant him relief;
- indemnify any auditor against any liability incurred or to be incurred by such auditor in defending any proceedings (whether civil or criminal) in which judgment is given in such auditor's favor or in which such auditor is acquitted; or
- indemnify any auditor against any liability incurred by such auditor in connection with any application under Sections 76A(13) or 391 of the Singapore Companies Act in which relief is granted to such auditor by a court.

In cases where, inter alia, an officer is sued by the Company, the Singapore Companies Act gives the court the power to relieve directors either wholly or partially from the consequences of their negligence, default, breach of duty or breach of trust. However, Singapore case law has indicated that such relief will not be granted

	<p>to a director who has benefited as a result of his or her breach of trust. In order for relief to be obtained, it must be shown that (i) the director acted reasonably; (ii) the director acted honestly; and (iii) it is fair, having regard to all the circumstances of the case including those connected with such director's appointment, to excuse the director.</p> <p>Our Constitution provides that, subject to the provisions of the Singapore Companies Act, every director, auditor, secretary or other officer of the Company shall be entitled to be indemnified by the Company against all costs, charges, losses, expenses and liabilities incurred by him in the execution and discharge of his duties or in relation thereto and in particular and without prejudice to the generality of the foregoing no director, manager, secretary or other officer of the Company shall be liable for the acts, receipts, neglects or defaults of any other director or officer or for joining in any receipt or other act for conformity or for any loss or expense happening to the Company through the insufficiency or deficiency of title to any property acquired by order of the directors for or on behalf of the Company or for the insufficiency or deficiency of any security in or upon which any of the moneys of the Company shall be invested or for any loss or damage arising from the bankruptcy insolvency or tortious act of any person with whom any moneys, securities or effects shall be deposited or left or for any other loss, damage or misfortune whatever which shall happen in the execution of the duties of his office or in relation thereto unless the same shall happen through his own negligence, wilful default, breach of duty or breach of trust.</p>
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Shareholder Approval of Business Combinations	
<p>Generally, under the Delaware General Corporation Law, completion of a merger, consolidation, or the sale, lease or exchange of substantially all of a corporation's assets or dissolution requires approval by the board of directors and by a majority (unless the certificate of incorporation requires a higher percentage) of outstanding stock of the corporation entitled to vote. The Delaware General Corporation Law also requires a special vote of stockholders in connection with a business combination with an "interested stockholder" as defined in section 203 of the Delaware General Corporation Law. For further information on such provisions, see "<i>-Interested Shareholders</i>" above.</p>	<p>The Singapore Companies Act mandates that specified corporate actions require approval by the shareholders in a general meeting, notably:</p> <ul style="list-style-type: none"> • notwithstanding anything in the Company's constitution, directors are not permitted to carry into effect any proposals for disposing of the whole or substantially the whole of the Company's undertaking or property unless those proposals have been approved by shareholders in a general meeting; • subject to the constitution of each amalgamating company, an amalgamation proposal must be approved by the shareholders of each amalgamating company via special resolution at a general meeting; and • notwithstanding anything in the Company's constitution, the directors may not, without the prior approval of shareholders, issue shares, including shares being issued in connection with corporate actions.
Shareholder Action Without a Meeting	
<p>Under the Delaware General Corporation Law, unless otherwise provided in a corporation's certificate of incorporation, any action that may be taken at a meeting of stockholders may be taken without a meeting, without prior notice and without a vote if the holders of outstanding stock, having not less than the minimum number of votes that would be necessary to authorize such action, consent in writing. A corporation's certificate of incorporation may elect to prohibit such action.</p>	<p>There are no equivalent provisions under the Singapore Companies Act in respect of passing shareholders' resolutions by written means that apply to public companies listed on a securities exchange.</p>

Shareholder Suits

Under the Delaware General Corporation Law, a stockholder may bring a derivative action on behalf of the corporation to enforce the rights of the corporation. A person may institute and maintain such a suit only if such person was a stockholder at the time of the transaction which is the subject of the suit or his or her shares thereafter devolved upon him or her by operation of law. Additionally, under Delaware case law, the plaintiff generally must be a stockholder not only at the time of the transaction which is the subject of the suit, but also through the duration of the derivative suit. Delaware law also requires that the derivative plaintiff make a demand on the directors of the corporation to assert the corporate claim before the suit may be prosecuted by the derivative plaintiff, unless such demand would be futile.

Personal remedies in cases of oppression of justice
A shareholder may apply to the court for an order under the Singapore Companies Act to remedy situations where (i) the company's affairs are being conducted or other powers of the company's directors are being exercised in a manner oppressive to, or in disregard of the interests of one or more of the shareholders or holders of debentures of the company, including the applicant; or (ii) the company has done an act, or threatens to do an act, or the shareholders or holders of debentures have passed some resolution, which unfairly discriminates against, or is otherwise prejudicial to, one or more of the company's shareholders or holders of debentures, including the applicant.

Singapore courts have wide discretion as to the relief they may grant under such application, including, inter alia, directing or prohibiting any act or canceling or varying any transaction or resolution, providing that the company be wound up or authorizing civil proceedings to be brought in the name of or on behalf of the company by such person or persons and on such terms as the court directs.

Derivative actions

The Singapore Companies Act has a provision which provides a mechanism enabling any registered shareholder to apply to the court for leave to bring a derivative action on behalf of the Company. In addition to registered shareholders, courts are given the discretion to allow such persons as they deem proper to apply as well (e.g., beneficial owners of shares or individual directors).

It should be noted that this provision of the Singapore Companies Act is primarily used by minority shareholders to bring an action in the name and on behalf of the Company or intervene in an action to which the Company is a party for the purpose of prosecuting, defending or discontinuing the action on behalf of the Company.

An individual also may commence a class action suit on behalf of himself or herself and other similarly situated stockholders where the requirements for maintaining a class action under the Delaware law have been met.

Class actions

The concept of class action suits, which allows individual shareholders to bring an action seeking to represent the class or classes of shareholders, generally does not exist in Singapore. However, it is possible as a matter of procedure for a number of shareholders to lead an action and establish liability on behalf of themselves and other

	<p>shareholders who join in or who are made parties to the action.</p> <p>Further, there are certain circumstances in which shareholders may file and prove their claims for compensation in the event that the Company has been convicted of a criminal offense or has a court order for the payment of a civil penalty made against it.</p>
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Dividends or Other Distributions; Repurchases and Redemptions

The Delaware General Corporation Law permits a corporation to declare and pay dividends out of statutory surplus or, if there is no surplus, out of net profits for the fiscal year in which the dividend is declared and/or for the preceding fiscal year as long as the amount of capital of the corporation following the declaration and payment of the dividend is not less than the aggregate amount of the capital represented by the issued and outstanding stock of all classes having a preference upon the distribution of assets.

Under the Delaware General Corporation Law, any corporation may purchase or redeem its own shares, except that generally it may not purchase or redeem these shares if the capital of the corporation is impaired at the time or would become impaired as a result of the redemption. A corporation may, however, purchase or redeem out of capital shares that are entitled upon any distribution of its assets to a preference over another class or series of its shares if the shares are to be retired and the capital reduced.

The Singapore Companies Act provides that no dividends can be paid to shareholders except out of profits.

The Singapore Companies Act does not provide a definition on when profits are deemed to be available for the purpose of paying dividends and this is accordingly governed by case law. Our Company may by an ordinary resolution declare dividend, but no dividend shall be payable except out of the profits of our Company or in excess of the amount recommended by the directors.

Acquisition of a company's own shares

The Singapore Companies Act generally prohibits a company from acquiring its own shares subject to certain exceptions. Any contract or transaction by which a company acquires or transfers its own shares is void, subject to the exceptions described below.

However, provided that it is expressly permitted to do so by its constitution and subject to the special conditions of each permitted acquisition contained in the Singapore Companies Act, the Company may:

- redeem redeemable preference shares (the redemption of these shares will not reduce the capital of the Company) on such terms and in such manner as is provided by our Constitution. Preference shares may be redeemed out of capital if all the directors make a solvency statement in relation to such redemption in accordance with the Singapore Companies Act;
- whether listed (on an approved exchange in Singapore or any securities exchange outside Singapore) or not, make an off-market purchase of its own shares in accordance with an equal access scheme authorized in advance at a general meeting;
- whether listed on a securities exchange (in Singapore or outside Singapore) or not, make a selective off-market purchase of its own shares in accordance with an agreement authorized in advance at a general meeting by a special resolution where persons whose shares are to be acquired and their associated persons have abstained from voting; and
- whether listed (on an approved exchange in Singapore or any securities exchange outside Singapore) or

	<p>not, make an acquisition of its own shares under a contingent purchase contract which has been authorized in advance at a general meeting by a special resolution.</p> <p>The Company may also purchase its own shares by an order of a Singapore court.</p> <p>The total number of ordinary shares that may be acquired by the Company in a relevant period may not exceed 20% of the total number of ordinary shares in that class as of the date of the resolution pursuant to the relevant share repurchase provisions under the Singapore Companies Act. Where, however, the Company has reduced its share capital by a special resolution or a Singapore court made an order to such effect, the total number of ordinary shares shall be taken to be the total number of ordinary shares in that class as altered by the special resolution or the order of the court. Payment must be made out of the Company's distributable profits or capital, provided that the Company is solvent. Such payment may include any expenses (including brokerage or commission) incurred directly in the purchase or acquisition by the Company of its ordinary shares.</p> <p><i>Financial assistance for the acquisition of shares</i> The Company may not give financial assistance to any person whether directly or indirectly for the purpose of:</p> <ul style="list-style-type: none"> • the acquisition or proposed acquisition of shares in the Company or units of such shares; or • the acquisition or proposed acquisition of shares in its holding company or ultimate holding company, as the case may be, or units of such shares. <p>Financial assistance may take the form of a loan, the giving of a guarantee, the provision of security, the release of an obligation, the release of a debt or otherwise.</p>
	<p>However, it should be noted that the Company may provide financial assistance for the acquisition of its shares or shares in its holding company if it complies with the requirements (including, where applicable, approval by the board of directors or by the passing of a special resolution by its shareholders) set out in the Singapore Companies Act. Our Constitution provides that subject to the provisions of the Singapore Companies Act, we may purchase or otherwise acquire our own</p>

	<p>Shares upon such terms and subject to such conditions as we may deem fit. These Shares may be held as treasury shares or cancelled as provided in the Singapore Companies Act or dealt with in such manner as may be permitted under the Singapore Companies Act. On cancellation of the shares, the rights and privileges attached to those shares will expire.</p>
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Transactions with Officers and Directors

Under the Delaware General Corporation Law, some contracts or transactions in which one or more of a corporation's directors has an interest are not void or voidable because of such interest provided that some conditions, such as obtaining the required approval and fulfilling the requirements of good faith and full disclosure, are met. Under the Delaware General Corporation Law, either (a) the stockholders or the board of directors must approve in good faith any such contract or transaction after full disclosure of the material facts or (b) the contract or transaction must have been "fair" as to the corporation at the time it was approved. If board approval is sought, the contract or transaction must be approved in good faith by a majority of disinterested directors after full disclosure of material facts, even though less than a majority of a quorum.

Under the Singapore Companies Act, the chief executive officer and directors are not prohibited from dealing with the Company, but where they have an interest in a transaction with the Company, that interest must be disclosed to the board of directors. In particular, the chief executive officer and every director who is in any way, whether directly or indirectly, interested in a transaction or proposed transaction with the Company must, as soon as practicable after the relevant facts have come to such officer or director's knowledge, declare the nature of such officer or director's interest at a board of directors' meeting or send a written notice to the Company containing details on the nature, character and extent of his interest in the transaction or proposed transaction with the Company.

In addition, a director or chief executive officer who holds any office or possesses any property which, directly or indirectly, duties or interests might be created in conflict with such officer's duties or interests as director or chief executive officer, is required to declare the fact and the nature, character and extent of the conflict at a meeting of directors or send a written notice to the Company containing details on the nature, character and extent of the conflict.

The Singapore Companies Act extends the scope of this statutory duty of a director or chief executive officer to disclose any interests by pronouncing that an interest of a member of the director's or, as the case may be, the chief executive officer's family (including spouse, son, adopted son, step-son, daughter, adopted daughter and step-daughter) will be treated as an interest of the director.

There is however no requirement for disclosure where the interest of the director or chief executive officer (as the case may be) consists only of being a member or creditor of a corporation which is interested in the proposed transaction with the Company if the interest may properly be regarded as immaterial. Where the proposed transaction relates to any loan to the Company, no disclosure need be made where the director or chief executive officer has only guaranteed or joined in guaranteeing the repayment of such loan, unless the constitution provides otherwise.

	<p>Further, where the proposed transaction is to be made with or for the benefit of a related corporation (i.e. the holding company, subsidiary or subsidiary of a common holding company) no disclosure need be made of the fact that the director or chief executive officer is also a director or chief executive officer of that corporation, unless the constitution provides otherwise.</p> <p>Subject to specified exceptions, including a loan to a director for expenditure in defending criminal or civil proceedings, etc. or in connection with an investigation, or an action proposed to be taken by a regulatory authority in connection with any alleged negligence, default, breach of duty or breach of trust by him in relation to the Company, the Singapore Companies Act prohibits the Company from: (i) making a loan or quasi-loan to its directors or to directors of a related corporation (each, a “relevant director”); (ii) giving a guarantee or security in connection with a loan or quasi-loan made to a relevant director by any other person; (iii) entering into a credit transaction as creditor for the benefit of a relevant director; (iv) giving a guarantee or security in connection with such credit transaction entered into by any person for the benefit of a relevant director; (v) taking part in an arrangement where another person enters into any of the transactions in (i) to (iv) above or (vi) below and such person obtains a benefit from the Company or a related corporation; or (vi) arranging for the assignment to the Company or assumption by the Company of any rights, obligations or liabilities under a transaction in (i) to (v) above. The Company is also prohibited from entering into the transactions in (i) to (vi) above with or for the benefit of a relevant director’s spouse or children (whether adopted or naturally or step-children).</p>
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Dissenters' Rights	
<p>Under the Delaware General Corporation Law, a stockholder of a corporation participating in some types of major corporate transactions may, under varying circumstances, be entitled to appraisal rights pursuant to which the stockholder may receive cash in the amount of the fair market value of his or her shares in lieu of the consideration he or she would otherwise receive in the transaction.</p>	<p>There are no equivalent provisions under the Singapore Companies Act.</p>

Cumulative Voting	
<p>Under the Delaware General Corporation Law, a corporation may adopt in its bylaws that its directors shall be elected by cumulative voting. When directors are elected by cumulative voting, a stockholder has the number of votes equal to the number of shares held by such stockholder times the number of directors nominated for election. The stockholder may cast all of such votes for one director or among the directors in any proportion.</p>	<p>There is no equivalent provision under the Singapore Companies Act in respect of companies incorporated in Singapore.</p>

Anti-Takeover Measures	
<p>Under the Delaware General Corporation Law, the certificate of incorporation of a corporation may give the board the right to issue new classes of preferred stock with voting, conversion, dividend distribution, and other rights to be determined by the board at the time of issuance, which could prevent a takeover attempt and thereby preclude shareholders from realizing a potential premium over the market value of their shares</p> <p>In addition, Delaware law does not prohibit a corporation from adopting a stockholder rights plan, or "poison pill," which could prevent a takeover attempt and also preclude shareholders from realizing a potential premium over the market value of their shares.</p>	<p>The constitution of a Singapore company typically provides that the company may allot and issue new shares of a different class with preferential, deferred, qualified or other special rights as its board of directors may determine with the prior approval of the company's shareholders in a general meeting.</p> <p>Singapore law does not generally prohibit a corporation from adopting "poison pill" arrangements which could prevent a takeover attempt and also preclude shareholders from realizing a potential premium over the market value of their shares. However, under the Singapore Code on Take-overs and Mergers, if, in the course of an offer, or even before the date of the offer announcement, the board of the offeree company has reason to believe that a bona fide offer is imminent, the board must not, except pursuant to a contract entered into earlier, take any action, without the approval of shareholders at a general meeting, on the affairs of the offeree company that could effectively result in any bona fide offer being frustrated or the shareholders being denied an opportunity to decide on its merits.</p>

Changes in Capital

There are no conditions imposed by the Constitution governing changes in the capital, where such conditions are more stringent than is required by law.

Debt Securities

Not applicable.

Warrants and Rights

Not applicable.

Other Securities

Not applicable.

Description of American Depositary Shares

Not applicable.

List of Subsidiaries

<u>Subsidiary</u>	<u>Year of Incorporation</u>	<u>Jurisdiction of Incorporation</u>
Hoshin GigaMedia Center Inc.....	1998	Taiwan
GigaMedia (HK) Limited.....	2004	Hong Kong
GigaMedia International Holdings Limited.....	2004	British Virgin Islands
GIGM Corporation.....	2021	Cayman Islands
Cambridge Entertainment Software Limited.....	2004	British Virgin Islands
FunTown World Limited.....	2005	British Virgin Islands
GigaMedia Online Entertainment Corp.....	2009	Cayman Islands
FunTown Hong Kong Limited.....	1999	Hong Kong
GigaMedia Freestyle Holdings Limited.....	2009	British Virgin Islands
GigaMedia Cloud Services Co. Ltd.....	2011	Taiwan
GigaMedia Development Corporation.....	2013	Taiwan
GigaMedia (Cayman) Ltd.....	2015	Cayman Islands
Megabiz Limited.....	2010	British Virgin Islands

**CERTIFICATION OF THE CHIEF EXECUTIVE OFFICER
PURSUANT TO RULE 13a-14 OR 15d-14 OF THE SECURITIES EXCHANGE ACT OF 1934, AS
ADOPTED PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002**

I, Cheng-Ming Huang, Chief Executive Officer of GigaMedia Limited, certify that:

1. I have reviewed this annual report on Form 20-F of GigaMedia Limited;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: April 28, 2023

By: /s/ HUANG, CHENG-MING
Name: HUANG, CHENG-MING
Title: Chief Executive Officer

**CERTIFICATION OF THE CHIEF FINANCIAL OFFICER
PURSUANT TO RULE 13a-14 OR 15d-14 OF THE SECURITIES EXCHANGE ACT OF 1934, AS
ADOPTED PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002**

I, Cheng-Ming Huang, Chief Financial Officer of GigaMedia Limited, certify that:

1. I have reviewed this annual report on Form 20-F of GigaMedia Limited;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: April 28, 2023

By: /s/ HUANG, CHENG-MING
Name: HUANG, CHENG-MING
Title: Chief Financial Officer

**CERTIFICATION OF THE CHIEF EXECUTIVE OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT
TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the annual report of GigaMedia Limited (the “Company”) on Form 20-F for the year ended December 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Cheng-Ming Huang, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 28, 2023

By: /s/ HUANG, CHENG-MING
HUANG, CHENG-MING
Chief Executive Officer

**CERTIFICATION OF THE CHIEF FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT
TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the annual report of GigaMedia Limited (the “Company”) on Form 20-F for the year ended December 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Cheng-Ming Huang, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 28, 2023

By: /s/ HUANG, CHENG-MING
HUANG, CHENG-MING
Chief Financial Officer

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in Registration Statement Nos. 333-148663, 333-142963, 333-119616, 333-168123 and 333-160535 on Form S-8 of our report dated April 28, 2023, relating to the consolidated financial statements of GigaMedia Limited and subsidiaries appearing in this Annual Report on Form 20-F for the year ended December 31, 2022.

/s/ Deloitte & Touche

Taipei, Taiwan
Republic of China

April 28, 2023