

GIGAMEDIA Ltd
Form 20-F
April 29, 2019

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 For the fiscal year ended December 31, 2018

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, 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, 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:

Title of Each Class Name of Each Exchange on Which Registered
Ordinary Shares 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

Note — Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 from their obligations under those Sections.

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 Accelerated filer
Non-accelerated filer Emerging growth company

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 which basis of accounting the registrant has used to prepare the financial statements included in

this filing:

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

U.S. GAAP International Financial Reporting Standards as issued Other

by the International Accounting Standards Board

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

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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) “East Gate” are to East Gate Media Contents & Technology Fund L.P., a partnership organized under the laws of the Republic of Korea.
- (iv) “FunTown” are to our digital entertainment service business operated through our two operating subsidiaries, Hoshin GigaMedia and FunTown World Limited;
- (v) “GigaCloud” are to the cloud computing services operated through GigaMedia Cloud;
- (vi) “GigaMedia Cloud” are to GigaMedia Cloud Services Co. Ltd., a wholly owned subsidiary incorporated under the laws of Taiwan;
- (vii) “Hoshin GigaMedia” are to Hoshin GigaMedia Center Inc., a company incorporated under the laws of Taiwan, Republic of China, (“Taiwan” or “R.O.C.”);
- (viii) “PerfectPairs” are to PerfectPairs Gaming Co., Ltd., a company incorporated under the laws of Taiwan that develops and publishes mobile games and apps; and

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.

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,” “predict,” “project,” “propose,” “seek,” “can,” “could,” “may,” “might,” “will,” “would,” “should,” “shall,” “is likely to” or similar terms, 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;

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- our plans for strategic partnerships, licenses and alliances;
- our acquisition and strategic investment, and our ability to successfully integrate any past, current, or future 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;
- the potential entry of new competitors in any of our business lines;
- the outcome of ongoing, or any future, litigation or arbitration; and
- our corporate classification by various governmental entities.

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, but see Item 6, "Directors, Senior Management and Employees — A. Directors and Senior Management" in this annual report.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

ITEM 3. KEY INFORMATION

Exchange Rates

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. 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 make no representation that any currencies, other than U.S. dollars, could be converted to U.S. dollars at such rate or any particular rates.

A. Selected Financial Data

The following selected consolidated balance sheet data as of December 31, 2017 and 2018 and the selected consolidated statement of operations data for the years ended December 31, 2016, 2017 and 2018 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, 2014, 2015 and 2016, and the selected consolidated statement of operations data for the years ended December 31, 2014 and 2015 have been derived from our audited consolidated financial statements for the years ended December 31, 2014 and 2015, 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 Item 5, "Operating and Financial Review and Prospects," and 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)

	2014	2015	2016	2017	2018
	(As adjusted*)	(As adjusted*)	(As adjusted*)		
CONSOLIDATED STATEMENTS OF OPERATIONS DATA:					
OPERATING REVENUES					
Digital entertainment service revenues	\$8,199	\$8,545	\$8,971	\$11,596	\$7,101
Other revenues	1,580	1,706	—	—	—
Total operating revenues	9,779	10,251	8,971	11,596	7,101
COSTS OF REVENUES					
Cost of digital entertainment service revenues	(6,010)	(7,018)	(4,138)	(5,098)	(3,585)
Cost of other revenues	(1,825)	(1,871)	—	—	—
Total costs of revenues	(7,835)	(8,889)	(4,138)	(5,098)	(3,585)
GROSS PROFIT	1,944	1,362	4,833	6,498	3,516
OPERATING EXPENSES					
Product development and engineering expenses	(892)	(688)	(1,045)	(1,072)	(1,091)
Selling and marketing expenses	(6,708)	(8,655)	(5,513)	(3,993)	(3,297)
General and administrative expenses	(6,592)	(5,817)	(3,458)	(3,528)	(3,684)
Impairment loss on property, plant, and equipment	(28)	(60)	(471)	—	—
Impairment loss on intangible assets	(115)	(5)	(57)	—	—
Impairment loss on prepaid licensing and royalty fees	(1,259)	(4,187)	(1,386)	—	(244)
Termination of proposed acquisition	—	(2,000)	—	—	—
Gain on termination of licensing agreement	—	—	—	1,732	—
Other	(37)	(3)	(35)	(127)	(23)
Total operating expense	(15,631)	(21,415)	(11,965)	(6,988)	(8,339)
Loss from operations	(13,473)	(20,053)	(7,132)	(490)	(4,823)
Net loss on equity investments	(531)	(600)	(1,731)	(24)	—
Income tax benefit	73	414	1,149	1,671	—
Net income (loss)	(4,990)	(2,288)	(6,066)	1,086	(3,193)
Less: Net (income) loss attributable to the noncontrolling interest	(165)	45	—	—	—

Net income (loss) attributable to shareholders of GigaMedia	\$ (5,155)	\$ (2,243)	\$ (6,066)	\$ 1,086	\$ (3,193)
Earnings (loss) per share (in dollars):					
Basic and diluted	\$ (0.48)	\$ (0.20)	\$ (0.55)	\$ 0.10	\$ (0.29)

*: The selected consolidated statements of operations for the years ended December 31, 2014, 2015 and 2016 were retrospectively adjusted to reflect our Company's election to early adopt the accounting updated of ASU No. 2017-07, Compensation-Retirement Benefits. Accordingly, all components of net periodic pension costs that are other than the service cost, amounting to income of US\$214 thousand, US\$58 thousand and US\$2 thousand, respectively, for 2014, 2015 and 2016, were reclassified from general and administrative expenses to non-operating income (expense) –other. See Note 1 to our audited consolidated financial statements included in this annual report for more information.

There were no dividends declared in 2014, 2015, 2016, 2017 and 2018.

As of December 31,

(US dollars in thousands except for number of issued shares)

	2014	2015	2016	2017	2018
CONSOLIDATED BALANCE SHEET DATA:					
Total current assets	\$91,158	\$74,498	\$68,882	\$65,511	\$60,595
Property, plant and equipment-net	1,663	1,391	7	158	121
Intangible assets-net	222	88	—	3	38
Total assets	108,304	81,195	70,327	66,413	61,445
Total current liabilities	27,337	13,482	8,998	5,048	3,620
Total GigaMedia's shareholders' equity	79,019	65,991	59,658	61,365	58,172
Common shares, no par value, and additional paid-in capital	308,682	308,745	308,754	308,747	308,750
Number of issued shares (in thousands)*	11,052*	11,052	11,052	11,052	11,052
*: We executed reverse splits of the issued and outstanding shares by a ratio of five to one on December 16, 2015.					

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 Industries

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.

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.

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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 massively multi-player online (“MMO”) games such as Tales Runner, a sports game, Dragon, a multiplayer role-playing game, and Yume100, a single player role-playing game. The sub-genre of multi-player role-playing online games (“MMORPG”) is the most popular type of MMO. In recent years, revenues from our PC-based games have been in decline, reflecting the overall shift in player preferences away from PC-based games to browser-based games and mobile 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 right 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.

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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 include Gamania Digital Entertainment Co., Ltd. (“Gamania”), 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. 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 2016, and 2018, we incurred operating losses of US\$7.1 million and US\$4.8 million as well as net losses of US\$6.1 million and US\$3.2 million, respectively. In 2017, we incurred an operating loss of US\$0.5 million but reported net income of US\$1.1 million. 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.

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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 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.

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.

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 attack against network providers which affected latency of connections to our games, and those incidents did not result in significant financial impact on our operations and financial results. All in all, 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, and prompt assessment, if a major and urgent incident occurred, 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 countries such as 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 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.

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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.

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 we are unable to maintain satisfactory relationships with the licensors of our digital entertainment services.

While we are focused on strengthening our abilities to self-developed casual games, we have historically and may in the future source casual games, advanced casual games, MMOs and other forms of digital entertainment services through licensing from developers in various regions where digital entertainment development is relatively established. As of the date of this annual report, we have several licensed MMOs in our portfolio, including the online games we currently offer and other products in the pipeline. We need to maintain stable and satisfactory working relationships with our licensors in order to ensure the continued operation of our licensed products and our continued access to new digital entertainment licenses. 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. Our ability to maintain satisfactory working relationships with our licensors may also influence our ability to license new products developed by the same or other licensors. 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.

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 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 an Internet-based, international communications service and electronically billing 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 law relating to the liability of providers of online payment services is 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 liability risk will increase if a larger fraction 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, such losses from unauthorized credit card transactions and theft of service have not 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.

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.

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."

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 or the businesses of our customers. Our business also could be adversely affected by the effects of influenza A virus subtypes, such as H1N1 and H5N1, SARS or other epidemics. 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. 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. Relations between Taiwan and the PRC and other factors affecting the political or economic conditions of Taiwan could also affect our digital entertainment service business.

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, recent growth in the United States economy may not be sustainable and some analysts are concerned that the European community may experience a sustained downturn. It is unclear how long such instability and volatility will continue, whether it will increase, whether it will lead to a renewed worldwide economic downturn such as the one that began in 2008, 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.

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 Stock 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. The trading prices for our Shares in the year 2014 were around the US\$1.00 range and traded below US\$1.00 several times. On January 14, 2015, Nasdaq notified us that the trading price of our Ordinary Shares no longer met the minimum US\$1 bid price per share requirement. Subsequently, at an Extraordinary General Meeting of our Company held on December 16, 2015, our shareholders approved a reverse stock split of our Ordinary Shares at a ratio of 5 to 1. As a result of the reverse stock split, our share price rose above US\$1.00 for a satisfactory consecutive period and we regained compliance with this listing requirement.

Although we have regained compliance with US\$1.00 minimum bid price listing 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 2018, the closing prices of our Shares on the Nasdaq Stock Market have ranged from US\$2.45 to US\$4.21 per share, and the closing price on April 12, 2019 was US\$2.65. 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.

Sizable percentage of our outstanding Shares are beneficially owned by Mr. Andre Koo, who accordingly has significant influence to the outcome of any corporate transaction or other matters submitted to our shareholders for approval, and their interests may differ from yours.

As of March 31, 2019, Mr. Andre Koo beneficially owned 19.54% of our outstanding Shares. Accordingly, he has significant influence to 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 corporate affairs are governed by our memorandum and articles of association 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 by the management, members of our board of directors or our controlling shareholders than they would as shareholders of a corporation incorporated in the United States.

Our Company is incorporated under the laws of the Republic of Singapore. 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 (Chapter 289) and the Singapore Code on Take-overs 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 (Chapter 289) 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 2018, the first quarter of 2019 and in prior periods, we believe that the better view is 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 are presently comprised of 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, 2018, and we will likely be a PFIC for our current taxable year ending December 31, 2019, 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 99.99% of 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.

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

In January 2006, we acquired FunTown, a digital entertainment business operated in Taiwan and Hong Kong. In 2012, we began internal development of GigaCloud, a cloud computing software business focused on serving small and medium-sized enterprises in Greater China. In 2016, after reviewing the business plan, we decided to redirect our cloud service business resources for internal use, in particular, by moving the servers used in our digital entertainment business to the cloud, including the related maintenance, and to wind down our cloud service activities.

As part of plans to turn around the Company's financial performance, in 2012 we began implementation of a disposal and asset optimization program targeting non-strategic investments and underperforming assets. In 2016, we continued to dispose of underperforming and non-strategic investments. Descriptions of our principal capital expenditures and divestitures and descriptions of acquisitions of material assets are found in our discussion and analysis of financial condition and results of operation and in the notes to our consolidated financial statements included elsewhere in this annual report. See Item 5, "Operating and Financial Review and Prospects—A. Operating Results—Certain Significant Events Affecting Our Results of Operations for 2016, 2017 and 2018".

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 website address is: <http://www.gigamedia.com>. Our agent in the U.S. is Computershare Limited and its office address is 480 Washington Blvd., Jersey City, New Jersey.

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.

GigaCloud, which is our wholly owned subsidiary that used to operate our cloud computing services, now supports our digital entertainment services as we continue to wind down our cloud service activities since 2016.

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 has one of the largest online social gaming platforms in Taiwan by revenue. We now leverage that as we restructure the business and extend our offerings to mobile and browser-based games in select areas and geographies going forward.

We also publish and operate PC- and mobile-based games under licensing agreements, usually 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 (“Item-Billing”). 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 seek growth and enhance our market position in the digital entertainment industry by increasing focus on mobile and browser-based games and expect to drive growth both organically and via mergers and acquisitions.

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 for those from 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 throughout 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 largest online MahJong networks in Taiwan.

Players may play our online MahJong free of charge. While a player may be skillful to keep winning virtual currency in the game, usually to continue to play on a regular basis and establish a track record inside our online MahJong community, players may choose to purchase game points through various distribution channels, such as convenience stores and computer-based payment processing terminals. By purchasing our game points, players may exchange for virtual currency and deposit into their virtual bank accounts. The virtual currency may be used to play MahJong and other games in the FunTown game site or to purchase in-game virtual items, but cannot be redeemed for cash.

Our PC-based MahJong offering 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 the 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 from 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 various 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 the games in 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\$1.8 million in 2018, down from approximately \$2.4 million in 2017 and \$2.5 million in 2016.

Role-Playing and Sports Games

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

In June 2006, we launched the massive multiplayer online (“MMO”) 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\$1.3 million in 2018, down from approximately \$1.4 million in 2017 and \$1.6 million in 2016.

In October 2010, we acquired a non-controlling interest in XL Games, an online game developer in Korea. As a result of the transaction, we received certain strategic rights, including exclusive rights to operate the MMORPG game ArcheAge in Taiwan, Hong Kong, and Macau. XL Games launched the game in Korea in January 2013. However, considering the progressive shift in the gaming sector from PC-based to mobile-based games, we determined that the carrying amount of our prepaid licensing and royalty fees relating to ArcheAge were not fully recoverable. We had accordingly recognized impairment losses on such prepaid licensing and royalty fees of approximately US\$1.3 million in 2014 and US\$3.0 million in 2015. In 2017, XL Games reached an agreement with us to terminate the ArcheAge license by compensating us in the amount of US\$1.75 million and accordingly, we recognized a gain of approximately US\$1.7 million as a reduction of operating expenses in the consolidated statements of operations in 2017.

Traditionally, for our PC-based MMO games, players download and install client software from our websites. Our MMO 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 2018, we launched ten mobile role-playing online games, or RPGs. In particular, Yume100, which was launched at the end of September 2015, outperformed other 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, 2018, the accumulated sales revenues of Yume100 since its launch were approximately US\$9.6 million. Leveraging the operating experience of Yume100, in mid-December 2017, we launched Akaseka, a similarly female-oriented game.

For our mobile games, players usually download the game software, or “app”, from third-party digital distribution platforms, such as “Google Play” or “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 FunTown's 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 into 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 direct investment of more than \$1 million during 2018 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 at times 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 normally 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 have 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 the 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. 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.

Other Platforms. FunTown expects to launch its current online games onto other platforms, including the Android platform and Apple's iOS platform and to allow data synchronization between each of these platforms.

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 to 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, Facebook, etc. We also collaborate with new media channels, for example, with 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, magazines and outdoor advertisements. From time to time we distribute game-related posters, promotional prepaid cards for new users and souvenirs at trade shows, selected Internet cafés and other locations. We have contracted with various Internet café unions directly or via agents to promote our games in Internet cafés. We also conduct events at popular venues to stage exhibitions, distribute software and game content-related merchandise, and interact directly with our users.

In addition to advertising in various magazines, we also collaborate various promotions with entertainment magazines, which include providing free copies of games with each magazine sold.

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 instilling 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.

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We also use third-party digital distribution platforms, such as “Google Play” or “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 the 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 include convenience chain stores, gaming and related retail stores and supermarkets. At these locations, users may purchase pre-paid game cards with varying amounts of game points. Alternatively, users may purchase game packs to play specific games on FunTown.

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. This includes moving the servers used in our digital entertainment business to cloud.

Our Customers

In Taiwan and Hong Kong, as of December 31, 2018, we had an aggregate of approximately 8.3 million unique registered customers of our digital entertainment services, most of which were located in Taiwan. During the year ended December 31, 2018, we recorded approximately 40,000 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 Gamania, 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.

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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.

Partnership with East Gate

In August 2010, we entered into a partnership agreement to invest KRW 6 billion (approximately US\$5.1 million) in East Gate, a Korean fund with total assets under management of KRW 34 billion, in return for a 17.65% partnership interest in proportion to our investment, as a limited partner. In November 2016, we entered into a fund partnership purchase agreement to transfer and sell our entire 17.65% partnership interest to the general partner of East Gate for consideration of US\$1.2 million. Upon closing of the transaction on November 30, 2016, we disposed of all our rights and benefits attached to and in relation to our investment in East Gate.

Seasonality

Our business experiences seasonality in the form of slower sales of FunTown's digital entertainment business in the second and third quarters, during which people tend to spend less time indoors and online as daylight hours increase and the weather conditions improve. Typically, our first and fourth quarters have been our strongest revenue periods.

Cloud Service Business

Overview

GigaCloud is a provider of cloud computing solutions and related services, which we launched in 2013. The business was founded on the concept of delivering via the Internet, or "cloud," integrated tools and services designed to help the enterprises in Greater China effectively manage complex and dynamic operating environments. We provide our customers highly adaptable, accessible and reliable services and tools to manage critical business functions that enable them to optimize their financial and human capital resources.

In 2016, after a review of our business plan, we decided to redirect our cloud service business resources for internal use, in particular, by moving the servers used in our digital entertainment business to the cloud, including the related maintenance, and to wind down our cloud service activities.

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.

Rating of Internet Content

The Regulations for the Rating of Internet Content was abolished by the NCC in 2012. At present, 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 contents. 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 contents may be harmful or that such internet platform provider failed to implement “clear and practicable” protection measures.

Computer Software Ratings

The Ministry of Economic Affairs announced in July 2006 the Regulations Governing Computer Software Rating 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 Regulations Governing Game Software Ratings, and were last amended on April 20, 2018. 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); (i) 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 and puzzle as the main content must be provided with warnings statements showing that it may not be used for gambling or the engagement of any violation of laws and regulations or other similar conducts.

Online Game Regulations and Standard Contract Template

The Ministry of Economic Affairs and the Consumer Protection Commission have announced the Regulations Mandatory and Prohibitory Provisions of Standard Contracts to Be Used for the Online Gam Services, and also published a standard contract template which sets out permitted terms and limitations with respect to online game services offered in Taiwan, pursuant to the Consumer Protection Act. The Regulations and the standard contract template were last amended in October 2018. 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 provided to consumers. For lucky draw events in which consumers pay for tickets, the on-line game operator should guarantee that the activities and awards are fully disclosed. When a consumer’ ID and password has been compromised, the on-line game operator must provide assistance and information for 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 a period of seven days. The termination date of online game operation must be publicly announced at least thirty days prior to such date, and notification provided to consumers. The on-line game operator cannot limit the use period of purchasing the game points in the on-line game contract. Furthermore, the on-line game operator cannot specify in the on-line game contract that it has the right to interpret the contract terms and conditions. Under the Consumer Protection Act, an on-line game operator using the online game contract but violating the above mandatory or prohibitory provisions, and failing to take corrective actions ordered within the time limit prescribed by the competent authorities, unless the law provides otherwise, shall be punished by an administrative fine of NT\$30,000 to NT\$300,000. Moreover, if an on-line 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. The 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 which 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. In principle, 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. 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 Data Protection Principles does not constitute a criminal offence directly. However, the Commissioner may serve an Enforcement Notice to direct the data user to remedy the contravention and/or instigate the prosecution action. Contravention of an enforcement notice is an offence which 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, including injured feelings, by reason of a contravention of the Ordinance in relation to his or her personal data may seek compensation from the data user concerned.

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. In order to fulfill the direct registration program eligibility requirements, we are required to, among other provisions, amend our constitutional documents to allow for the issue of non-certificated securities.

Our Company is incorporated under the laws of the Republic of Singapore and is subject to the provisions of the Companies Act (Cap.50) 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).

Under the DRS eligibility provisions, as a foreign private issuer, we are allowed to follow our home country practice in lieu of the requirements set out in Rule 5210(c), subject to certain exceptions. We will be relying on this for an exemption from 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.

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 unless otherwise indicated.

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Entity	Place of Incorporation	Relationship
Held by our Company		
GigaMedia International Holdings Limited	British Virgin Islands	Wholly owned subsidiary
Held by GigaMedia International Holdings Limited		
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
Held by GigaMedia Online Entertainment Corp.		
FunTown World Limited	British Virgin Islands	Wholly owned subsidiary
GigaMedia Freestyle Holdings Limited	British Virgin Islands	Wholly owned subsidiary
GigaMedia (Labuan) Limited	Labuan	Wholly owned subsidiary
Megabiz Limited	British Virgin Islands	Wholly owned subsidiary
Held by FunTown World Limited		
FunTown Hong Kong Limited	Hong Kong	Wholly owned subsidiary
Held by GigaMedia (Cayman) Limited		
Hoshin GigaMedia Center Inc.	Taiwan	Wholly owned subsidiary
GigaMedia Development Corporation	Taiwan	Wholly owned subsidiary
GigaMedia Cloud Services Co. Ltd.	Taiwan	Wholly owned subsidiary
Held by Hoshin GigaMedia Center Inc.		
Gaminfinity Publishing Co. Ltd.	Taiwan	Wholly owned subsidiary
Play2gether Digital Technology Co. Ltd.	Taiwan	Wholly owned subsidiary
Held by Giga Development Corporation		
Wen He Investment Ltd.	Taiwan	Wholly owned subsidiary
Held by GigaMedia (HK) Limited		
Shanghai Pontoon Networking Technology Co., Ltd.	China	Wholly owned subsidiary

D. Property, Plant and Equipment

As of April 6, 2019, 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

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.

In 2018, we had total operating revenues of approximately US\$7.1 million, a decrease of approximately US\$4.5 million year-over-year. Our total costs and expenses decreased by approximately US\$0.2 million year-over-year to US\$11.9 million, primarily due to reduced costs, in line with the decreased revenues, as well as reduction in selling and marketing expenses, and we had a return of fees related to termination of a licensing agreement, amounting to US\$1.75 million, was recognized as a gain in 2017 (see Item 4, “Information of the Company — B. Business Overview” in this annual report for more information). We incurred an operating loss of approximately US\$4.8 million, an increased loss of approximately US\$4.3 million year-over-year. We recognized a non-operating income of approximately US\$1.6 million, compared to a loss of approximately US\$95 thousand in the prior year. We did not recognize any income tax benefits or expenses in 2018, compared to income tax benefits of approximately US\$1.7 million in 2017, which was primarily due to reduction in certain deferred tax liabilities. We recognized a net loss attributable to us of approximately US\$3.2 million, a deterioration of approximately US\$4.3 million year-over-year, primarily resulting from the aforementioned factors.

Digital Entertainment Business. We operate our digital entertainment business in Taiwan, Hong Kong and Macau through FunTown. We acquired FunTown in January 2006 and consolidated the financial results of FunTown into our consolidated financial statements starting from January 1, 2006.

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 name brand 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 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.

In 2018, our digital entertainment business generated revenue of approximately US\$7.1 million, gross profit of approximately US\$3.5 million, operating loss of approximately US\$2.7 million, non-operating income of approximately US\$266 thousand, and net loss of approximately US\$2.5 million. Please refer to Note 20 to our audited consolidated financial statements included in this annual report for more segment information.

Certain Significant Events Affecting Our Results of Operations for 2016, 2017 and 2018

Divestiture of PerfectPairs

In January 2016, we disposed of PerfectPairs by selling our entire equity interest to two Taiwanese individuals unrelated to our Group for total cash consideration amounted to approximately US\$760 thousand. Upon the disposal, we deconsolidated PerfectPairs and recognized a disposal gain of approximately US\$827 thousand. Summarized financial information for PerfectPairs upon the deconsolidation and the gain on sale is as follows:

(In US\$ thousand)	Amount
The fair value of consideration received, net of any	
transaction costs	\$ 760
The carrying amount of PerfectPairs	
Cash	482
Receivables and other current assets	40
Property, plant and equipment	71
Intangible and other noncurrent assets	13
Accounts payable and accrued expenses	(528)
Other payable and other current liabilities	(144)
The carrying amount of PerfectPairs at the date of	
deconsolidation	(66)
Exchange difference	1
Gain on disposal of PerfectPairs	\$ 827

Operating Results and Divestiture of Our Investment in East Gate

Based on our partnership agreement with East Gate, we determined that we had the ability to exercise significant influence over East Gate, and accordingly accounted for our investment under the equity method. In 2016, we recognized equity method losses of approximately US\$1.6 million on our investment in East Gate.

In November 2016, we entered into a fund partnership purchase agreement to transfer and sell our entire 17.65% partnership interest of East Gate to a Korean investor unrelated to our Group for consideration of US\$1.2 million. Upon closing of the transaction on November 30, 2016, we disposed of all our rights and benefits attached to and in relation to our investment in East Gate. Summarized financial information for the gain on disposal of the investment is as follows:

(In US\$ thousand)	Amount
The fair value of consideration received, net of any	
transaction costs	\$ 112
The fair value of consideration receivable, net of any	
transaction costs	1,058
	1,170

The carrying amount of the investment of East Gate at the

date of disposal	1,398
Exchange difference	250
Gain on disposal of investment in East Gate	\$ 22

The consideration receivable of \$1.1 million as of December 31, 2016 had been fully collected as of December 31, 2017.

Disposal of Owned Office Premises

In January 2016, we entered into disposal agreements to sell certain office premises not used for our principal business to several counterparties unrelated to us, for total cash consideration amounted to approximately US\$1.9 million. The closing of the disposals occurred in March 2016. Upon the closing, we recognized disposal gains of approximately US\$798 thousand.

Termination of a game license

We have entered licensing arrangements for our digital entertainment business and in 2015, prepaid licensing and royalty fees for one of the licensed games had been fully impaired and as a result the cost became nil. In 2017, the licensor of that gaming development company reached an agreement with us to terminate the license by compensating us in the amount of US\$1.75 million and accordingly, we have recognized a gain of approximately US\$1.7 million as a reduction of operating expenses in the consolidated statements of operations in 2017.

Liquidation of a subsidiary

In October 2017, a subsidiary of ours in the U.S. resolved to dissolve and liquidate and completed the process and filed a final tax return in February 2018. The gain that resulted from such liquidation was treated as capital gain, which is exempt from U.S. withholding tax. As such, there was a reversal of the deferred income tax liabilities of US\$1.7 million as such deferred income tax liabilities were originally accrued for a potential withholding obligation upon possible distribution.

Impairment Losses Related to Underperforming Projects in Our Digital Entertainment Service Business

We incurred certain impairment losses in 2018 and 2016 as described further below. No impairment losses were incurred in 2017.

2018 Impairment Losses

We recognized an impairment loss of approximately US\$0.2 million in our consolidated financial statements for the year ended December 31, 2018. This US\$244 thousand impairment loss on prepaid licensing and royalty fees that related to certain licensed games for which the carrying amount was determined not to be fully recoverable due to the progressive shift in the gaming sector from PC-based to mobile device-based games. Prepaid licensing and royalty fees are first assessed with the commercial viability of the launch plan of the related games, then valued using a discounted cash flow model, when reasonable grounds exist for projections, to determine fair value, incorporating available market discount information, our estimate for liquidity risk and other cash flow model related assumptions based on unobservable inputs.

2016 Impairment Losses

Due to certain underperforming game projects and decreased forecasts within our Asian digital entertainment product and service business, we recognized an impairment loss of US\$1.9 million in our consolidated financial statements for the year ended December 31, 2016 as follows:

1) US\$1.4 million impairment loss on prepaid licensing and royalty fees, which related to certain licensed games for which the carrying amounts were determined not to be recoverable due to underperformance. Prepaid licensing and royalty fees are valued using a discounted cash flow model, when reasonable grounds exist for projections, to determine fair value, incorporating available market discount information, our estimate for liquidity risk and other cash flow model related assumptions based on unobservable inputs.

2) US\$471 thousand impairment loss on property, plant and equipment and US\$57 thousand impairment loss on intangible assets for capitalized software costs as a result of consecutive operating losses in recent years that were expected to continue and therefore the carrying amounts of those long-lived and intangible assets would not be recoverable based on cash flow projections from current games, which typically have shorter lives. Those long-lived and intangible assets are valued using a discounted cash flow model, when reasonable grounds exist for projections, to

determine fair value, incorporating available market discount information, our estimate for liquidity risk and other cash flow model related assumptions based on unobservable inputs.

Impairment Losses on Marketable Securities and Investments

As a result of unsuccessful investments made by previous management in game studios and companies, we recognized impairment losses on marketable securities and investments of US\$52 thousand in 2017. The impairments are described further below:

In 2014, we made an investment in common shares of Double2 Network Technology Co., Ltd. (“Double2”), of US\$667 thousand. As a result of consecutive and deteriorating losses incurred without encouraging prospects, we wrote down this investment to its estimated fair value of US\$194 thousand, resulting in an impairment charge of US\$290 thousand in 2015. And as a further result of its inability to reduce cash burn, we fully wrote down our investment in Double2 in 2017 to zero, resulting in an impairment charge of US\$52 thousand in 2017.

Critical Accounting Policies

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. Our significant accounting policies are closed in note 1(c) to our consolidated financial statements. We believe that the following discussion addresses the most critical accounting policies applicable to our Company, which are those that are most important to the portrayal of the financial condition and results of operations of our Company, and require management's most difficult, subjective and complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain.

Revenue Recognition and Deferral

General

On January 1, 2018, we adopted ASC Topic 606, "Revenue from Contracts with Customers", using the modified retrospective transition method applied to contracts that were not complete as of the adoption date. Consolidated financial results for reporting periods beginning after January 1, 2018 are presented under ASC Topic 606, while prior period amounts continue to be reported in accordance with ASC Topic 605, "Revenue Recognition". Please refer to Note 1 of our consolidated financial statements contained in our previously-filed Annual Report on Form 20-F for the year ended December 31, 2017 for our revenue recognition accounting policy as it relates to revenue transactions prior to January 1, 2018. The revenue recognition accounting policy described below relates to revenue transactions from January 1, 2018 and onward, which are accounted for in accordance with ASC Topic 606.

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 and therefore are excluded from 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 game can only be consumed in our game. Therefore, we regard the sale of a virtual good as a service, where 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 "Google Play Store", "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; over the estimated useful life of virtual items; or 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. (See the paragraphs under the caption “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 12 months.

Principal Agent Considerations

For the revenues generated from our digital entertainment offerings which were 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 which 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, 2017 and 2018, cash totaling \$507 thousand and \$518 thousand, respectively, had been deposited in an escrow account in a bank 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. (See the paragraphs under the caption "Recently Adopted Accounting Pronouncements" in this Item 5 for more discussion of the breakage.)

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 percentage 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

Whenever events or changes in circumstances indicate that the carrying amount of our prepaid licensing and royalty fees may not be recoverable, we test its recoverability by comparing the carrying value of the item in question to its undiscounted cash flows. If the carrying amounts of the related prepayments were determined to be greater than their expected future undiscounted cash flows, the estimated fair values of prepaid licensing and royalty fees are determined based on their discounted cash flows.

Based on the analysis, we estimated the fair values of certain prepaid licensing and royalty fee assets to be impaired, and recognized impairment charges of US\$1.4 million and US\$244 thousand on prepaid licensing and royalty fees in 2016 and 2018, respectively.

The impairment losses recognized in 2016 and 2018 were mainly due to lower than expected performances of products and services or resulted from the uncertain commercial viability of products and services, or from game development that did not successfully pass the testing phase and for which we fully wrote off the contractual value of related fees paid. In 2016 and 2018, we recognized impairment losses of US\$1.4 million and US\$244 thousand, respectively, on prepaid licensing and royalty fees for certain licensed games that we had determined the carrying amount of which to not be fully recoverable considering their lower-than-expected rate of attracting new gamers and retaining existing gamers, thus we concluded that the prepaid licensing fees were impaired. We have entered licensing arrangements for our digital entertainment business and in 2015, prepaid licensing and royalty fees for one of the licensed games had been fully impaired and as a result the cost became nil. In 2017, the licensor of that gaming development company reached an agreement with us to terminate the license by compensating us in the amount of US\$1.75 million and accordingly, we have recognized a gain of US\$1.7 million as a reduction of operating expenses in the consolidated statements of operations in 2017.

Impairment of Intangible Assets and Long-Lived Assets

Long-lived assets other than goodwill and intangible assets 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 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. In 2016, we considered our consecutive operating losses in recent years and that the carrying amounts of our long-lived assets would not be recoverable based on cash flow projections from current games that typically have shorter lives. We therefore determined that the fair value of those long-lived assets and intangible assets was zero and recognized an impairment loss of US\$471 thousand and US\$57 thousand on property, plant and equipment, and on intangible assets, 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, 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 will more-likely-than-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% likely 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.

In October 2017, a subsidiary of ours in the U.S. resolved to dissolve and liquidate, for which it filed a final tax return in February 2018. The gain resulted from such liquidation was treated as capital gain, which was exempt from U.S. withholding tax. As such, there was a reversal of the deferred income tax liabilities of US\$1.7 million as such deferred income tax liabilities were originally accrued for a potential withholding obligation upon possible distribution.

As of December 31, 2016, 2017 and 2018, we recognized valuation allowances of US\$11.9 million, US\$9.9 million and US\$11.8 million, respectively, on our deferred tax assets to reflect uncertainties related to our ability to utilize these deferred tax assets, which consist primarily of certain net operating loss carryforwards and loss on equity method investment. We considered both positive and negative evidence, including forecasts of future taxable income and our cumulative loss position, and continued to report a valuation allowance against our deferred tax assets as of December 31, 2016, 2017 and 2018. We continue to review all available positive and negative evidence in each jurisdiction and our valuation allowance may need to be adjusted in the future as a result of this ongoing review. Given the magnitude of our valuation allowance, future adjustments to this allowance based on actual results could result in a significant adjustment to our results of operations.

In 2016, the valuation allowance on the deferred tax assets increased by US\$0.9 million to US\$11.9 million, mainly due to the addition of US\$1.7 million, utilization of US\$753 thousand and divestiture of US\$311 thousand. In 2017, the valuation allowance on the deferred tax assets decreased by US\$1.9 million to US\$9.9 million, mainly due to the addition of US\$745 thousand, utilization of US\$3.4 million and exchange difference of US\$683 thousand. In 2018, the valuation allowance on the deferred tax assets increased by US\$1.8 million to US\$11.8 million, mainly due to an addition of US\$1.6 million of the valuation allowance to loss carryforward generated from our Taiwan and Hong Kong businesses.

The effect of the changes of the valuation allowance decreased our income tax benefit by US\$1.7 million, US\$745 thousand and US\$1.6 million, for the years ended December 31, 2016, 2017 and 2018, respectively.

Recently Adopted Accounting Pronouncements

Revenue from Contracts with Customers

As noted above, we adopted the new revenue accounting standard effective January 1, 2018. We utilized the modified retrospective method upon adoption and as a result, the comparative information has not been restated and continues to be reported under the accounting standards in effect for those periods. Additionally, we elected to apply the new revenue accounting standard only to contracts not completed as of the adoption date. For contracts that were modified before the period of adoption, we elected to reflect the aggregate effect of all modifications when (1) identifying the satisfied and unsatisfied performance obligations, (2) determining the transaction price, and (3) allocating the transaction price to the satisfied and unsatisfied performance obligations. We recognized the cumulative effect of initially applying the new revenue accounting standard as an adjustment to the opening balance of retained earnings (accumulated deficits). The cumulative effect adjustment recorded to our accumulated deficits was \$346 thousand (see our consolidated statements of changes in shareholders' equity) and included the impact from the following adjustments to our consolidated balance sheet at January 1, 2018:

	Balance at December 31, 2017	Adjustments due to adoption of new revenue accounting standard	Balance at January 1, 2018
(In US\$ thousand)			
Consolidated Balance Sheet			
Liabilities			
Deferred revenue	\$1,863	\$ (346)	\$1,517
Shareholders' equity			
Accumulated deficit	(225,399)	346	(225,053)

The cumulative effects of the new revenue accounting standard are mainly from the breakage. Under the prior accounting standards, deferred revenues were derecognized if and only if the liabilities extinguished upon delivery of goods or services or upon payments made to the customer in other ways, or when we were released from being the primary obligator. Under the new revenue standard, we are required to derecognize the amount related to breakage when the likelihood of the customer exercising the remaining rights becomes remote.

Except for the cumulative effects discussed above, adoption of the new revenue accounting standard did not have significant impact to our consolidated balance sheet, consolidated statement of operations, and consolidated statement of cash flows as of and for the year ended December 31, 2018.

Financial Instruments

The Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (ASU) No. 2016-01, Financial Instruments – Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities. The new guidance makes targeted improvements to existing U.S. GAAP mainly by requiring the following accounting treatments, along with certain disclosure and presentation requirements and improvements:

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

Public business entities are to use the exit price notion when measuring the fair value of financial instruments for disclosure purposes.

•An entity are to evaluate the need for a valuation allowance on a deferred tax asset related to available-for-sale securities in combination with the entity's other deferred tax assets.

Our Company adopted this new guidance as of January 1, 2018 on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings or accumulated deficits. As we had disposed of all our marketable securities by the end of 2017 and all of our equity investments in non-publicly traded securities of companies were fully impaired as of December 31, 2017, the adoption did not have any impact on our consolidated financial statements.

Income Tax

The FASB issued ASU No. 2016-16, Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory, in October 2016. Previous GAAP prohibits the recognition of current and deferred income taxes for an intra-entity asset transfer until the asset has been sold to an outside party. The amendments require an entity to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. The amendments eliminate the exception for an intra-entity transfer of an asset other than inventory. Our Company adopted the amendments in ASU 2016-16 as of January 1, 2018, on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings or accumulated deficits. The adoption of this new guidance did not have a material impact on our Company's financial position, results or cash flows.

Retirement Plan and Net Periodic Pension Cost

The FASB issued ASU No. 2017-07, Compensation—Retirement Benefits (Topic 715), in March 2017. The amendments in this ASU require that an employer report the service cost component in the same line item or items as other compensation costs arising from services rendered by the pertinent employees during the period. The other components of net benefit cost are required to be presented in the income statement separately from the service cost component and outside a subtotal of income from operations, if one is presented. If a separate line item or items are used to present the other components of net benefit cost, that line item or items must be appropriately described. If a separate line item or items are not used, the line item or items used in the income statement to present the other components of net benefit cost must be disclosed. The amendments in this Update also allow only the service cost component to be eligible for capitalization when applicable (for example, as a cost of internally manufactured inventory or a self-constructed asset). Our company early adopted this ASU on January 1, 2017, retrospectively for the presentation of the service cost component and the other components of net periodic pension cost and net periodic postretirement benefit cost in the statement of operations, and prospectively, on and after the effective date, for the capitalization of the service cost component of net periodic pension cost and net periodic postretirement benefit in assets. The adoption only affected, immaterially, the presentation of our consolidated statements of operations. Please refer to Note 13 to our audited consolidated financial statements included in this annual report for more information.

Share-Based Compensation

The FASB issued ASU No. 2017-09, Compensation—Stock Compensation (Topic 718), in May 2017. This guidance clarifies which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting in Topic 718. An entity should account for the effects of a modification unless all the specified conditions are met. Our Company adopted the amendments in ASU 2017-09 as of January 1, 2018, prospectively to an award modified on or after the adoption date. The adoption did not have a material impact on our consolidated financial statements.

The FASB issued ASU No. 2016-09, Compensation Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting in March 2016. The amendments in this ASU simplify the accounting for share-based payments regarding (a) income tax consequences (b) classification of awards as either equity or liabilities and (c) classification on the statement of cash flows. Our company adopted this ASU on January 1, 2017. The adoption did not have a material impact on our consolidated financial statements.

Statement of Cash Flows

The FASB issued ASU No. 2016-18, Statement of Cash Flows (Topic 230): Restricted Cash, in November 2016. The amendments require that a 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. As a result, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The amendments do not provide a definition of restricted cash or restricted cash equivalents. Our Company early applied the amendments in the ASU No. 2016-18 effective January 1, 2016, to include restricted cash with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on our consolidated statements of cash flows.

Recent Accounting Pronouncements Not Yet Adopted

Financial Instruments

The FASB issued ASU No. 2016-13, Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, in June 2016. The ASU requires the measurement of all expected credit losses for financial assets held at the reporting date based on historical experience, current conditions, and reasonable and supportable forecasts. Financial institutions and other organizations will now use forward-looking information to better inform their credit loss estimates. The ASU also requires enhanced disclosures to help investors and other financial statement users better understand significant estimates and judgments used in estimating credit losses, as well as the credit quality and underwriting standards of an organization's portfolio. These disclosures include qualitative and quantitative requirements that provide additional information about the amounts recorded in the financial statements. In addition, the ASU amends the accounting for credit losses on available-for-sale debt securities and purchased financial assets with credit deterioration. Our Company will apply the amendments in ASU 2016-13 as of January 1, 2020, on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings or accumulated deficits. We do not expect the adoption of this new guidance to have a material impact on our Company's financial position, results or cash flows.

Lease

The FASB issued new lease accounting guidance in ASU No. 2016-02, Leases (Topic 842), in February 2016. Under the new guidance, lessees will be required to recognize for all leases (with the exception of short-term leases), at the commencement date, (a) a lease liability, which is a lessee's obligation to make lease payments arising from a lease, measured on a discounted basis and (b) a right-of-use asset, which is an asset that represents the lessee's right to use, or control the use of, a specified asset for the lease term. When measuring assets and liabilities arising from a lease, a lessee (and a lessor) should include payments to be made in optional periods only if the lessee is reasonably certain to exercise an option to extend the lease or not to exercise an option to terminate the lease. Similarly, optional payments to purchase the underlying asset should be included in the measurement of lease assets and lease liabilities only if the lessee is reasonably certain to exercise that purchase option. For leases with a term of 12 months or less, a lessee is permitted to make an accounting policy election by class of underlying asset not to recognize lease assets and lease liabilities. Our Company will implement the amendments in ASU 2016-02 as of January 1, 2019 using a modified retrospective transition approach for leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements.

The FASB issued ASU No. 2018-11, Leases (Topic 842): Targeted Improvements, in July 2018. Entities originally are required to adopt the new leases standard using a modified retrospective transition method. Under that transition method, an entity initially applies the new leases standard (subject to specific transition requirements and optional

practical expedients) at the beginning of the earliest period presented in the financial statements (which is January 1, 2017, for calendar-year-end public business entities that adopt the new leases standard on January 1, 2019). This means that starting on January 1, 2017 (for those calendar-year-end public business entities just described), lessees must recognize lease assets and liabilities for all leases even though those leases may have expired before the effective date. Lessees also must provide the new and enhanced disclosures for each period presented, including the comparative periods. The ASU 2018-11 provides another transition method in addition to the existing transition method by allowing entities to initially apply the new leases standard at the adoption date (such as January 1, 2019, for calendar year-end public business entities) and recognize a cumulative-effect adjustment to the opening balance of retained earnings or accumulated deficits in the period of adoption.

Topic 842 is effective for our fiscal year beginning January 1, 2019. We will elect the package of practical expedients in ASC 842-10-65-1(f) and the additional transition method provided in ASU 2018-11. We will initially apply the new leases standard at the adoption date and not to restate the comparative periods when transitioning to ASC 842, and recognize a cumulative-effect adjustment to the opening balance of retained earnings or accumulated deficits in the period of adoption. Accordingly, we will account for our existing operating leases as operating leases under the new guidance, without reassessing (a) whether the contracts contain a lease under ASC 842, (b) whether classification of the operating leases would be different in accordance with ASC Topic 842, or (c) whether the unamortized initial direct costs before transition adjustments (as of December 31, 2018) would have met the definition of initial direct costs in ASC 842 at lease commencement. As a result of the adoption of the new lease accounting guidance, we expect to recognize on January 1, 2019 (a) a lease liability of approximately \$1.0 million, which represents the present value of the remaining lease payments of approximately \$1.1 million, discounted at incremental borrowing rate of approximately 2%, and (b) a right-of-use asset of approximately \$1.0 million which approximates the lease liability of \$1.0 million. Adoption of the new standard is not expected to have a material impact on our Company's operating results or cash flows from operations. The most significant impact would be the recognition of ROU assets and lease obligations for operating leases. We do not anticipate significant changes to our current business processes and systems to support the adoption of the new standard in the year beginning January 1, 2019. Additionally, we are currently in the process of evaluating the required financial statement disclosures to allow users of our consolidated financial statements to understand the nature, amount, timing and uncertainty of revenue and cash flows arising from leases.

Fair Value Measurement

The FASB issued ASU No. 2018-13, Fair Value Measurement (Topic 820): Disclosure Framework — Changes to the Disclosure Requirements for Fair Value Measurement to improve the effectiveness of disclosure requirements on fair value measurement. Certain disclosure requirements were removed, modified or added from Topic 820. In addition, the amendments eliminate at a minimum from the phrase an entity shall disclose at a minimum to promote the appropriate exercise of discretion by entities when considering fair value measurement disclosures and to clarify that materiality is an appropriate consideration of entities and their auditors when evaluating disclosure requirements. The amendments on changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements, and the narrative description of measurement uncertainty will be applied prospectively for only the most recent annual period presented in the initial fiscal year of adoption. All other amendments will be applied retrospectively to all periods presented upon the effective date. Early adoption is permitted upon issuance of this Update. An entity is permitted to early adopt any removed or modified disclosures upon issuance of this Update and delay adoption of the additional disclosures until their effective date. Our Company will adopt the amendments in this Update for fiscal years beginning January 1, 2020, and will early adopt certain items as permitted.

Retirement Plan

The FASB issued ASU No. 2018-14, Compensation—Retirement Benefits — Defined Benefit Plans — General (Subtopic 715-20): Disclosure Framework — Changes to the Disclosure Requirements for Defined Benefit Plans, in August 2018 to improve the effectiveness of disclosure requirements on defined benefit plans. The amendments in this Update modify certain disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. The amendments in this Update will be effective for our Company's fiscal years ending at December 31, 2020. We will apply the amendments in this Update on a retrospective basis to all periods presented. We do not expect the adoption of this Update to have a material impact on our Company's financial position, results or cash flows.

Taxation

Our major tax jurisdictions are located in Taiwan and Hong Kong.

The corporate income tax rate in Taiwan is 20% effective from 2018. In addition to the corporate income tax rate, all retained earnings generated beginning January 1, 1998 by our subsidiaries under Taiwan law and not distributed to us as dividends in the following year are assessed a retained earnings tax, presently at 5%. This rule applies primarily to our FunTown online portal, whose principal operating entities are incorporated under Taiwan law.

In 2017, the Taiwanese government introduced regulations of taxes on cross-border electronic services provided by foreign enterprises, including value-added tax and income tax, which are at the same rates as with domestic enterprises. Our subsidiaries outside Taiwan are required to comply with such tax regulations when services are provided to users based in Taiwan via the Internet or other electronic means. Pursuant to the new regulations, additional value-added tax amounting to US\$95 thousand was levied in May 2017.

On January 1, 2006, the Taiwanese government enacted the Alternative Minimum Tax (“AMT”) Act. Taxes imposed under the AMT Act are supplemental tax payable if the income tax payable pursuant to the R.O.C. Income Tax Act is below the minimum amount prescribed under the AMT Act. The AMT rate for business entities is 10%. The taxable income for calculating the AMT includes most income that is exempted from income tax under various legislation such as tax holidays and investment tax credits. For example, gains on disposal of marketable securities from our Taiwan-based entities were exempt from income tax based on Taiwan tax laws prior to the AMT Act. However, such gains will need to be included for the purpose of calculating the AMT.

The corporate income tax rate in Hong Kong is 16.5%, which applied primarily to our digital entertainment service operations in Hong Kong.

Inflation and Foreign Currency Fluctuation

We mainly operate our business in Taiwan and Hong Kong. Both economies have exhibited monetary and economic stability in recent years, with mild inflation and relatively narrow currency fluctuations. Taiwan’s inflation rate in 2018 was approximately 1.35% and Hong Kong’s was approximately 2.4%. With respect to the exchange rate, the NT dollar against the US dollar slightly fluctuated, between N\$29 and NT\$31 to the US dollar during 2018. The Hong Kong dollar, under its linked exchange rate system, is pegged with the US dollar at a fixed rate of HK\$7.80 to the US dollar, and can trade between HK\$7.75 and HK\$7.85.

See Item 11, “Quantitative and Qualitative Disclosures about Market Risk” for a discussion regarding our foreign currency risk exposure.

Discussion of Results of Operations

Factors Affecting Our Performance

We believe that the following are the principal factors affecting our results of operations:

Acquisitions and disposals. We have made several significant acquisitions and dispositions of businesses during the past several years, and may enter into additional acquisition and disposition transactions in the future. Past acquisitions and dispositions have had a significant impact on our results of operations over the past several years, and if we engage in such transactions in the future, the nature, amounts and timing of our revenues, expenses and cash flows and the nature and amounts our assets and liabilities are likely to be materially affected.

Competition. Our digital entertainment service business operates in an extremely competitive industry and our cloud service business may face strong future industry competition as the cloud computing industry grows in Asia. 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.

For each of our businesses, we cannot assure you that we will be successful in adapting to technological developments and achieving widespread acceptance of our services before our competitors offer services similar to our current or prospective offerings. 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, 2016					
	(As adjusted*)		2017		2018	
	Amount	% of	Amount	% of	Amount	% of
	in US\$	total	in US\$	total	in US\$	total
	thousands	revenues	thousands	revenues	thousands	revenues
OPERATING REVENUES						
Digital entertainment service revenues	\$8,971	100.0	\$11,596	100.0	\$7,101	100.0
COSTS OF REVENUES						
Cost of digital entertainment service revenues	4,138	46.1	5,098	44.0	3,585	50.5
Gross profit	4,833	53.9	6,498	56.0	3,516	49.5
OPERATING EXPENSES						
Product development and engineering expenses	1,045	11.7	1,072	9.2	1,091	15.4
Selling and marketing expenses	5,513	61.5	3,993	34.4	3,297	46.4
General and administrative expenses	3,458	38.5	3,528	30.4	3,684	51.9
Impairment loss on property, plant and equipment	471	5.3	—	—	—	—
Impairment loss on intangible assets	57	0.6	—	—	—	—
Impairment loss on prepaid licensing and royalty fees	1,386	15.4	—	—	244	3.4
Gain on termination of licensing agreement	—	—	(1,732)	(14.9)	—	0.0
Other	35	0.4	127	1.1	23	0.3
Total operating expenses	11,965	133.4	6,988	60.2	8,339	117.4
Loss from operations	(7,132)	(79.5)	(490)	(4.2)	(4,823)	(67.9)
NON-OPERATING INCOME (EXPENSES), NET	(83)	(0.9)	(95)	(0.8)	1,630	22.9
LOSS BEFORE INCOME TAXES	(7,215)	(80.4)	(585)	(5.0)	(3,193)	(45.0)
INCOME TAX BENEFIT	1,149	12.8	1,671	14.4	—	—
NET INCOME (LOSS) ATTRIBUTABLE TO						
SHAREHOLDERS OF GIGAMEDIA	\$(6,066)	(67.6)	\$1,086	9.4	\$(3,193)	(45.0)

*: The consolidated statement of operations for the years ended December 31, 2016 were retrospectively adjusted to reflect our Company's election to early adopt the accounting updated of ASU No. 2017-07, Compensation-Retirement Benefits. Accordingly, all components of net periodic pension costs that are other than the service cost, amounting to income of US\$2 thousand for 2016, were reclassified from general and administrative expenses to non-operating income (expense)—other. See Note 1 to our audited consolidated financial statements included in this annual report for more information.

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 upon acceptance or over periods as services are provided. Revenues from the sales of equipment and other related products are recognized upon acceptance.

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.

NON-OPERATING INCOME (EXPENSES), NET. Non-operating income and expenses consist of interest income and expenses, gain or loss on sales of marketable securities, foreign exchange gain or loss, income or loss on equity method investments, gain or loss on deconsolidation of business units, and impairment loss on marketable securities and investments.

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.

For the Years Ended December 31, 2018 and 2017

In formulating our 2018 business plan, 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. 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 2018 we implemented 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 began consolidating substantial resources for developing our own offerings, into which direct investment was more than US\$1 million during 2018.

In 2018, 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.

Consolidated Results of Operations

OPERATING REVENUES. Operating revenues for 2018 decreased by 38.8% to US\$7.1 million from US\$11.6 million in 2017. The decrease was primarily due to the decrease of revenues from our digital entertainment service, which was mainly attributed to a 48.6% decrease in revenues from mobile role playing games to US\$4.0 million in 2018 from US\$7.8 million in 2017 as a result of the termination of a certain mobile game launched in the fourth quarter of 2016. The decrease was aggravated by a 23.2% decrease in revenues from MahJong and casino casual games to US\$1.8 million in 2018 from US\$2.4 million in 2017, primarily due to shrinking demand for legacy games.

COSTS OF REVENUES. Costs of revenues in 2018 decreased by US\$1.5 million, or 29.7%, to US\$3.6 million in 2018 from US\$5.1 million in 2017. The decrease in costs of revenues was mainly due to the decrease in revenues in 2018, as well as the reflection of certain outsourcing translation and art costs incurred in FunTown that still had not yet resulted in revenues in 2018.

GROSS PROFIT. Gross profit decreased to US\$3.5 million in 2018 from US\$6.5 million in 2017. Gross profit margin was 49.5 % in 2018 compared with 56.0% in 2017, the decrease of which was mainly due to increased outsourcing translation and art costs for new games to be launched.

OPERATING EXPENSES. Total operating expenses increased by 19.3% to US\$8.3 million in 2018 from US\$7.0 million in 2017. The increase in total operating expenses was mainly due to a gain of US\$1.7 million in 2017 that related to the termination of certain licensing arrangements in our digital entertainment business, as further discussed below, compared to an impairment loss of US\$0.3 million recognized in 2018.

Consolidated product development and engineering expenses amounted to US\$1.1 million in 2018, which was approximately the same as in 2017.

Consolidated selling and marketing expenses decreased by 17.4% to US\$3.3 million in 2018 from US\$4.0 million in 2017, primarily due to FunTown's efforts in enhancing its marketing efficiency and effectiveness, as well as certain changes to our organizational chart (for example, we moved certain functions in selling and marketing departments from operational level to strategic level under the chief officers' office).

Consolidated general and administrative expenses amounted to US\$3.7 million in 2018, as compared to US\$3.5 million in 2017.

Gain on termination of licensing agreement. We have entered licensing arrangements for our digital entertainment business. In 2015, the prepaid licensing and royalty fees for one of the licensed games had been fully impaired and as a result the cost became nil. In 2017, the licensor of that gaming development company reached an agreement with us to terminate the license by compensating us in the amount of US\$1.75 million and accordingly, we recognized a gain of approximately US\$1.7 million as a reduction of operating expenses in the consolidated statements of operations in 2017.

OPERATING LOSS. Operating loss for 2018 was US\$4.8 million compared to US\$0.5 million in 2017. The US\$4.3 million increase in operating loss was primarily due to decreased gross profit, increased expenses, which was partially offset by the gain in 2017 on termination of certain licensing arrangements as mentioned above.

NON-OPERATING INCOME (LOSS), NET. Non-operating income, net was US\$1.6 million in 2018 compared to loss of US\$95 thousand in 2017. The non-operating income, net in 2018 primarily included (1) US\$1.3 million interest income generated from bank deposits, and (2) US\$267 thousand foreign exchange gain. The non-operating loss, net in 2017 primarily included (1) US\$551 thousand foreign exchange loss, (2) US\$76 thousand equity investment loss and impairment loss on investments, and (3) US\$602 thousand interest income generated from bank deposits.

INCOME TAX BENEFITS. Income tax benefits of US\$1.7 million in 2017 primarily due to decreased uncertainty or obligations in certain tax positions, resulting to reduction in deferred income tax liabilities. In 2018, neither income tax benefits nor expenses were incurred as our operations in respective tax jurisdictions were loss-making, and accordingly full allowance was provided against all deferred assets.

NET INCOME (LOSS) ATTRIBUTABLE TO SHAREHOLDERS OF GIGAMEDIA. Net loss attributable to shareholders of GigaMedia for 2018 was US\$3.2 million compared to net income of US\$1.1 million in 2017. The decrease reflected the aforementioned factors.

Operating Segment Results

In 2016, after a review of our business plan, we decided to redirect our cloud service business resources for internal use, in particular, by moving the servers used in our digital entertainment business to the cloud, including the related maintenance, and to wind down our cloud service activities. Because of this, we now have only one segment and our operating segment results are largely the same as our consolidated operating results.

Digital Entertainment Service Business

SEGMENT REVENUES. Total segment revenues decreased by US\$4.5 million, or 38.8%, to US\$7.1 million in 2018 from approximately US\$11.6 million in 2017. Such decrease reflected the termination of a certain mobile game launched in the fourth quarter of 2015, as well as shrinking demand for legacy games.

As of December 31, 2018, FunTown's number of registered users for the PC-based games was approximately 7,200,000. In 2018, the number of registered users for the mobile device-based games varied between games, of which the two major titles were approximately 685,000 and 218,000, and active paying accounts were 9,000 and 10,000. The highest number of daily average users ranged approximately from 17,000 to 26,000.

SEGMENT COSTS OF REVENUES. Costs of our digital entertainment service segment revenue decreased by 29.7% to US\$3.6 million in 2018 from US\$5.1 million in 2017. The decrease of US\$1.5 million was primarily due to decreased licensing and royalty fees largely in line with the decreased revenues, partially offset by increased costs of outsourcing translation and art costs for new games to be launched.

SEGMENT GROSS PROFIT. Segment gross profit decreased to US\$3.5 million in 2018 from US\$6.5 million in 2017. Gross profit margin decreased to 49.5% in 2018, from 56.0% in 2017, mainly due to increased outsourcing translation and art costs for new games to be launched.

SEGMENT OPERATING EXPENSES. Total segment operating expenses decreased by US\$1.5 million to US\$6.2 million in 2018 from US\$4.8 million in 2017. The reduction was primarily due to a gain of US\$1.7 million in 2017 that was related to the termination of certain licensing arrangements in our digital entertainment business, compared to an impairment loss of US\$0.3 million recognized in 2018.

Selling and marketing expenses. Selling and marketing expenses decreased by US\$0.7 million to US\$3.3 million in 2018 from US\$4.0 million in 2017. The decrease reflected FunTown's efforts in enhancing its marketing efficiency and effectiveness in 2018, as well as certain changes to our organizational chart where some functions were deemed critical and moved up from operational level in selling & marketing departments to strategic level under the chief officers' office.

General and administrative expenses. General and administrative expenses incurred in 2018 increased by US\$0.3 million to US\$1.6 million from US\$1.3 million in 2017. The increase was mainly due to certain changes to our organizational chart where some functions were deemed critical and moved up from operational level in selling & marketing departments to strategic level under the office of the segment's senior officer.

Impairment losses. The impairment loss in 2018 was a US\$244 thousand impairment loss on certain prepaid licensing and royalty fees related to certain licensed games within FunTown that we stopped operating or for which the carrying amounts of the prepayments were determined not to be recoverable from their expected future undiscounted cash flows.

Gain on termination of licensing agreement. We have entered licensing arrangements for our digital entertainment business. In 2015, the prepaid licensing and royalty fees for one of the licensed games had been fully impaired and as a result the cost became nil. In 2017, the licensor of that gaming development company reached an agreement with us to terminate the license by compensating us in the amount of US\$1.75 million and accordingly, we recognized a gain of approximately US\$1.7 million as a reduction of operating expenses in the consolidated statements of operations in 2017.

SEGMENT OPERATING INCOME (LOSS). Segment operating loss in 2018 was US\$2.7 million, compared to an income of US\$1.7 million in 2017. The increase in loss was due to the aforementioned factors.

For the Years Ended December 31, 2017 and 2016

Consolidated Results of Operations

OPERATING REVENUES. Operating revenues for 2017 increased by 29.3% to US\$11.6 million from US\$9.0 million in 2016. The increase was due to the increase of revenues from our digital entertainment service segment. The revenues from our digital entertainment service business increased by US\$2.6 million, mainly due to a 66.4% increase in revenues from mobile role playing games, to \$7.8 million in 2017 from \$4.7 million in 2016, as a result of a mobile game launched in the fourth quarter of 2016 and our effort in invigorating existing games. The increase was partially offset by a 6.3% decrease in revenues from legacy PC-based games to \$3.8 million in 2017 from \$4.0 million in 2016, primarily due to shrinking demand for legacy PC-based games.

COSTS OF REVENUES. Costs of revenues in 2017 increased by US\$1.0 million, or 23.2%, to US\$5.1 million in 2017 from US\$4.1 million in 2016. The increase in costs of revenues was largely in line with the increase in revenues.

GROSS PROFIT. Gross profit increased to US\$6.5 million in 2017 from US\$4.8 million in 2016. Gross profit margin was 56.0% in 2017 compared to 53.9% in 2016, the increase of which was mainly due to a decrease of certain fixed operating costs in 2017, such as depreciation and amortization of licensing fees in FunTown.

OPERATING EXPENSES. Total operating expenses decreased by 41.6% to US\$7.0 million in 2017 from US\$12.0 million in 2016. The decrease in total operating expenses, as further discussed below, was mainly due to a gain of US\$1.7 million in 2017 that was related to one of FunTown's licensing agreements, compared to an impairment loss of US\$1.9 million recognized in 2016, as well as our efforts in expenditure reduction in 2017.

Consolidated product development and engineering expenses were US\$1.1 million in 2017 and US\$1.0 million in 2016.

Consolidated selling and marketing expenses decreased by 27.6% to US\$4.0 million in 2017 from US\$5.5 million in 2016, primarily due to FunTown's efforts in enhancing its marketing efficiency and effectiveness.

Consolidated general and administrative expenses were US\$3.6 million in 2017 and US\$3.5 million in 2016.

OPERATING LOSS. Operating loss for 2017 was US\$0.5 million compared to US\$7.1 million in 2016. The US\$6.6 million decrease in operating loss was primarily due to decreased expenses and impairment losses, as well as a reduction of expenses of US\$1.7 million, along with an increase in gross profit in 2017.

NON-OPERATING INCOME (LOSS), NET. Non-operating loss, net was US\$95 thousand in 2017 compared to loss of US\$83 thousand in 2016. The non-operating loss, net in 2017 primarily included (1) US\$551 thousand foreign exchange loss, (2) US\$76 thousand equity investment loss and impairment loss on investments, and (3) US\$602 thousand interest income generated from bank deposits. The non-operating loss, net in 2016 primarily included (1) US\$751 thousand gain on sales of property, plant and equipment, which were primarily sales of certain office premises not used for our principal business, (2) US\$849 thousand gain on sales of subsidiary and equity method investments, and (3) US\$1.7 million equity method loss in 2016.

The equity method losses of US\$1.7 million in 2016 were primarily on our investment in East Gate. East Gate incurred losses in 2016 mainly due to investment and impairment losses on its investments in game companies and profit-sharing rights in film projects, as certain of those investments and the carrying amounts of the rights were determined not to be fully recoverable. The recoverability is determined using various valuation techniques including applying price multiples derived from comparable companies and the discounted cash flow model, and third-party independent appraisals, as necessary. Forms of leisure and entertainment became increasingly diversified, while a few platform providers such as Google and Apple enjoyed greater bargaining power due to their dominance of the channels. Those factors significantly suppressed the profit margins of online game and other entertainment businesses in recent years. Rapid technology changes also caused the mid- and longer-term game product development to be exposed to higher risk of becoming obsolete. In November 2016, we disposed of all our rights and benefits attached to and in relation to our investment in East Gate and recognized a gain of US\$22 thousand upon disposal.

INCOME TAX BENEFITS. Income tax benefits for 2017 were US\$1.7 million in 2017 compared to US\$1.1 million for 2016, the increase of which was due to decreased uncertainty or obligations in certain tax positions, resulting to reduction in current and deferred income tax liabilities.

NET INCOME (LOSS) ATTRIBUTABLE TO SHAREHOLDERS OF GIGAMEDIA. Net income attributable to shareholders of GigaMedia for 2017 was US\$1.1 million compared to net loss of US\$6.1 million for 2016. The improvement reflected the aforementioned factors.

Operating Segment Results

In 2016, after a review of our business plan, we decided to redirect our cloud service business resources for internal use, in particular, by moving the servers used in our digital entertainment business to the cloud, including the related maintenance, and to wind down our cloud service activities. Because of this, we now have only one segment and our operating segment results are largely the same as our consolidated operating results.

Digital Entertainment Product and Service Business

SEGMENT REVENUES. Total segment revenues increased by US\$2.6 million, or 29.3%, to US\$11.6 million in 2017 from approximately US\$9.0 million in 2016. Such increase was related to FunTown operations in Taiwan and Hong Kong, mainly due to increased revenues generated from mobile games although the demand for legacy PC-based games declined.

As of December 31, 2017, FunTown's number of registered users for the PC-based games was approximately 13,065,000, representing a slight increase of 0.7% compared with the fourth quarter of 2016. In 2017, the number of registered users for the mobile device-based games varied between games, of which the two major titles were approximately 621,000 and 393,000, and active paying accounts were 19,000 and 19,000. The highest number of daily average users ranged approximately from 22,000 to 27,000.

SEGMENT COSTS OF REVENUES. Costs of our digital entertainment service segment revenue increased by 23.2% to US\$5.1 million in 2017 from US\$4.1 million in 2016. The increase of US\$1.0 million was mainly related to FunTown, largely in line with the revenue increase.

SEGMENT GROSS PROFIT. Segment gross profit increased to US\$6.5 million in 2017 from US\$4.8 million in 2016. Gross profit margin increased to 56.0% in 2017, from 53.9% in 2016.

SEGMENT OPERATING EXPENSES. Total segment operating expenses decreased by US\$4.0 million to US\$4.8 million in 2017 from US\$8.8 million in 2016. The reduction was primarily due to a decrease of US\$1.7 million in impairment loss and a gain of US\$1.7 million related to termination of one of FunTown's licensing agreement, as well as US\$1.3 million decrease in selling and marketing expenses, partially offset by a US\$0.3 million increase in general and administrative expenses in 2017.

Selling and marketing expenses. Selling and marketing expenses decreased by US\$1.4 million to US\$4.0 million in 2017 from US\$5.4 million in 2016. The decrease reflected FunTown's efforts in enhancing its marketing efficiency and effectiveness in 2017.

General and administrative expenses. General and administrative expenses incurred in 2017 increased by US\$0.3 million to US\$1.3 million from US\$1.0 million in 2016. The increase mainly reflected higher personnel costs in 2017 in FunTown compared to 2016.

Impairment losses. The impairment loss in 2016 included a US\$1.4 million impairment loss on certain prepaid licensing and royalty fees related to certain licensed games within FunTown that we stopped operating or for which the carrying amounts of the prepayments were determined not to be recoverable from their expected future undiscounted cash flows, and a US\$0.3 million impairment loss on property, plant and equipment as a result of consecutive operating losses in recent years that are expected to continue, and therefore the carrying amounts of those long-lived assets would not be recoverable based on cash flow projections from current games that typically have shorter lives.

Other. The reduction of expenses amounting to US\$1.6 million in 2017 was mainly related to one of the licensed games, for which, prepaid licensing and royalty fees had been fully impaired in 2015 and as a result the cost became nil. In 2017, the licensor of that gaming development company reached an agreement with us to terminate the license by compensating us in the amount of US\$1.75 million and accordingly, we have recognized a gain of US\$1.7 million as a reduction of operating expenses.

SEGMENT OPERATING INCOME (LOSS). Segment operating income (loss) was income of US\$1.7 million compared to loss of US\$3.9 million in 2016. The decrease in loss was due to the aforementioned factors.

B. Liquidity and Capital Resources

Our principal sources of liquidity in 2018 were cash proceeds from the return of certain license fees as well as collection of the consideration of the sales of certain investments. 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. As of December 31, 2018, the total amount of unused lines of credit available for borrowing under agreements with certain financial institutions were approximately US\$7.3 million.

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		
	2016	2017	2018
Net cash used in operating activities	\$(5,688)	\$(1,110)	\$(3,914)
Net cash provided by (used in) investing activities	3,253	935	(90)
Net cash used in financing activities	(3,732)	(2,631)	—
Exchange difference	(54)	772	(347)

Net increase (decrease) in cash, restricted cash and cash			
equivalents	(6,221)	(2,034)	(4,351)
Cash, restricted cash and cash equivalents at beginning of			
year	72,432	66,211	64,177
Cash, restricted cash and cash equivalents at end of year	\$66,211	\$64,177	\$59,826

OPERATING ACTIVITIES. In 2018, our net cash used in operating activities was approximately US\$3.9 million. We collected US\$7.2 million in cash from our customers, paid US\$3.2 million for license fees, royalties and channel costs, and paid approximately US\$10.0 million to employees, suppliers and vendors. In 2017, our net cash used in operating activities was approximately US\$1.1 million. We collected US\$11.6 million in cash from our customers, paid US\$4.0 million for license fees, royalties and channel costs, and paid approximately US\$10.4 million to employees, suppliers and vendors, and we received return of license fees amounting to US\$1.75 million as a result of an agreement reached with the licensor. In 2016, our net cash used in operating activities was approximately US\$5.7 million. We collected US\$9.5 million in cash from our customers, paid US\$5.8 million for license fees, royalties and channel costs, and paid approximately US\$9.5 million to employees, suppliers and vendors. The increased net cash outflows reflected decreased gross profit in 2018 compared to 2017, compensated by our efforts in enhancing marketing efficiency and effectiveness while streamlining our operations.

INVESTING ACTIVITIES. Our net cash used in investing activities in 2018 was US\$90 thousand, which was primarily used for the purchase of property, plant and equipment. Our net cash provided by investing activities in 2017 was US\$935 thousand. This primarily reflected proceeds of US\$1.1 million from the disposal of an equity investee in 2016. Our net cash provided by investing activities in 2016 was US\$3.3 million, which primarily reflected proceeds from the disposal of certain office premises not used for our principal business, which totaled US\$1.9 million, net of transaction costs, and the cash distribution amounting to US\$1.4 million received from an equity investee.

FINANCING ACTIVITIES. Our net cash flow in financing activities in 2018 was nil. Our net cash used in financing activities in 2017 was US\$2.6 million, mainly due to net repayments of short-term borrowings of approximately US\$2.6 million. Our net cash used in financing activities in 2016 was US\$3.7 million, mainly due to net repayments of short-term borrowings of approximately US\$3.7 million.

We believe that our existing cash, cash equivalents, and our ability to renew or increase our short-term borrowings will be sufficient to meet our capital expenditure, debt, and operating cash obligations through 2019. 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 and cash equivalents to fund future operations.

Capital Expenditures

We typically finance our capital expenditures through cash holdings. Our gross capital expenditures in continuing operations for equipment, furniture and fixtures, software, intangible assets and other deferred assets were US\$0.6 million, US\$0.2 million and US\$0.1 million for 2016, 2017, and 2018, respectively. Capital expenditures during 2018 were primarily for software and computer hardware equipment for our digital entertainment business. Our capital expenditure plans for 2019, primarily in software development 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 2019 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, 2016, 2017 and 2018, 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 stock 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 2016, 2017 and 2018, we incurred US\$1.0 million, US\$1.1 million and US\$1.1 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 market, Taiwan, the strongest demand is for casual browser/mobile games.

We are now in the process of extending our PC-based digital entertainment platform to browser/mobile casual games. This will help us capitalize on the strong growth trends of browser/mobile games, particularly in Asia, and our expertise in casual games. 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 client-based games designed for PC usage to browser/mobile games and social casino games for social networks 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 2016, 2017, and 2018” for a discussion of the most recent trends in our operating costs and revenues since the end of 2018. 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. Off-Balance Sheet Arrangements

Other than as disclosed in note 19 to our consolidated financial statements, which disclosure is incorporated into this item, we currently do not have (a) any obligation under a guarantee contract that has any of the characteristics identified by the FASB Accounting Standards Codification; (b) a retained or contingent interest in assets transferred to an unconsolidated entity or similar arrangement that serves as credit, liquidity or market risk support to such entity for such assets; (c) any obligation under a derivative instrument that is both indexed to our Company’s own stock and classified in equity, or not reflected, in our Company’s statement of financial position; or (d) any obligation, including a contingent obligation, arising out of a variable interest in an unconsolidated entity that is held by, and material to, our Company, where such entity provides financing, liquidity, market risk or credit risk support to, or engages in leasing, hedging or research and development services with, our Company.

F. Tabular Disclosure of Contractual Obligations

	As of December 31, 2018				
	Payment Due by Period (in US\$ thousands)				
	Within				
	1-3	3-5	>5		
	1				
	year	years	years	years	Total
1. Operating leases	\$450	\$504	\$ —	\$ —	\$954
2. License fees	—	—	—	—	—
3. Minimum guarantees against royalties	200	—	—	—	200
Total contractual cash obligations	\$650	\$504	\$ —	\$ —	\$1,154

The minimum guarantees against future royalties and license fees are generally not required to be paid until the licensed games are commercially released or until certain milestones are achieved, as stipulated in the individual

license agreements.

For a certain licensed game, we are committed to paying \$30 thousand to the licensor for every \$500 thousand in additional revenues generated from the game during the agreement period from January 2018 to January 2020.

G. Safe Harbor

See “Disclosure Regarding Forward-Looking Statements” on page 4 of this annual report.

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	64	Chairman of the Board, Chief Executive Officer, Chief Financial Officer and Director	2017 ¹
HUANG, John Ping Chang	67	Chairman of the Compensation Committee of the Board and Independent Non-Executive Director	2012/2011 ²
LIU, Nick Chia-En	57	Independent Non-Executive Director	2011 ³
HONG, Chin Fock (Damian)	71	Independent Non-Executive Director	2013 ⁴
TUNG, Casey K.	68	Chairman of the Audit Committee of the Board and Independent Non-Executive Director	2012/2011 ⁵
HUANG, Billy Bing-Yuan	61	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 an investment company for eight years before joining the Company. Prior to that, He was the Director of two 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 also currently the chairman of Taiwan-based Grand Pacific Investment & Development Co., Ltd., as well as the firms Chailease

Resources Tech. Co., Ltd., Global Hospitality Group Inc., 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 37 years of experience in taxation and tax law. Damian 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. Damian currently serves as an independent director of Chailease Holding Co Ltd. and Riverstone Holdings Ltd. He also serves as a director of Binjaitree, a registered charity in Singapore, as well as 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 the principal owner of the accounting offices of Casey Tung in California. Mr. Tung founded the business in 1991, which serves a number of publicly listed companies in Taiwan and in China and practices 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 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 20 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 serves 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.

B. Compensation

Compensation of Directors and Executive Officers

For the year ended December 31, 2018, the aggregate cash compensation paid by us to our directors and executive officers was approximately US\$0.4 million. For the information regarding pension and retirement benefits, see note 13 to our consolidated financial statements.

As of December 31, 2018, the total outstanding number of share options granted to our directors and officers was 24,000, of which 21,360 shares were vested and 2,640 shares were unvested. As of the same date, the total number of restricted stock units granted to our directors and officers was zero.

The following table summarizes, as of March 31, 2019, the outstanding options granted under our employee share option plans and equity incentive plans to our directors and executive officers as a group.

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Ordinary

Shares

Underlying Exercise

Outstanding Price

Date of Grant	Options	(\$/Share)	Date of Expiration
May 20, 2011	8,000	6.25	May 20, 2021
January 5, 2012	4,000	4.0505	January 5, 2022
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	24,000		

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, the shareholders of our Company approved the GigaMedia Limited 2004 Employee Share Option Plan (the “2004 Plan”) under which up to 7,000,000 common shares (1,400,000 shares after 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, the shareholders of our Company approved the GigaMedia Limited 2006 Equity Incentive Plan (the “2006 Plan”) under which up to 1,000,000 common shares (200,000 shares after reverse share split) 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 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, the shareholders of our Company approved the GigaMedia Limited 2007 Equity Incentive Plan (the “2007 Plan”) under which up to 2,000,000 common shares (400,000 shares after reverse share split) 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 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.

2008 Equity Incentive Plan

At the June 2008 Annual General Meeting, the shareholders of our Company approved the GigaMedia Limited 2008 Equity Incentive Plan (the “2008 Plan”) under which up to 1,000,000 common shares (200,000 shares after reverse share split) of our Company have been reserved for issuance. The 2008 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 2008 Plan. The maximum contractual term under the 2008 Plan is 10 years. Options will be forfeited upon termination of employment, unless the relevant award agreement extends the exercisability of the outstanding options.

2009 Equity Incentive Plan

At the June 2009 Annual General Meeting, the shareholders of our Company approved the GigaMedia Limited 2009 Equity Incentive Plan (the “2009 Plan”) under which up to 1,500,000 common shares (300,000 shares after reverse share

split) of our Company have been reserved for issuance. The 2009 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 2009 Plan. The maximum contractual term under the 2009 Plan is 10 years. Options will be forfeited upon termination of employment, unless the relevant award agreement extends the exercisability of the outstanding options. All options, RSUs and other share-based awards are expected to be settled by issuing new shares.

2010 Equity Incentive Plan

At the June 2010 annual general meeting of shareholders, the shareholders of our Company approved the GigaMedia Limited 2010 Equity Incentive Plan (the “2010 Plan”) under which up to 1,000,000 common shares (200,000 shares after reverse share split) of our Company have been reserved for issuance. The 2010 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 2010 Plan. The maximum contractual term for the options under the 2010 Plan is 10 years. Options will be forfeited upon termination of employment, unless the relevant award agreement extends the exercisability of the outstanding options. All options, RSUs and other share-based awards are expected to be settled by issuing new shares.

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 is currently comprised of 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 Memorandum of Association 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. No director is entitled to any severance benefits on termination of his or her service. We have established two committees of the board of directors, including the audit committee and the compensation committee.

Our audit committee currently consists of Casey K. TUNG, Nick Chia-En LIU and Billy Bing-Yuan HUANG. Our audit committee will select and evaluate, on our behalf, the independent public accountants who audit our annual financial statements, and will review and approve the planned scope of our annual audit, subject to the appointment, replacement or removal from office of our independent public accountants as has been approved by our shareholders at our Annual General Meeting. In accordance with our Articles of Association 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.

Our compensation committee currently consists of Casey K. TUNG and John Ping Chang HUANG. Our compensation committee reviews and evaluates the compensation and performance of executive officers, our Company’s general compensation plans and other employee benefit plans, and performs other duties and responsibilities pursuant to the compensation committee charter. 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).

D. Employees

In the years ended December 31, 2016, 2017 and 2018, our total employees were 150, 151 and 154, respectively.

As of March 31, 2019, we had a total of 147 employees, excluding part-time and temporary personnel and consultants. Of the total 147 employees as of March 31, 2019, 22 were located at our corporate headquarters, and 125 were employed for our online games business. All 147 employees were in Asia.

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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, 2019:

Person	Number of Common Shares	Number of Shares Issuable upon exercise of options
HUANG, James Cheng-Ming	700,066	*
HUANG, John Ping Chang	—	*
LIU, Nick Chia-En	—	*
TUNG, Casey K.	—	*
HUANG, Bing-Yuan	—	*
HONG, Chin Fock	—	*
Directors and Officers as a group	700,066	24,000

*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, 2019 by each shareholder known by us to own more than 5% of our shares:

Name of Owner	Shares Owned	Percentage of	
		Shares Owned	%
Champion Allied Limited ⁽¹⁾	2,159,999	19.54	%
Pacific Star Universal Group Ltd. ⁽²⁾	700,066	6.33	%
Collin Hwang	696,435	6.30	%
Jonathan Honig ⁽³⁾	899,880	8.14	%

- (1) Through Champion Allied Limited, a British Virgin Islands company, Andre Koo has beneficial ownership of 2,159,999 common shares of our Company.
- (2) Through Pacific Star Universal Group Ltd., a British Virgin Islands company, James Cheng-Ming Huang has beneficial ownership of 700,066 common shares of our Company.
- (3) Based on the Schedule 13G/A filed with the SEC on February 8, 2019, Jonathan Honig has beneficial ownership of 899,880 common shares of our Company as follows:
- (a) Includes (i) 5,000 shares held by Mr. Honig as UTMA custodian for Morgan Honig, (ii) 5,260 shares held by Mr. Honig as UTMA custodian for Skylar Honig and (iii) 5,980 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”) and (ii) 168,320 shares held by Titan Multi-Strategy Fund, Inc. Profit Sharing Plan (the “Plan”). Mr. Honig is the President of Titan Multi-Strategy Fund, Inc. and trustee of the Plan, and in such capacities has voting and dispositive power over the securities held by such entities.
- (c) Includes (i) 122,320 shares held by Ronald Low, (ii) 77,500 shares held by Cynthia Low TR FBO Ronald Low Trust UA July 9, 2013, (iii) 225,000 shares held by Ronald Brian Low IRA TD Ameritrade Clearing, Custodian, (iv) 2,900 shares held by Cynthia Low and (v) 10,500 shares held by Cynthia Low IRA TD Ameritrade Clearing, Custodian. Ronald Low and Cynthia Low are Mr. Honig’s father-in-law and mother-in-law, respectively, and Mr. Honig has dispositive power of the securities held by the foregoing.
- (d) Excludes 37,200 shares beneficially owned by Mr. Honig’s wife to which the Reporting Person disclaims beneficial ownership.

As of March 31, 2019, we had 11,052,235 Shares outstanding, of which 6,595,855 Shares representing 59.68% of our total outstanding Shares were not held by our major shareholders as disclosed above. As of March 29, 2019, one shareholder of record with a registered address in the United States, Cede & Co., nominee of The Depository Trust Company, held 8,732,172 shares.

The amounts and percentages of common 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.

Description of reverse stock split

A 1-for-5 reverse stock split was approved by our shareholders at a special shareholders meeting held on December 16, 2015. The reverse stock split was effective as of December 16, 2015, which resulted in our common stock trading on a split-adjusted basis at market open on December 16, 2015. Upon completion of the reverse stock split, every five shares of common stock owned by a shareholder were combined into one share of common stock, with a proportionate adjustment made to the per-share value of common stock.

B. Related Party Transactions

We have engaged from time to time in various transactions with related parties.

For the years ended December 31, 2016, 2017 and 2018, 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.

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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

Not applicable, except for “— A. Offer and Listing Details — 4. Information Regarding the Price History of the Stock” and “— C. Markets” as disclosed below.

Our Shares have been listed and traded on the Nasdaq Stock Market since February 18, 2000.

The following table shows, for the periods indicated, the high and low closing prices after adjusted for the reverse share split for our Shares as quoted on the Nasdaq Stock Market.

Year Ending December 31	Common Shares	
	High	Low
	(in US\$)	
2014	\$8.60	\$3.85
2015	\$4.65	\$2.25
2016	\$3.23	\$2.34
2017	\$3.62	\$2.82
2018	\$4.21	\$2.45

Year Ending December 31, 2017	Common Shares	
	High	Low
	(in US\$)	
First quarter	\$3.52	\$2.84
Second quarter	\$3.15	\$2.86
Third quarter	\$3.22	\$2.90
Fourth quarter	\$3.62	\$2.82

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	Common Shares High Low	
Year Ending December 31, 2018	(in US\$)	
First quarter	\$4.21	\$2.64
Second quarter	\$3.24	\$2.50
Third quarter	\$3.13	\$2.80
Fourth quarter	\$3.05	\$2.45

	Common Shares High Low	
First quarter of 2019	\$3.00	\$2.67

Monthly Highs and Lows	Common Shares	
	High	Low
	(in US\$)	
October 2018	\$2.99	\$2.62
November 2018	\$2.93	\$2.62
December 2018	\$3.05	\$2.45
January 2019	\$3.00	\$2.78
February 2019	\$2.91	\$2.79
March 2019	\$2.82	\$2.67
April 2019 (through April 12, 2019)	\$2.73	\$2.49

ITEM 10. ADDITIONAL INFORMATION

A. Share Capital

On December 16, 2015, we conducted a reverse stock split of the Company's ordinary shares at a ratio of 5 to 1 to regain compliance with Nasdaq's \$1.00 minimum bid price listing requirement. Consequently and as of March 31, 2019, an aggregate of 11,052,235 shares of our Company are issued and outstanding.

B. Memorandum and Articles of Association

Our current amended and restated memorandum and articles of association (the "Memorandum and Articles"), 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 Memorandum and Articles 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 Articles of Association on the right of a non-resident or foreign owner to hold or vote the Shares.

C. Material Contracts

The following are summaries of our material contracts, other than contracts entered into in the ordinary course of business, for the two years immediately preceding the date of this annual report. However, these summaries may not contain all the information important to you. For more complete information, you should read the entire agreements, which have been included as exhibits to this annual report.

Settlement of the licensed game ArcheAge

Settlement Agreement for the game ArcheAge between XL Games Inc. and Hoshin GigaMedia Inc. FunTown Branch dated June 13, 2017

On June 13, 2017, Hoshin GigaMedia Inc. FunTown Branch ("FunTown") and XL Games Inc. ("XL Games") entered into a settlement agreement and decided to terminate the agreement they had entered into on October 22, 2010 where FunTown was granted an exclusive license to publish the massive multi-player online role-playing game entitled ArcheAge in Taiwan, Hong Kong and Macau. As compensation for the termination of the agreement, XL Games agreed to return to FunTown a sum of US\$ 1,750,000 from the fees received from FunTown.

D. Exchange Controls

Foreign investment regulations of the PRC may affect our ability to retrieve our capital investments in China. Under the current PRC regulations, conversion of Renminbi is permitted in China for routine current-account foreign exchange transactions, including trade and service related foreign exchange transactions, payment of dividends and service of foreign debts. Conversion of Renminbi for most capital-account items, such as direct investments, investments in PRC securities markets and repatriation of investments, however, is still subject to the approval of the State Administration of Foreign Exchange (SAFE) or its local competent branches. Foreign-invested enterprises, such as our PRC subsidiaries, may buy, sell and/or remit foreign currencies for current-account transactions at banks in the PRC with authorization to conduct foreign exchange business by complying with certain procedural requirements, such as presentment of valid commercial documents. For capital-account transactions involving foreign direct investment, foreign debts and outbound investment in securities and derivatives, approval from SAFE or its local competent branches is a pre-condition. Capital investments by foreign-invested enterprises outside the PRC are subject to limitations and requirements in the PRC, such as prior approvals from the Ministry of Commerce, or MOFCOM, SAFE and the National Development and Reform Commission of the PRC.

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 certain amount of normal chargeable income are 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).

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 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 tax.

Gains on Disposal of Shares

Singapore does not impose tax on capital gains. However, there are no specific laws or regulations which deal with the characterization of capital gains and hence, gains on disposal of shares may be construed to be of an income nature and subject to Singapore income tax 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 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, 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.

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 is based on U.S. federal income tax law as in effect on the date hereof, which is subject to differing interpretations or change, possibly on a retroactive basis. 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;

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;

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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 or any political subdivision thereof;

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.

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.

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 2018 and the composition of our assets (in particular, the retention of a large amount of cash), we believe that 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, 2018, and that we will likely be a PFIC for our current taxable year ending December 31, 2019, 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”. Although we believe that, based on the current level of trading activity of our Shares on the Nasdaq Capital Market, the Shares should qualify as being regularly traded on a qualified exchange, no assurance can be given that the Shares will continue to be readily 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. 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. If a U.S. Holder 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.

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 of making a mark-to-market election.

Taxation of Dividends

Except as discussed 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.

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. 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.

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 11492, Taiwan R.O.C, or by e-mail to: IR@Gigamedia.com. 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.

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(b) to our audited consolidated financial statements beginning on page F-1 in this annual report.

As of December 31, 2018, we had bank deposits of approximately US\$8.0 million denominated in foreign currencies other than measurement currencies of the entities holding such assets. These assets are subject to foreign currency exchange risk. We recognized a realized foreign exchange gain of approximately US\$124 thousand and unrealized foreign exchange gain of approximately US\$143 thousand in the year ended December 31, 2018.

Based on the sensitivity analysis of our exposure to foreign currency exchange rate risk related our bank deposits and available-for-sale marketable 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 1.4% in our total equity as of December 31, 2018.

Interest Rate Risk

Our exposure to interest rates related primarily to our short-term loans from various banks. As of December 31, 2018, 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.

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, 2018. 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, 2018, 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, 2018. 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, 2018 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, 2018, 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 code of ethics was amended on December 19, 2005, May 10, 2006 and February 13, 2009 in order to conform certain provisions in it with our newly adopted anti-fraud policy. The code of ethics was also amended on April 30, 2010 to incorporate non-competition and non-solicitation provisions and on March 18, 2013 to change certain titles within our Company and update email addresses. 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.

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. The Company may take legal actions against such employees, consultants, officers or directors in the event that non-competition obligations are being violated. 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 for the fiscal years ended December 31, 2017 and 2018, respectively.

For the Years Ended December 31	2017	2018
	(in US\$)	(in US\$)
Audit Fees	\$237,000	\$237,000
Audit-Related Fees	0	0
Tax Fees	18,000	18,000
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, including the preparation of original and amended tax returns, and tax advisory 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 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, subject to the appointment, replacement or removal from office of our independent public accountants as approved by our shareholders at our Annual General Meeting.

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

On May 20, 2011, our board of directors approved a US\$11 million share repurchase program of GigaMedia's common stock. This share repurchase program was implemented in a manner consistent with market conditions, in the interests of our shareholders, and in compliance with GigaMedia's securities trading policy and relevant Singapore and U.S. laws and regulations. During 2011, repurchases under this program amounted to approximately 5.6 million shares at a cost of US\$6.0 million. All of the treasury shares under this program were cancelled by the end of 2011. We did not have any share repurchases in 2017 and 2018.

ITEM 16F. CHANGES IN REGISTRANT'S CERTIFYING ACCOUNTANTS

Not applicable.

ITEM 16G. CORPORATE GOVERNANCE

Summary of Significant Differences in Corporate Governance Practices

Our Shares are currently listed on 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.

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:

(a) Reports of Independent Registered Public Accounting Firms

(b) Consolidated Balance Sheets as of December 31, 2017 and 2018

(c) Consolidated Statements of Operations for the years ended December 31, 2016, 2017 and 2018

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(d) Consolidated Statements of Comprehensive Income (Loss) for the years ended December 31, 2016, 2017 and 2018

(e) Consolidated Statements of Changes in Shareholders' Equity for the years ended December 31, 2016, 2017 and 2018

(f) Consolidated Statements of Cash Flows for the years ended December 31, 2016, 2017 and 2018

(g) Notes to the consolidated financial statements

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ITEM 19. EXHIBITS

EXHIBIT INDEX

- 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
- 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
- 15.2* Consent of KPMG, Independent Registered Public Accounting Firm
- 101.INS* XBRL Instance Document
- 101.SCH* XBRL Taxonomy Extension Schema Document
- 101.CAL* XBRL Taxonomy Extension Calculation Linkbase Document
- 101.DEF* XBRL Taxonomy Extension Definition Linkbase Document
- 101.LAB* XBRL Taxonomy Extension Label Linkbase Document
- 101.PRE* XBRL Taxonomy Extension Presentation Linkbase Document

*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 29, 2019

GIGAMEDIA LIMITED AND SUBSIDIARIES

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Report of Independent Registered Public Accounting Firm

To the shareholders and the Board of Directors of 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, 2018 and 2017, the related consolidated statements of operations, comprehensive income (loss), changes in shareholders' equity, and cash flows for each of the two years in the period ended December 31, 2018 and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

The financial statements of the Company for the year ended December 31, 2016, before the effects of the adjustments to retrospectively apply the change in accounting discussed in Note 1 to the financial statements, was audited by other auditors whose report, dated April 26, 2017, expressed an unqualified opinion on those statements. We have also audited the adjustments to the 2016 financial statement to retrospectively apply the change in accounting for ASU No. 2017-07, Compensation—Retirement Benefits (Topic 715) in 2017, as discussed in Note 1 and Note 16 to the financial statement. Our procedures included examining evidence regarding the amounts and disclosures of retrospective adjustments in the financial statements. In our opinion, such retrospective adjustment is appropriate and has been properly applied. However, we were not engaged to audit, review, or apply any procedures to the 2016 financial statements of the Company other than with respect to the retrospective adjustment, and accordingly, we do not express an opinion or any other form of assurance on the 2016 financial statements taken as a whole.

Change in Accounting Principle

As discussed in Note 1 to the consolidated financial statements, the Company changed its method of accounting for revenue from contracts with customers in 2018 due to the adoption of ASC Topic 606.

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 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 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 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 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 financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Deloitte & Touche

Taipei, Taiwan

Republic of China

April 29, 2019

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

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Report of Independent Registered Public Accounting Firm

The Board of Directors and Shareholders

GigaMedia Limited:

We have audited, before the effects of the adjustments to retrospectively apply the change in accounting described in Note 1, the accompanying consolidated statements of operations, comprehensive loss, changes in equity and cash flows of GigaMedia Limited and subsidiaries for the year ended December 31, 2016. The 2016 consolidated financial statements before the effects of adjustments discussed in Note 1 are not presented herein. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provide a reasonable basis for our opinion.

In our opinion, the 2016 consolidated financial statements, before the effects of the adjustments to retrospectively apply the change in accounting described in Note 1, present fairly, in all material respects, the results of operations and cash flows of GigaMedia Limited and subsidiaries for the year ended December 31, 2016 in conformity with U.S. generally accepted accounting principles.

We were not engaged to audit, review, or apply any procedures to the adjustments to retrospectively apply the change in accounting described in Note 1, and, accordingly, we do not express an opinion or any other form of assurance about whether such adjustments are appropriate and have been properly applied. Those adjustments were audited by a successor auditors.

/S/ KPMG

Taipei, Taiwan (the Republic of China)

April 26, 2017

GIGAMEDIA LIMITED AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

DECEMBER 31, 2017 AND 2018

(in thousands of US dollars)

	December 31	
	2017	2018
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents (Note 7)	\$63,670	\$59,308
Accounts receivable - net (Note 8)	751	523
Prepaid expenses	390	122
Restricted cash (Note 7)	507	518
Other current assets (Note 9)	193	124
Total Current Assets	65,511	60,595
PROPERTY, PLANT AND EQUIPMENT, NET (Note 11)	158	121
INTANGIBLE ASSETS - NET (Note 4)	3	38
OTHER ASSETS		
Refundable deposits	208	197
Prepaid licensing and royalty fees (Note 5)	459	435
Other (Note 13)	74	59
TOTAL ASSETS	\$66,413	\$61,445

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GIGAMEDIA LIMITED AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS - (Continued)

DECEMBER 31, 2017 AND 2018

(in thousands of US dollars, except share data)

	December 31	
	2017	2018
LIABILITIES & EQUITY		
CURRENT LIABILITIES		
Accounts payable	\$314	\$104
Accrued compensation	549	170
Accrued expenses (Note 12)	2,158	1,263
Deferred revenue	1,863	1,370
Other current liabilities	164	366
Total Current and Total Liabilities	5,048	3,273
COMMITMENTS AND CONTINGENCIES (Note 19)	—	—
SHAREHOLDERS' EQUITY (Note 14)		
Common shares, no par value, and additional paid-in capital; issued		
and outstanding 11,052 thousand shares in 2017 and 2018	308,747	308,750
Accumulated deficit	(225,399)	(228,246)
Accumulated other comprehensive loss	(21,983)	(22,332)
Total GigaMedia Shareholders' Equity	61,365	58,172
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	\$66,413	\$61,445

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, 2016, 2017 AND 2018

(in thousands of US dollars, except for earnings per share amounts)

	2016	2017	2018
OPERATING REVENUES			
Digital entertainment service revenues	\$8,971	\$11,596	\$7,101
COSTS OF REVENUES			
Cost of digital entertainment service revenues	(4,138)	(5,098)	(3,585)
GROSS PROFIT	4,833	6,498	3,516
OPERATING EXPENSES			
Product development and engineering expenses	(1,045)	(1,072)	(1,091)
Selling and marketing expenses	(5,513)	(3,993)	(3,297)
General and administrative expenses	(3,458)	(3,528)	(3,684)
Impairment loss on property, plant and equipment (Note 6)	(471)	—	—
Impairment loss on intangible assets (Note 6)	(57)	—	—
Impairment loss on prepaid licensing and royalty fees (Notes 5 and 6)	(1,386)	—	(244)
Gain on termination of licensing agreement (Note 5)	—	1,732	—
Other (Note 8)	(35)	(127)	(23)
	(11,965)	(6,988)	(8,339)
LOSS FROM OPERATIONS	(7,132)	(490)	(4,823)
NON-OPERATING INCOME (EXPENSES)			
Interest income	302	602	1,302
Gain on disposal of marketable securities	—	2	—
Gain on disposal of property, plant and equipment - net (Note 11)	751	1	—
Interest expense	(81)	(34)	—
Foreign exchange gain (loss), net	(301)	(551)	267
Net loss on equity investments (Note 10)	(1,731)	(24)	—
Impairment loss on investments (Note 6)	—	(52)	—
Gain on disposal of subsidiary and equity investments (Note 3)	849	—	—
Other (Note 13)	128	(39)	61
	(83)	(95)	1,630
LOSS BEFORE INCOME TAXES	(7,215)	(585)	(3,193)
INCOME TAX BENEFIT (Note 17)	1,149	1,671	—
NET INCOME (LOSS) ATTRIBUTABLE TO SHAREHOLDERS OF GIGAMEDIA	\$(6,066)	\$1,086	\$(3,193)
EARNINGS (LOSS) PER SHARE ATTRIBUTABLE TO GIGAMEDIA			
Basic and Diluted:	\$(0.55)	\$0.10	\$(0.29)
WEIGHTED AVERAGE SHARES USED TO COMPUTE EARNINGS (LOSS)			
PER SHARE ATTRIBUTABLE TO GIGAMEDIA SHAREHOLDERS (Note 2)			
Basic	11,052	11,052	11,052
Diluted	11,052	11,052	11,052

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, 2016, 2017 AND 2018

(in thousands of US dollars)

	2016	2017	2018
NET INCOME (LOSS)	\$(6,066)	\$1,086	\$(3,193)
OTHER COMPREHENSIVE INCOME (LOSS) - NET OF TAX:			
Unrealized gain on marketable securities	(1)	—	—
Realized gain on marketable securities reclassified into income	—	(2)	—
Defined benefit pension plan adjustment	(58)	(11)	(17)
Foreign currency translation adjustment	(217)	641	(332)
	(276)	628	(349)
COMPREHENSIVE INCOME (LOSS) ATTRIBUTABLE TO			
GIGAMEDIA SHAREHOLDERS	\$(6,342)	\$1,714	\$(3,542)

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, 2016, 2017 AND 2018

(in thousands of US dollars and shares)

	GIGAMEDIA SHAREHOLDERS				Total
	Common shares and additional paid-in capital		Accumulated deficit	Accumulated other comprehensive loss	
	Shares	Amount	(Note 14)	(Note 15)	
Balance as of January 1, 2016	11,052	\$ 308,745	\$ (220,419)	\$ (22,335)	\$ 65,991
Stock-based compensation	—	9	—	—	9
Net loss	—	—	(6,066)	—	(6,066)
Other comprehensive loss	—	—	—	(276)	(276)
Balance as of December 31, 2016	11,052	308,754	(226,485)	(22,611)	59,658
Stock-based compensation	—	(7)	—	—	(7)
Net income	—	—	1,086	—	1,086
Other comprehensive income	—	—	—	628	628
Balance as of December 31, 2017	11,052	\$ 308,747	\$ (225,399)	\$ (21,983)	\$ 61,365
Cumulative effect of initially applying new accounting standards (Note 1)	—	—	346	—	346
Stock-based compensation	—	3	—	—	3
Net loss	—	—	(3,193)	—	(3,193)
Other comprehensive loss	—	—	—	(349)	(349)
Balance as of December 31, 2018	11,052	\$ 308,750	\$ (228,246)	\$ (22,332)	\$ 58,172

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, 2016, 2017 AND 2018

(in thousands of US dollars)

	2016	2017	2018
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net income (loss)	\$(6,066)	\$1,086	\$(3,193)
Adjustments to reconcile net income (loss) to net cash used in operating activities:			
Depreciation	162	43	100
Amortization	111	12	36
Stock-based compensation	9	(7)	3
Gain on disposal of subsidiary and equity investments	(849)	—	—
Impairment loss on property and equipment	471	—	—
Impairment losses on intangible assets	57	—	—
Impairment losses on prepaid licensing and royalty fees	1,386	—	244
Bad debt	35	127	23
Gains on disposals of property, plant and equipment - net	(751)	(1)	—
Gains on disposal of marketable securities	—	(2)	—
Net loss on equity investments	1,731	24	—
Impairment losses on marketable securities and investments	—	52	—
Deferred income tax benefits	(41)	(1,672)	—
Net changes in:			
Accounts receivable	341	14	205
Prepaid expenses	(12)	137	267
Other current assets	49	(6)	35
Prepaid licensing and royalty fees	(2,167)	561	(220)
Prepaid pension assets	46	(9)	14
Accounts payable	(24)	48	(210)
Accrued compensation	(331)	339	(378)
Accrued expenses	1,071	(1,670)	(895)
Other current liabilities	(916)	(186)	55
Net cash used in operating activities	(5,688)	(1,110)	(3,914)
CASH FLOWS FROM INVESTING ACTIVITIES:			
Cash dividends received from investees	1,438	—	—
Proceeds from disposals of marketable securities	—	2	—
Carrying amount of cash from divestiture of business	(482)	—	—
Purchases of property, plant and equipment	(496)	(192)	(66)
Proceeds from disposals of property, plant and equipment	1,950	1	—
Proceeds from disposals of subsidiary and equity investments	872	1,058	—
Increase in intangible assets	(86)	(11)	(61)
Decrease in refundable deposits	27	37	11
Other	30	40	26
Net cash provided by (used in) investing activities	3,253	935	(90)

GIGAMEDIA LIMITED AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS - (Continued)

FOR THE YEARS ENDED DECEMBER 31, 2016, 2017 AND 2018

(in thousands of US dollars)

	2016	2017	2018
CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from short-term borrowings	—	986	—
Repayments of short-term borrowings	(3,722)	(3,617)	—
Other	(10)	—	—
Net cash used in financing activities	(3,732)	(2,631)	—
Net foreign currency exchange differences on cash, restricted cash and cash equivalents	(54)	772	(347)
NET INCREASE (DECREASE) IN CASH, RESTRICTED CASH AND CASH EQUIVALENTS	(6,221)	(2,034)	(4,351)
CASH, RESTRICTED CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR	72,432	66,211	64,177
CASH, RESTRICTED CASH AND CASH EQUIVALENTS AT END OF YEAR	\$66,211	\$64,177	\$59,826
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:			
Interest paid during the year	\$83	\$35	\$—
Income tax paid during the year	\$46	\$1	\$—

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

GIGAMEDIA LIMITED AND SUBSIDIARIES

Notes To Consolidated Financial Statements

December 31, 2016, 2017 and 2018

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 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 subsidiaries after elimination of all inter-company accounts and transactions.

Foreign Currency Translation and Transactions

Assets and liabilities denominated in non-U.S. dollars are translated to U.S. dollars at year-end exchange rates. Income and expense items are translated at average rates of exchange prevailing during the year. Cumulative translation adjustments resulting from this process are charged or credited to other comprehensive income. Gains and losses on foreign currency transactions are included in other income and expenses.

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 also 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 useful lives of property, plant and equipment; 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 financial statements.

Revenue Recognition and Deferral

General

On January 1, 2018, we adopted Accounting Standards Codification ("ASC") Topic 606, "Revenue from Contracts with Customers", using the modified retrospective transition method applied to contracts that were not complete as of the adoption date. Consolidated financial results for reporting periods beginning after January 1, 2018 are presented under ASC Topic 606, while prior period amounts continue to be reported in accordance with ASC Topic 605, "Revenue Recognition".

Please refer to Note 1 of our consolidated financial statements contained in our previously-filed Annual Report on Form 20-F for the year ended December 31, 2017 for our revenue recognition accounting policy as it relates to revenue transactions prior to January 1, 2018. The revenue recognition accounting policy described below relates to revenue transactions from January 1, 2018 and onward, which are accounted for in accordance with ASC Topic 606.

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 and therefore are excluded from 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 game can only be consumed in our game. Therefore, we regard the sale of a virtual good as a service, where 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 “Google Play Store”, “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; or 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. (See the paragraphs under the caption “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 we are licensed 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.

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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 which 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, 2017 and 2018, cash totaling \$507 thousand and \$518 thousand, respectively, had been deposited in an escrow account in a bank 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 percentage 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 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 discounted cash flow analyses, incorporating adjusted available market discount rate information and our Company's estimates for non-performance and liquidity risk. These techniques rely extensively on the use of a number of assumptions, including the discount rate, credit spreads, and estimates of future cash flows. (See Note 6,

“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.

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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 statement of cash flows.

Marketable Securities

Prior to 2018, our Company's investments in marketable securities were classified either as available-for-sale or trading. For the marketable securities classified as available-for-sale, the investments were stated at fair value with any unrealized gains or losses reported in accumulated other comprehensive income (loss) within equity until realized. For the marketable security classified as trading, we recognized the changes of the fair value of the investment in our consolidated statements of operations.

Other-than-temporary impairments, if any, were charged to non-operating expense in the period in which the loss occurs. In determining whether an other-than-temporary impairment had occurred, our Company primarily considered, among other factors, the length of the time and the extent to which the fair value of an investment had been at a value less than cost. When an other-than-temporary loss was recognized, the fair value of the investment became the new cost basis of the investment and was not adjusted for subsequent recoveries in fair value. Realized gains and losses also were included in non-operating income and expense in the consolidated statements of operations.

The Financial Accounting Standards Board ("FASB") issued Accounting Standards Update (ASU) No. 2016-01, Financial Instruments – Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities. The new guidance makes targeted improvements to existing U.S. GAAP mainly by requiring the following accounting treatments, along with certain disclosure and presentation requirements and improvements:

- 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
- Public business entities are to use the exit price notion when measuring the fair value of financial instruments for disclosure purposes.

- An entity are to evaluate the need for a valuation allowance on a deferred tax asset related to available-for-sale securities in combination with the entity's other deferred tax assets.

Our Company adopted this new guidance as of January 1, 2018 on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings or accumulated deficits. As we had disposed of all our marketable securities by the end of 2017, the adoption did not have any impact on our consolidated financial statements.

Investments

Prior to 2018, equity investments in non-publicly traded securities of companies over which our Company had no ability to exercise significant influence were accounted for under the cost method. Unrealized losses that were considered other-than-temporary, if any, were charged to non-operating expenses. Realized gains and losses, measured against carrying amount, were also included in non-operating income and expenses. (See Note 6, "Fair Value Measurements", for additional information.)

For equity investments accounted for as available-for-sale or trading, cash dividends were recognized as investment income. Stock dividends were recognized as an increase in the number of shares held and did not affect investment income. The cost per share was recalculated based on the new total number of shares.

For equity investments accounted under equity method, stock dividends received from investees as a result of appropriation of net earnings and additional paid-in capital were recognized as an increase in the number of shares held and did not affect investment income. The cost per share was recalculated based on the weighted-average method. Cash dividends were accounted for as a reduction to the carrying value of the investment.

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Equity investments in companies over which our Company had the ability to exercise significant influence but did not hold a controlling financial interest were accounted for under the equity method. We recognized our share of the earnings or losses of the investee. Under the equity method, the difference between the cost of the acquisition and our Company's share of the fair value of the net identifiable assets was recognized as goodwill and was included in the carrying amount of the investment. When our Company's carrying value in an equity method investee was reduced to zero, no further losses were recorded in our consolidated financial statements unless our Company guaranteed obligations of the investee or has committed to additional funding. When the investee subsequently reports income, our Company would not record its share of such income until it equaled the amount of its share of losses not previously recognized.

As discussed above, for our equity investments we had adopted ASU No. 2016-01 as of January 1, 2018 on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings or accumulated deficits. Since all of our equity investments in non-publicly traded securities of companies were fully impaired as of December 31, 2017, the adoption did not have any impact on our consolidated financial statements.

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 considers historical losses adjusted to take into account current market conditions and our customers' financial condition, the amount of receivables in dispute, and the current receivables aging and current payment patterns. 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:

Categories	Years
Information and communication equipment	2 to 5
Office furniture and equipment	3 to 5
Leasehold improvements	3 to 5

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.

Business Acquisitions

Our Company accounts for its business acquisitions using the acquisition method. Under this method, our Company recognizes and measures the identifiable assets acquired, the liabilities assumed and any noncontrolling interest at their acquisition-date fair values, with limited exceptions. Acquisition-related costs are generally expensed as incurred.

Software Cost and Other Intangible Assets

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. Other intangible assets with finite lives are amortized by the straight-line method over their estimated useful lives, typically one to three years.

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Impairment of Intangible Assets and Long-Lived Assets

Long-lived assets other than goodwill and intangible assets 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 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. (See Note 6, "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 2016, 2017 and 2018 totaled \$3.3 million, \$1.9 million and \$1.2 million, respectively. As of December 31, 2017 and 2018, prepaid advertising amounted to \$18 thousand and \$1 thousand, respectively.

Leases

Leases for which substantially all of the risks and rewards of ownership remain with the lessor are accounted for as operating leases. Payments made under operating leases, net of any incentives received by our Company from the lessor, are charged to the consolidated statements of operations on a straight-line basis over the lease periods.

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.

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, 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 will more-likely-than-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.

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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% likely 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 common shareholders for the period by the weighted average number of common 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 common shares and potential common shares outstanding during the period. Potential common shares, composed of incremental common 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 common shares issued and outstanding is used to compute the diluted loss per share, as the inclusion of potential common shares would be anti-dilutive. Therefore, for the years ended December 31, 2016 and 2018, basic and diluted loss per share were the same.

Noncontrolling Interest

Noncontrolling interest in the equity of a subsidiary is accounted for and reported as equity. Changes in our Company's ownership interest in a subsidiary that do not result in deconsolidation are accounted for as equity transactions. Any retained noncontrolling equity investment upon the deconsolidation of a subsidiary is initially measured at fair value.

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. There are no intersegment transactions.

(d) Recently Adopted Accounting Pronouncements

Revenue from Contracts with Customers

As noted above, we adopted the new revenue accounting standard effective January 1, 2018. We utilized the modified retrospective method upon adoption and as a result, the comparative information has not been restated and continues to be reported under the accounting standards in effect for those periods. Additionally, we elected to apply the new revenue accounting standard only to contracts not completed as of the adoption date. For contracts that were modified before the period of adoption, we elected to reflect the aggregate effect of all modifications when (1) identifying the satisfied and unsatisfied performance obligations, (2) determining the transaction price, and (3) allocating the transaction price to the satisfied and unsatisfied performance obligations. We recognized the cumulative effect of initially applying the new revenue accounting standard as an adjustment to the opening balance of retained earnings

(accumulated deficits). The cumulative effect adjustment recorded to our accumulated deficits was \$346 thousand (see our consolidated statements of changes in shareholders' equity) and included the impact from the following adjustments to our consolidated balance sheet at January 1, 2018:

	Balance at	Adjustments due to	Balance at
(In US\$ thousand)	December	adoption of	January 1,
	31, 2017	new	2018
		revenue	
		accounting	
		standard	
Consolidated Balance Sheet			
Liabilities			
Deferred revenue	\$ 1,863	\$ (346)	\$ 1,517
Shareholders' equity			
Accumulated deficit	(225,399)	346	(225,053)

The cumulative effects of the new revenue accounting standard are mainly from the breakage. Under the prior accounting standards, deferred revenues were derecognized if and only if the liabilities extinguished upon delivery of goods or services or upon payments made to the customer in other ways, or when we were released from being the primary obligator. Under the new revenue standard, we are required to derecognize the amount related to breakage when the likelihood of the customer exercising the remaining rights becomes remote.

Except for the cumulative effects discussed above, adoption of the new revenue accounting standard did not have significant impact to our consolidated balance sheet, consolidated statement of operations, and consolidated statement of cash flows as of and for the year ended December 31, 2018.

Financial Instruments

As discussed above, the FASB issued ASU No. 2016-01, Financial Instruments – Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities, and our Company adopted this new guidance as of January 1, 2018, on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings or accumulated deficits. As we had disposed of all our marketable securities by the end of 2017 and all of our equity investments in non-publicly traded securities of companies were fully impaired as of December 31, 2017, the adoption did not have any impact on our consolidated financial statements.

Income Tax

The FASB issued ASU No. 2016-16, Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory, in October 2016. Previous GAAP prohibits the recognition of current and deferred income taxes for an intra-entity asset transfer until the asset has been sold to an outside party. The amendments require an entity to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. The amendments eliminate the exception for an intra-entity transfer of an asset other than inventory. Our Company adopted the amendments in ASU 2016-16 as of January 1, 2018, on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings or accumulated deficits. The adoption of this new guidance did not have a material impact on our Company's financial position, results or cash flows.

Retirement Plan and Net Periodic Pension Cost

The FASB issued ASU No. 2017-07, Compensation—Retirement Benefits (Topic 715), in March 2017. The amendments in this ASU require that an employer report the service cost component in the same line item or items as other compensation costs arising from services rendered by the pertinent employees during the period. The other components of net benefit cost are required to be presented in the income statement separately from the service cost component and outside a subtotal of income from operations, if one is presented. If a separate line item or items are used to present the other components of net benefit cost, that line item or items must be appropriately described. If a separate line item or items are not used, the line item or items used in the income statement to present the other components of net benefit cost must be disclosed. The amendments in this Update also allow only the service cost component to be eligible for capitalization when applicable (for example, as a cost of internally manufactured inventory or a self-constructed asset). Our company early adopted this ASU on January 1, 2017, retrospectively for the presentation of the service cost component and the other components of net periodic pension cost and net periodic postretirement benefit cost in the statement of operations, and prospectively, on and after the effective date, for the capitalization of the service cost component of net periodic pension cost and net periodic postretirement benefit in assets. The adoption only affected, immaterially, the presentation of our consolidated statements of operations. Please refer to Note 13 - "Pension Benefits" for information about the effect of reclassification for 2016.

Share-Based Compensation

The FASB issued ASU No. 2017-09, Compensation—Stock Compensation (Topic 718), in May 2017. This guidance clarifies which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting in Topic 718. An entity should account for the effects of a modification unless all the specified conditions are met. Our Company adopted the amendments in ASU 2017-09 as of January 1, 2018, prospectively to an award modified on or after the adoption date. The adoption did not have a material impact on our consolidated financial statements.

The FASB issued ASU No. 2016-09, Compensation Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting in March 2016. The amendments in this ASU simplify the accounting for share-based payments regarding (a) income tax consequences (b) classification of awards as either equity or liabilities and (c) classification on the statement of cash flows. Our company adopted this ASU on January 1, 2017. The adoption did not have a material impact on our consolidated financial statements.

Statement of Cash Flows

The FASB issued ASU No. 2016-18, Statement of Cash Flows (Topic 230): Restricted Cash, in November 2016. The amendments require that a 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. As a result, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The amendments do not provide a definition of restricted cash or restricted cash equivalents. Our Company early applied the amendments in the ASU No. 2016-18 effective January 1, 2016, to include restricted cash with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on our consolidated statements of cash flows.

(e) Recent Accounting Pronouncements Not Yet Adopted

Financial Instruments

The FASB issued ASU No. 2016-13, Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, in June 2016. The ASU requires the measurement of all expected credit losses for financial assets held at the reporting date based on historical experience, current conditions, and reasonable and supportable forecasts. Financial institutions and other organizations will now use forward-looking information to better inform their credit loss estimates. The ASU also requires enhanced disclosures to help investors and other financial statement users better understand significant estimates and judgments used in estimating credit losses, as well as the credit quality and underwriting standards of an organization's portfolio. These disclosures include qualitative and quantitative requirements that provide additional information about the amounts recorded in the financial statements. In addition, the ASU amends the accounting for credit losses on available-for-sale debt securities and purchased financial assets with credit deterioration. Our Company will apply the amendments in ASU 2016-13 as of January 1, 2020, on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings or accumulated deficits. We do not expect the adoption of this new guidance to have a material impact on our Company's financial position, results or cash flows.

Lease

The FASB issued new lease accounting guidance in ASU No. 2016-02, Leases (Topic 842), in February 2016. Under the new guidance, lessees will be required to recognize for all leases (with the exception of short-term leases), at the commencement date, (a) a lease liability, which is a lessee's obligation to make lease payments arising from a lease, measured on a discounted basis and (b) a right-of-use asset, which is an asset that represents the lessee's right to use, or control the use of, a specified asset for the lease term. When measuring assets and liabilities arising from a lease, a lessee (and a lessor) should include payments to be made in optional periods only if the lessee is reasonably certain to exercise an option to extend the lease or not to exercise an option to terminate the lease. Similarly, optional payments to purchase the underlying asset should be included in the measurement of lease assets and lease liabilities only if the lessee is reasonably certain to exercise that purchase option. For leases with a term of 12 months or less, a lessee is permitted to make an accounting policy election by class of underlying asset not to recognize lease assets and lease liabilities. Our Company will implement the amendments in ASU 2016-02 as of January 1, 2019 using a modified retrospective transition approach for leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements.

The FASB issued ASU No. 2018-11, Leases (Topic 842): Targeted Improvements, in July 2018. Entities originally are required to adopt the new leases standard using a modified retrospective transition method. Under that transition method, an entity initially applies the new leases standard (subject to specific transition requirements and optional

practical expedients) at the beginning of the earliest period presented in the financial statements (which is January 1, 2017, for calendar-year-end public business entities that adopt the new leases standard on January 1, 2019). This means that starting on January 1, 2017 (for those calendar-year-end public business entities just described), lessees must recognize lease assets and liabilities for all leases even though those leases may have expired before the effective date. Lessees also must provide the new and enhanced disclosures for each period presented, including the comparative periods. The ASU 2018-11 provides another transition method in addition to the existing transition method by allowing entities to initially apply the new leases standard at the adoption date (such as January 1, 2019, for calendar year-end public business entities) and recognize a cumulative-effect adjustment to the opening balance of retained earnings or accumulated deficits in the period of adoption.

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Topic 842 is effective for our fiscal year beginning January 1, 2019. We will elect the package of practical expedients in ASC 842-10-65-1(f) and the additional transition method provided in ASU 2018-11. We will initially apply the new leases standard at the adoption date and not to restate the comparative periods when transitioning to ASC 842, and recognize a cumulative-effect adjustment to the opening balance of retained earnings or accumulated deficits in the period of adoption. Accordingly, we will account for our existing operating leases as operating leases under the new guidance, without reassessing (a) whether the contracts contain a lease under ASC 842, (b) whether classification of the operating leases would be different in accordance with ASC Topic 842, or (c) whether the unamortized initial direct costs before transition adjustments (as of December 31, 2018) would have met the definition of initial direct costs in ASC 842 at lease commencement. As a result of the adoption of the new lease accounting guidance, we expect to recognize on January 1, 2019 (a) a lease liability of approximately \$1.0 million, which represents the present value of the remaining lease payments of approximately \$1.1 million, discounted at incremental borrowing rate of approximately 2%, and (b) a right-of-use asset of approximately \$1.0 million which approximates the lease liability of \$1.0 million. Adoption of the new standard is not expected to have a material impact on our Company's operating results or cash flows from operations. The most significant impact would be the recognition of ROU assets and lease obligations for operating leases. We do not anticipate significant changes to our current business processes and systems to support the adoption of the new standard in the year beginning January 1, 2019. Additionally, we are currently in the process of evaluating the required financial statement disclosures to allow users of our consolidated financial statements to understand the nature, amount, timing and uncertainty of revenue and cash flows arising from leases.

Fair Value Measurement

The FASB issued ASU No. 2018-13, Fair Value Measurement (Topic 820): Disclosure Framework — Changes to the Disclosure Requirements for Fair Value Measurement to improve the effectiveness of disclosure requirements on fair value measurement. Certain disclosure requirements were removed, modified or added from Topic 820. In addition, the amendments eliminate at a minimum from the phrase an entity shall disclose at a minimum to promote the appropriate exercise of discretion by entities when considering fair value measurement disclosures and to clarify that materiality is an appropriate consideration of entities and their auditors when evaluating disclosure requirements. The amendments on changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements, and the narrative description of measurement uncertainty will be applied prospectively for only the most recent annual period presented in the initial fiscal year of adoption. All other amendments will be applied retrospectively to all periods presented upon the effective date. Early adoption is permitted upon issuance of this Update. An entity is permitted to early adopt any removed or modified disclosures upon issuance of this Update and delay adoption of the additional disclosures until their effective date. Our Company will adopt the amendments in this Update for fiscal years beginning January 1, 2020, and will early adopt certain items as permitted.

Retirement Plan

The FASB issued ASU No. 2018-14, Compensation—Retirement Benefits — Defined Benefit Plans — General (Subtopic 715-20): Disclosure Framework — Changes to the Disclosure Requirements for Defined Benefit Plans, in August 2018 to improve the effectiveness of disclosure requirements on defined benefit plans. The amendments in this Update modify certain disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. The amendments in this Update will be effective for our Company's fiscal years ending at December 31, 2020. We will apply the amendments in this Update on a retrospective basis to all periods presented. We do not expect the adoption of this Update to have a material impact on our Company's financial position, results or cash flows.

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)	2016	2017	2018
Weighted average number of outstanding shares			
Basic	11,052	11,052	11,052
Effect of dilutive securities			
Employee share-based compensation	—	—	—
Diluted	11,052	11,052	11,052

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 613 thousand shares at the range of \$3.85 to \$83.00 as of December 31, 2016, 308 thousand shares at \$2.90 to \$80.05 as of December 31, 2017, and 229 thousand shares at \$2.90 to \$12.35 as of December 31, 2018. There were no antidilutive RSUs as of December 31, 2018, 2017, and 2016.

NOTE 3. DIVESTITURES

PerfectPairs

In January 2016, we entered into an agreement to sell our 100% ownership interest in PerfectPairs Gaming Co., Ltd. (“PerfectPairs”), a Taiwan-based subsidiary of our digital entertainment service business operations, to two Taiwanese individuals unrelated to our Group for total cash consideration of \$760 thousand. Upon the disposal, we deconsolidated the results of PerfectPairs’ operations.

The disposal gain was as follows:

(In US\$ thousand)	Amount
The fair value of consideration received, net of any	
transaction costs	\$ 760
The carrying amount of PerfectPairs	
Cash	482
Receivables and other current assets	40
Property, plant and equipment	71
Intangible and other noncurrent assets	13
Accounts payable and accrued expenses	(528)
Other payable and other current liabilities	(144)
The carrying amount of PerfectPairs at the date of	
deconsolidation	(66)
Exchange difference	1
Gain on disposal of PerfectPairs	\$ 827

East Gate

As the term of the East Gate fund expired in August 2017, the fund had stopped entering into new investments and in September 2016, it distributed excess cash to its investors. We received \$1,438 thousand from the distribution.

In November 2016, we entered into an agreement to sell a 17.65% partnership interest in East Gate to a Korean investor unrelated to our Group. The disposal gain was as follows:

(In US\$ thousand)	Amount
The fair value of consideration received, net of any	
transaction costs	\$ 112
The fair value of consideration receivable, net of any	
transaction costs	1,058
	1,170
The carrying amount of the investment of East Gate at the	
date of disposal	1,398
Exchange difference	250
Gain on disposal of investment in East Gate	\$ 22

The consideration receivable of \$1.1 million as of December 31, 2016 was recorded as other receivable and has been fully collected in 2017.

NOTE 4. INTANGIBLE ASSETS - NET

The following table summarizes our Company's intangible assets, by major asset class:

(In US\$ thousands)	December 31, 2018		Net
	Gross amount	Accumulated amortization	
With finite-life intangible assets			
Purchased software cost	\$64	\$ 26	\$38

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For the years ended December 31, 2016, 2017 and 2018, total amortization expense of intangible assets were \$106 thousand, \$7 thousand and \$27 thousand, respectively, which includes amortization of purchased software costs of \$89 thousand, \$7 thousand and \$27 thousand.

At the end of 2016, we recognized an impairment loss of \$57 thousand on intangible assets as a result of consecutive operating losses in recent years that are expected to continue and therefore the carrying amounts of those intangible assets would not be recoverable based on cash flow projections from current games, which typically have shorter lives.

NOTE 5. PREPAID LICENSING AND ROYALTY FEES

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

(in US\$ thousands)	2016	2017	2018
Balance at beginning of year	\$239	\$1,020	\$459
Addition	2,581	486	968
Amortization and usage	(416)	(1,040)	(747)
Exchange difference	2	(7)	(1)
Impairment charges (Note 6)	(1,386)	—	(244)
Balance at end of year	\$1,020	\$459	\$435

At the end of 2016 and 2018, we recognized impairment losses of \$1.4 million and \$244 thousand, respectively, for the prepaid licensing and royalty fees related to certain licensed games that we stopped operating or for which the carrying amounts of the related assets were determined not to be recoverable from their expected future undiscounted cash flows.

We have entered licensing arrangements for our digital entertainment business and in prior years, prepaid licensing and royalty fees for one of the licensed games had been fully impaired and as a result the cost became nil. In 2017, the licensor of that gaming development company reached an agreement with us to terminate the license by compensating us in the amount of \$1.75 million and accordingly, we have recognized a gain of \$1.7 million as a reduction of operating expenses in the consolidated statements of operations in 2017.

NOTE 6. FAIR VALUE MEASUREMENTS

The following table presents the carrying amounts and estimated fair values of our Company's financial instruments at December 31, 2017 and 2018.

(in US\$ thousands)	2017		2018	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial assets				
Cash and cash equivalents	\$63,670	\$63,670	\$59,308	\$59,308
Accounts receivable	751	751	523	523
Restricted cash	507	507	518	518
Refundable deposits	208	208	197	197
Financial liabilities				
Accounts payable	314	314	104	104
Accrued compensation	549	549	170	170
Accrued expenses	2,158	2,158	1,263	1,263

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, 2017 and 2018 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 compensation and 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. 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, 2018
	Level 1	Level 2	Level 3	
	Assets			
Cash equivalents - time deposits	\$—\$6	\$ —	\$ 6	
Restricted cash - time deposits	—	518	—	518
	\$—\$524	\$ —	\$ 524	

(in US\$ thousands)	Fair Value Measurement Using			At December 31, 2017
	Level 1	Level 2	Level 3	
	Assets			
Cash equivalents - time deposits	\$—\$6	\$ —	\$ 6	
Restricted cash - time deposits	—	507	—	507
	\$—\$513	\$ —	\$ 513	

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 1 for the years ended December 31, 2017 and 2018.

Level 1 and 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:

We did not hold assets measured at fair value on a recurring basis using significant unobservable inputs (Level 3) during 2017 and 2018.

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 investments accounted for under the equity method and cost method, property, plant, and equipment, intangible assets, and prepaid licensing and royalty fees.

Assets and liabilities measured at fair value on a nonrecurring basis that were determined to be impaired as of December 31, 2017 and 2018 are summarized as below:

(in US\$ thousands)	Fair Value measurement Using			Total	
	Level 1	Level 2	Level 3	At December 31, 2018	Impairment Losses
Assets					
(a) Prepaid licensing and royalty fees	—	—	84	84	244
Total	\$ —	\$ —	\$ 84	\$ 84	\$ 244

(in US\$ thousands)	Fair Value measurement Using			Total	
	Level 1	Level 2	Level 3	At December 31, 2017	Impairment Losses
Assets					
(b) Investments - Cost-method	\$ —	\$ —	\$ —	—	\$ 52
Total	\$ —	\$ —	\$ —	—	\$ 52

(a) Impairment losses on certain prepaid licensing and royalty fees which were determined to be impaired:

In 2018, certain prepaid licensing and royalty fees were written down to \$84 thousand, resulting in an impairment charge of \$244 thousand. This impairment is included in operating expenses in the consolidated statements of operations. The impairment charges for the prepaid licensing and royalty fees related to certain licensed games within our Asian digital entertainment business that we stopped operating or for which the carrying amounts of the related assets were determined not to be recoverable from their expected future undiscounted cash flows. The licensing fee and related royalties are re-valued when impairment exists, using unobservable inputs such as discounted cash flows, incorporating adjusted available market discount rate information and our Company's estimates for liquidity risk, along with other cash flow model related assumptions.

(b) Impairment losses on certain cost method investments which were determined to be impaired:

In 2017, certain cost method investment with carrying amounts of \$52 thousand was considered fully impaired as it has incurred consecutive losses but unable to reduce cash burn, and thus its cash was expected to be depleted within months. Therefore it was fully written down to zero, resulting in an impairment charge of \$52 thousand. The impairment charges are included in non-operating expenses within "impairment loss on marketable securities and investments" in the consolidated statements of operations.

NOTE 7. CASH, RESTRICTED CASH AND CASH EQUIVALENTS

Cash and cash equivalents consist of the following:

(in US\$ thousands)	December 31	
	2017	2018
Cash and savings accounts	\$63,664	\$59,302
Time deposits	6	6
Cash and cash equivalents reported on the consolidated		
balance sheets	63,670	59,308
Cash restricted as collateral and performance bond	507	518
Total cash, restricted cash and cash equivalents reported		
on the consolidated statements of cash flows	\$64,177	\$59,826

As of December 31, 2017 and 2018, cash amounting to \$507 thousand and \$518 thousand, respectively, has been deposited in an escrow account in a bank 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:

	December 31	
(in US\$ thousands)	2017	2018
Taiwan	\$62,350	\$54,078
Hong Kong	1,811	5,732
China	16	16
	\$64,177	\$59,826

NOTE 8. ACCOUNTS RECEIVABLE – NET

Accounts receivable consist of the following:

	December 31	
(in US\$ thousands)	2017	2018
Accounts receivable	\$763	\$528
Less: Allowance for doubtful accounts	(12)	(5)
	\$751	\$523

The following is a summary of the changes in our Company's allowance for doubtful accounts during the years ended December 31, 2016, 2017 and 2018:

(in US\$ thousands)	2016	2017	2018
Balance at beginning of year	\$29	\$32	\$12
Additions: Bad debt expense	35	127	23
Less: Write-off	(33)	(149)	(29)
Translation adjustment	1	2	(1)
Balance at end of year	\$32	\$12	\$5

NOTE 9. OTHER CURRENT ASSETS

Other current assets consist of the following:

(in US\$ thousands)	December	
	2017	2018
Loans receivable - current	64	29
Less: Allowance for loans receivable - current	(30)	(29)
Other receivables	34	3
Other	125	121
	\$193	\$124

The following is a reconciliation of changes in our Company's allowance for loans receivable - current during the years ended December 31, 2016, 2017 and 2018:

(in US\$ thousands)	2016	2017	2018
Balance at beginning of year	\$ 28	\$ 28	\$ 30
Reversal for collection of bad debt	—	—	—
Translation adjustment	—	2	(1)
Balance at end of year	\$ 28	\$ 30	\$ 29

NOTE 10. EQUITY INVESTMENTS

Our Company's investments accounted for under the equity method primarily consist of the following: (a) from August 2010 to November 2016, a 17.65% equity interest investment in East Gate Media Contents & Technology Fund ("East Gate"), a Korean Fund Limited Partnership that invests in online game businesses and films (See Note 3 "Divestitures", for additional information); and (b) from May 2014 to February 2017, a 22.86% equity interest investment in Double2 Network Technology Co., Ltd. ("Double2"), a Taiwanese company that mainly engaged in development of causal gaming software. In March 2017, our share of equity interest in Double 2 was diluted to 11.43%, and as the investment no longer qualified for the equity method, we discontinued accruing the share of the earnings or losses of the investee and began accounted for it under the cost method.

In November 2016, we entered into an agreement to sell a 17.65% partnership interest in East Gate to a Korean investor unrelated to our Group. (See Note 3, “Divestitures” for additional information.)

East Gate

Our Company had a 17.65% interest in East Gate, a Korean fund partnership. Before the disposal of such interest, we accounted for our investment in this limited partnership under the equity method accounting since we had the ability to exercise significant influence over partnership operating and financial policies based on the terms of the partnership agreement.

East Gate was considered an investment company that primarily invests in: (1) Equity securities of small, medium-sized companies or venture companies, mainly Korean game companies, and (2) funding for specific projects, mainly Korean films, of an entrepreneur or venture company in return for the rights to a future revenue stream from the income generated by the entrepreneur or venture company from the film and related products.

Summarized U.S. GAAP financial information of East Gate as of November 30, 2016 (right before we disposed of it), and the eleven-month period ended November 30, 2016 is presented below (in US\$ thousands):

	2016
Investments and other related assets	\$7,911
Other assets	332
Total assets	\$8,243
Total liabilities	\$318
Total net assets of the fund	\$7,925

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	2016
Investment and related income (loss)	\$(1,513)
Impairment loss	(105)
Other costs and expenses	(7,513)
Net loss	\$(9,131)

NOTE 11. PROPERTY, PLANT AND EQUIPMENT

In January 2016, we entered into disposal agreements to sell certain office premises which were not used for our principal business to several counterparties unrelated to our Group, for total cash considerations approximating \$1.9 million. The closing of the disposal occurred in March 2016. Upon the closing, we recognized disposal gains of approximately \$798 thousand.

At the end of 2016, we recognized an impairment loss of \$471 thousand on property, plant and equipment as a result of consecutive operating losses in recent years that are expected to continue and therefore the carrying amounts of those long-lived assets would not be recoverable based on cash flow projections from current games, which are typically with shorter lives.

For the year ended December 31, 2017 and 2018, there were no significant changes in our property, plant and equipment. For the year ended December 31, 2016, a reconciliation of the beginning and ending amounts of our property, plant and equipment is as follows:

(in US\$ thousands)	Cost	Accumulated depreciation	Net
Balance at beginning of year	\$5,165	\$ 3,774	\$ 1,391
Purchase	496	—	496
Depreciation	—	162	(162)
Disposal of office premises	(1,120)	(44)	(1,076)
Disposal of other property, plant and equipment	(1,092)	(969)	(123)
Deconsolidation (Note 3)	(104)	(33)	(71)
Impairment (Note 6)	(3,423)	(2,952)	(471)
Exchange differences	85	62	23
Balance at end of year	\$7	\$ —	\$7

NOTE 12. ACCRUED EXPENSES

Accrued expenses consist of the following:

(in US\$ thousands)	December 31	
	2017	2018
Accrued advertising expenses	\$371	\$134
Accrued professional fees	580	429
Accrued royalties	502	275
Accrued director compensation and liability insurance	256	70
Other	449	355
	\$2,158	\$1,263

NOTE 13. PENSION BENEFITS

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

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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, 2017 and 2018, the accumulated benefit obligation amounted to \$211 thousand and \$233 thousand, respectively, and the funded status of prepaid pension assets amounted to \$70 thousand and \$56 thousand, respectively. The fair value of plan assets amounted to \$365 thousand and \$376 thousand as of December 31, 2017 and 2018, respectively. The accumulated other comprehensive income (loss) amounted to (\$69) thousand and (\$86) thousand as of December 31, 2017 and 2018, respectively. The net periodic benefit cost (income) for 2016, 2017 and 2018 amounted to (\$2) thousand, \$0 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, 2017 and 2018:

	December 31	
(in US\$ thousands)	2017	2018
Benefit Obligation	\$295	\$320
Fair value of plan assets	365	376
	\$(70)	\$(56)
Amounts recognized in the balance sheet consist of:		
Noncurrent liabilities (assets)	\$(70)	\$(56)
Accumulated other comprehensive income	—	—
Net amount recognized	\$(70)	\$(56)
Amounts recognized in accumulated comprehensive income		
(loss) consist of:		
Unrecognized net gain (loss)	\$(69)	\$(86)

For the years ended December 31, 2016, 2017 and 2018, the net period pension cost consisted of the following:

	December 31		
(in US\$ thousands)	2016	2017	2018
Service cost	\$—	\$—	\$—
Interest cost	4	4	5
Expected return on plan assets	(6)	(5)	(6)

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Amortization of net loss	—	1	2
Curtailment gain	—	—	—
	\$(2)	\$ —	\$ 1

Effective January 1, 2017, our Company applied the amendments in ASU No. 2017-07 retrospectively for the presentation of the service cost component and the other components of net periodic pension cost in the statement of operations, and accordingly, all components other than service cost, amounting to income of \$2 thousand for 2016, were reclassified to non-operating income (expense) – other.

Weighted average assumptions used to determine benefit obligations for 2017 and 2018 were as follows:

	December 31	
	2017	2018
Discount rate	1.625 %	1.375 %
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:

	2017	2018
Discount rate	1.375%	1.625%
Rate of return on plan assets	1.375%	1.625%
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 twenty 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 \$8 thousand to the Fund in 2019. We expect to make benefit payments of \$1 thousand from 2019 to 2023 and \$20 thousand from 2024 to 2028.

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 \$191). 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, 2016, 2017, and 2018 were \$183 thousand, \$190 thousand, and \$210 thousand, respectively.

NOTE 14. 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 common shares to be issued.

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, 2017 and 2018, the legal reserves of Hoshin GigaMedia Center Inc. ("Hoshin GigaMedia") were \$1.5 million and \$1.5 million, respectively. The reserve can only be used to offset a deficit or be distributed as a stock 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.

NOTE 15. ACCUMULATED OTHER COMPREHENSIVE LOSS

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

	Foreign	Unrealized gain on	Pension and post retirement	Accumulated other comprehensive
(in US\$ thousands)	currency items	securities	benefit plans	loss
Balance at January 1, 2016	\$ (22,338)	\$ 3	\$ —	\$ (22,335)
Net current period change	5	(1)	(58)	(54)
Reclassification adjustments for gains reclassified				
into income	(222)	—	—	(222)
Balance at December 31, 2016	(22,555)	2	(58)	(22,611)
Net current period change	641	—	(11)	630
Reclassification adjustments for gains reclassified				
into income	—	(2)	—	(2)
Balance at December 31, 2017	\$ (21,914)	\$ —	\$ (69)	\$ (21,983)
Net current period change	(332)		(17)	(349)
Balance at December 31, 2018	\$ (22,246)	\$ —	\$ (86)	\$ (22,332)

There were no significant tax effects allocated to each component of other comprehensive income for the years ended December 31, 2016, 2017 and 2018.

NOTE 16. SHARE-BASED COMPENSATION

During 2016, 2017 and 2018, 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 \$9 thousand, (\$7) thousand and \$3 thousand, respectively.

There were no significant capitalized stock-based compensation costs at December 31, 2017 and 2018. There was no recognized stock-based compensation tax benefit for the years ended December 31, 2016, 2017 and 2018, as our Company recognized a full valuation allowance on net deferred tax assets as of December 31, 2017 and 2018.

(a) Overview of Stock-Based Compensation Plans

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 common 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 common 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 common 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.

2008 Equity Incentive Plan

At the June 2008 annual general meeting of shareholders, the shareholders of our Company approved the GigaMedia Limited 2008 Equity Incentive Plan (the “2008 Plan”) under which up to 200 thousand common shares of our Company have been reserved for issuance. The 2008 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 2008 Plan. The maximum contractual term for the options under the 2008 Plan is 10 years.

2008 Employee Share Purchase Plan

At the June 2008 annual general meeting of shareholders, the shareholders of our Company approved the GigaMedia Limited 2008 Employee Share Purchase Plan (the “2008 ESPP”) under which up to 40 thousand common shares of our Company were reserved for issuance. Any person who is regularly employed by our Company or our designated subsidiaries shall be eligible to participate in the 2008 ESPP. Pursuant to the 2008 ESPP, our Company would offer the shares to qualified employees on favorable terms. Employees are also subject to certain restrictions on the amount that may be invested to purchase the shares and to other terms and conditions of the 2008 ESPP. The 2008 ESPP is administered by a committee designated by the board of directors. As of December 31, 2018, no shares have been subscribed by qualified employees under the 2008 ESPP.

2009 Equity Incentive Plan

At the June 2009 annual general meeting of shareholders, the shareholders of our Company approved the GigaMedia Limited 2009 Equity Incentive Plan (the “2009 Plan”) under which up to 300 thousand common shares of our Company have been reserved for issuance. The 2009 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 2009 Plan. The maximum contractual term for the options under the 2009 Plan is 10 years.

2009 Employee Share Purchase Plan

At the June 2009 annual general meeting of shareholders, the shareholders of our Company approved the GigaMedia Limited 2009 Employee Share Purchase Plan (the “2009 ESPP”) under which up to 40 thousand common shares of our Company have been reserved for issuance. To be eligible, employees must be regularly employed by us or our designated subsidiaries. Employees are also subject to certain restrictions on the amount that may be invested to purchase the shares and to other terms and conditions of the 2009 ESPP. The 2009 ESPP is administered by a committee designated by the board of directors. As of December 31, 2018, no shares were issued to employees under the 2009 ESPP.

2010 Equity Incentive Plan

At the June 2010 annual general meeting of shareholders, the shareholders of our Company approved the GigaMedia Limited 2010 Equity Incentive Plan (the “2010 Plan”) under which up to 200 thousand common shares of our Company

have been reserved for issuance. The 2010 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 2010 Plan. The maximum contractual term for the options under the 2010 Plan is 10 years.

2010 Employee Share Purchase Plan

At the June 2010 annual general meeting of shareholders, the shareholders of our Company approved the GigaMedia Limited 2010 Employee Share Purchase Plan (the “2010 ESPP”) under which up to 40 thousand common shares of our Company have been reserved for issuance. To be eligible, employees must be regularly employed by us or our designated subsidiaries. Employees are also subject to certain restrictions on the amount that may be invested to purchase the shares and to other terms and conditions of the 2010 ESPP. The 2010 ESPP is administered by a committee designated by the board of directors. As of December 31, 2018, no shares were issued to employees under the 2010 ESPP.

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Summarized below are the general terms of our stock-based compensation plans, for which awards have been granted as of December 31, 2018.

Stock-Based compensation plan	Granted awards	Vesting schedule	Options' exerciseRSUs' grant date	
			price	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
2008 Plan	200,000	immediately upon granting to six years	\$12.35~\$21.20	—
2009 Plan	500,000	(4) immediately upon granting to four years	\$4.775~\$12.35	—
2010 Plan	440,000	(5) three years	\$4.0505~\$5.7	—

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

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

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

(4) The granted awards, net of forfeited or canceled options, were within reserved shares of 300 thousand common shares.

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

Options and Restricted Stock Units (“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 2016, 2017 and 2018, 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 2016 and 2018. The following table summarizes the assumptions used in the model for options granted during 2017:

	2017
Option term (years)	6.01
Volatility	48.997%
Weighted-average volatility	48.997%

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Risk-free interest rate	2.031%
Dividend yield	0%
Weighted-average fair value of option granted	\$ 1.41

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.

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

	2016		2017		2018		Weighted-	
	Weighted Avg.	No. of Exercise Shares	Weighted Avg.	No. of Exercise Shares	Weighted Avg.	No. of Exercise Shares	Average Remaining Contractual Term	Aggregate Intrinsic Value (in thousands)
Balance at January 1	\$20.51	617	\$20.63	613	\$14.78	308		
Options granted	—	—	2.90	4	—	—		
Options exercised	—	—	—	—	—	—		
Options Forfeited / canceled / expired	3.85	(4)	26.24	(309)	26.08	(79)		
Balance at December 31	\$20.63	613	\$14.78	308	\$10.88	229	2.14	\$ —
Exercisable at December 31	\$20.57	606	\$15.16	298	\$10.97	227	2.07	\$ —
Vested and expected to vest at								
December 31	\$20.63	613	\$14.78	308	\$10.88	229	2.14	\$ —

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 2018 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, 2018. This amount changes based on the fair market value of GigaMedia's stock.

As of December 31, 2018, there was approximately \$1 thousand of unrecognized compensation cost related to nonvested options. That cost is expected to be recognized over a period of 1.50 years.

The following table sets forth information about stock options outstanding at December 31, 2018:

Options outstanding		Option currently exercisable		
No. of Shares	Weighted average remaining	No. of Shares	Weighted average remaining	
				contractual life
(in thousands)		(in thousands)		
Exercise price Under \$5	12	5.87 years	Under \$5	10
\$5~\$50	217	1.93 years	\$5~\$50	217
\$50~\$100	—		\$50~\$100	—

(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, 2016, 2017 and 2018.

As of December 31 2017 and 2018, there was no unrecognized compensation cost related to nonvested RSUs. Our Company received no cash from employees as a result of employee stock award vesting and the forfeiture of RSUs during 2016, 2017 and 2018.

NOTE 17. INCOME TAXES

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

(in US\$ thousands)	2016	2017	2018
Taiwan operations	\$(1,119)	\$893	\$(3,146)
Non-Taiwan operations	(6,096)	(1,478)	(47)
	\$(7,215)	\$(585)	\$(3,193)

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

(in US\$ thousands)	2016	2017	2018
Taiwan:			
Current	\$1,108	\$—	\$ —
Deferred	—	—	—
	\$1,108	\$—	\$ —
Non-Taiwan:			
Current	\$—	\$(1)	\$ —
Deferred	41	1,672	—
	\$41	\$1,671	\$ —
Total current income tax benefit (expense)	\$1,108	\$(1)	\$ —
Total deferred income tax benefit	\$41	\$1,672	\$ —
Total income tax benefit	\$1,149	\$1,671	\$ —

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:

	2016	2017	2018
Taiwan statutory rate, including taxes on income and retained earnings	23.85 %	23.85 %	24.00 %
Foreign tax differential	(12.37)%	1.10 %	3.43 %
Reversal of deferred withholding tax liabilities	—	285.84%	—
Tax-exempt income	3.28 %	—	—
Non-deductible items - bad debts	(3.08)%	—	(0.22)%
Other non-deductible expenses	(1.65)%	(44.79)%	(3.50)%
Changes in unrecognized tax benefits	1.10 %	—	17.17 %
Adjustment for prior year payable	0.04 %	—	—
Change in deferred tax assets and valuation allowance	6.87 %	13.43 %	(42.02)%
Change in tax rate	—	—	0.15 %
Other	(2.12)%	6.33 %	0.99 %
Effective rate	15.92 %	285.76%	—

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

(in US\$ thousands)	December 31	
	2017	2018
Net operating loss carryforwards	\$9,178	\$11,136
Prepaid licensing and royalty fees	5	—
Investments	135	131

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Intangible assets and goodwill	183	119
Share-based compensation	299	292
Other	128	87
	9,928	11,765
Less: valuation allowance	(9,928)	(11,765)
Deferred tax assets - net	\$—	\$—

In October 2017, a subsidiary of ours in the U.S. resolved to dissolve and liquidate, for which it filed a final tax return in February 2018. The gain resulted from such liquidation was treated as capital gain, which is exempt from U.S. withholding tax. As such, there was a reversal of the deferred income tax liabilities of \$1,671 thousand as such deferred income tax liabilities were originally accrued for a potential withholding obligation upon possible distribution.

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A reconciliation of the beginning and ending amounts of our valuation allowance on deferred tax assets for the years ended December 31, 2016, 2017 and 2018 are as follows:

(in US\$ thousands)	2016	2017	2018
Balance at beginning of year	\$11,025	\$11,852	\$9,928
Subsequent reversal and utilization of valuation allowance	(753)	(3,352)	—
Additions to valuation allowance	1,739	745	2,107
Divestitures	(312)	—	—
Exchange differences	153	683	(270)
Balance at end of year	\$11,852	\$9,928	\$11,765

Under ROC Income Tax Act, the tax loss carryforward in the preceding ten years would be deducted from income tax for Taiwan operations. The statutory losses from Taiwan operations would be deducted from undistributed earnings when calculating the tax on the undistributed earnings and were not subject to expiration.

As of December 31, 2018, we had net operating loss carryforwards available to offset future taxable income, shown below by major jurisdictions:

Jurisdiction	Amount	Expiring year
Hong Kong	\$15,721	indefinite
Taiwan	35,594	2020~2028
	\$51,315	

Pursuant to the amendment of the ROC Income Tax Act in February 2018, starting from 2018, the corporate income tax rate was adjusted from 17% to 20%. In addition, the tax rate applicable to the undistributed portion of earnings to be made in 2018 and thereafter was reduced from 10% to 5%.

Unrecognized Tax Benefits

A reconciliation of the beginning and ending amount of unrecognized tax benefits (excluding the effects of accrued interest) for the years 2016, 2017 and 2018 are as follows:

(in US\$ thousands)	2016	2017	2018
Balance at beginning of year	\$1,203	\$1,024	\$1,110
Increase related to prior year tax positions	1,025	—	—
Decrease related to prior year tax positions	—	—	—
Settlement of intercompany charge adjustments	—	—	(1,095)
Expiration of statute of limitations	(1,225)	—	—
Exchange differences	21	86	(15)

Balance at end of year	\$1,024	\$1,110	\$—
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As of December 31, 2016, 2017 and 2018, there were no unrecognized tax benefits that if recognized would affect the effective tax rate. As of December 31, 2016, 2017 and 2018, \$1.0 million, \$1.1 million and \$0 of the total unrecognized tax benefit were presented as a reduction of a deferred tax asset that, if recognized, would be offset by a valuation allowance.

There were no interest and penalties related to income tax liabilities recognized for the years ended December 31, 2016, 2017 and 2018.

Our major tax paying components are all located in Taiwan. As of December 31, 2018, the income tax filings in Taiwan have been examined for the years through 2016.

In 2016, 2017 and 2018, our unrecognized tax benefits were related to intercompany charges in 2014 and 2015. The income tax authority has made decisions on the intercompany charges for our tax filings through 2014. We filed appeals against the unfavorable parts of the decision regarding these intercompany charge adjustments, and subsequently reached agreement and settlement in 2018 with the tax authority regarding the tax filings for those years. The settlement did not have significant impact to our financial statements.

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The amount of unrecognized tax benefits may increase or decrease in the future for various reasons such as current year tax positions, expiration of statutes of limitations, litigation, legislative activity, or other changes in facts regarding realizability. Taiwanese entities are customarily examined by the tax authorities and it is reasonably possible that a future examination may result in positive or negative adjustment to our unrecognized tax benefit within the next 12 months.

NOTE 18. RELATED-PARTY TRANSACTIONS

During 2018, there were no significant transactions with our related parties.

NOTE 19. COMMITMENTS AND CONTINGENCIES

Commitments

(a) Operating Leases

We rent certain properties which are used as office premises under lease agreements that expire at various dates through 2021. The following table sets forth our future aggregate minimum lease payments required under these operating leases, as of December 31, 2018:

(in US\$ thousands)	Amount
2019	\$ 450
2020	432
2021	72
	\$ 954

Rental expense for operating leases amounted to \$821 thousand, \$577 thousand and \$493 thousand for the years ended December 31, 2016, 2017 and 2018, respectively.

(b) License Agreements

We have contractual obligations under various license agreements to pay the licensors license fees and minimum guarantees against future royalties. The following table summarizes the committed license fees and minimum guarantees against future royalties set forth in our significant license agreements as of December 31, 2018.

(in US\$ thousands)	Minimum	Total
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	License fees	guarantees against future royalties	
Minimum required payments:			
In 2019	\$ —	\$ 200	\$200
After 2019	—	—	—
	\$ —	\$ 200	\$200

The minimum guarantees against future royalties and license fees are generally not required to be paid until the licensed games are commercially released or until certain milestones are achieved, as stipulated in the individual license agreements.

For a certain licensed game, we are committed to paying \$30 thousand to the licensor for every \$500 thousand additional revenues generated from the game during the agreement period from January 2018 to January 2020.

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 the amount totally NTD 79,477,648 (around \$2,697,471) to compensate their loss pursuant to certain documents in connection with purchasing taximeters signed in 2015. GigaMedia Cloud filed an answer to the complaint denying all their allegations in the lack of factual and legal basis on March 1, 2018. On November 15, 2018, the Taiwan Taipei District Court

announced all the Ennoconn's claims without merit and made a judgment denying the complaint by Ennoconn. Unfortunately, On January 3, 2019, Ennoconn filed an appeal demanded the judgment which was entered in the District Court should be reversed and amended. The civil court of the second instance, the Taiwan High Court, has conducted the session of the preparatory proceedings for two times on March 12, 2019 and April 16, 2019 separately. The Company firmly believes these claims of Ennoconn to be without merit and will keep defending them vigorously. Furthermore, we believe the Taiwan High Court will find such appeal meritless and enter a judgment denying the appeal by Ennoconn. Since the litigation process is still running, we are unable to assess the likelihood of the claim and the amount of potential damages. However, we believe the ultimate result with respect to this claim will not have a material adverse effect on our financial condition, results of operations or cash flows.

NOTE 20. SEGMENT, PRODUCT, GEOGRAPHIC AND OTHER INFORMATION

We only have one segment. Certain corporate activities are not allocated to the segment and therefore are reflected as adjustments in the reconciliation.

Financial information for the operating segment was as follows for the years ended December 31, 2016, 2017, and 2018:

(in US\$ thousands)	Digital entertainment
2016:	
Net revenue from external customers	\$ 8,971
Loss from operations	\$ (3,924)
Share-based compensation	\$ 3
Impairment loss on property, plant and equipment	\$ 288
Impairment loss on intangible assets	\$ 53
Impairment loss on prepaid licensing and royalty fees	\$ 1,386
Interest income	\$ 2
Interest expense	\$ —
Gain on disposal of marketable securities - net	\$ —
Foreign exchange gain (loss)	\$ (174)
Net gain (loss) on equity investments	\$ (1,731)
Impairment loss on marketable securities and investments	\$ —
Depreciation	\$ 142
Amortization, including intangible assets	\$ 93
Income tax expense (benefits)	\$ —

	Digital
(in US\$ thousands)	entertainment
2017:	
Net revenue from external customers	\$ 11,596
Income from operations	\$ 1,747
Share-based compensation	\$ 1
Impairment loss on property, plant and equipment	\$ —
Impairment loss on intangible assets	\$ —
Impairment loss on prepaid licensing and royalty fees	\$ —
Interest income	\$ 1
Interest expense	\$ 1
Gain on disposal of marketable securities - net	\$ 2
Foreign exchange gain (loss)	\$ (148)
Net gain (loss) on equity investments	\$ (24)
Impairment loss on marketable securities and investments	\$ 52
Depreciation	\$ 43
Amortization, including intangible assets	\$ 12
Income tax expense (benefits)	\$ —

	Digital
(in US\$ thousands)	entertainment
2018:	
Net revenue from external customers	\$ 7,101
Loss from operations	\$ (2,727)
Share-based compensation	\$ —
Impairment loss on property, plant and equipment	\$ —
Impairment loss on intangible assets	\$ —
Impairment loss on prepaid licensing and royalty fees	\$ 244
Interest income	\$ 51
Interest expense	\$ —
Gain on disposal of marketable securities - net	\$ —
Foreign exchange gain (loss)	\$ 158
Net gain (loss) on equity investments	\$ —
Impairment loss on marketable securities and investments	\$ —
Depreciation	\$ 100
Amortization, including intangible assets	\$ 36
Income tax expense (benefits)	\$ —

The reconciliations of segment information to GigaMedia's consolidated totals are as follows:

(in US\$ thousands)	2016	2017	2018
Loss from operations:			
Total segments	\$(3,924)	\$1,747	\$(2,727)
Adjustment*	(3,208)	(2,237)	(2,096)
Total GigaMedia consolidated	\$(7,132)	\$(490)	\$(4,823)
Share-based compensation			
Total segments	\$3	\$1	\$—
Adjustment**	6	(8)	3
Total GigaMedia consolidated	\$9	\$(7)	\$3
Impairment loss on property, plant and equipment:			
Total segments	\$288	\$—	\$—
Adjustment**	183	—	—
Total GigaMedia consolidated	\$471	\$—	\$—
Impairment loss on intangible assets:			
Total segments	\$53	\$—	\$—
Adjustment**	4	—	—
Total GigaMedia consolidated	\$57	\$—	\$—
Impairment loss on prepaid licensing and royalty fees:			
Total segments	\$1,386	\$—	\$244
Adjustment**	—	—	—
Total GigaMedia consolidated	\$1,386	\$—	\$244
Interest income:			
Total segments	\$2	\$1	\$51
Adjustment**	300	601	1,251
Total GigaMedia consolidated	\$302	\$602	\$1,302
Interest expense:			
Total segments	\$—	\$1	\$—
Adjustment**	81	33	—
Total GigaMedia consolidated	\$81	\$34	\$—
Gain on disposal of marketable securities - net:			
Total segments	\$—	\$2	\$—
Adjustments**	—	—	—
Total GigaMedia consolidated	\$—	\$2	\$—
Foreign exchange gain (loss):			
Total segments	\$(174)	\$(148)	\$158
Adjustments**	(127)	(403)	109
Total GigaMedia consolidated	\$(301)	\$(551)	\$267

(in US\$ thousands)	2016	2017	2018
Net gain (loss) on equity investments:			
Total segments	\$(1,731)	\$(24)	\$—
Adjustment**	—	—	—
Total GigaMedia consolidated	\$(1,731)	\$(24)	\$—
Impairment loss on marketable securities and investments:			
Total segments	\$—	\$52	\$—
Adjustment**	—	—	—
Total GigaMedia consolidated	\$—	\$52	\$—
Depreciation:			
Total segments	\$142	\$43	\$100
Adjustments**	20	—	—
Total GigaMedia consolidated	\$162	\$43	\$100
Amortization:			
Total segments	\$93	\$12	\$36
Adjustments**	18	—	—
Total GigaMedia consolidated	\$111	\$12	\$36
Income tax expense (benefit):			
Total segments	\$—	\$—	\$—
Adjustments**	(1,149)	(1,671)	—
Total GigaMedia consolidated	\$(1,149)	\$(1,671)	\$—

* Adjustment items include corporate and certain back-office costs and expenses not attributable to any specific segment. For the years ended December 31, 2016, 2017 and 2018, the compensation related items were approximately \$1.6 million, \$1.3 million and \$1.2 million, respectively; professional fees were approximately \$612 thousand, \$365 thousand and \$310 thousand, respectively.

** Adjustment items include corporate and certain back-office costs and expenses not attributable to any specific segment.

Major Product Lines

Revenues from the Company's major product lines are summarized as follow:

(in US\$ thousands)	2016	2017	2018
MahJong and casino casual games	\$2,459	\$2,364	\$1,816
PC massively multiplayer online games	1,560	1,400	1,272
Mobile role playing games	4,674	7,776	3,998
Other games and game related revenues	278	56	15
	\$8,971	\$11,596	\$7,101

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	2016	2017	2018
Taiwan	\$2,664	\$2,349	\$2,958
Hong Kong	6,307	9,247	4,143
	\$8,971	\$11,596	\$7,101

Net tangible long-lived assets by geographic region are as follows:

(in US\$ thousands) Geographic region / country	December 31		
	2016	2017	2018
Taiwan	\$7	\$62	\$94
Hong Kong	—	96	27
	\$7	\$158	\$121

NOTE 21. SUBSEQUENT EVENT

There have been no events that have occurred subsequent to December 31, 2018 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.