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Business Report

(The 20th Year)

Business year from January 1, 2018 to December 31, 2018

To: The Financial Services Commission
Korea Stock Exchange

April 1, 2019

Type of corporation for submission: Listed company
Occurrence of exemption reason: Not applicable
Company Name: Silicon Works Co., Ltd.
Representative Director: Son Bo-Ik
Address of the Headquarters: 222 Techno 2-ro, Yuseong-gu, Daejeon, Korea
Tel) +82-2-3777-1114
(Homepage) http://www.siliconworks.co.kr
Person responsible for this report: (Position) CFO (Name) Sung Kwan Choi
Tel) +82-2-3774-1114

【Confirmation by Representative Director】

Confirmation and Signature of Representative Director

Letter of Confirmation

We are representative director and others responsible for reporting. Based on the review and confirmation of this annual report with significant care, we confirm that all the important matters to be provided have been given without omission, falsification or any such signs and that nothing inducing critical misunderstanding of users of this report has been provided or expressed.

Also we hereby confirm that the company has established and manages its internal accounting management system based on Article 2-2 and Article 2-3 of the [Act on External Auditors of Stock Companies]. (Limited to the companies subject to external audit based on Article 2 of the same Act).

April 1, 2019
Silicon Works Co., Ltd.

Son Bo-Ik
Representative Director

Choi Sung-Kwan
Director of Reporting

I. Company Overview

1. Company Overview

A. Outline of subsidiaries to be consolidated (only when the stock-listed corporation that drafts the consolidated financial statements submits the annual, semiannual or quarterly report)

(Unit: KRW)

Company name	Foundation	Address	Main businesses	Total asset at the end of the previous year	Basis of controlling relationship	Whether it is major subsidiary
Silicon Works Inc. (USA)	October 15, 2012	2540 N. First st. #300 San Jose, CA 95131	Open new markets and support existing customers	298,468,756	Control over the investee (paragraph 5 to 18 of K-IFRS No. 1110 consolidated financial statements)	N/A
Silicon Works China Co., LTD (China)	March 3, 2017	3A15, Zhongchen Building, No. 1 Lizezhong 2 Road, Wangjing, Chaoyang, Beijing	Open new markets and support existing customers	2,869,034,174	Control over the investee (paragraph 5 to 18 of K-IFRS No. 1110 consolidated financial statements)	N/A

Note) The total assets of Silicon Works Inc. (USA) and Silicon Works China Co., LTD (China) at the end of the current fiscal year are December 31, 2018.

(1) Changes of companies to be consolidated

Division	Subsidiary	Reason
Newly consolidated	-	-
	-	-
Excluded from consolidation	-	-
	-	-

B. Legal and Commercial Name of the Company

The company’s name is Silicon Works Co., Ltd., or Silicon Works shortly.

C. Date of Establishment and period of survival

The company was established on November 11, 1999.

D. Address, Telephone Number and Website of the Headquarters

① Address: (H.Q) 222 Techno 2-ro, Yuseong-gu, Daejeon

② Telephone: +82-42-712-7700

③ Website: http://www.siliconworks.co.kr

E. Whether the Company is an SME.

- Not applicable -

F. Major Areas of Businesses

The company develops, manufactures and sells semiconductors as major business activity. For details of the company's major business activities, please refer to "II. Business Activities".

G. Total Number of Subsidiaries, Name and Listed Status of Major Subsidiaries

(1) Name of corporate group: LG affiliates

(2) Companies belonging to the corporate group (as of Dec 31, 2018)

① Domestic corporations

Division	Company name		Major business types	Remarks
Listed	LG Corporation	110111-0003543	Holding company (other service business)	
	LG Electronics Co., Ltd.	110111-2487050	Manufacturing business for broadcasting receivers and other image and sound devices	
	LG International Co., Ltd.	110111-0004632	Manufacturing, wholesale, retail, service, construction and real estate	
	LG Chemicals Co., Ltd.	110111-2207995	Petrochemical and basic compound manufacturing business	
	LG Life & Health Co., Ltd.	110111-2208000	Cosmetics and living product manufacturing business	
	LG Display Co., Ltd.	110111-0393134	Liquid crystal display device manufacturing business	
	LG U Plus Co., Ltd.	110111-1296676	Wire/wireless communication service	
	LG Innotech Co., Ltd.	110111-0192180	Other electronic component manufacturing business	
	GIIR Corporation	110111-0375398	Non-financial holding company	
	LG Hausys Co., Ltd.	110111-4071207	Construction plastic product manufacturing business	
	Silicon Works Co., Ltd.	160111-0089395	Flat display system IC designing and manufacturing	
	Robostar Co., Ltd..,	110111-1655393	Manufacture and sale of industrial robots	
Subtotal	12 companies			
Unlisted	LG CNS Co., Ltd.	110111-0516695	Other software consulting, development and supply business	
	LG Sports Co., Ltd.	110111-0359300	Professional baseball team operation	
	LG Institute of Management Development Co., Ltd.	110111-0423494	Institution for economy, management and environment research and construction	
	SK Siltron Co., Ltd.	175311-0001348	Semiconductor and other electronic component manufacturing business	
	LG MMA Co., Ltd.	206211-0001805	Other basic organic compound manufacturing business	
	Media Log Co., Ltd.	110111-1905441	Value added communication business	
	Dacom Crossing Co., Ltd.	110111-2234683	International line rental	
	S&I Corporation Co., Ltd.	110111-2411520	Other property leasing business	
	Hiplaza Co., Ltd.	131111-0028801	Home appliance wholesale business	
	Seetech Co., Ltd.	110111-0589171	Electricity, gas, steam and air control and supply business	

Lusem Co., Ltd.	176011-0038073	Semiconductor IC assembly	
CS Leader Co., Ltd.	110111-2271924	Telemarketing service business	
A-in Teleservice Co., Ltd.	180111-0367581	Telemarketing service business	
Biz Tech Partners Co., Ltd.	110111-2689507	ERP consulting, development, outsourcing, business intelligence consulting, development, etc.	
Coca Cola Beverages Co., Ltd.	110111-1342130	Manufacturing and selling of fresh beverages, etc.	
Hi-M Solutek Co., Ltd.	110111-3371989	Selling and maintenance business for electric, electronic and air conditioning devices	
CS One Partners Co., Ltd.	110111-3961756	Telemarketing service business	
HS Ad Co., Ltd.	110111-3076662	Advertising production and agency business	
L Best Co., Ltd.	110111-3806267	Advertising agency business	
LG Tostem BM Co., Ltd.	110111-4080688	Manufacturing business for metallic doors, windows, shutter and related products	
Hi-Teleservice Co., Ltd.	110111-4251552	Call center and telemarketing service business	
Thefaceshop Co., Ltd.	110111-0386973	Cosmetics product manufacturing business	
Korea Beverage Co., Ltd.	211311-0005197	Food, beverage manufacturing, selling and exporting business	
Gonjiam Yewon Co., Ltd.	134211-0111354	Agriculture, forestry, wholesale and retail business	
Global Dynasty Overseas Resource Development Private Offering Investment Company	110113-0014992	Investment for overseas resource development	
Hatai HTB Co., Ltd.	110111-0900004	Beverage manufacturing, selling and leasing business	
Sal de Vida Korea Co., Ltd.	144811-0008169	Mining, wholesale and retail business	
Ace Freezing Air Conditioning Co., Ltd.	135111-0047493	Freezer and air conditioners manufacturing and selling business	
Korea Elecom Co., Ltd.	110111-2654493	Automatic metering remote control system developing, manufacturing, selling, etc.	
Hi-entech Co., Ltd.	110111-1799703	Environment facility management, engineering, etc.	
LG Hitachi Water Solution Co., Ltd.	110111-4777201	Water treatment business	
Nanum Nuri Co., Ltd.	176011-0075546	Social welfare service business	
Clean Soul LLC	110114-0113073	Soap and cleaner wholesale business	
LG Fuel Cell Systems Korea Co., Ltd.	110111-4922070	Business for solid oxidant and fuel cell systems	
Innowith Co., Ltd.	200111-0343156	Service business	
Hanuri Co., Ltd.	134811-0262254	Cleaning service, steam car washing, dormitory management service business, etc.	
Haengbok Nuri Co., Ltd.	150111-0172829	Chemical product manufacturing, cleaning service and car washing business	
With You Co., Ltd.	110111-5145556	Service business	
CNP Cosmetics Co., Ltd.	110111-1905318	Cosmetics sales business	
KNI Co., Ltd.	110111-2061581	Groceries sales business	
Pantos Logistics Co., Ltd.	110111-0208127	Complex logistics brokerage and others	
Pantos Busan Newport Logistics Center Co., Ltd.	180111-0641133	Warehousing and others	
Helistar Air Co., Ltd.	120111-0528086	General air cargo agency and others	
FMG Co., Ltd.	140111-0020096	Cosmetics manufacturing business	
Bargeunnuri Co., Ltd.	150111-0206876	Cleaning service business, car cleaning business	
Dangjin Tank Terminal Co., Ltd.	165011-0011709	Oil and chemical, gas storage and transportation business	

	Farmhannong Co., Ltd.	110111-4362482	Manufacturing of pesticides and other agricultural chemicals, fertilizers and nitrogen compounds	
	Haengbokmaru Co. Ltd.	140111-0049179	General cleaning for buildings, operation of non-alcoholic beverage stores and specialized coffee stores	
	LG Farouk Co., Ltd.	110111-2225921	Wholesale and retail of hair care products	
	Migene Story Co., Ltd.	131111-0466580	Gene analysis information providing service	
	Miraem Co., Ltd.	134211-0190259	Tourist hotel business, Tourist use facility business	
	Dreamnuri Co., Ltd	110111-6560282	General cleaning for buildings	
	Taegeuk Pharmaceutical Co., Ltd	134811-0004367	Pharmaceutical manufacturing	
	JES Pharmaceutical Co., LTD	205911-0016611	Pharmaceutical manufacturing	
	Promotion of the development of the spring water Ulleung Chusan Yongchunsu	110111-6590007	Manufacture and sale of drinkable spring water	
	Greennuri Co., Ltd	230111-0286144	General cleaning for buildings	
	Hanultari Co., Ltd	110111-6628337	Other general grocery retail businesses	
	Robomedi Co., Ltd.	161511-0181019	Manufacture and wholesaler of motor	
	Ujimag Korea Co., Ltd.	154511-0032401	Manufacture and sale of ferrite magnets	
Subtotal	57 companies			
Total	69 companies			

* Silicon Works Co., Ltd. was included in our affiliates on July 1, 2014.
* Hibusiness Logistics Co., Ltd. changed its name into High Logistics Co., Ltd. on August 4, 2014.
* Picsdics Co., Ltd. was excluded from our affiliates on November 18, 2014.
* CNP Cosmetics Co., Ltd. was included in our affiliates on January 2, 2015.
* Gumi Ochang Solar Power Plant Co., Ltd. was included in our affiliates on January 2, 2015.
* Gumi Ochang Solar Power Plant Co., Ltd. was merged to Serve One Co., Ltd. on February 25, 2015.
* KNI Co., Ltd. was included in our affiliates on March 2, 2015
* Pantos Co., Ltd. was included in our affiliates on August 1, 2015.
* Pantos Busan Newport Logistics Center Co., Ltd. was included in our affiliates on August 1, 2015.
* Helistar Air Co., Ltd. was included in our affiliates on August 1, 2015.
* Janice Co., Ltd. was included in our affiliates on September 1, 2015.
* Bargeunnuri Co., Ltd. was included in our affiliates on October 1, 2015.
* Dangjin Tank Terminal Co., Ltd. was included in our affiliates on October 1, 2015.
* LG Solar Energy Co., Ltd. was merged to Serve One Co., Ltd. on October 21, 2015.
* Sarangnuri Co., Ltd. was included in our affiliates on November 1, 2015.
* LG Toyo Engineering Co., Ltd. was included in our affiliates on December 22, 2015.
* Future Co., Ltd. was excluded from our affiliates on March 17, 2016.
* One Seen Sky Tech was excluded from our affiliates on May 3, 2016.
* Haitai Beverage Co., Ltd. changed its company name to Haitai HTB Co., Ltd. on May 30, 2016.
* Farmhannong Co., Ltd. was included in our affiliates on June 1, 2016.
* Saemangeum Farm Co., Ltd. was included in our affiliates on June 1, 2016.

* Cecil Co., Ltd. was included in our affiliates on June 1, 2016.
* Agrotech Co., Ltd. was included in our affiliates on June 1, 2016.
* Farm Biotech Co., Ltd. was included in our affiliates on June 1, 2016.
* Farm Ceres Co., Ltd. was included in our affiliates on June 1, 2016.
* Farm PFI Co., Ltd. was included in our affiliates on June 1, 2016.
* Farm Hwaong Co., Ltd. was included in our affiliates on June 1, 2016.
* Farm Heungnong Co., Ltd. was included in our affiliates on June 1, 2016.
* Chem Green Energy Co., Ltd. was included in our affiliates on June 1, 2016.
* Hi-Logistics Co., Ltd. was excluded from our affiliates on August 23, 2016.
* Haengbokmaru Co., Ltd. was included in our affiliates on October 1, 2016.
* Farm Heungnong Co., Ltd. and Chem Green Energy Co., Ltd. were excluded from our affiliates on October 5, 2016.
* Biz Tech Partners Co., Ltd. was included in our affiliates on November 1, 2016.
* Saemangeum Farm Co., Ltd., Farm PFI Co., Ltd., Hausys Interpane Co., Ltd. and Everon Co., Ltd. were excluded from our affiliates on November 18, 2016.
* LG Farouk Co., Ltd. was included in our affiliates on December 1, 2016.
* Farm Ceres Co., Ltd. was excluded from our affiliates on December 22, 2016.
* Gene Story Co., Ltd. was included in our affiliates on December 30, 2016.
* B&E Partners Co., Ltd. changed its company name to Biz Tech Partners Co., Ltd. on January 3, 2017.
* (Former) Biz Tech Partners Co., Ltd. was excluded from our affiliates on January 18, 2017.
* LG Life Science Co., Ltd. and Ucess Partners Co., Ltd. were excluded from our affiliates on January 18, 2017.
* Pantos Logistics Co., Ltd. changed its company name to Pantos Co., Ltd. on March 21, 2017.
* Pantos Busan Newport Logistics Center Co., Ltd. changed its company name to Pantos Busan Newport Center Co., Ltd. on March 27, 2017.
* Gene Story Co., Ltd. changed its company name to Migene Story Co., Ltd. on March 27, 2017.
* Farm Biotech was excluded from our affiliates on March 29, 2017.
* Miraem Co., Ltd. was included in our affiliates on July 1, 2017.
* Agrotech Co., Ltd. was excluded from our affiliates on Mar 5, 2017
* Dreamnuri Co., Ltd. was included in our affiliates on Jan 1, 2018
* SK Silitron(formerly LG Silitron) was excluded from our affiliates on Jan 3, 2018
* Cecil Co., Ltd. was excluded from our affiliates on Jan 3, 2018
* Taegeuk Pharmaceutical Co., Ltd. was included in our affiliates on Feb 1, 2018
* JES Pharmaceutical Co., LTD was included in our affiliates on Feb 1, 2018
* Promotion of the development of the spring water Ulleung Chusan Yongchunsu was included in our affiliates on Feb 1, 2018
* Greennuri Co., Ltd. was included in our affiliates on Feb 1, 2018
* Hanultari Co., Ltd. was included in our affiliates on Feb 1, 2018
* LG Nsys Co., Ltd. was excluded from our affiliates on April 12, 2018
* LBLusem Co., Ltd. (formerly Lusem Co., Ltd.) was excluded from our affiliates on April 18, 2018
* Hausys ENG Co., Ltd. was excluded from our affiliates on Jul 10, 2018
* Janice Co., Ltd. changed its company name to FMG Co., Ltd. on Jul 25, 2018

* Sarangnuri Co., Ltd. was excluded from our affiliates on Aug 27, 2018
* Robostar Co., Ltd. was included in our affiliates on Sep 1, 2018
* Ujimag Korea Co., Ltd. was included in our affiliates on November 1, 2018.
* Serveone Co., Ltd. changed its name to S&I Corporation Co., Ltd. on December 3, 2018.
* Jiheung Co., Ltd. was excluded from our affiliates on December 26, 2018.
* Farm Hwaong, Ltd. was excluded from our affiliates on December 26, 2018.
* The former Serveone Co., Ltd. carried out its drop down for the MRO business division as of December 3, 2018., and divided into a 100% subsidiary Serveone Co., Ltd. which was newly incorporated then. The new corporation Serveone Co., Ltd. had not been included in our affiliates until December 31, 2018, but it was included in our affiliates as of January 1, 2019.

② Overseas corporations

No.	Name of affiliate	Country
1	Arcelik-LG Klima Sanayi ve Ticarta A.S.	Turkey
2	Beijing LG Building Development Company	China
3	Beijing LG Household & Healthcare Co.,Ltd.	China
4	Beijing Yuanzhimeng Advertising Co.,LTD.	China
5	DACOM AMERICA, INC.	USA
6	Easytec Global Services Innovation Limited	Nigeria
7	EIC PROPERTIES PTE, LTD.	Singapore
8	Entrue Brasil Servicos de T.I. Ltda	Brazil
9	GIIR America Inc.	USA
10	GllR Communications India Private Limited	India
11	GllR UK Limited	UK
12	Hangzhou LG Cosmetics Co.,Ltd.	China
13	Hi Logistics China Co.Ltd	China
14	Inspur LG Digital Mobile Communications Co., Ltd.	China
15	KM Resources Inc.	Malaysia
16	Korea Carbon International Co., Ltd.	China
17	L&T Display Technology (Fujian) Limited	China
18	LG Chem (China) Investment Co.,Ltd.	China
19	LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd.	China
20	LG Chem (Taiwan), Ltd.	Taiwan
21	LG Chem (Tianjin) Engineering Plastics Co.,Ltd.	China
22	LG Chem America, Inc.	USA
23	LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA.	Brazil
24	LG Chem Display Materials (Beijing) Co.,Ltd.	China
25	LG Chem Europe Gmbh	Germany
26	LG Chem Michigan Inc.	USA
27	LG Chem Poland Sp. z o.o.	Poland
28	LG Chemical (Guangzhou) Engineering Plastics Co.,Ltd.	China
29	LG Chem HK Ltd.	China
30	LG Chemical India Pvt. Ltd.	India
31	LG CNS America Inc.	USA
32	LG CNS China Inc.	China
33	LG CNS Europe B.V	Netherlands
34	LG CNS India Pvt. Ltd.	India
35	LG CNS PHILIPPINES, INC.	Philippines
36	LG Consulting corp.	Panama
37	LG Display America,Inc.	USA
38	LG Display Germany GmbH	Germany

39	LG Display GuangZhou Co., Ltd	China
40	LG Display Japan Co.,Ltd.	Japan
41	LG Display Nanjing Co.,Ltd.	China
42	LG Display Poland Sp.zo.o.	Poland
43	LG Display Shanghai Co.,Ltd.	China
44	LG Display ShenZhen Co., Ltd	China
45	LG Display Singapore Pte. Ltd.	Singapore
46	LG Display Taiwan Co.,Ltd.	Taiwan
47	LG Display Yantai Co., Ltd.	China
48	LG Electronics (Hangzhou) Co., Ltd.	China
49	LG Electronics (China) Co., Ltd.	China
50	LG Electronics (China) Research and Development Center Co., Ltd.	China
51	LG Electronics (Levant) Jordan	Jordan
52	LG Electronics Alabama Inc.	USA
53	LG Electronics Algeria SARL	Algeria
54	LG Electronics Almaty Kazakhstan	Kazakhstan
55	LG Electronics Argentina S.A.	Argentina
56	LG Electronics Australia Pty, Ltd.	Australia
57	LG Electronics Benelux Sales B.V.	Netherlands
58	LG Electronics Canada, Inc.	Canada
59	LG Electronics Colombia Ltda	Columbia
60	LG Electronics do Brasil Ltda. (LGEBR)	Brazil
61	LG Electronics Deutschland GmbH	Germany
62	LG Electronics Dubai FZE	Arab Emirate
63	LG Electronics Egypt S.A.E	Egypt
64	LG Electronics Espana S.A	Spain
65	LG Electronics European Holdings B.V.	Netherlands
66	LG Electronics European Shared Service Center B.V.	Netherlands
67	LG Electronics France S.A.S.	France
68	LG Electronics Guatemala S.A.	Guatemala
69	LG Electronics Gulf FZE	Arab Emirate
70	LG Electronics Hellas S.A.	Greece
71	LG Electronics HK Ltd.	China
72	LG Electronics Honduras S.de R.L.	Honduras
73	LG Electronics Huizhou Ltd.	China
74	LG Electronics Inc Chile Ltda.	Chile
75	LG Electronics India Pvt. Ltd.	India
76	LG Electronics Italia S.p.A.	Italy
77	LG Electronics Japan Lab, Inc.	Japan
78	LG Electronics Japan, Inc.	Japan
79	LG Electronics Latvia, LLC	Latvia
80	LG Electronics Magyar KFT	Hungary
81	LG Electronics Malaysia SDN.BHD	Malaysia
82	LG Electronics Mexicalli S.A.DE C.V.	Mexico
83	LG Electronics Mexico S.A.DE C.V.	Mexico
84	LG Electronics Middle East Co., Ltd.	Arab Emirate
85	LG Electronics Mlawa Sp. z o.o.	Poland
86	LG Electronics Mobile Research U.S.A.,LLC.	USA
87	LG Electronics Monterrey Mexico S.A. de C.V	Mexico
88	LG Electronics Morocco S.A.R.L.	Morocco
89	LG Electronics Nanjing New Technology Co., Ltd	China
90	LG Electronics Nigeria Limited	Nigeria
91	LG Electronics Nordic AB	Sweden
92	LG Electronics North Africa Service Company SARL	Tunisia
93	LG Electronics Overseas Trading FZE	Arab Emirate
94	LG Electronics Panama, S.A.	Panama
95	LG Electronics Peru S.A.	Peru

96	LG Electronics Philippines Inc.	Philippines
97	LG Electronics Polska Sp. Z.o.o.	Poland
98	LG Electronics Portugal S.A.	Portugal
99	LG Electronics Qinhuangdao Inc.	China
100	LG Electronics Reynosa S.A. DE C.V.	Mexico
101	LG Electronics RUS, LLC	Russia
102	LG Electronics S.A. (Pty) Ltd.	South Africa
103	LG Electronics Shenyang Inc.	China
104	LG Electronics Singapore PTE LTD	Singapore
105	LG Electronics Taiwan Taipei Co.,Ltd.	Taiwan
106	LG Electronics Thailand Co., Ltd.	Thailand
107	LG Electronics Tianjin Appliances Co., Ltd.	China
108	LG Electronics Ticaret A.S.	Turkey
109	LG Electronics U.S.A., Inc.	USA
110	LG Electronics Ukraine Inc.	Ukraine
111	LG Electronics United Kingdom Ltd.	UK
112	LG Electronics Venezuela S.A	Venezuela
113	LG Electronics Wroclaw Sp. z o.o	Poland
114	LG Electronics(Shanghai) Research and Development Center Co., Ltd.	China
115	LG Electronics (Kunshan) Computer Co., Ltd.	China
116	LG Electronics Africa Logistics FZE	Arab Emirate
117	LG Electronics Miami Inc.	USA
118	LG Hausys America,Inc.	USA
119	LG Hausys Europe GmbH	Germany
120	LG Hausys India Private Limited	India
121	LG Hausys RUS,LLC.	Russia
122	LG Hausys Trading Co., Ltd.	China
123	LG HOLDINGS (HK) LIMITED	China
124	LG Household & Health Care (Taiwan), Ltd.	Taiwan
125	LG Household & Health Care America Inc.	USA
126	LG Household &Health Care TRADING(Shanghai)Co.,Ltd	China
127	LG Innotek (Taiwan) Co., Ltd.	Taiwan
128	LG Innotek Huizhou Co., Ltd.	China
129	PT. LG Innotek Indonesia	Indonesia
130	LG Innotek Poland Sp.z.o.o.	Poland
131	LG Innotek USA, Inc.	USA
132	LG Innotek Yantai Co., Ltd.	China
133	LG International Yakutsk	Russia
134	LG International(America) Inc.	USA
135	Natural Resources Investment (Australia) Pty., Ltd.	Australia
136	LG International(China) Corp.	China
137	LG International(Deutschland) GmbH.	Germany
138	LG International(HK) Ltd.	China
139	LG International(Japan) Ltd.	Japan
140	LG International(Saudi) LLC	Saudi Arabia
141	LG International(Singapore) Pte.,Ltd.	Singapore
142	LG Life Sciences (Beijing) Co.,Ltd	China
143	LG Life Sciences India Pvt,Ltd	India
144	LG Life Sciences Poland Ltd	Poland
145	LG Polymers India Pvt. Ltd.	India
146	SK Siltron America, Inc.	USA
147	SK Siltron Japan, Inc.	Japan
148	LG Soft India Private Limited	India
149	LG VINA Chemical Co.,Ltd.	Vietnam
150	LG Vina Cosmetics Co.,Ltd.	Vietnam
151	LG-Shaker Co. Ltd.	Saudi Arabia
152	Nanjing LG International VMI Ltd. Co.	China

153	Nanjing LG-Panda Appliances Co., Ltd.	China
154	Ningbo LG Yongxing Chemical Co.,Ltd.	China
155	Ningbo Zhenhai LG Yongxing Trading Co.,Ltd.	China
156	P.T. LG Electronics Indonesia	Indonesia
157	Philco Resources Ltd.	Malaysia
158	PT. LG CNS Indonesia	Indonesia
159	PT. Batubara Global Energy	Indonesia
160	PT. Green Global Lestari	Indonesia
161	PT. Indonesia Renewable Resources	Indonesia
162	PT. Mega Global Energy	Indonesia
163	Qingdao LG Inspur Digital Communication Co., Ltd.	China
164	Resources Investment (H.K) Limited	China
165	Serveone Construction (NanJing) Co., Ltd.	China
166	Serveone(Nanjing).Co.,LTD	China
167	Servicios Integrales LG S.A DE C.V	Mexico
168	Servicios LG Monterrey Mexico S.A. de C.V.	Mexico
169	Steel Flower Electric Machinery (Tianjin) Co., Ltd.	China
170	Taizhou LG Electronics Refrigeration Co., Ltd.	China
171	THEFACESHOP(SHANGHAI) CO., LTD	China
172	Tianjin LG Bohai Chemical Co.,Ltd.	China
173	Tianjin LG Botian Chemical Co.,Ltd.	China
174	LG Hausys Tianjin Co., Ltd.	China
175	Tianjin Li Jie Cartridge Heater co.,Ltd (LGETL)	China
176	UCESS PHILIPPINES, INC.	Philippines
177	United Copper & Moly LLC	USA
178	V-ENS (M) Sdn. Bhd.	Malaysia
179	Zenith Electronics Corporation	USA
180	Zenith Electronics Corporation of Pennsylvania	USA
181	LG Chem(HUIZHOU) Petrochemical Co., Ltd.	China
182	GllR Rus LLC	Russia
183	GllR Do Brasil Ltda	Brazil
184	LG Hausys (Wuxi) Co., Ltd.	China
185	Yantai VMI HUB LG International	China
186	PT. Mega Prima Persada	Indonesia
187	PT. Parna Agromas	Indonesia
188	LG Electronics Air-Conditioning(Shandong) Co.,Ltd.	China
189	LG Electronics Angola Limitada	Angola
190	Guangzhou Steel Flower Electric & Machinery Co., Ltd.	China
191	Colmineral S.A. de C.V	Mexico
192	Ginza Stefany Inc.	Japan
193	LG CNS COLOMBIA SAS.	Columbia
194	LHC Solar. LLC	USA
195	LG Hausys Mongolia LLC	Mongol
196	Hi Logistics India Private Limited	India
197	LG Electronics Service Kenya limited	Kenya
198	LG Electronics Saudi Arabia Limited Company	Saudi Arabia
199	LG Fuel Cell Systems Inc.	USA
200	GIIR Thailand Ltd.	Thailand
201	Hi Logistics Malaysia Sdn Bhd	Malaysia
202	PT. Ganda Alam Makmur	Indonesia
203	LG Innotek Trading (Shanghai) Co., Ltd	China
204	Global OLED Technology LLC.	USA
205	GllR Germany GmbH	Germany
206	GllR Ukraine LLC	Ukraine
207	LG Display (China) Co., Ltd.	China

208	LG Life Sciences (Thailand) Ltd.	Thailand
209	Everlife Co.,Ltd.	Japan
210	TFS Singapore Private Limited	Singapore
211	Everlifeagency Co.,Ltd.	Japan
212	Everlife H&B Co.,Ltd.	Taiwan
213	LG Electronics Pasig Inc.	Philippines
214	Hientech (Tianjin) CO.,LTD	China
215	LG Innotek Mexico S.A. de C.V.	Mexico
216	LGC Petrochemical India Private Ltd.	India
217	LG International India Private Limited	India
218	LG International (Shanghai) Corp.	China
219	LG Electronics Vietnam Haiphong Co Ltd	Vietnam
220	Fertilizer Resources Investment Limited	China
221	LG CHEM TK Kimya SANAYI VE TIC. Ltd. STI.	Turkey
222	Fruits & Passion Boutiqes Inc.	Canada
223	Fruits & Passion Immobilier Inc.	Canada
224	3390306 Canada Inc.	Canada
225	THE FACE SHOP Trade (Guandong) Co., Ltd.	China
226	LG CNS MALAYSIA SDN BHD	Malaysia
227	LG Hausys(Tianjin) Engineering Co., Ltd.	China
228	LG CNS Saudi Arabia LLC	Saudi Arabia
229	LG CNS JAPAN Co., Ltd.	Japan
230	HI LOGISTICS RUS Limited Liability Company	Russia
231	LG Chem Japan Co.,Ltd.	Japan
232	UNIFIED INNOVATIVE TECHNOLOGY, LLC	USA
233	LG NanoH2O, Inc.	USA
234	LG Holdings Japan Co., Ltd	Japan
235	Serveone(Guangzhou) Co., Ltd	China
236	PT. Binsar Natorang Energi	Indonesia
237	PT.LG Electronics Service Indonesia	Indonesia
238	SERVEONE VIETNAM Co.,Ltd	Vietnam
239	Farmhannong America, Inc.	USA
240	Silicon Works Inc.	USA
241	Hi Logistics Egypt	Egypt
242	Hi Logistics Vietnam Co. LTD.	Vietnam
243	HS Ad MEA FZ-LLC	Arab Emirate
244	HSAD LATIN AMERICA,S.A.	Panama
245	Nanjing LG Chem New Energy Battery Co.,Ltd.	China
246	NanoH2O (Jiangsu) Water Processing Technology Co. LTD.	China
247	Combustion Synthesis Co., Ltd.	Japan
248	LG Chem (Chongqing) Engineering Plastics Co.,Ltd.	China
249	LG Chem Malaysia SDN.BHD	Malaysia
250	LG CNS UZBEKISTAN, LLC	Uzbekistan
251	LG Electronics Finland Lab, Oy	Finland
252	LG Display Guangzhou Trading Co., Ltd.	China
253	Haiphong Steel Flower Electrical & Machinery Company Limited	Vietnam
254	Pantos Logistics (China) Co.,Ltd	China
255	FNS (Beijing) Logistics Co.,Ltd	China
256	Pantos Logistics (Shanghai) Co.,Ltd	China
257	Pantos Logistics (Ningbo) Co.,Ltd	China
258	Pantos Logistics(Shenzhen) Co.,Ltd	China
259	Pantos Logistics (HK) Company limited	China
260	Pantos Logistics (Taiwan) Co.,Ltd	Taiwan
261	PT. Pantos Logistics Indonesia	Indonesia

262	PT. Pantos Logistics Jakarta	Indonesia
263	PT. Pantos Express Indonesia	Indonesia
264	Pantos Logistics SINGAPORE PTE. LTD	Singapore
265	Pantos Logistics (Thailand) Co.,Ltd	Thailand
266	Pantos Logistics MALAYSIA SDN. BHD.	Malaysia
267	PANTOS LOGISTICS (INDIA) PRIVATE LIMITED	India
268	Pantos Logistic (CAMBODIA) Co.,Ltd	Cambodia
269	Pantos Logitstics Vietnam Co.,Ltd	Vietnam
270	Pantos Logistics AUSTRALIA PTY LTD	Australia
271	Pantos Logistics Philippines Inc	Philippines
272	Pantos Holdings (Thailand) Co.,Ltd	Thailand
273	Pantos Logistics Myanmar Co.,Ltd	Myanmar
274	Pantos Logistics UK Ltd.	UK
275	Pantos Logistics Benelux B.V	Netherlands
276	Pantos Logistics France	France
277	Pantos Logistic Poland Sp.z o.o.	Poland
278	Pantos Logistics Germany GmbH	Germany
279	Pantos Logistics Spain S.L	Spain
280	Pantos Logistics DIS TICARET SANAYI VE TICARET LIMITED SIRKETI	Turkey
281	Pantos Logistics Mexico S.A DE C.V	Mexico
282	Pantos Do Brasil Logistica Ltda	Brazil
283	Pantos Logistics Colombia S.A.S	Colombia
284	Pantos Logistics Chile SPA	Chile
285	Pantos Logistics Panama S.A.	Panama
286	"FNS CIS" LLC	Russia
287	"Pantos Logistics Kazakhstan"	Kazakhstan
288	Pantos Logistics UKRAINE LTD	Ukraine
289	Pantos Customs Services LLC	Russia
290	ZAO "Contrans"	Russia
291	Pantos Logistics L.L.C (DUBAI)	Arab Emirate
292	PANTOS LOGISTICS AND SERVICE COMPANY LLC	Oman
293	Pantos Logistics Company Limited. (Kingdom of Saudi Arabia)	Saudi Arabia
294	Pantos Logistics Japan Inc.	Japan
295	LG Electronics Nanjing Battery Pack Co.,Ltd.	China
296	LG Electronics Nanjing Vehicle Components Co.,Ltd.	China
297	Hi.M Solutek HVAC Service and Maintenance LLC	Arab Emirate
298	Highland Cement International Co., Ltd.	Myanmar
299	SERVEONE POLAND sp. z o.o.	Poland
300	HILOGISTICS NJ INC.	USA
301	LG Display Vietnam Haiphong Co., Ltd.	Vietnam
302	Dongbu Farm Hannong (Heilongjiang) Chemical Corp	China
303	LG H&H HK LIMITED	China
304	HI-M SOLUTEK PHILIPPINES INC.(*)	Philippines
305	LG Chem Wroclaw Energy sp. z o.o.	Poland
306	Suzhou Lehui Display Co., Ltd.	China
307	Toiletry Japan Inc.	Japan
308	LG Innotek Vietnam Haiphong Co., Ltd	Vietnam
309	LG HOUSEHOLD AND HEALTH CARE COSMETICS R AND D(SHANGHAI) CO.,LTD	China
310	HI LOGISTICS BRASIL SERVICOS DE LOGISTICA LTDA	Brazil
311	PANTOS LOGISTICS AR	Argentina
312	HI-M SOLUTEK VIETNAM CO., LTD.	Vietnam
313	c2i(s.r.o)	Slovakia
314	FJ Composite Material Co., Ltd.	Japan
315	LG CNS VIETNAM CO., LTD	Vietnam

316	LG Corp. U.S.A.	USA
317	LG Hausys Canada, Inc.	Canada
318	Silicon Works China Co., Ltd	China
319	LGEUS Power, LLC	USA
320	LG Electronics Vehicle Component U.S.A., LLC	USA
321	LG Chem Hai Phong Veitnam Co., Ltd.	Vietnam
322	Questeam Sdn Bhd	Malaysia
323	HS AD VIETNAM CO., LTD	Vietnam
324	LG Chem Australia Pty Ltd	Australia
325	CCP-LGE OWNER, LLC	USA
326	LG Chem Mexico S. A. de C. V.	Mexico
327	FarmHannong(Thailand) Ltd.	Thailand
328	Panthos Logistics Nigeria Limited	Nigeria
329	LG ELECTRONICS FUND I LLC(*)	USA
330	LG Technology Ventures LLC(*)	USA
331	LG Chem Hai Phong Engineering Plastics Ltd.	Vietnam
332	LG Chem (Guangzhou) Information & Electronics Materials Co.,Ltd.	China
333	LG CHEM FUND I LLC(*)	USA
334	LG UPLUS FUND I LLC(*)	USA
335	LG DISPLAY FUND I LLC(*)	USA
336	HS GTM Germany GmbH	Germany
337	LEYOU NEW ENERGY MATERIALS(WUXI)CO.,LTD	China
338	PT. Grand Utama Mandiri	Indonesia
339	PT. Tintin Boyok Sawit Makmur	Indonesia
340	PT. Tintin Boyok Sawit Makmur Dua	Indonesia
341	LG Household & Health Care (Thailand) Limited	Thailand
342	Avon Products Company Limited	Japan
343	ZKW Holding GmbH	Austria
344	ZKW Group GmbH	Austria
345	ZKW Lichtsysteme GmbH	Austria
346	ZKW Elektronik GmbH	Austria
347	KES - kablove a elektricke systemy spol. s.r.o.	Czech Republic
348	KES Poland Sp.z o.o.	Poland
349	ZKW Slovakia s.r.o.	Slovakia
350	ZKW Lighting Systems USA, Inc.	USA
351	ZKW Mexico, S.A. de C.V.	Mexico
352	ZKW Mexico Inmobiliaria, S.A. de C.V.	Mexico
353	ZKW Mexico Servicios, S.A. de C.V.	Mexico
354	ZKW Lighting Systems (Dalian) Co. Ltd.	China
355	Mommert Gewerbeimmobilien Verwaltungs GmbH	Austria
356	Mommert Immobilien GmbH	Austria
357	HIPLAZA (Shenyang) Trading Co., Ltd.	China
358	LG Display High-Tech (China) Co., Ltd.	China
359	Live & Life Co., Ltd.	Japan
360	Fleuve Beaute Inc.	Japan
361	ROBOSTAR (SHANGHAI) CO.,LTD	China
362	LG CNS FUND I LLC	USA
363	S&I Vietnam construction Co., Ltd	Viet Nam
364	PANTOS LOGISTICS SWEDEN AB.	Sweden
365	Uniseal, Inc.	USA
366	LG Chem Nanjing Energy Solution Co., Ltd.	China
367	Evermere Holdings Company	Japan
368	Evermere Cosmetics Company	Japan

(*) There are no outstanding shares because it capital has not been paid although it was newly established.

H. Credit Rating

In the past three years, the company has not requested credit ratings to domestic or overseas credit rating agencies which offer ratings and private rating agency's interest rates not as in the credit inquiry business.

I. Listing (or registration and designation) and special listing of the company's stock certificates

Whether stock certificates are listed (or registered or designated)	Date of stock listing (or registration / designation)	Whether special listing is applied	Applicable regulations such as special listing
KOSDAQ market	June 08, 2010	Not applicable	Not applicable

2. History of the Company

The following is the company's major historical events.

Date	Information
Jun. 2014	Largest shareholder changed: Comet Network Co., Ltd. → LG Corporation
Jul. 2014	belonged to the LG corporate group
Apr. 2015	Acquired part of system IC business from Lusem Co., Ltd.
Jul. 2015	Acquired part of System IC business from LG Electronics Co., Ltd.
Oct. 2016	Awarded the prize of sales tower 500 billion won (Daejeon City)
Mar. 2017	Change of representative director (Dae-Keun Han -> Bo-Ik Son)
Oct. 2017	Awarded the prize of sales tower 600 billion won (Daejeon City)
May. 2018	Acquired part of System IC business from LG Electronics Co., Ltd. (Entire assets and manpower related to T-Con chips for OLED TV)
Jun. 2018	The 10th Korea KOSDAQ Award (KOSDAQ Association) (Best Job Creating Company Prize awarded)

The following are the major historical events of Silicon Works Inc. (USA), one of the company's subsidiaries.

Date	Information
Oct. 2012	Establishment of legal entity (Paid-in capital USD 500,000)

The following are the major historical events of Silicon Works China Co., LTD(China), one of the company's subsidiaries.

Date	Information
March. 2017	Establishment of legal entity (Paid-in capital CNY 4,085,400)
May. 2018	Capital increase with consideration (CNY 4,085,400 -> CNY 13,012,920)

A. The Headquarters and Changes of the Address

November 11, 1999: 4th Fl., Jeil Bank Building, 1299 Dunsan-dong, Seo-gu, Daejeon, Korea

December 15, 2000: 5th Fl., Semyung Hoekwan Building, 1299 Dunsan-dong, Seo-gu, Daejeon, Korea

October 4, 2005: 104-13 Munji-dong, Yuseong-gu, Daejeon, Korea

January 31, 2011: 222 Techno 2-ro Yuseong-gu, Daejeon, Korea

B. Major changes to the Management

Date	Before			After		
	In-house director	Non-executive director	Outside Director	In-house director	Non-executive director	Outside Director
Mar 2014	Han Dae-Keun (representative director), Kim Dae-Seong, Oh Hyeong-Seok, SHIN Tae-Hyeong	-	Moon Geon-Woo, Lee Sang-Guk, Lee Nam-Joo	Han Dae-Keun (representative director), Kim Dae-Seong, Oh Hyeong-Seok	-	Moon Geon-Woo, Lee Sang-Guk, Lee Nam-Joo
Mar 2015	Han Dae-Keun (representative director), Kim Dae-Seong, Oh Hyeong-Seok	-	Moon Geon-Woo, Lee Sang-Guk, Lee Nam-	Han Dae-Keun (representative director), Bae Dong-Su	-	Moon Geon-Woo, Lee Sang-Guk, Lee Nam-

			Joo			Joo
Jun 2015	Han Dae-Keun (representative director), Bae Dong-Su	-	Moon Geon-Woo, Lee Sang-Guk, Lee Nam-Joo	Han Dae-Keun (representative director), Bae Dong-Su	Son Bo-Ik	Moon Geon-Woo, Lee Sang-Guk, Lee Nam-Joo
Mar 2017	Han Dae-Keun (representative director), BAE Dong-Su ,	Son Bo-Ik	Moon Geon-Woo, Lee Sang-Guk, Lee Nam-Joo	Son Bo-Ik (representative director), BAE Dong-Su,	Min Byeong-Hun	Moon Geon-Woo, Lee Nam-Joo, Yoon Il-Goo
Mar 2018	Son Bo-Ik (representative director), Bae Dong-Su	Min Byeong-Hun	Moon Geon-Woo, Lee Sang-Guk, Lee Nam-Joo	Son Bo-Ik (representative director), Choi Sung-Kwan	Jeong Hyeon-Ok	Lee Nam-Joo, Yoon Il-Goo, Shin Yeong-Soo
Mar 2019	Son Bo-Ik (representative director), Choi Sung-Kwan	Jeong Hyeon-Ok	Lee Nam-Joo, Yoon Il-Goo, Shin Yeong-Soo	Son Bo-Ik (representative director), Choi Sung-Kwan	Jeong Yeon-Chae	Yoon Il-Goo, Shin Yeong-Soo, Wee Gyeong-Woo

Note) Please refer to “VII. Executives and Employees” for more details on change in management.

C. Changes of the Largest Shareholder

Please refer to ”2. Changes of the Largest Shareholder – VII. Matters Pertaining to Shareholders” in this public disclosure document with regard to this matter.

3. Changes to Paid-in Capital

Capital increase (decrease) status

(Basic date: Dec. 31, 2018) (Unit: KRW, share)

Date of stock issue (decrease)	Issue (decrease) type	Details of issued (decreased) shares				
		Type of stock	Number	Par value per share	Issued (decreased) price per share	Remarks
-	-	-	-	-	-	-

1) Total number of shares issued as of the reporting date: 16,264,300 shares

2) Capital as of the reporting date: 8,132,150,000 KRW

4. Total Number of Shares

Status of Total Number of Shares

(Basic date: Dec. 31 2018) (Unit: shares)

Division	Share Type			Comment
	Common share	Preferred share	Total	
Ⅰ. Total number of shares to be issued	-	-	50,000,000	-
Ⅱ. Total number of shares issued so far	16,264,300	-	16,264,300	-

Ⅲ. Total number of shares Decreased so far		-	-	-	-
	1. Capital Decrease	-	-	-	-
	2. Interest distribution	-	-	-	-
	3. Redemption of redeemable shares	-	-	-	-
	4. Others	-	-	-	-
IV. Total number of shares issued (Ⅱ-Ⅲ)		16,264,300	-	16,264,300	-
Ⅴ. Number of treasury shares		-	-	-	-
VI. Number of outstanding shares (IV –V)		16,264,300	-	16,264,300	-

Note) The total shares of our company to be issued is 50 million shares, of which the issuing limit of preferred stock is 7 million shares.

Acquisition and disposition of treasury stock

(Basic date: Dec. 31 2018) (Unit: shares)

Acquisition method			Type of stock	Beginning	Changed			Ending	Remarks
					Acquisition (+)	Disposition (-)	Cancellation (-)		
Acquisitions within the range of profit available for dividend	Direct acquisition	Direct acquisition in the pit trading	-	-	-	-	-	-	-
			-	-	-	-	-	-	-
		Direct acquisition over the counter	-	-	-	-	-	-	-
			-	-	-	-	-	-	-
		Tender offer	-	-	-	-	-	-	-
			-	-	-	-	-	-	-
		Subtotal (a)	-	-	-	-	-	-	-
			-	-	-	-	-	-	-
	Acquisition by trust agreement	Fiduciary holdings	-	-	-	-	-	-	-
			-	-	-	-	-	-	-
		In-kind holdings	-	-	-	-	-	-	-
			-	-	-	-	-	-	-
		Subtotal (b)	-	-	-	-	-	-	-
			-	-	-	-	-	-	-
Other acquisition (c)					-	-	-	-	-
					-	-	-	-	-
Total (a+b+c)					-	-	-	-	-
					-	-	-	-	-

5. Status of Voting Rights

(Basic date: Dec. 31 2018) (Unit: shares)

Division		Number of shares	Comment
Total number of shares issued (A)	Common share	16,264,300	-
	Preferred share	-	-

Number of shares without voting rights (B)	Common share	-	-
	Preferred share	-	-
Number of shares with restricted voting rights based on the Articles of Association laws (C)	Common share	-	-
	Preferred share	-	-
Number of shares with restricted voting rights based on other laws (D)	Common share	-	-
	Preferred share	-	-
Number of shares with resurrected voting rights (E)	Common share	-	-
	Preferred share	-	-
Number of issued shares with voting rights (F = A - B - C – D + E)	Common share	16,264,300	-
	Preferred share	-	-

6. Dividend

A. Dividend
The Company, pursuant to its Articles of Incorporation, is distributing dividends through the Decisions by the board of directors and from shareholders' meetings and determines reasonable amount of dividends based on business conditions, investments and shareholder value enhancement for the consistent growth within the profit available for dividend distribution. Moreover, Article 55 and 57 of the company's Articles of Incorporation provides profit dividend and the prescription of extinction for rights of dividend payment claim.

Article 55 of the Articles of Incorporation [Profit Distribution]
① The dividend of profits may be carried out with money or other properties than money.
② If the dividend of profit is carried out with shares, the company may use other types of stocks upon a resolution of the general meeting of shareholders when it issues a number of shares.
③ The dividend under ① shall be paid to the shareholders listed in the Register of Shareholders as of the end of each fiscal year or registered pledgees.

Article 57 [Extinctive Prescription of Claims for the Payment of Dividend]
① The extinctive prescription of the right to request the payment of dividends shall be completed if it is not exercised for five years.
② The dividends resulting from the completion of the extinctive prescription under ① shall belong to the company.

B. Dividends over the Recent Three Business Years

Major dividend indexes

Division	Type of share	Current year	Previous year	Year before previous year
		The 20th year	The 19th year	The 18th year
Face value per share (Won)		500	500	500
(Consolidated) Current net profit (1 Million Won)		48,960	47,064	50,680
(Individual) current net profit (million KRW)		48,931	46,458	50,564
(Consolidated) earnings per share (KRW)		3,010	2,894	3,116
Total dividends in cash (1 Million Won)		13,499	11,385	14,638
Total amount of dividends (1 Million Won)		-	-	-
(Consolidated) Cash dividend (%)		27.6	24.2	28.9
Cash dividend rate (%)	Common shares	2.5	1.4	3.3
	Preferred shares	-	-	-
Share dividend rate (%)	Common shares	-	-	-
	Preferred shares	-	-	-
Dividend in cash per share (Won)	Common shares	830	700	900
	Preferred shares	-	-	-
Share allocation per share (Share)	Common shares	-	-	-
	Preferred shares	-	-	-

II. Business Activities

1. Business Overview

A. System IC

(1) Characteristics of the Industry
Our products have been growing in scale with the development of the display industry as a key component to drive the display panel.

The key competitive factor in the display parts market is to strengthen technological competitiveness based on the original technology and to enter the market in the early stage of display technology development.

As the complex product designing technology is required recently, technology gap is getting bigger between companies that have differentiated technology and those who have not.

(2) Market size and Growth
In order to escape the maturation and growth constraints of the existing LCD display market, domestic and global companies are expanding their OLED investments and securing competitiveness.

In order to escape from the mature and saturated existing LCD market, domestic and foreign global companies are expanding their investment in OLED and securing their competitiveness. Innovative changes in the display industry such as ultra-high resolution, flexible, rollable display, etc. are expected through the advanced OLED technology. Also, business areas to new applications are also expected, such as smart watch, VR (virtual reality), auto display as well as TV, IT and mobile handset products as the existing major markets for LCD.

[Annual panel sales]

WW Panel Forecast

(Unit: Munits)	2015	2016	2017	2018(E)	2019(E)	2020(E)	2021(E)	2022(E)	2023(E)	2024(E)	2025(E)
MNT	140.2	140.9	140.1	149.7	149.5	138.9	138.0	138.0	137.7	137.5	137.2
Notebook	179.6	168.7	179.9	183.7	191.0	178.0	178.8	178.4	177.3	177.0	175.6
Tablet	271.9	235.3	215.1	209.6	183.0	160.1	150.3	142.3	168.6	165.4	162.1
TV	274.2	265.4	266.6	287.1	293.1	276.4	274.8	275.9	277.1	278.7	280.0
Automotive	137.5	144.5	153.8	171.0	183.2	192.8	201.6	210.5	218.3	221.7	224.6
Large Total	**1,003.4**	**934.8**	**955.5**	**1,003.0**	**999.7**	**946.2**	**943.7**	**945.0**	**978.9**	**980.2**	**979.4**
Featurephone	410	333	322	325	338	345	348	350	350	349	348
Smartphone	1,548	1,609	1,682	1,632	1,710	1,719	1,734	1,751	1,758	1,762	1,771
Smart Watch	47.7	75.3	105.1	121.2	135.2	142.8	145.8	147.7	148.8	149.6	149.8
Head Mound Display(VR/AR)	-	2.6	3.5	6.3	11.2	13.6	16.3	19.2	20.5	20.7	20.9
Small Panel Total	**2,005**	**2,020**	**2,112**	**2,084**	**2,195**	**2,220**	**2,244**	**2,268**	**2,277**	**2,281**	**2,289**

① Medium and large panels - TV & IT

In the TV market, high-resolution large-area panels are increasing in weight. By 2018, the penetration rate of UHD

TVs has exceeded the global average of 40%, and the proportion of high-resolution panels over UHD of domestic panel makers has exceeded 55%. In addition, since 2H17, production of high-definition panels with a capacity of 8K or more has begun, and premium products are expected to grow in weight.

The proportion of OLED TVs in the premium TV market is steadily increasing, and the number of TV set makers who have selected OLED panels as a product differentiation strategy has increased further, and the large OLED market is growing strongly. Chinese panel makers are aggressively investing in facilities based on enormous capital strength. In the next two to three years, Chinese panel makers' market share is expected to increase even more, as the volume of OLED panels will increase sharply with Chinese high-definition large-area LCD panels.

In the IT market, monitors, notebooks, and Tablet PCs are showing a year-on-year Marline since 2015. IT products are not expected to grow without a change in new form factors due to the maturation of the market. However, we are raising the value added by adding new functions such as increasing the resolution and using the touch panel, focusing on some premium brands.

② Small panels – Smartphone & Wearable devices

The smart phone market has entered the maturity stage. The size of the smart phone market has increased to about 1.5 billion units in 2017, but it is expected to reach about 1.4 billion units in 2018 and 2019. In the smart phone market in advanced countries, growth is expected to be low compared to that of emerging markets, and growth in emerging markets is driving the growth of the entire smart phone market. In particular, global demand for mobile phones is heavily influenced by domestic demand in China. In addition, the local set makers' share in the Chinese market is increasing, and the importance of the Chinese set customers is growing.

The proportion of smart phones equipped with OLED panels is expected to grow to about 25% in 2018, and the weight of OLED smart phones will gradually increase. Domestic and overseas panel makers are expanding their investment in small OLED facilities, and Korean OLED makers are leading the small OLED market due to the technology gap between domestic panel makers and Chinese panel makers. As Chinese companies expand their capacity however, the share of Chinese companies in the OLED panel market is expected to increase gradually.

The smart watch market is expected to continue to grow at a high rate each year, unlike decreasing demand in the smart phone market, and the size of related markets will continue to increase through services linked to various devices such as IoT, etc.

(3) Characteristics of economic fluctuations and competitive elements
The core competitive element in the display component market is the market entry at the initial stage with the development of display, as well as the strengthening technological competitiveness based on original technologies. Securing the meaningful share in the new market where new technology is applied means an entry barrier while enjoying the economy of the scale before the industry become saturated along with differentiation through technological competitiveness.

The key competitors of the display parts market are not only strengthening technological competitiveness based on original technology, but also entering the market at an early stage along with the development of display. By securing a meaningful market share in new markets where new technologies are applied, we will create entry barriers by differentiating through technological competitiveness.

The display industry needs technology and capital-intensive characteristics and economies of scale, and the barriers to entry are becoming higher as technological completeness increases. Fierce competition among panel manufacturers in the past has resulted in improved supply capacity and high growth rates throughout the display industry, coupled with increased demand. However, recently, due to the high maturity of the market and limited demand, it has entered a low-growth phase, and replacement demand has not increased significantly due to its sensitivity to economic fluctuations. Unless new demand is created through innovative products, it is difficult to expect continued growth of the market.

(4) Market share

According to IHS, a market research company, we entered the top 60 global semiconductor companies in 2018 and ranked fifth in terms of display driver IC companies. However, competitiveness of new technologies is more important than the recent sales scale itself, as an important criterion for judging the competitive advantage of the company. We have successfully entered the OLED market through close cooperation with panel customers, and we continue to expand our business into new areas such as automobiles, batteries, and consumer electronics.

(5) Strength of the company

Company not only provide the core components of Display System Semiconductor as a total solution, but also localize the products that have been highly dependent on imports, contributing to stable parts procurement and price competitiveness of domestic downstream companies. We are also actively supporting customer's market by providing customized premium products through continuous technology development. The win-win strategy based on trust with forward-looking companies plays a major role in our competitiveness. Through these efforts, we have secured technological response power to comply with market change in more prompt and flexible ways than other companies from new product development to delivery. Accordingly, our company is realizing customer diversification through securing domestic and overseas customers based on our unique designing technological power.

B. Silicon Works Inc. (USA), Silicon Works China Co., LTD(China)

Our company has overseas subsidiaries in the US and China to open up new markets and support existing customers. Please refer to "A. System IC" for the characteristics of the two overseas subsidiaries and the size of their markets.

C. Summary of financial status for each business activity

(1) Financial status for each business activity

[Basic date: Dec. 31, 2018] (Unit: Thousand KRW)

Category	Location	Title	20th year	19th year	18th year
Semiconductor	Daejeon	Assets	607,558,306	544,294,125	485,997,742
		Liabilities	160,944,737	132,068,704	105,319,662
		Capital	446,613,568	412,225,422	380,678,080

Note) The financial status of Silicon Works Inc. (USA) and Silicon Works China Co., LTD(China) is included in the semiconductor category.

(2) Profit or loss for each business activity

[Basic date: Dec. 31, 2018] (Unit: Thousand KRW)

Category	Location	Title	20th year	19th year	18th year
Semiconductor	Daejeon	Sales	791,818,132	692,761,282	610,043,215
		Operating income	55,797,059	45,521,509	50,617,456
		Current net income	48,960,453	47,064,354	50,680,306

Note) The financial status of Silicon Works Inc. (USA) and Silicon Works China Co., LTD(China) is included in the semiconductor category.

2. Major Products

[Basic date: Dec. 31, 2018] (Unit: Thousand KRW)

Business Sector	Product	Product Detail	Major Product	20th year		19th year		18th year	
				Sales	Proportion (%)	Sales	Proportion (%)	Sales	Proportion (%)
Semiconductor	System IC	Panel driver IC and others	Driver-IC	664,231,979	83.89	585,037,467	84.45	468,721,134	76.84
			Non Driver-IC	127,586,153	16.11	107,723,815	15.55	141,316,081	23.16
Total				791,818,132	100.00	692,761,282	100.00	610,043,215	100.00

3. Major Raw Materials

[Basic date: Dec. 31, 2018] (Unit: Thousand KRW)

Raw material	Purchase	Major supplier	Remarks
Wafer, etc.	620,670,816	SK Hynix Co., Ltd., etc.	-
Processing Cost, etc.	12,907,279	LB Semicon Co., Ltd., etc.	-

Note) LG Innotech Co., Ltd. and Lusem Co., Ltd. among our company's suppliers belong to LG affiliates.

As our company is a fabless company placing orders and commissioning semiconductor manufacturing processes and the cost for the purchase of wafers is a very important element for the management performance and it is considered to be confidential. Hence, the company will not provide the unit cost and trends of wafer prices.

4. Manufacturing and Facilities

A. Manufacturing Capacity and Facilities

Our company is a fabless company and has no manufacturing facilities. All the necessary manufacturing is commissioned to professional semiconductor manufacturers (foundries). Accordingly, it has no separate manufacturing facilities and the details are not provided.

B. Commissioned Manufacturing

Fabless companies depend on commissioned processing from wafer manufacturing to package and testing. As wafer manufacturing foundries, package and testing businesses involve large-scaled investment due the characteristics of semiconductor industry, the businesses are divided accordingly.

5. Sales

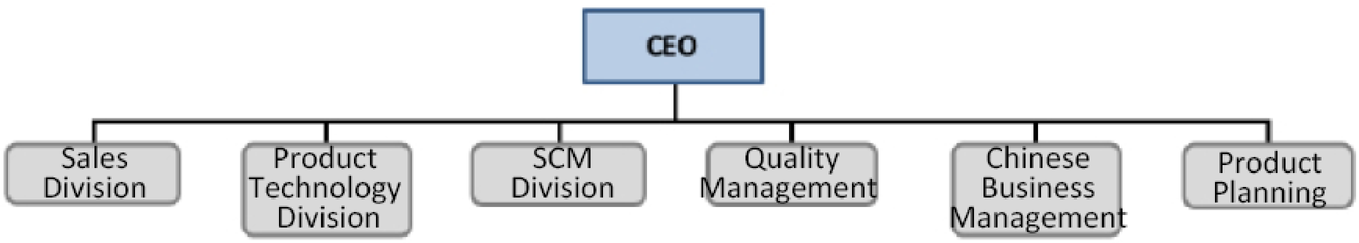
A. Sales Performance

[Basic date: Dec. 31, 2018] (Unit: Thousand KRW)

Division	Sales type	Division		20th year	19th year	18th year
Semiconductor	Products and others	System IC	Domestic	36,811,776	30,104,137	30,516,694
			Exports	755,006,355	662,657,145	579,526,521
Total			Total	791,818,132	692,761,282	610,043,215

B. Sales Channels, Methods, Strategies, and Major Customers

(1) Sales and mass production support organizations



[Businesses by sales organizations]

Division	Operational span
Sales Division	- Market and customer analysis, strengthening benchmarking - Seize opportunity to enter the market by sector / secure orders
SCM Division	- Establishment and implementation of mid- and long-term purchase strategy for cost reduction and preemptive response to changes in internal / external environment - Development product supply chain management

	- Timely / proper production supply
Product Technology Division	- Secure product reliability - Securing advanced quality and technology - Establishment of quality management system
Quality Management	- Establishment of quality assurance and management system for customers - Providing customers with the best shipping quality and high reliability products - Achieve customer satisfaction with continuous improvement and prompt customer service
Chinese Business Management	- Business diversification and expansion of overseas sales by focusing on strategic customers in China (Taiwan, China)
Product Planning	- Product planning, establishment of short-term and long-term product technology strategies

(2) Sales channel

Most of our sales are direct sales,. The company develops and sells products based on consistent discussions on the product specifications and characteristics with electronic companies which are most of the buyers.

Product	Partner	Sales route
System IC	LG Display, etc.	Order → Silicon Works (OEM → release → delivery) Settlement: Payment within 30 ~ 120 days

(3) Sales strategy

The company is expected to maintain its competitiveness in the market through the development of new products and technologies as well as differentiated customer support to strengthen the customer base and to expand subjects of new customers. Also, it will keep its market status by providing the optimum solutions requested by customers as tailor-made products.

6. Order Situation

Driver chips for displays manufactured by the company vary according to the size and characteristics of display panels. Based on the characteristics of purchase policies of major panel providers, order in a cycle of about 10 weeks is placed as the necessary amount is decided, followed by additional requests at any given time thereafter.

7. Market Risk and Risk Management

The consolidated entity is exposed to credit risk, liquidity risk and market risk with regard to financial products. Information on the aforesaid risk to which the consolidated entity is exposed is disclosed in the notes with the goal, policy, risk evaluation and management procedure, and capital management of the consolidated entity. Additional quantitative information is also disclosed throughout these financial statements.

A. Credit Risk Management

Credit risk refers to risk where the consolidated entity may have financial losses as customers or transactional counterpart fails to fulfill contractual obligations for financial products, and it may mainly break out from account receivables for customers and investment assets. Our company is trading with customers with the certain level or higher of credit rating in an effort to reduce financial losses due to default, while reviewing the credit ratings of customers with exposure to credit risk periodically. Credit risk may break out even from transactions with financial institutions as well, and our company is in principle trading only with the banks of higher credit ranking in an effort to reduce this risk. Our company ensures that new transactions are carried out for deposits with the higher likelihood of credit risk such as trust deposits only after approval by the executive in charge. The exposure level of the consolidated entity to credit risk in the current quarter is maximum 3,913billion KRW, including cash, cashable assets, trade receivables and other receivables.

B. Liquidity Risk Management

Liquidity risk refers to risk where the consolidated entity has difficulties in fulfilling obligations for financial liabilities (account payables and other payables) which will be cleared with the delivery of cash or other financial assets. The liquidity management method of the consolidated entity is to maintain liquidity good enough to pay back any debt on the maturity without any excessive loss in an abnormal way or any risk of damage to the consolidated entity's reputation even under any financially difficult circumstance. The consolidated entity manages liquidity risk by maintaining cash, cashable assets and short-term financial products sufficiently. Among the total of KRW 124.1 billion of financial liabilities held by the consolidated entity during the current quarter year, KRW124.1 billion is due within one year due to the contract, and a stable liquidity ratio of 327.4% has been kept.

C. Market risk

Market risk refers to risk with variations on the fair values of financial products or future cash flows due to variations in the market prices.

(1) Exchange rate risk management

The consolidated entity is exposed to the exchange rate risk related to the sales profits and costs indicated in currencies other than the Korean Won which is the functioning currency. The major presentation currency for these transactions is the USD.

The assets and liabilities denominated in foreign currencies other than the functional currency at the end of the current and previous years are as follows;

(Unit: million KRW)

Division	Current quarter			End of previous year		
	USD	JPY	CNY	USD	JPY	CNY
Assets in foreign currency (Cash and cash equivalents)	11,801,375	-	106,160	15,742,058	1,246,145	152,629
Liabilities in foreign currency	19,858,116	72,949	155	11,744,853	-	254,922

(Trade payables, accounts payable)						

The effect of changes in foreign currency exchange rates on foreign currency at the end of current and previous years is as follows;

(Unit: Thousand KRW)

Division	End of current year	End of previous year
	(If 5% changed)	(If 5% changed)
USD	±402,837	±199,860
JPY	±3,647	±62,307
CNY	±5,300	±5,115

(B) Interest Rate Risk Management

The consolidated entity is not recognizing the fixed interest rate financial products as the financial products for which the profits or losses should be recognized in the current fiscal year. Accordingly, the revenues and operating cash flows of the consolidated entity are actually independent of variations in the market interest rate.

D. Capital Risk Management

The capital management of the consolidated entity is for maintaining the existence of the company as a going concern, minimizing the capital cost for funding, maximizing the profits of the shareholders, and maintaining an appropriate equity structure. The consolidated entity is managing its capital based on the liability ratio. The liability ratio is calculated by dividing the total liability with the capital in the financial statement. In the current quarter, the consolidated entity maintains a proper debt ratio at 36.04%.

For more details on the market risks, please refer to the notes to this disclosure document. "Ⅲ. Financial Matters": 3. Notes to Consolidated Financial Statements - 7 Financial Risk Management.

8. Transaction of Derivatives

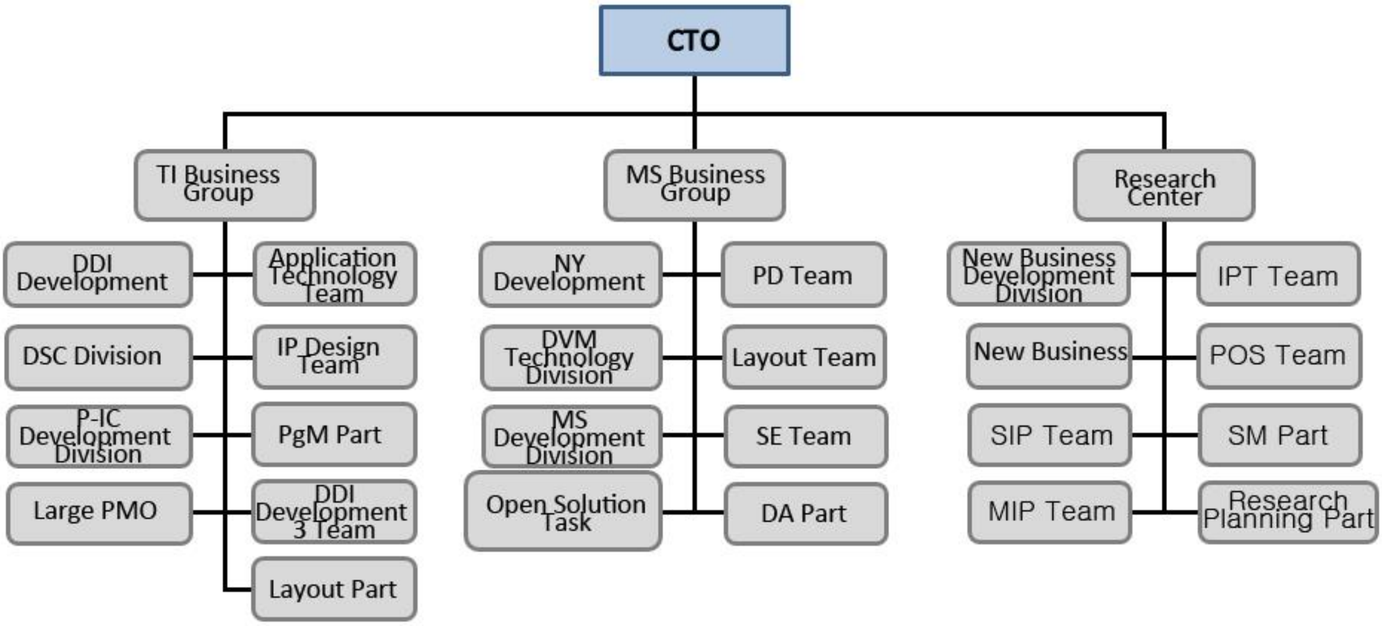
As of the reporting day, there is no relevant information.

9. Major Contracts in Management

As of the reporting day, there is no relevant information.

10. Research and Development

A. Research and Development Organization



B. Research and Development Cost

(Unit: Thousand KRW)

Division		20th year	19th year	18th year
Asset processing	Raw material cost	-	-	-
	Labor cost	-	-	-
	Manufacturing cost	-	-	-
	Sub-total	-	-	-
Cost processing	Manufacturing cost	-	-	-
	Selling and administrative expense	85,708,859	79,214,211	52,630,577
Total (Ratio to sales)		85,708,859 (10.82%)	79,214,211 (11.43%)	52,630,577 (8.63%)

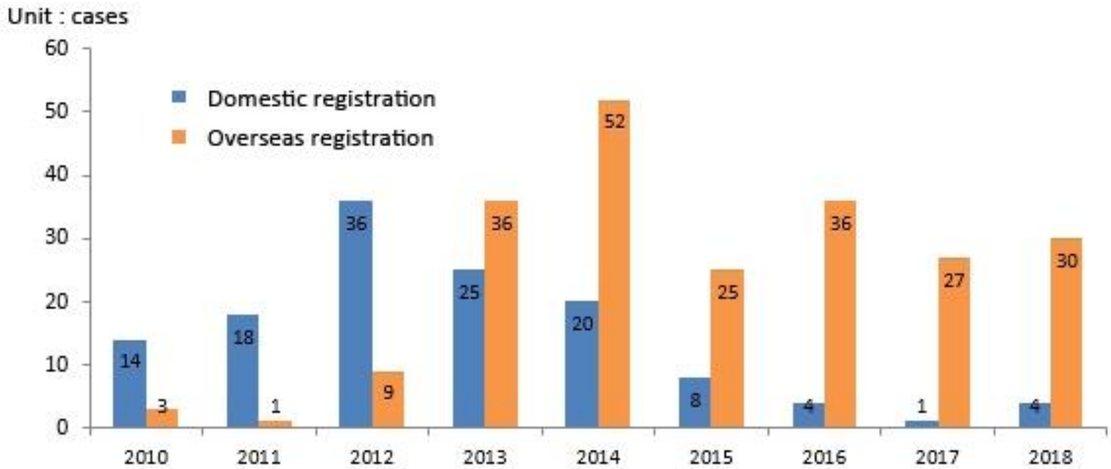
Note: The company recognizes ordinary research and development expenses as expenses for the year without capitalization.

C. Performances in research and development

The company is specializing in display components and has secured a variety of product technologies over the entire area of displays from components for IT products such as laptop computers, monitors and tablet PC's to other components for TV and mobile devices during the recent years. Our company's main products include D-IC, T-Con and PMIC while increasing sales through expanding product lineup to LED DIC, Touch IC, Mobile DDI, TDDI, etc. In addition to these products, the company is carrying out the mass production or development of some analog semiconductors for electric fittings and OA machines such as power IC, motor driver, power switch and sensor IC and others through expanding technologies to various application areas other than displays.

11. Other Matters Necessary for Investment Decision Making

A. Intellectual Property in Possession



Division		2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Registration	Domestic	14	18	36	25	20	8	4	1	4	**130**
	Overseas	3	1	9	36	52	25	36	27	30	**219**
Application	Domestic	-	-	7	30	43	48	42	53	52	**275**
	Overseas	-	1	1	5	2	28	27	59	54	**177**

Division	2010		2011		2012		2013		2014		2015		2016		2017		2018	
	Domestic	Overseas	Domestic	Overseas	Domestic	Overseas	Domestic	Overseas	Domestic	Overseas	Domestic	Overseas	Domestic	Overseas	Domestic	Overseas	Domestic	Overseas
D-IC	10	3	7	1	13	7	8	27	4	24	1	11		15		3		10
T-Con	2		3		9	2	4	8	2	23		9		3		2		2
PMIC	2		2		3		6			1		1		1		1		1
BLU					2			1								2		
LED-IC					1		4		2	1	6	2	4	11	1	13		7
Touch			3		3		2		2	3		1		3		2	2	3
AUTO							1		8					1		2		5
Other			3		5				2		1	1		2		2	2	2
Total	14	3	18	1	36	9	25	36	20	52	8	25	4	36	1	27	4	30

III. Financial Matters

1. Summarized Financial Information

A. Summarized consolidated financial information

The consolidated financial statements for the 20th, 19th and 18th year were prepared in accordance with Korea - International Financial Reporting Standards (K-IFRS).

(Unit: Thousand KRW)

Division	20th year	19th year	18th Year
	(Dec. 31, 2018)	(Dec. 31, 2017)	(Dec. 31, 2016)
[Current assets]	508,162,893	497,749,254	440,498,707
• Quick assets	404,071,783	436,737,980	382,213,413
• Inventory assets	104,091,110	61,011,274	58,285,294
[Non-current assets]	99,395,413	46,544,871	45,499,036
• Transferrable financial assets	1,025,845	3,358,369	3,313,529
• Tangible asset	22,952,603	15,208,687	15,266,918
• Intangible asset	56,895,059	17,715,664	17,136,502
• Other non-current assets	18,521,906	10,262,151	9,782,087
Total assets	607,558,306	544,294,125	485,997,743
[Current liabilities]	155,223,703	129,360,440	100,300,512
[Non-current liabilities]	5,721,034	2,708,263	5,019,150
Total liabilities	160,944,738	132,068,704	105,319,662
[Paid-in-capital]	8,132,150	8,132,150	8,132,150
[Capital surplus]	76,343,170	76,343,170	76,343,170
[Capital adjustment]	(487,552)	1,645,781	1,470,097
[Retained earnings]	326,625,780	326,104,320	294,732,662
[Non-controlling equity]	0	0	0
Total equities	446,613,568	412,225,422	380,678,080
	(Jan. 1~Dec.31, 2018)	(Jan. 1~Dec. 31, 2017)	(Jan. 1~Dec. 31, 2016)
Sales	791,818,132	692,761,282	610,043,215
Operating profit	55,797,059	45,521,509	50,617,456
Current net profit	48,960,453	47,064,354	50,680,306
Controlling company's equity	48,960,453	47,064,354	50,680,306
Non-controlling company's equity	0	0	0
Net earnings per share (KRW)	3,010	2,894	3,116
Net diluted earnings per share (KRW)	3,010	2,894	3,116

Number of company included in the consolidation	2	2	1

B. Summarized financial information

The financial statements for the 20th, 19th and 18th year were prepared in accordance with Korea - International Financial Reporting Standards (K-IFRS).

(Unit: Thousand KRW)

Title	20th year	19th year	18th year
	(Dec. 31, 2018)	(Dec. 31, 2017)	(Dec. 31, 2016)
[Current assets]	506,873,236	496,552,390	440,305,213
• Quick assets	402,782,126	435,541,116	382,019,919
• Inventory assets	104,091,110	61,011,274	58,285,294
[Non-current assets]	100,375,583	47,293,891	45,630,651
• Transferrable financial assets	1,025,845	3,358,369	3,313,529
• Tangible asset	21,717,533	15,188,032	15,261,211
• Intangible asset	56,895,059	17,715,664	17,136,502
• Other non-current assets	20,737,146	11,031,826	9,919,409
Total assets	607,248,819	543,846,281	485,935,865
[Current liabilities]	155,610,549	129,626,588	100,401,191
[Non-current liabilities]	5,721,034	2,708,263	5,019,151
Total liabilities	161,331,583	132,334,851	105,420,342
[Paid-in-capital]	8,132,150	8,132,150	8,132,150
[Capital surplus]	76,343,170	76,343,170	76,343,170
[Capital adjustment]	(380,808)	1,705,780	1,474,710
[Retained earnings]	361,822,723	325,330,329	294,565,492
Total equities	445,917,236	411,511,429	380,515,523
Evaluation method for investment securities of dependent joint company	Cost method	Cost method	Cost method
	(Jan. 1~Sep. 30, 2018)	(Jan. 1~Mar. 31, 2017)	(Jan. 1~Mar. 31, 2017)
Sales	791,817,912	692,756,756	452,926,688
Operating profit (loss)	55,686,047	44,713,714	32,890,231
Current net profit (loss)	48,931,368	46,457,534	34,525,558
Net earnings (loss) per share (KRW)	3,009	2,856	2,123
Net diluted earnings (loss) per share (KRW)	3,009	2,856	2,123

2. Consolidated Financial Statements

Consolidated statement of financial position

20th year: Dec. 31, 2018

19th year: Dec. 31, 2017

18th year: Dec. 31, 2016

(Unit: KRW)

	20th year	19th year	18th year
Assets			
Current assets	508,162,893,203	497,749,253,911	440,498,706,729
Cash and cash equivalent	222,527,311,948	74,727,328,394	262,888,712,296
Short-term financial instruments		200,000,000,000	
Trade receivables	158,800,076,125	139,950,086,915	110,873,434,017
Other receivables	2,245,032,543	1,613,047,474	773,139,051
Other current assets	20,499,362,783	12,477,004,782	7,678,127,174
Current tax assets		7,970,512,714	
Inventory assets	104,091,109,804	61,011,273,632	58,285,294,191
Non-current assets	99,395,412,661	46,544,871,417	45,499,035,535
Non-current available for sale financial assets	1,025,845,393	3,358,368,987	3,313,528,716
Other non-current receivables	6,700,853,051	5,119,490,368	4,037,643,302
Investments in affiliates	4,419,269,914		
Tangible assets	22,952,602,672	15,208,686,675	15,266,917,826
Intangible assets	56,895,059,001	17,715,663,840	17,136,501,578
Other non-current assets	1,521,850,250	1,393,732,647	1,285,402,045
Deferred corporate tax assets	5,879,932,380	3,748,928,900	4,459,042,068
Total assets	607,558,305,864	544,294,125,328	485,997,742,264
Liabilities			
Current liabilities	155,223,703,292	129,360,440,474	100,300,511,556
Trade payables	114,566,795,190	97,214,262,012	70,322,876,824
Other payables	19,970,296,461	23,223,057,470	16,679,662,923
Other current liabilities	10,120,587,970	4,755,476,030	5,517,719,651
Accrued corporation tax	10,566,023,671	4,167,644,962	7,780,252,158
Non-current liabilities	5,721,034,233	2,708,263,242	5,019,150,886
Other non-current payables		15,000,000	33,704,122
Non-current other liabilities	1,323,932,368	709,910,211	523,822,824
Defined benefit liability	4,397,101,865	1,983,353,031	4,461,623,940
Total liabilities	160,944,737,525	132,068,703,716	105,319,662,442
Capital			
Proportion reverted to owners of parent company	446,613,568,339	412,225,421,612	380,678,079,822

Capital	8,132,150,000	8,132,150,000	8,132,150,000
Capital surplus	76,343,170,500	76,343,170,500	76,343,170,500
Other capital accounts	(487,551,847)	1,645,780,697	1,470,096,980
Retained earnings (deficits)	362,625,799,686	326,104,320,415	294,732,662,342
Non-controlling shares			
Total equities	446,613,568,339	412,225,421,612	380,678,079,822
Total equities and liabilities	607,558,305,864	544,294,125,328	485,997,742,264

Consolidated Comprehensive Profit and Loss Statement

20th year: from Jan. 01, 2018 to Dec. 31, 2018

19th year: from Jan. 01, 2017 to Dec. 31, 2017

18th year: from Jan. 01, 2016 to Dec. 31, 2016

(Unit: KRW)

	20th year	19th year	18th year
Revenue	791,818,131,828	692,761,282,198	610,043,215,195
Cost of goods sold	598,160,376,164	540,353,985,480	479,656,487,063
Gross profit on sales	193,657,755,664	152,407,296,718	130,386,728,132
Selling and administrative expenses	137,860,697,117	106,885,787,916	79,769,272,446
Operating profit (loss)	55,797,058,547	45,521,508,802	50,617,455,686
Financial income	4,135,648,108	3,744,506,038	7,479,593,181
Financial expense	664,052,236	70,378,653	24,067,919
Other profits	2,202,478,724	2,512,118,999	2,530,464,999
Other losses	2,239,660,304	3,357,623,862	2,575,044,042
Equity-method gains	9,269,914		
Net profit (loss) before corporate income tax expense	59,240,742,753	48,350,131,324	58,028,401,905
Corporate income tax expense	10,280,289,439	1,285,777,196	7,348,095,887
Current net profit (loss)	48,960,453,314	47,064,354,128	50,680,306,018
Equity ownership of controlling company	48,960,453,314	47,064,354,128	50,680,306,018
Non-controlling interest			
Earnings per share			
Basic earnings (loss) per share (Unit: KRW)	3,010	2,894	3,116
Diluted earnings (loss) per share (Unit: KRW)	3,010	2,894	3,116

Consolidated Comprehensive Profit and Loss Statement

20th year: from Jan. 01, 2018 to Dec. 31, 2018

19th year: from Jan. 01, 2017 to Dec. 31, 2017

18th year: from Jan. 01, 2016 to Dec. 31, 2016

(Unit: KRW)

	20th year	19th year	18th year
Current net profit (loss)	48,960,453,314	47,064,354,128	50,680,306,018
Other comprehensive profit or loss	(1,610,321,796)	(879,142,338)	(1,316,403,641)
Items that are reclassified to profit or loss (After-tax other comprehensive income)			
Re-measurement elements of defined benefit plans	(1,560,381,193)	(1,391,591,102)	(1,085,272,063)
Corporate tax effect	377,612,249	336,765,047	262,635,839
Other comprehensive profit or loss - fair value measurement profit (loss) on financial assets (other comprehensive profit or loss before tax)	(380,807,731)		
Items that can be reclassified to current profit or loss (other comprehensive profit or loss before tax)			
Gain on available-for-sale financial assets		304,840,271	(663,807,607)
Prior-tax reclassification adjustment of risk averse profit or loss on net investment in overseas business units	(46,745,121)	(55,385,208)	9,398,749
Corporate tax effect		(73,771,346)	160,641,441
Total comprehensive income	47,350,131,518	46,185,211,790	49,363,902,377
Reversion of total comprehensive income			
Total comprehensive income, equity attributable to the owners of the parent	47,350,131,518	46,185,211,790	49,363,902,377
Total comprehensive income, non-controlling interest			

Consolidated Statement for Changes in Capital

20th year: from Jan. 01, 2018 to Dec. 31, 2018

19th year: from Jan. 01, 2017 to Dec. 31, 2017

18th year: from Jan. 01, 2016 to Dec. 31, 2016

(Unit: KRW)

			Capital						
			Capital attributable to owners of the parent company					Non-controlling stake	Total capital
			Capital	Capital surplus	Other capital	Consolidated retained earnings	Total equity attributable to shareholders of the parent company		
2016.01.01 (capital at the beginning)			8,132,150,000	76,343,170,500	1,963,864,397	261,139,292,548	347,578,477,445		347,578,477,445
Adjustments for the first application of K-IFRS 1109									
Adjustments for the first application of K-IFRS 1115									
Beginning capital (rewritten)									
Capital	Total comprehensive profit or loss	Current net profit (loss)				50,680,306,018	50,680,306,018		50,680,306,018
		Re-measurement elements of defined benefit plans				(822,636,224)	(822,636,224)		(822,636,224)
		Evaluated profit or loss of transferrable financial assets			(503,166,166)		(503,166,166)		(503,166,166)
		Translated profit / loss of foreign operations			9,398,749		9,398,749		9,398,749

change	Transactions with shareholders directly recognized in capital	Acquisition of treasury stock							
		Annual dividend				(16,264,300,000)	(16,264,300,000)		(16,264,300,000)
		Gains on sale of treasury stock							
2016.12.31 (capital at the end)			8,132,150,000	76,343,170,500	1,470,096,980	294,732,662,342	380,678,079,822		380,678,079,822
2017.01.01 (capital at the beginning)			8,132,150,000	76,343,170,500	1,470,096,980	294,732,662,342	380,678,079,822		380,678,079,822
Adjustments for the first application of K-IFRS 1109									
Adjustments for the first application of K-IFRS 1115									
Beginning capital (rewritten)									
Capital change	Total comprehensive profit or loss	Current net profit (loss)				47,064,354,128	47,064,354,128		47,064,354,128
		Re-measurement elements of defined benefit plans				(1,054,826,055)	(1,054,826,055)		(1,054,826,055)
		Evaluated profit or loss of transferrable financial assets			231,068,925		231,068,925		231,068,925
		Translated profit / loss of foreign operations			(55,385,208)		(55,385,208)		(55,385,208)
	Transactions with shareholders directly recognized in capital	Acquisition of treasury stock							
		Annual dividend				(14,637,870,000)	(14,637,870,000)		(14,637,870,000)
		Gains on sale of treasury stock							
2017.12.31 (capital at the end)			8,132,150,000	76,343,170,500	1,645,780,697	326,104,320,415	412,225,421,612		412,225,421,612
2018.01.01 (capital at the beginning)			8,132,150,000	76,343,170,500	1,645,780,697	326,104,320,415	412,225,421,612		412,225,421,612
Adjustments for the first application of K-IFRS 1109					(1,705,779,692	1,705,779,692			
Adjustments for the first application of K-IFRS 1115						(1,576,974,791)	(1,576,974,791)		(1,576,974,791)
Beginning capital (rewritten)			8,132,150,000	76,343,170,500	(59,998,995)	326,233,125,316	410,648,446,821		410,648,446,821
Capital change	Total comprehensive profit or loss	Current net profit (loss)				48,960,453,314	48,960,453,314		48,960,453,314
		Re-measurement elements of defined benefit plans				(1,182,768,944)	(1,182,768,944)		(1,182,768,944)
		Evaluated profit or loss of transferrable financial assets			(380,807,731)		(380,807,731)		(380,807,731)
		Translated profit / loss of foreign operations			(46,745,121)		(46,745,121)		(46,745,121)
	Transactions with shareholders directly recognized in capital	Acquisition of treasury stock							
		Annual dividend				(11,385,010,000)	(11,385,010,000)		(11,385,010,000)
		Gains on sale of treasury stock							
2018.12.31 (capital at the end)			8,132,150,000	76,343,170,500	(487,551,847)	362,625,799,686	446,613,568,339		446,613,568,339

Consolidated Cash Flow Statement

20th year: from Jan. 01, 2018 to Dec. 31, 2018

19th year: from Jan. 01, 2017 to Dec. 31, 2017

18th year: from Jan. 01, 2016 to Dec. 31, 2016

(Unit: KRW)

	20th year	19th year	18th year
Cash flow from sales operations	27,373,427,451	32,504,625,180	49,039,349,139
Cash generated from sales	20,668,228,801	40,787,058,301	54,663,314,993
Current net profit (loss)	48,960,453,314	47,064,354,128	50,680,306,018
Increase or decrease for adjustment to current net profit	21,454,158,897	8,557,429,827	20,964,667,848
Change to equities/liabilities on sales operations	(49,746,383,410)	(14,834,725,654)	(16,981,658,873)
Gain on interest	4,247,053,641	3,612,305,258	3,320,267,679
Payment of corporate tax (return)	2,458,145,009	(11,894,738,379)	(8,944,233,533)
Cash flow from investments	131,802,361,522	(205,914,951,049)	640,963,360
Receipt of dividends			50,000,000
Increase of short-term financial products	(185,000,000,000)	(200,000,000,000)	
Decrease of short-term financial products	385,000,000,000		
Increase in other trade receivables	(4,350,311,979)	(1,507,938,877)	(792,713,455)
Decrease in other trade receivables	2,331,997,856	382,244,214	660,222,105
Increase of advance payment	(583,144,600)	(414,248,664)	(780,036,172)
Increase in other liabilities			15,000,000
Decrease of other liabilities	(15,000,000)		(40,000,000)
Acquisition of tangible assets	(12,378,788,209)	(2,998,863,973)	(3,243,983,754)
Disposition of tangible assets	(4,933,559,421)	(1,936,143,749)	(459,089,000)
Acquisition of intangible assets	950,703,900	300,000,000	
Disposition of intangible assets	231,545,455		30,063,636
Disposition of transferable financial assets		260,000,000	5,201,500,000
Current profit or loss - disposition of financial assets measured at fair value	1,089,000,000		
Other comprehensive income - Disposal of fair value measurement financial assets	97,615,131		
Acquisition of investment assets for affiliates	(4,410,000,000)		
Cash outflow due to business transfer	(46,129,996,611)		
Cash outflow due to restoration obligation	(97,700,000)		
Cash flow from financial activities	(11,385,010,000)	(14,637,870,000)	(16,264,300,000)
Disposition of treasure stock			
Acquisition of treasury stock			
Dividend payments	(11,385,010,000)	(14,637,870,000)	(16,264,300,000)
Net Increase (Decrease) of cash and cash equivalents before taking into account changes in exchange rate	147,790,778,973	(188,048,195,869)	33,416,012,499

Cash and cash equivalents at the beginning	74,727,328,394	262,888,712,296	229,479,619,512
Effect of foreign exchange rate movements on cash and cash equivalents	9,204,581	(113,188,033)	(6,919,715)
Cash and cash equivalents at the end	222,527,311,948	74,727,328,394	262,888,712,296

3. Notes to Consolidated Financial Statements

1. Company overview

(1) Overview of the controlling company

Silicon Works Co., Ltd. (hereinafter referred to as the "controlling company") was established on November 11, 1999 for the purpose of manufacturing and designing FPD (flat panel display) semiconductor IC. And the company is located at 222 Techno 2-ro, Daedeok-gu, Daejeon, Korea. The controlling company was certified by the Korea Technology Promotion Agency as a corporate subsidiary research facility in accordance with Article 16 of the Technology Development Promotion Act and Clause 1 of Article 15 of the Enforcement Marree of the same act on October 19, 2001. Also, the controlling company has been designated as an "advanced technology company" as per Clause 1 of Article 9 of the Special Law on the Cultivation of the Special Research and Development District of Daedeok on October 23, 2011.

The controlling company was then listed on KOSDAQ market as of June 8, 2010. After several increases in capital with or without considerations, the amount of paid-in capital of the company at the end of the current quarter is KRW 8,132,150,000 (issued shares: 16,264,300 and authorized shares 50,000,000).

The shareholders of the controlling company at the end of current year are as follows;

Shareholder	Number of shares owned	Ownership stake	Remarks
LG Corp.	5,380,524	33.08%	Largest shareholder
Templeton Asset Management, Ltd.	853,688	5.25%	-
BlackRock Fund Advisors	816,703	5.02%	-
Others	9,213,385	56.65%	-
Total	16,264,300	100.00%	-

he Current consolidated financial statements for the reporting period ending on Dec 31, 2018 are comprised of shares in the controlling company and its subsidiaries (hereinafter the "consolidated entity").

(2) Overview of subsidiaries subject to consolidation

The details of the subsidiaries at the end of previous and current years are as follows;

Company name	Address	Major business activity	Month of account closing	Equity ownership (%)	
				End of current year	End of previous year
Silicon Works Inc.	USA	Semiconductor manufacturing	Dec	100.00	100.00

		and designing			
Silicon Works China Co., Ltd.(*)	China	Semiconductor manufacturing and designing	Dec	100.00	100.00

(*)Silicon Works China Co.,Ltd was newly established for the purpose of expanding the Chinese market in the current year.

(3) Summarized financial information of subsidiaries

(Unit: KRW)

Division	Silicon Works Inc.		Silicon Works China Co., Ltd.	
	Current year	Previous year	Current year	Previous year
Assets	298,468,756	323,446,339	2,869,034,174	1,278,075,342
Liabilities	14,676,203	4,178,074	149,128,448	71,575,336
Capital	283,792,553	319,268,265	2,719,905,726	1,206,500,006
Sales	1,646,388,473	1,316,368,098	2,789,621,315	1,184,858,491
Current net profit (loss)	(48,605,613)	56,372,555	68,420,742	550,447,921
Total comprehensive profit (loss)	(35,475,712)	19,389,262	8,545,720	532,046,006

2. Standards for the preparation of financial statements

(1) Application of accounting principle
The consolidated entity prepared its financial statements in accordance with K-IFRS, the accounting standards adopted by the International Accounting Standards Board ("IAS") as stipulated in No. 1 of Clause 1 of Article 5 in the Act on the External Audit on Limited Liabilities Company.

The consolidated entity's consolidated financial statements were approved by the Board of Directors on January 30, 2019 and will be finally approved at the shareholders' meeting on March 15, 2019.

The consolidated entity's consolidated financial statements were prepared with the first application of K-IFRS 1115, 'Revenues from Contracts with Customers' and K-IFRS 1109 'Financial Instruments'. The changes therefrom are explained in Note 3.

(2) Measurement standards
The consolidated financial statements are based on historical cost except for the major items in the consolidated statement of financial position as listed below;
1) Current profit or loss measured at fair value - fair value measurement financial assets
2) Other comprehensive profit and loss measured at fair value - fair value measurement financial assets

3) Determinable benefit liabilities where the fair value of externally reserved assets is subtracted from the present value of determinable benefit liabilities

(3) Functional currency and presentational currency
The financial statements of individual companies in the consolidated entity are prepared in the currency of the primary economic environment in which each individual company operates (the "functional currency"). The consolidated entity’s consolidated financial statements are prepared and reported in Korean won, which is the functional currency and the presentational currency of the controlling entity as the reporting company.

(4) Estimation and judgment
In preparing the financial statements, K-IFRS requires the use of estimates and assumptions based on the management's best judgment about the application of accounting policies or matters affecting the reported amounts of assets, liabilities, revenues and expenses as of the end of the reporting period. If the estimates and assumptions that are based on the management's best judgment at the end of the reporting period differ from the actual environments, these estimates might be different from the actual results.

The estimates and assumptions underlying the estimation are constantly being reviewed and changes in accounting estimation are recognized during the period in which the estimates are changed and during the period in which they will be affected in the future.

① Management's judgment
Information on key management judgments related to the application of accounting policies that have a significant effect on the amounts recognized in the consolidated financial statements are included in the following notes.
- Note 4: Significant accounting policies

② Uncertainty of assumptions and assumptions
Information about uncertainties in assumptions and estimations that have the significant risk of material adjustments within the next reporting period is included in the following notes.
- Note 19: Allowance liabilities - Assumptions about the possible outflow of resources and amounts
- Note 30: Measurement of defined benefit liabilities - main actuarial assumptions

③ Fair value measurement
The consolidated entity’s accounting policies and disclosures require fair value measurement for a number of financial and non-financial assets and liabilities, and the consolidated entity has established the fair value assessment policies and procedures. These policies and procedures include the operation of the valuation department responsible for reviewing all significant fair value measurements, including fair values that are classified as Level 3 in the fair value hierarchy, and the results are reported directly to financial executive officers.

The evaluation department is regularly reviewing significant input variables and evaluation adjustment which cannot be observed. If any third party information such as the broker price or evaluation organization is used in measuring fair value, the evaluation based on information acquired from the third party by the evaluation department includes the classification per level in the hierarchy system of fair value and we are making a Decision on whether or not to conclude if requirement in the applicable standard are met.

If the fair value of an asset or liability is measured, the consolidated entity uses the input variable which can be observed from the market as much as possible. The fair values are classified within the hierarchy system of fair values based on input variables used in the valuation techniques as below;

- Level 1: Publicly announced price not adjusted in the active market accessible to the same asset or liability on the measured day
- Level 2: Input variable which can be observed directly or indirectly to the asset or liability other than publicly announced price
- Level 3: Input variable which cannot be observed to the asset or liability

If many input variables used for measuring the fair value of an asset or liability are classified into different levels within the hierarchy system of fair values, the consolidated entity classifies the entire fair value measurements into the same level with the lowest level of an input variable in the hierarchy system of significant fair values over the entire measurements while recognizing the transfer between levels in the hierarchy system of fair values at the end of the reporting period when the variation occurred.

Detailed information about the assumptions used to measure fair value is included in the following notes.
- Note 7: Financial risk management

3 Changes in accounting policies
The Group initially applied K-IFRS 1109, 'Financial Instruments' and No. 1115 'Revenue from customers' contracts, effective from January 1, 2018. Other standards effective subsequently since January 1, 2018 have no significant effect on the entity's consolidated financial statements.

The consolidated entity adopted the Korea Financial Accounting Standards the first time as of January 1, 2018 and did not re-prepare the consolidated financial statements for the previous years in accordance with the transition rules.

The following are the major impacts of the first-time adoption of the Standard.

(1) K-IFRS No. 1109 Financial Instruments
K-IFRS 1109 provides for the recognition and measurement of certain financial assets, financial liabilities and certain contracts that can be bought or sold. This Statement replaces K-IFRS 1039 Financial Instruments: Recognition and Measurement.

Changes in the beginning balances of equity as a result of application of K-IFRS No. 1109 are as follows.

	(Unit: KRW)
Classification	Effect of application (Jan 1, 2018)
Retained earnings	

Profit or loss - Fair value measurement Financial assets Recognition of valuation gains under K-IFRS No. 1109	1,705,779,692
Effect of application (Jan 1, 2018)	1,705,779,692

The nature and effect of major changes in accounting policies in accordance with K-IFRS No. 1109 are as follows.

1) Classification of financial assets and financial liabilities
K-IFRS 1109 retained most of the existing requirements of K-IFRS 1039 for the classification and measurement of financial liabilities. However, we have eliminated the existing classification of financial assets which are distinguished as held-to-maturity financial assets, loans, receivables and transferable financial assets.

The adoption of K-IFRS No. 1109 has no significant effect on the Group's accounting policies related to financial liabilities. The effect of adoption of K-IFRS 1109 on classification and measurement of financial assets is as follows.

In accordance with K-IFRS 1109, financial assets are measured at amortized cost when initially applied. Financial assets, other comprehensive income - fair value measurement debt instruments, other comprehensive income - fair value measurement equity instruments, profit or loss - fair value measurement category it is classified. Classification of financial assets in accordance with K-IFRS No. 1109 is generally based on the nature of the contractual cash flows of the business models and financial assets in which the financial assets are managed. Derivatives embedded in contracts in which the host contract is a financial asset covered by the scope of this standard are not separated but classify financial assets based on the composite financial instruments as a whole.

Financial assets are measured at amortized cost unless they are both designated at fair value through profit or loss if both of the following conditions are met:
- Hold financial assets under a business model that is intended to hold to receive contractual cash flows.
- Under the terms of the contract, there is a cash flow consisting solely of interest payments on interest and principal balance on a particular day.

Debt instruments are measured at fair value when they meet both of the following conditions: profit or loss - if not designated as fair value measurement, other comprehensive income at fair value.
- Retain financial assets under a business model that serves both through receipt of contractual cash flows and sale of financial assets.
- Cash flows, consisting solely of interest payments on principal and principal balance on a particular day, occur in accordance with the terms conditions of the contract.

At the date of initial recognition of an equity instrument that is not a trading instrument, the Group may make an irrevocable choice to present subsequent changes in the fair value of that investment in other comprehensive income. This choice is made by financial instruments.

All of the financial instruments not measured at fair value are measured at fair value through profit or loss, including all derivatives, at fair value. If the entity designates a financial asset that meets the criteria for measurement at fair value as a component of fair value gain or fair value measurement, if the accounting mismatch is eliminated or significantly reduced, the asset can be designated as profit or loss - fair value measurement. However, such designation cannot be canceled.

The following accounting policies apply to subsequent measurement of financial assets.

Profit or loss - Fair value measurement Financial assets:	These assets are subsequently measured at fair value. Net gain or loss, including interest and dividend income, is recognized in profit or loss.
Measurement of amortization cost financial assets:	These assets are subsequently measured at amortized cost using the effective interest method. Amortization is reduced by loss of loss (see (2)). Interest income, foreign currency translation gains and losses are recognized in profit or loss. The gain or loss on disposal is also recognized in profit or loss
Other comprehensive income - fair value measurement Debt instruments :	These assets are subsequently measured at fair value. Interest income, foreign currency translation gains and losses calculated using the effective interest method are recognized in profit or loss. Other profit or loss is recognized in other comprehensive income. The gain or loss accumulated in other comprehensive income or loss on disposal is reclassified to profit or loss.
Other comprehensive income - fair value measurement equity instruments :	These assets are subsequently measured at fair value. Dividends are recognized in profit or loss if the dividends do not clearly represent the number of investment costs. Other profit or loss is recognized in other comprehensive income and is never reclassified to profit or loss.

The effect on the carrying amount of a financial asset under the application of K-IFRS No. 1109 on January 1, 2018 relates only to the new impairment requirement as described below.

The following table and accompanying notes describe the new measurement categories of K-IFRS 1109 for each classification of the initial measurement categories in accordance with K-IFRS 1039 and January 1, 2018.

					(Unit: KRW)
Classification	Note	Classification according to K-IFRS 1039	Classification according to K-IFRS 1109	Carrying amount according to K-IFRS 1039	Carrying amount according to K-IFRS 1109
Financial assets					
Equity instruments	(a)	Available-for-sale financial assets	Other comprehensive income - fair value	600,000,000	600,000,000

			measurement equity instruments		
Initial investment		Available-for-sale financial assets	Other comprehensive income - fair value measurement debt instruments	2,758,368,987	2,758,368,987
Trade receivables	(b)	Loans and receivables	Measurement of amortization cost Financial assets	139,950,086,915	139,950,086,915
Other receivables	(b)	Loans and receivables	Measurement of amortization cost Financial assets	6,732,537,842	6,732,537,842
Short-term financial instruments	(b)	Loans and receivables	Measurement of amortization cost Financial assets	200,000,000,000	200,000,000,000
Cash and cash equivalents	(b)	Loans and receivables	Measurement of amortization cost Financial assets	74,727,328,394	74,727,328,394

(a) Equity instruments are products that the Group invests for the purpose of holding long-term for strategic purposes. As permitted by K-IFRS 1109, the Group designates these investments as other comprehensive income-fair value measurement financial assets at the date of initial application.

(b) Trade receivables, other receivables, short-term financial instruments and cash and cash equivalents classified as loans and receivables in accordance with Korean IFRS 1039 are classified as amortized cost financial assets.

2) Impairment of financial assets
K-IFRS 1109 replaces the "Accrued Loss" model of K-IFRS 1039 with the "expected credit loss" model. The new impairment model is applied to financial instruments measured at amortized cost, contractual assets and other comprehensive income - for debt instruments measured at fair value, but not equity instruments. In accordance with K-IFRS 1109, credit losses will be recognized earlier than K-IFRS 1039.

Financial assets measured at amortized cost include trade and other receivables, short-term financial instruments and cash and cash equivalents

In accordance with K-IFRS 1109, allowance for losses is measured using two criteria:
- 12 months expected credit losses: expected credit losses due to defaults on financial instruments that can occur within 12 months after the end of the reporting period

- Total expected credit losses: Expected credit losses due to any default event that may occur during the expected life of the financial instrument

The Group measures the allowance for losses by the amount corresponding to the expected credit loss for the whole period, except for the following financial assets measured at the expected credit loss of 12 months.
- Debt securities determined to have low credit risk at the end of the reporting period
- Other debt securities and bank deposits that do not have a significant increase in credit risk (i.e., non-default risk arising over the expected life of the financial asset)

When determining whether the credit risk of a financial asset has significantly increased since the initial recognition and when estimating the expected credit loss, the Group considers information that can be used and reasonably supported, without undue cost or effort. This includes qualitative and quantitative information and analysis based on the Group's past experience and known credit ratings, including forward-looking information.

① Measuring expected credit losses
The expected credit loss is the probability weight of the credit loss. Credit loss is measured as the present value of all cash deficits (ie, the difference between all contractual cash flows that are expected to be paid under the contract and all contractual cash flows that are expected to be received).
② Credit-impaired financial assets
At the end of each reporting period, the Group assesses the carrying amounts of financial assets measured at amortized cost and other comprehensive income - whether the creditworthiness of the debt securities measured at fair value is impaired. If there is more than one event that adversely affects the estimated future cash flows of the financial asset, the financial asset is impaired.

③ Indication of allowance for credit loss on statement of financial position
The allowance for losses on financial assets measured at amortized cost is deducted from the carrying amount of the asset. Other comprehensive income - for debt instruments measured at fair value, the provision for losses is recognized in other comprehensive income, instead of reducing the carrying amount of the asset.

④ Influence of new damage model
As a result of applying the impairment provisions of K-IFRS No. 1109 as of January 1, 2018, there is no additional provision for losses as compared with the allowances under No. 1039. In addition, the impact of the new impairment model on the consolidated income statement, consolidated comprehensive income statement and consolidated cash flow statement which ended on the same day as the consolidated statement of financial position as of December 31, 2018 is not material.

(2) K-IFRS No. 1115, "Revenue from contracts with customers"
The Group has adopted K-IFRS 1115, 'Revenue from contracts with customers' as of January 1, 2018 as the initial application date.

K-IFRS 1115 is a comprehensive framework for determining when and how much revenue is recognized. The

Standard is based on the current K-IFRS 1018 'Revenue', No. 1011 'Construction Contract', K-IFRS Interpretation No. 2031 'Revenue: Exchange Transaction of Advertising Services', No. 2113 'Customer Loyalty Program' 'Real estate construction contract', No. 2118 'Transfer of assets from customers'.

The Group recognizes the cumulative effect of the initial application of the Standard as an adjustment to the beginning balance of retained earnings and applies the Standard only to contracts that are not completed on January 1, Accordingly, the effect of adopting K-IFRS No. 1115 reflected in retained earnings as of January 1, 2018 is as follows.

	(Unit: KRW)
Classification	Effect of application (Jan 1, 2018)
Retained earnings	
Development Services Revenue recognized at one point	(3,953,203,200)
Development service-related costs	2,376,228,409
Effect of application (Jan 1, 2018)	(1,576,974,791)

The effect of applying K-IFRS 1115 to the consolidated entity's consolidated statement of financial position and consolidated comprehensive income statement which ended on the same day as the consolidated statement of financial position is as follows. The effect on the consolidated entity's consolidated cash flow statement that ended on the same day is not material.

The effect on the consolidated statement of financial position as of the end of current year is as follows;

			(Unit: KRW)
Classification	Disclosure amount	Adjustment	Amount before Reflection of No. 1115
Assets			
Current assets	508,162,893,203	(3,055,934,070)	505,106,959,133
Inventory	104,091,109,804	(123,976,321)	103,967,133,483
Prepaid expenses	13,268,770,815	(2,931,957,749)	10,336,813,066
Non-current assets	99,395,412,661	-	99,395,412,661
Total assets	607,558,305,864	(3,055,934,070)	604,502,371,794
Liabilities			

Current Liabilities	155,223,703,292	(4,807,532,466)	150,416,170,826
Advance payment	5,400,675,881	(4,700,283,898)	700,391,983
Provision	3,941,853,811	(162,999,112)	3,778,854,699
Accrued corporation tax	10,566,023,671	55,750,544	10,621,774,215
Non-current liabilities	5,721,034,233	-	5,721,034,233
Total Liabilities	160,944,737,525	(4,807,532,466)	156,137,205,059
Capital			
Retained earnings	362,625,799,686	1,751,598,396	364,377,398,082
Total capital	446,613,568,339	1,751,598,396	448,365,166,735
Total liabilities and capital	607,558,305,864	(3,055,934,070)	604,502,371,794

The effect on the consolidated income statement and consolidated comprehensive income statement for the current year is as follows;

(Unit: KRW)			
Classification	Disclosure amount	Adjustment	Amount before Reflection of No. 1115
Revenue	791,818,131,828	910,079,810	792,728,211,638
Cost of sales	598,160,376,164	679,705,661	598,840,081,825
Gross profit on sales	193,657,755,664	230,374,149	193,888,129,813
Operating income	55,797,058,547	230,374,149	56,027,432,696
Net income before corporate tax expenses	59,240,742,753	230,374,149	59,471,116,902
Income tax revenue	10,280,289,439	55,750,544	10,336,039,983
Current net income	48,960,453,314	174,623,605	49,135,076,919
Current gross comprehensive profit	47,350,131,518	174,623,605	47,524,755,123

4. Significant accounting policies

The significant accounting policies applied by the consolidated entity in the preparation of its consolidated financial statements in accordance with K-IFRS are as follows. The consolidated financial statements for the current year and those to be compared were prepared by applying the same accounting policies, except for the changes in the accounting policies explained in Note 3.

(1) Sales
The consolidated entity carries out decision-making on resources to be distributed throughout its sectors, and the highest business decision-maker makes distinction on its business sectors based on internal reporting data reviewed regularly therein to evaluate the performance of sectors. The consolidated entity identifies and reports its sales division in a single division.

(2) Consolidation
① Business consolidation
Business consolidation is accounted with the use of the acquisition method, except for the business entities or business combinations under the same control.

The transfer consideration is generally measured at fair values as if the identifiably acquired net assets were measured at fair values. If goodwill arises as a result of business combination, we conduct impairment tests every year. If any gain arises from bargain price acquisition, it is recognized immediately in the current profit or loss. Acquisition-related costs are recognized as expenses in the period in which they are incurred and services are received, except for the issue costs of debt and equity securities that are recognized in accordance with K-IFRS 1032 and K-IFRS 1109.

The transfer consideration does not include the amount related to the settlement of an existing relationship, and the settlement amount of an existing relationship is generally recognized in the current profit or loss.

Any conditional consideration is measured at fair value on the acquisition date. Any conditional consideration that is classified as equity is not remeasured and subsequent settlement is accounted for within equity. If the conditional consideration is not classified as equity, the subsequent changes in the fair value of the conditional consideration are recognized in the current profit or loss.

In the case of share-based compensations of the acquirer, which are exchanged for the compensations held by the employees of the acquiree, all or part of the market-based measurement of the acquiring party’s replacement compensations is included in the transfer consideration measurement of the business consolidation. The portion of the replacement compensation that is part of the consideration transferred to the acquiree and the portion of compensations for the post-combination service are determined by comparing the market-based measurement of the acquiree's compensations with the amount of the replacement compensations for service before the business combination.

② Non-controlling interests
Non-controlling interests are measured at the proportional amount of the present equity instruments out of the amounts recognized in the acquiree's identifiable net assets at the acquisition date. Changes in ownership interests in subsidiaries that do not lose control are accounted for as equity transactions.

③ Subsidiaries
Subsidiaries are entities controlled by the consolidated entity. The consolidated entity exercises control over the investee when it has exposure to variable interests due to its involvement in the investee or has a right to a variable interest and the ability of the investee to influence those interests on its own initiative. The financial statements of subsidiaries are included in the consolidated financial statements from the date on which the controlling company acquires the control of the subsidiary until it loses the control.

④ Loss of control
If the controlling company loses the control of the subsidiary, the assets and liabilities of the previous subsidiary are removed from the consolidated statement of financial position and recognizes the profit or loss related to the loss of control attributable to the previous controlling interest. Any remaining investments in the subsidiary are recognized at their fair value when the control is lost.

⑤ Share of equity-method investee
The consolidated entity's interests in equity-method investees consist of interests in affiliates and joint ventures.

An affiliate is a company where the consolidated entity has significant influence over its financial and operating policies but does not control or jointly control. A joint venture is an entity in which the consolidated entity has the rights to the net assets of the agreements rather than the obligations to the rights and obligations of the assets of the agreements.

Investments in affiliates and jointly ventures are initially recognized at cost, including transaction costs, and are subsequently accounted for using the equity method after acquisitions. In other words, the amounts belonging to the consolidated entity’s interest are deducted from the book values among the current net profit or loss and other comprehensive profit or loss of the investee, which have accrued after the acquisition date, and any dividends received from the investee are also deducted from the book values of the investment interest.

⑥ Removal of internal transactions
The transactions in the consolidated entity, related balances thereto, incomes and expenses, and unrealized gains and losses are eliminated in preparing the consolidated financial statements. Meanwhile, the consolidated entity eliminates the consolidated entity’s portion of unrealized gains on transactions with the equity-method investees. The unrealized losses are also eliminated in the same manner as the unrealized gains if there is no evidence of asset impairment.

⑦ Business consolidation under the same control
The acquired assets and undertaken liabilities in the consolidation of business entities or businesses under the same control is recognized in the book values of the consolidated financial statements of the highest controlling entity. The consolidated entity either adds the difference between the transfer consideration and book value of the acquired net asset to or subtracts from the capital surplus.

(3) Cash and cash equivalent assets

The consolidated entity classifies its investments with the maturities of three months or less from the acquisition date as cash and cash equivalents. Equity securities are excluded from cash and cash equivalents, but they are included in cash and cash equivalents if the redemption date is fixed and they are actually cash equivalents like preferred stocks whose period from the acquisition date to the redemption date is short.

(4) Inventory assets
The unit cost of inventory assets is determined by the moving-average method. The acquisition costs include the purchase costs, conversion costs and other costs necessary to prepare the inventory assets for use.

The inventory assets are measured at the lower of acquisition cost and net realizable value. Any evaluated loss of the inventory assets from which the net realizable value is deducted, and loss due to spoilage are recognized as the expenses in the period when the deduction or spoilage accrued. The return of the evaluated loss due to the increased net realizable value of the inventory assets is deducted from the cost of inventory assets sold, which is recognized as the expenses in the period when the return arises.

(5) Non-derivative financial assets - policy applicable from January 1, 2018

1) Recognition and initial measurement
Trade receivables and issue debt securities are recognized for the first time at the time of issue. Other financial instruments and financial liabilities are recognized only when the consolidated entity becomes a party to the financial instrument.

Except for trade receivables that do not include significant financial elements, financial instruments or financial liabilities are measured at fair value at the time of initial recognition. If they do not fall under the current profit or loss - fair value measurement financial instrument or current profit or loss - fair value measurement financial liabilities, the transactional cost directly related to the acquisition of the financial instruments or issue of financial liabilities is deducted from fair value. Trade receivables that do not include significant financial elements are initially measured at transaction prices.

2) Classification and follow-up measurement
At the time of initial recognition, financial assets are classified to be measured with the cost after amortization, other comprehensive profit or loss - fair value debt instruments, other comprehensive profit or loss - fair value equity instruments or current profit or loss - fair value.

Financial assets are not reclassified after initial recognition, unless the consolidated entity changes its business model to manage the financial assets in which case all affected financial assets are reclassified on the first day of the first reporting period after the change in the business model.

A financial asset is measured at the cost after amortization if both the following two conditions are met and it is not assigned as the current profit or loss - fair value measurement item.
- It is kept under a business model that is intended to hold to receive cash flows on a contractual basis.

- In accordance with the contractual terms of the financial asset, there are cash flows consisting solely of principal and interest payments on principal balance at certain dates.

A liability product is measured at the current profit or loss - fair value if both the following two conditions are met and it is not assigned as the current profit or loss - fair value measurement item.
- The financial instrument is kept under a business model that is intended both to receive cash flows on a contractual basis and to sell it.
- In accordance with the contractual terms of the financial asset, there are cash flows consisting solely of principal and interest payments on principal balance at certain dates.

The consolidated entity can choose the subsequent changes in the fair value of the investment assets to be indicated in other comprehensive profit or loss at the initial recognition of an equity instrument that is not held for short-term trading. However, it cannot be canceled once it is chosen. This choice is made on the basis of an investment asset.

All the financial assets not measured at the cost after amortization or other comprehensive profit or loss - fair value as described above are measured with the current profit or loss - fair value. These financial assets include all derivative financial assets. If the consolidated entity assigns a financial asset measured at the cost after amortization or other comprehensive profit or loss - current profit or loss at the initial recognition as the current profit or loss - fair value measurement item, it can assign the financial asset as the current profit or loss - fair value measurement item to remove accounting mismatch or reduce it significantly. However, it cannot be canceled once it is chosen.

① Business model
The consolidated entity evaluates the purpose of the business model held at the portfolio level of financial assets because it best reflects how the business is managed and the way in which information is provided to management. Such information considers the following:
- Accounting policies and objectives for the portfolio and the actual operation of these policies It includes obtaining contractual interest income, maintaining a certain level of interest rates, matching the duration of the debt to finance the asset and the duration of the asset, and management strategy focusing on outflowing or realizing the expected cash flow through selling the assets.
- The ways to evaluate the performance of the financial assets held by the business model and to report the evaluation details to the key management personnel
- The risks that affect the performance of the business model (and the financial assets held in the business model) and the way in which they are managed
- The manner of compensations to management (ex: whether compensations are made based on the fair value of the assets under management or contractual cash flows received)
- The frequency, amount, timing and reasons for the sale of financial assets in the past and the forecasts of future selling activities
For this purpose, a transaction that transfers a financial asset to a third party in the transaction that does not meet the removal requirements is not considered a sale.

A financial asset portfolio that meets the definition of short-term trading or whose portfolio performance is measured on a fair value basis is measured at the current profit or loss - fair value.

② Valuation of whether the contractual cash flow consists solely of principal and interest
The principal is defined as the fair value at the initial recognition of the financial asset. Interest consists of consideration for the time value of money, consideration for the credit risk associated with the principal balance in a particular time period, basic lending risk, and consideration for the costs (ex: liquidity risk and operating costs), and profits.

When assessing whether the contractual cash flows are solely the payments of principal and interest, the consolidated entity considers the contractual terms of the instrument. If a financial asset includes a contractual term that changes the timing or amount of a contractual cash flow, then the contractual terms must determine whether the contractual cash flows that occur over the life of the financial instrument consist solely of the payments of principals and interests.

When evaluating this, the consolidated entity considers the following:
- Conditional conditions that change the amount or timing of cash flows
- Provisions to adjust contractual nominal interest rates, including variable interest rate characteristics
- Interim repayment characteristics and maturity extension characteristics
- Contract terms that limit the consolidated entity's claims for cash flows accruing from certain assets

If the interim repayment amounts actually represent the remaining principal and interests on the remaining principal and include reasonable additional compensation for the early liquidation of the contract, the early repayment characteristics are consistent with the conditions under which principal and interest are paid on a particular day.

In addition, these conditions are thought to be met if the interim repayment amounts actually represent the contractual face value and contractually accrued (but not paid) interests (in this case, a reasonable additional compensation can be included for the earlier liquidation of the contract) for the financial assets acquired at significant discounts or premiums on the contractual face value, and the fair value of the characteristics at the initial recognition of the financial asset is insignificant.

3) Subsequent measurement and profit / loss
① Current profit or loss - Financial assets measured at fair value
These assets are subsequently assessed at fair value. Net profit or loss, including interest or dividend income, is recognized in the current profit or loss.

② Financial assets measured at amortized cost
These assets are subsequently measured at amortized cost using the effective interest rate method. The amortized cost is reduced by impairment loss. Interest income, foreign currency translation gains and losses, and impairment loss are recognized in the current profit or loss. The gain or loss arising from the elimination is recognized in the current profit or loss.

③ Other comprehensive profit or loss - debt instruments measured at fair value
These assets are subsequently measured at fair value. Interest income is calculated using the effective interest rate method, and foreign currency translation gains and losses are recognized in the current profit or loss. Other net profit or loss is recognized in other comprehensive profit or loss. The gain or loss on removal is reclassified from the accumulated other comprehensive profit or loss to the current profit or loss.

③ Other comprehensive profit or loss - equity instruments measured at fair value
These assets are subsequently measured at fair value. Dividends are recognized in the current profit or loss unless they clearly represent the collection of the investment cost. Other net profit or loss is recognized in other comprehensive profit or loss and is never reclassified to the current profit or loss.

4) Removal of financial assets
If the contractual rights for the cash flows of the financial asset expires, the contractual rights to receive the cash flows of the financial asset are transferred and most of the risks and rewards due to the ownership of the transferred financial assets are substantially transferred, or if the consolidated entity does not control the financial assets without retaining or transferring the majority of the risks and rewards of ownership, the consolidated entity removes the financial asset.

If the consolidated entity carries out a transaction to transfer the asset recognized in the consolidated statement of financial position but holds most of the risks and rewards of the ownership of the transferred asset, the transferred asset is not removed.

5) Offset of financial assets
The consolidated entity offsets financial assets with financial liabilities and indicate them on a net basis in the consolidated statement of financial position only if it currently has a legally enforceable offset right for both the financial assets and financial liabilities as recognized and intends to make their repayment with the differences or to repay the liabilities as soon as to realize the assets.

6) Impairment of financial assets
The consolidated entity recognizes a loss reserve for the expected credit loss on the following assets:
- Financial assets measured at amortized cost

Loss allowances on trade receivables and other receivables measured at amortized cost are always measured at the amounts corresponding to the expected credit losses over the period.

When determining whether the credit risk of a financial asset has significantly increased since the initial recognition and when estimating the expected credit losses, the consolidated entity considers information that can be used and reasonably supported, without undue cost or effort. This includes qualitative and quantitative information and analysis based on the consolidated entity's past experience and known credit ratings, including forward-looking information.

The expected credit losses throughout the period are the expected credit losses due to any default event that may occur during the expected life of the financial instrument.

The longest period to consider when measuring the expected credit losses is the longest contract term for which the consolidated entity is exposed to the credit risk.

② Measurement of expected credit loss
The expected credit loss is a probability weighted estimate of the credit losses. Credit losses are measured as the present value of all cash deficits (ex: the difference between all contractual cash flows that are expected to be paid under the contract and all contractual cash flows that are expected to be received). The expected credit losses are discounted at the effective interest rate of the financial asset.

③ Credit-impaired financial assets
At the end of each reporting period, the consolidated entity assesses whether the creditworthiness of the financial asset measured at amortized cost is impaired. If there is more than one event that adversely affects the estimated future cash flows of a financial asset, the credit of the financial asset is impaired.

The evidence that the credit of a financial asset is impaired includes the following observable information:
- Significant financial difficulties of issuer or borrower

④ Indication of credit loss allowances on the statement of financial position
The loss allowances on financial assets measured at amortized cost is deducted from the book value of the asset.

⑤ Elimination
If there is no reasonable expectation of recovery of all or part of the contractual cash flows of a financial asset, the asset is eliminated. The consolidated entity individually assesses the timing and amount of removal by evaluating whether there is a reasonable expectation of recovery for an enterprise customer. The consolidated entity does not expect that the eliminated amount will recover significantly. However, the eliminated financial assets can be subject to collection activities in accordance with the collection procedures of the amount due to the consolidated entity.

(6) Non-derivative financial assets - policy applicable before January 1, 2018
The consolidated entity classifies non-derivative financial assets into four categories: financial assets recognized in the current profit or loss, financial assets held to maturity, loans and receivables, and transferable financial assets, which are recognized in the consolidated statement of financial position when it becomes a contractual party.

Non-derivative financial assets are measured at fair value at initial recognition. If they are not financial assets recognized in the current profit or loss, the transactional cost directly related to the acquisition of the financial assets are added to the fair value at initial recognition.

① Financial assets recognized in the current profit or loss

Financial assets designated as short-term trading financial assets or financial assets recognized in the current profit or loss at initial recognition are classified as financial assets recognized in the current profit or loss. Financial assets recognized in the current profit or loss are measured at fair value after initial recognition, and changes in fair value are recognized in the current profit or loss. Meanwhile, transactional costs related to acquisition incurred at the time of initial recognition are recognized immediately in the current profit or loss as incurred.

② Financial assets held to maturity

They are classified as financial assets held to maturity if their maturity is fixed and the amounts to be paid are fixed or determinable for non-derivative financial assets when the consolidated entity has the aggressive intent and ability to hold to maturity. After initial recognition, they are measured at amortized cost using the effective interest rate method.

③ Loans and receivables

Non-derivative financial assets with fixed or determinable payments and their transaction price not quoted in an active market are classified as loans and receivables. After initial recognition, they are measured at amortized cost using the effective interest rate method.

④ Transferable financial assets

Non-derivative financial assets designated as available for sale or not classified as financial assets recognized in the current profit or loss, financial assets held to maturity or loans and receivables are classified as transferable financial assets. They are measured at fair value after initial recognition, and changes in fair value are recognized in other comprehensive profit or loss. However, equity securities that do not have a quoted market price in an active market and whose fair value cannot be measured reliably are measured at cost.

⑤ Removal of financial assets

Financial assets are removed when the contractual rights to cash flows from financial assets are terminated or when the rights to cash flow of financial assets are transferred and most of the risks and rewards for the ownership of financial assets are transferred. If the consolidated entity does not hold or transfer substantially most of the risks and rewards for the ownership of the financial asset, the consolidated entity eliminates the financial asset if it does not control the financial asset and, if it continues to control the asset, it continues to recognize to the continuous involvement on the transferred assets while recognizing related liabilities together. If the consolidated entity has transferred the rights to the cash flows of financial assets but the consolidated entity has the majority of the risks and rewards for the ownership of the financial assets, it continues to recognize the financial assets and recognizes the proceeds amounts from transfer as liabilities.

⑥ Offsetting of financial assets and liabilities

Financial assets and liabilities are offset, when there is a legally enforceable right to offset assets and liabilities, and only if there is the intention to settle the liability at the same time that the asset is realized.

⑦ Impairment of financial assets

Whether there is any objective evidence of impairment on financial assets except for financial assets recognized in the current profit or loss is evaluated at the end of every reporting period. If there is any objective evidence that financial assets have been impaired as a result of one or more events after the initial recognition and the impairment event affects the projected future cash flows of the financial assets, the financial assets are considered impaired. However, no impairment loss anticipated as a result of future events is recognized.

The events as an objective evidence that the financial assets are impaired might include if the issuer or debtor of the financial assets does not pay principal or interest; if the borrower does not pay principal or interest; if there are adjustments to liabilities such as the mitigation of borrowing conditions due to the borrower's financial difficulties; and if the active market for the financial assets has disappeared. In addition, it is considered that there is objective evidence on asset impairment for equity securities classified as transferable financial assets if the issuer is experiencing significant financial difficulties, or the fair value of the equity securities has fallen significantly or consistently below cost.

If there is objective evidence of impairment, the impairment loss is measured and recognized as follows:

A. Financial assets with amortized cost as the book value

Financial assets measured at amortized cost measure impairment losses as the difference from the present value of projected future cash flows discounted at the original effective interest rate or the fair value of the financial instruments using observable market prices for the convenience of practices in the field. Impairment losses use an allowance account or they are directly deducted from the book value of an asset. If the impairment loss amount subsequently decreases and the decrease is objectively related to the event occurring after the impairment was recognized, the already recognized impairment loss is directly returned or recognized in the current profit or loss by adjusting the allowance.

B. Financial assets with the cost as the book value

The impairment losses of financial assets measured at the cost are measured as the difference between the present value of the projected future cash flows discounted at the current market return of similar financial assets and the book value, and they are recognized in the current profit or loss. These impairment losses are not reversed.

C. Transferable financial assets

If there is any objective evidence of impairment losses on transferable financial assets where the decreased amount of fair value is recognized in other comprehensive profit or loss, the amount where the impairment loss already recognized in the current profit or loss in the previous period out of the accumulated losses, where the difference between the acquisition cost and the current fair value, recognized in other comprehensive profit or loss is deducted is reclassified to the current profit or loss. The impairment loss recognized in the current profit or loss for transferable equity securities is not reversed to the current profit or loss. On the other hand, if the fair value of the transferable debt securities increases in the subsequent periods and the increase is objectively related to the event occurring after the impairment loss is recognized, it is reversed and recognized in the current profit or loss.

(7) Tangible assets

Tangible assets are initially measured and recognized at cost. The cost of a tangible asset includes costs directly attributable to the location and condition necessary to operate the asset in an intended manner by management, and costs estimated to be necessary to dismantle, remove, or recover the property.

After initial recognition, the book value of a tangible asset is recognized as the amount where the accumulated depreciation and accumulated impairment losses are deducted from the cost.

The cost of replacing part of a tangible asset is included in the book value of the asset if it is highly likely that the future economic benefits from the asset will flow to the consolidated entity and the cost can be measured reliably. Or, it is recognized as a separate asset, if appropriate. Here, the replacing part is removed from the book value. Other costs incurred in connection with the ordinary maintenance and repair are recognized in the current profit or loss as incurred.

The lands among tangible assets are not depreciated. Other tangible assets are depreciated from the amount where the residual value is deducted from the acquisition cost of the asset, using the straight-line method that best reflects the expected consumption pattern of the future economic benefits inherent in the asset over the economic durable years as presented below.

If a certain part of the cost, consisting of a tangible asset, is significant compared to the total cost of the tangible asset, the part is separately depreciated when the tangible asset is depreciated.

Any profit or loss arising from the elimination of a tangible asset is determined by the difference between the net selling price and the book value, and the difference is recognized as other non-operating income and other non-operating expense.

The projected durable years of tangible assets in the current and previous year are as follows;

Division	Durable years
Buildings and structures	20 years, 40 years
Machinery	5 years
Furnishings	4 years
Other tangible assets	5 years

The consolidated entity reviews the residual value of the asset, durable years and depreciation method at the end of each reporting period and, if it is deemed appropriate to change it as a result of review, it is accounted for as a change in the accounting estimation.

(8) Intangible assets
An intangible asset is measured at cost when it is first recognized. After initial recognition, the book value is recognized as the amount where the accumulated depreciation and accumulated impairment losses are deducted from the cost.

Intangible assets are amortized using the straight-line method over the following durable years as their residual value is zero ("0") from the available point. As some intangible assets have, however, no foreseeable limit to the expected use period, they are not amortized as the durable years of the intangible assets are unlimited.

The projected durable years of intangible assets in the current and previous year are as follows;

Division	Durable years
Goodwill	Indefinite
Industrial property rights	10 years
Software	2 years ~ 5 years
Membership	Indefinite
Other intangible assets	2 years ~ 5 years

The amortization period and amortization method for intangible assets with finite useful lives are reviewed at the end of each reporting period. For intangible assets whose useful life is indefinite, whether the evaluation that the useful life is indefinite is continuously valid or not is reviewed at the end of each reporting period. If it is deemed appropriate to change it, it is processed as the change in the accounting estimation.

Subsequent expenditures are capitalized only when the future economic benefits of the related asset increase, and other expenses, including internally generated goodwill and trade names, are expensed as incurred.

(9) goodwill

Goodwill represents the payment in excess of the fair value for a net identifiable asset acquired at the time of business combination and it is recognized as an intangible asset. Goodwill is not amortized but is tested annually for impairment, and is stated as the value where the accumulated impairment losses are deducted from the cost.

(10) Government subsidy

Government subsidies are recognized only when there is reasonable assurance that the consolidated entity will comply with the conditions attached to government subsidies and receive them.

① Asset related government subsidies

The consolidated entity receives the government subsidies on which basic conditions are imposed as saying that they shall be used in acquiring or constructing non-current assets. When the book value of the asset is calculated, the government subsidies are deducted and they are recognized in the current profit or loss over the useful life of the depreciable asset.

② Revenue related government subsidies

The consolidated entity recognizes government subsidies as a way to offset the related costs over the period in which the costs are recognized as an expense for which government subsidies are intended to be financed.

(11) Impairment of non-financial assets

For all non-financial assets except for the assets arising from employee benefits, inventories, deferred tax assets and non-current assets held for sale, we review whether there are indications that the asset is impaired and, if so, we estimate the recoverable amount of the asset. However, we test impairment annually by comparing the recoverable amount with the book value regardless of the indication of asset impairment for intangible assets with indefinite useful lives and intangible assets that are not yet available.

If the recoverable amount of or by individual asset cannot be estimated, the recoverable amount is estimated by each cash-generating unit to which the asset belongs. The recoverable amount is determined to be the greater of the value in use and net fair value. The value in use is estimated by discounting the expected future cash flows expected to be generated by the asset or cash-generating unit with an appropriate discount rate reflecting the current market's assessment on the risks unique to the asset, which is not adjusted when the time value of money and future cash flows are estimated.

If the recoverable amount of an asset or cash-generating unit is less than its book value, the book value of the asset is reduced and recognized immediately in the current profit or loss.

At the end of each reporting period, we review whether there is any indication that an impairment loss recognized in prior periods no longer exists or has decreased in respect of an asset other than goodwill. It is reversed only if there is a change in the estimate used to determine the recoverable amount after the time right before the recognition of the impairment loss. The increase in the book value due to the reversal of an impairment loss cannot exceed the depreciation of the book value or balance after depreciation before the recognition of the impairment loss in the past.

Goodwill acquired in a business combination is allocated to each cash-generating unit that is expected to benefit from the synergies resulting from the business combination. An impairment loss on a cash-generating unit is first reduced from the book value of the goodwill allocated to the cash-generating unit, and then the book value of the asset is reduced in proportion to the book value of other assets in the cash-generating unit, respectively. An impairment loss recognized for goodwill cannot be reversed in the subsequent periods. At the end of each reporting period, we review whether there is any indication that an impairment loss recognized in prior periods no longer exists or has decreased in respect of an asset other than goodwill. It is reversed only if there is a change in the estimate used to determine the recoverable amount after the time right before the recognition of the impairment loss. The increase in the book value due to the reversal of an impairment loss cannot exceed the depreciation of the book value or balance after depreciation before the recognition of the impairment loss in the past.

(12) Non-derivative financial debentures

The consolidated entity classifies financial debentures into finance debentures recognized in the current profit or loss and other finance debentures according to the contractual details in reality and definition of finance debentures, which are recognized in the consolidated statement of financial position when it becomes a contractual party.

① Financial debentures recognized in the current profit or loss

Financial debentures recognized in the current profit or loss include short-term trading finance debentures or other finance debentures designated as finance debentures recognized in the current profit or loss at initial recognition. Financial debentures recognized in the current profit or loss are measured at fair value after initial recognition and changes in fair value are recognized in the current profit or loss. Meanwhile, transactional costs related to the issue of finance debentures recognized in the current profit or loss at the time of initial recognition are recognized immediately in the current profit or loss as incurred.

② Other financial liabilities

Non-derivative financial liabilities that are not classified as financial liabilities recognized in the current profit or loss are classified as other financial liabilities. Other financial liabilities are measured as the amount where the transactional costs directly attributable to the issue is deducted from fair value at the initial recognition. Subsequently, other financial liabilities are measured at amortized cost using the effective interest rate method and the related interest expense is recognized.

Financial liabilities are removed from the consolidated statement of financial position only when they have ceased, i.e., when the contractual obligations have been fulfilled, canceled or expired.

(13) Employee payroll

① Short-term employee payroll

The consolidated entity recognizes in the current profit or loss the short-term employee benefits payable within 12 months from the end of the accounting period in which the employees provide related services as the amount expected to be paid in exchange for their work service when those service works are provided. Short-term employee benefits are measured at the amounts without discount.

② Other long-term employee payroll

Other long-term employee payroll not to be paid within 12 months from the end of the reporting period that employees provide work services is discounted with the present value for the future payroll which is acquired in exchange for work services provided in the current and past period. Changes from re-measurement are recognized as the current profit or loss in the period that they occur.

③ Retirement benefit: Defined benefit plans

Defined benefit liability relating to defined benefit plans as of the end of the reporting period is recognized by deducting fair value of external reserve asset from present value of defined benefit liability.

Defined benefit liabilities are calculated in the estimated unit reserve method by an independent accountant every year. If the net amount calculated by deducting fair value of external reserve asset from present value of defined benefit liability falls into asset, the asset is recognized to the extent of present value for the economic utility available in the way of return from the system or saving for future contribution to the system.

The re-measurement elements of net defined benefit liabilities consist of variations of asset recognizing upper limit effect excluding the amount included in the net interest of profit from external reserve assets and net defined benefit liabilities excluding the amount included in the actuarial profit and net interest of net defined benefit liabilities, which are immediately recognized in other comprehensive profit or loss. The consolidated entity determines the net interest of net defined benefit liabilities (assets) with the product of net defined benefit liabilities (assets) and a discount rate decided at the beginning of the annual reporting period in consideration of variations of net defined benefit liabilities (assets) due to the payment of contributions and payroll payment during the reporting period. Net interest expense and other expenses relating to the defined benefit plans are recognized in the current profit or loss.

If any revision or shrinkage in the system occurs, any profit or loss according to the change or shrinkage in the utility for the service in the past is immediately recognized in the current profit or loss. The consolidated entity recognizes profit or loss from the settlement whenever it occurs in the defined benefit plans.

(14) Allowance liabilities
Allowance liabilities refer to the current obligations (legal or constructive obligations) as a result of past events, and it is highly likely that an outflow of resources with economic benefits will be required to settle the obligations, and they are recognized if the amounts required to fulfill the obligations are reliably estimated.

The amounts recognized as allowance liabilities are the best estimates of the expenditures required to fulfill the current obligations at the end of the reporting period, taking into account the unavoidable risks and uncertainties of the related events and circumstances. If the effect of money’s time value is material, allowance liabilities are measured at the present value of the expenditures expected to be required to settle the obligations.

We recognize the reimbursement amounts and counts them as separate assets only when it is almost certain that the reimbursement will be received if it is expected that the third party will repay part or all of the expenditure required to settle the allowance liabilities.

The consolidated entity reviews the balances of allowance liabilities at the end of each reporting period and adjust them to reflect the best estimates at the end of the reporting period. If the likelihood of an outflow of resources incorporating economic benefits to fulfill the obligations is no longer high, the related allowance liabilities are reversed.

Provision for product warranties is recognized when the goods or services are sold or provided, and based on historical warranty data, all possible outcomes and their associated probabilities are estimated on a weighted average basis.

Restoration allowance liabilities are recognized on a lease asset contract with restoration obligations and are estimated based on the unit price of similar restoration services.

Allowance liabilities are only used for expenditures related to initial recognition.

(15) Foreign currency
① Transaction in foreign currency
In preparing the financial statements of individual companies that make up the consolidated entity, transactions in currencies other than the functional currency of the company are recorded using the exchange rates on the dates

of the transactions. At the end of each reporting period, monetary items denominated in foreign currencies are translated at the closing exchange rate at the end of the reporting period. Non-monetary items in foreign currency, which are measured at fair value, are translated at the exchange rates prevailing on the dates when the fair value is determined, and non-monetary items measured at historical cost are translated at the exchange rates prevailing on the dates of the transactions.

Foreign exchange differences arising on the settlement of monetary items and foreign exchange differences arising on the translation of monetary items are recognized in the current profit or loss as other non-operating income and other non-operating expenses in the case of operating activities, and also recognized in the current profit or loss as financial income and financing expense in the case of non-operating activities.

If gains or losses on non-monetary items are recognized in other comprehensive profit or loss, the effects of changes in foreign exchange rates are also recognized in other comprehensive income. When the gains or losses are recognized in the current profit or loss, changes in foreign exchange rates are recognized in the current profit or loss as well.

② Overseas business units
If the functional currency of an overseas business unit is different from the presentation currency of the consolidated entity, the financial results are translated into the presentation currency in the following ways:

If the functional currency of an overseas business unit is not the currency of the hyper-inflationary economy, the assets and liabilities of the statement of financial position (including the statement of financial position for comparison) are translated at the closing exchange rate at the end of the reporting period, and incomes and expenses of the comprehensive income statement (including comprehensive income statement for comparison) are translated at the foreign exchange rate of the transaction date. The exchange differences arising from translation are recognized in other comprehensive profit or loss.

The fair value adjustments for the book values of goodwill, assets and liabilities arising from the acquisition of an overseas business unit are expressed in the functional currency of the overseas business unit based on the assets and liabilities of the overseas business unit and translated into Korean won by applying the closing rate together with other assets and liabilities..

When an overseas business unit is disposed of, the cumulative translation differences related to the overseas business unit recognized in other comprehensive profit or loss and separate capital items are reclassified from equity to the current profit or loss at the time when the gains or losses on the disposal of the overseas business unit are recognized. When a subsidiary, including an overseas business unit, is disposed of partially, the proportionate share of the accumulated foreign exchange difference recognized in other comprehensive profit or loss is reassigned as a non-controlling interest in the overseas business unit. In other cases, only the proportionate share of the accumulated foreign exchange differences recognized in profit or loss is reassigned as the current profit or loss when an overseas business unit is disposed of partially.

③ Conversion of net investment in overseas business units
Among the monetary items to be received from overseas business units or to be paid to overseas business units, those items which are not planned to be settled in the foreseeable future and are unlikely to be settled are considered to be part of the net investment in the overseas business units. In the consolidated financial statements, their foreign exchange differences are recognized in other comprehensive profit or loss and reclassified to the current profit or loss when the related net investment is disposed of.

(16) Paid-in capital
Common stocks are classified as capital, and incremental costs directly attributable to capital transactions are deducted from capital as a net amount reflecting tax effects.

When acquiring its equity instruments again, the consolidated entity deducts those equity instruments directly from capital as the title of treasury stock. Any gain or loss on the purchase or sale of, or the issue or cancellation of, an equity instrument is not recognized in the current profit or loss. If the controlling company or another company in the consolidated entity acquires and retains treasury stocks, the consideration paid or received is recognized directly in capital.

(17) Revenue from contracts with customers
(1) Policy applicable from January 1, 2018
The consolidated entity first applies the Korea Financial Accounting Standards No. 1115 from January 1, 201 and recognizes profits by applying the 5 step profit recognition model (① Identify a contract → ② Identify performance obligation → ③ Estimate a transaction price → ④ Distribute the transaction price to performance obligation → ⑤ Recognize profit when performance obligation is completed) to every type of contract. The effect of the first application of K-IFRS 1115 is described in Note 3.

① Contract identification
The consolidated entity identifies the contracts with customers when all of the following criteria are met:
- The contractual parties agree to approve the contract and carry out their obligations, respectively.
- The rights of each party in connection with the goods or services to be transferred can be identified.
- The payment terms of the goods or services to be transferred can be identified.
- There is a commercial substance in the contract.
- It is highly probable that the payments with the rights entitled to receive for the goods or services to be transferred to the customer will be collected.

The consolidated entity identifies the contracts to supply the products and services which meet all of the above criteria as a contract with the customer.

② Identification of performance obligations
The consolidated entity reviews the goods or services promised in the contract with the customer at the inception of the agreement and identifies the commitment to transfer either of the following to the customer as a performance obligation:

- Distinguishable goods or services (or bundles of goods or services)
- A series of distinguishable goods or services which are virtually the same, and the way they are transferred to customers is the same

The obligation of the consolidated entity to perform for the customers identified in the contract with the customer is the provision of the promised product and the provision of the service.

③ Estimation of transaction prices
The consolidated entity refers to the contractual terms and the corporate business practices in order to determine the transaction prices. The transaction prices are the amounts from the rights to receive the payments after the company transfer the goods or services promised to the customer, but the amounts collected on behalf of the third party are excluded.

The consolidated entity estimates the transaction prices at the consideration to be received from the customer for the supply of goods and services. However, since the consolidated entity allows the return of the products in the contract to supply the products, the prices to receive from the customer may change. The consolidated entity estimates the variable costs using the expected value method that is expected to better anticipate the rights to receive, and recognizes revenues by including the variable costs in the transaction prices only up to the amounts highly possible of no significant return out of the cumulative revenues that have already been recognized when the return date has elapsed. The amounts that the consolidated entity does not expect to have the rights to receive the payments which have been received or will be received are recognized as a refund liability and recognized as a new asset to the right to recover the returned asset.

④ Distribution of the transaction price to the performance obligation
The consolidated entity allocates the transaction price to each performance obligation as an amount that represents the amount to have the rights to receive the payments after the goods or services promised to the customer are transferred.

The transaction price is not allocated because the performance obligation of the consolidated entity consists of a single performance obligation that can be identified with the goods and services in the contracts that the consolidated entity has concluded with the customers.

⑤ Revenue recognition at the implementation of performance obligation
The consolidated entity recognizes the transaction price allocated to the performance obligation as revenues when the goods and services promised to the customer are transferred and the performance obligation is fulfilled, and the customer controls the goods or services.

The consolidated entity recognizes revenue when the obligation to provide the goods and services is fulfilled at one time. In particular, the revenues for the delivery of services are recognized as the performance obligation to be fulfilled at one time as we consider that the asset made with the fulfillment of obligation by the consolidated entity has no alternative use in the company itself and fails to meet the requirements of the performance obligation to be fulfilled over a period when there should be a claim right for the payment that can be enforced for the completed portion up to date.

(2) Policy applicable before January 1, 2018

The consolidated entity measures revenue at the fair value of the consideration received or receivable for the sale of goods, the provision of services or the use of assets and deducts sales allowances, discounts and reversals from revenues.

① Sales of goods

The consolidated entity recognizes revenues when the significant risks and rewards for the ownership of the goods are transferred to the purchaser from the consolidated entity; the consolidated entity does not make the continuous managerial involvement in the normal level and effective control in relation to the ownership of the sold goods; it is highly likely that the economic benefits relating to the transaction will flow in to the consolidated entity; and the costs and return possibility that has occurred or will occur in relation to the revenue amounts and transactions can be measured reliably.

② Others

The consolidated entity recognizes other incomes when the revenue-generating process is completed; the amount of revenue can be reliably measured; and it is highly probable that the economic benefits will flow in.

If the consolidated entity acts as an agent of the supplier not as a party to the transaction, the net amount where the amount to be paid to the actual supplier of the goods or services is deducted from the amount charged to the customer is recognized as commission income.

(18) Financial incomes and costs

Financial incomes include interest income, gains and losses from the conversion and exchange rate difference of foreign currency financial instruments, and current profit or loss - net profit or loss on financial assets measured at fair value. Interest income is recognized in the current profit or loss using the effective interest rate method over the period.

Finance costs include interest expense on borrowings, translation losses on foreign currency instruments and foreign exchange difference losses. Interest expense on borrowings is recognized in the current profit or loss using the effective interest rate method over the period.

The effective interest rate is the interest rate at which the present value of the future cash payments or receivables estimated in the expected life of the financial instruments exactly matches the total book values of the financial asset or the amortized cost of the financial liability.

When interest incomes or interest expenses are calculated, the effective interest rate applies to the total book value of the asset (if the credit of the asset is not impaired) or the amortized cost of the liability. However, for financial assets whose credit is impaired subsequently after the initial recognition, interest income is calculated by applying the effective interest rate to the amortized cost of the financial asset. If the asset is no longer deemed as impaired, interest income is calculated by applying the effective interest rate to the total book value.

(19) Corporate tax

Corporate tax expense consists of current corporate tax and deferred corporate tax, which is recognized in the current profit or loss except for transactions directly recognized in other comprehensive profit or loss or capital, or tax amounts arising from business combinations.

① Current corporate tax

Current corporate tax is calculated based on taxable income for the current year. Taxable income differs from profit or loss in the consolidated income statement because it excludes profit or loss or tax-exempt items or non-deductible items that are added to or deducted from earnings before tax of the consolidated income statement in other taxable periods. Accrued corporate taxes payable related to the consolidated entity's current corporate tax are calculated using the enacted or substantively enacted tax rates.

② Deferred corporate tax

The measurements of deferred corporate tax liabilities and deferred corporate tax assets reflects the tax effects according to the expected methods for the consolidated entity to collect or pay the book values of the related assets and liabilities at the end of the reporting period. The temporary differences to be added to the investment equity of subsidiaries, affiliates and joint ventures are recognized as deferred corporate tax liabilities except that the consolidated entity can control the expiration timing of temporary differences and it is highly probable that the temporary differences will not expire in the foreseeable future. In addition, the deferred corporate tax assets arising from the temporary differences to be deducted are recognized only if it is highly likely that the temporary differences can disappear in the foreseeable future and the taxable income will accrue in the period when the temporary differences can be used.

The book value of the deferred corporate tax assets is reviewed at the end of each reporting period and the book value of the deferred corporate tax asset is reduced if it is not highly likely that the taxable incomes will accrue enough to use the benefits of the deferred corporate tax asset.

Both the deferred corporate tax assets and liabilities are measured using the tax rate which is expected to be applied to the reporting period in which the asset is realized or the liability is settled, based on the tax laws enacted or substantively enacted at the end of the reporting period.

Both the deferred corporate tax assets and liabilities are offset only if the corporate taxes are imposed by the same taxation authority; if the consolidated entity has the legal right to offset the recognized amount; and it is intended to settle both the current corporate tax liabilities and assets in the net amount. If an additional corporate tax expense arises as a result of dividend payments, it is recognized at the time when the liabilities related to the payment of dividends are recognized.

(20) Earnings per share

The consolidated entity calculates basic and diluted earnings per common share for the current net profit or loss and presents them in the consolidated income statement. Basic earnings per share is calculated by dividing the current net profit or loss attributable to common stocks by the weighted average number of common stocks outstanding in the fiscal period. Diluted earnings per share is calculated by adjusting the current profit or loss and the weighted average number of common stocks attributable to common stocks, in consideration of the potential influence of common stocks with every diluted effect such as share-based compensation granted to employees, etc.

(21) Lease

The consolidated entity classifies the lease as a financial lease if the majority of the risks and rewards for the ownership of the leased assets are transferred to the lessee and as an operating lease if most of the risks and rewards are not transferred.

There is no financial lease contracted by the consolidated entity. In the case of an operating lease, lease payments are recognized as expenses on a straight-line basis over the lease term. The total benefits of operating lease incentives are recognized as they are deducted from the lease expenses over the lease term. At the end of current year, the consolidated entity's total amount of future minimum lease payments under operating leases which cannot be canceled is 3,067,661 thousand won within a year, and 846,176 thousand won within 5 years exceeding a year.

(22) Established and revised standards that have not been applied

Below are the established or revised standards and interpretations whose enforcement date has not been in the fiscal year starting January 1, 2018 although they are established or revised. The consolidated entity did not apply the following established / revised standards and interpretations earlier in preparing the consolidated financial statements.

Korea Financial Accounting Standards No. 1116 'Lease'

Korea Financial Accounting Standards No. 1116 'Leases' replaces the current standards Korea Financial Accounting Standards No. 1017 'Lease', Korea Financial Accounting Standards Interpretation No. 2104 'Determination of Whether Lease is Included in the Agreement', No. 201 'Operating Lease: Incentive' and No. 2027 'Assessing the Substance of a Transaction Including a Lease in Legal Form'.

This standard shall be applied from the beginning of the financial year beginning on or after January 1, 2019.

Korea Financial Accounting Standards No. 1116 provides an accounting model in which the lessee recognizes lease-related assets and liabilities in the statement of financial position. The lessee is required to recognize the use right asset that represents the right to use the underlying asset and the lease liability that represents the obligation to pay the lease payments. Lease recognition may be exempted for short-term leases and minor lease assets. Lease provider accounting is similar to the existing standard that classifies leases as financial leases and operating leases.

The consolidated entity has completed its initial assessment of the potential impact on the financial statements, but has not yet completed an accurate assessment. The actual effects of applying Korea Financial Accounting Standards No. 1116 to the financial statements will be determined by the future economic environment in the first application, such as the consolidated entity's interest rate on January 1, 2019, the composition of the consolidated entity's lease portfolio on the applicable days, whether the consolidated entity will exercise the option to renew the lease, to what extent the practical simplification laws and the lease recognition exemption regulations will be applied, etc.

The most significant impact so far identified is that the consolidated entity should recognize new assets and liabilities for the buildings and vehicles that it is using as operating leases. As of December 31, 2018, the consolidated entity's total future minimum lease payments under operating leases, which cannot be canceled, amounted to 3,913,837 thousand won prior to the present value discount.

The introduction of Korea Financial Accounting Standards No. 1116 will change the nature of the costs associated with the leases as operating leases recognized in the fixed amounts will be replaced with depreciation expenses for license assets and interest expenses for lease liabilities.

The impact on the consolidated entity's financial leases is not expected to be significant.

As a lessee, the consolidated entity may apply the new standard in one of the following ways:
- Retrospective application approach
- Modified retrospective application approach and optional practical simplification
The lessee shall consistently apply the option to all lease agreements.

The consolidated entity plans to apply Korea Financial Accounting Standards No. 1116 for the first time using the retrospective application approach, which is amended on January 1, 2019. Therefore, the cumulative effect of applying Korea Financial Accounting Standards No. 1116 will be adjusted in the retained earnings on January 1, 2019, and the comparative information will not be prepared again.

When applying the revised retroactive application approach to leases that are classified as operating leases under the existing Korea Financial Accounting Standards No. 1017, the lessee can choose whether to apply a variety of practical simplification method on a lease-by-lease basis. The consolidated entity is evaluating the potential impact when these practical simplification methods are applied.

5. Sales Division
The consolidated entity consists of a single research and development organization, while applying the same marketing strategy. It also identifies a single sales division and provides reporting on such a basis. In the current and previous year, there was only one customer with 10% or more of the consolidated entity's sales. It consists of 90% of total sales in the current year and 90% of total sales in the previous year.

6. Classification of Financial Products by Category
(1) Financial products by category
The book values of financial instruments at the end of previous and current years are as follows;

(Unit: KRW)		
Division	End of current year	End of previous year
Financial assets		
Profit or loss - Fair value measurement financial assets	1,025,845,393	-
Transferable financial assets	-	3,358,368,987
Measurement of amortization cost Financial assets		
Cash and cash equivalents	222,527,311,948	74,727,328,394
Short-term financial instruments	-	200,000,000,000
Trade receivables	158,800,076,125	139,950,086,915
Other receivables	8,945,885,594	6,732,537,842
Sub total	390,273,273,667	421,409,953,151
Total	391,299,119,060	424,768,322,138
Financial liabilities		
Other financial liabilities		
Trade liabilities	114,566,795,190	97,214,262,012
Other liabilities(*)	9,539,152,235	14,483,706,230
Total	124,105,947,425	111,697,968,242

(*) Employee-related liabilities not included in financial liabilities are excluded.

(2) Financial incomes and costs by category

① Details of financial incomes and financing costs recognized in the current profit or loss in the current and previous year are as follows;

(Unit: KRW)				
Division	Interest income		Other income (*)	
	Current year	Previous year	Current year	Previous year
Measurement of amortization cost Financial assets	4,082,996,310	3,744,115,417	(436,253,826)	914,689,009
Profit or loss - Fair value measurement Financial assets	-	-	(643,523,594)	-
Total	4,082,996,310	3,744,115,417	(1,079,777,420)	914,689,009

(*) Other profits and losses are comprised of foreign exchange conversion gains and losses, foreign exchange gains or losses, and current profit and loss - loss on the valuation of financial assets measured at fair values.

② Details of financial incomes and financing costs recognized in other comprehensive profit or loss in the current and previous year are as follows;

(Unit: KRW)

Division	Evaluated profit or loss	
	Current year	Previous year
Other comprehensive profit or loss - financial assets measured at fair value	(380,807,731)	-
Transferable financial assets	-	231,068,925

7. Financial risk management

The consolidated entity is exposed to credit risks, liquidity risks and market risks as far as the financial products are concerned. These notes disclose the information on the risks to which the company is exposed, as well as the goals, policies, the procedure for evaluating and managing the risks, and management of capital set by the company. Further quantifiable information is disclosed throughout these financial statements.

(1) Credit risks

Credit risks are the risks of suffering financial losses due to the default of contractual obligations by the customer or the other party in an agreement for a financial product. This kind of risk is mainly related to the account receivables and investment assets.

① Exposure to credit risks

The book value of a financial asset means the maximum level of exposure to credit risks. The maximum exposure to the credit risk of the consolidated entity at the end of current and previous year is as follows.

		(Unit: KRW)
Division	End of current year	End of previous year
Cash and cashable assets (*)	222,527,311,948	74,727,328,394
Short-term financial instruments	-	200,000,000,000
Trade receivables	158,800,076,125	139,950,086,915
Other receivables	8,945,885,594	6,732,537,842
Available-for-sale financial assets (Liability products)	-	2,758,368,987
Profit or loss - Fair value measurement financial assets	1,025,845,393	-
Total	391,299,119,060	424,168,322,138

② Impairment loss

The consolidated entity has established allowances for the possible losses from its accounts receivable. The allowance for the group of financial assets is set based on the past data on the recollection of similar financial assets.

Trade receivables are presented on the consolidated statement of financial position at net amounts where allowance for bad debt loan is deducted. The details of trade receivables and related allowance for bad debt loan on the basis of total amounts before the deduction of allowance for bad debt loan as of the end of the current year and end of the previous year are as follows

(Unit: KRW)		
Division	End of current year	End of previous year
Account receivables	158,800,076,125	139,950,086,915
Allowance for bad debts:	-	-
Net book value of account receivables	158,800,076,125	139,950,086,915

The age of receivables and impaired amounts for each age at the end of current year and previous year are as follows:

(Unit: KRW)						
Division	End of current year			End of previous year		
	Total credits	Impaired amount	Book value	Total credits	Impaired amount	Book value
Within the maturity date	155,966,260,967	-	155,966,260,967	138,307,918,335	-	138,307,918,335
Maturity date ~ 3 months	2,337,833,843	-	2,337,833,843	1,624,452,580	-	1,624,452,580
3 ~ 6 months	413,348,156	-	413,348,156	-	-	-
More than 6 months	82,633,159	-	82,633,159	17,716,000	-	17,716,000
Total	158,800,076,125	-	158,800,076,125	139,950,086,915	-	139,950,086,915

There is no change to bad debt allowances for trade receivables in the current and previous year.

(2) Liquidity risks

The liquidity risks refer to the risks involved in difficulties on fulfilling the financial liabilities to be repaid by transfer of cash or other financial assets of the consolidated entity. The method of management of liquidity for the consolidated entity focuses on maintaining sufficient liquidity in order to repay the debts within the due date without damaging the reputation of the company or suffering excessive losses even during financial hardships.

The consolidated entity is managing the liquidity risks by maintaining cash, cashable assets, and short-term financial products to the satisfaction of any liquidity risk.

① The contractual due dates for financial liabilities held by the consolidated entity at the end of current year and previous year are as follows: The amounts do not reflect the effects of offsetting agreements.

(Unit: KRW)

Division	Book value	Cash flow per contract	Less than a year	1 year to less than 5 years
Account payable	114,566,795,190	114,566,795,190	114,566,795,190	-
Other payables(*)	9,539,152,235	9,539,152,235	9,539,152,235	-
Total	124,105,947,425	124,105,947,425	124,105,947,425	-

(*) Employee-related liabilities not included in financial liabilities are excluded.

② Contractual maturities of financial liabilities held by the consolidated entity at the end of current year are as follows; The amounts did not include the effect of the offsetting arrangements.

(Unit: KRW)				
Division	Book value	Cash flow per contract	Less than a year	1 year to less than 5 years
Account payable	97,214,262,012	97,214,262,012	97,214,262,012	-
Other payables(*)	14,483,706,230	14,483,706,230	14,468,706,230	15,000,000
Total	111,697,968,242	111,697,968,242	111,682,968,242	15,000,000

(*) Employee-related liabilities not included in financial liabilities are excluded.

(3) Market risks

Market risks mean the risks of changes in future cash flows or fair values of financial products due to changes in market prices.

① Exchange rate risk

The consolidated entity is exposed to the exchange rate risk related to the sales profits and costs indicated in KRW, which is the functioning currency. The major presentation currency for these transactions is USD.

A) Exposure to exchange rate risks

The book values of the cash assets and liabilities presented in foreign currency other than the functioning currency at the end of current year and previous year are as follows:

(Unit: KRW)						
Division	End of current year			End of previous year		
	USD	JPY	CNY	USD	JPY	CNY
Assets in foreign currency:						
Cash and cashable assets	13,102,276	-	106,159,791	1,086,625,579	1,031,446,991	152,628,880
Account receivables	11,788,273,056	-	-	14,655,432,818	214,698,439	-
Total	11,801,375,332	-	106,159,791	15,742,058,397	1,246,145,430	152,628,880
Liabilities in foreign currency:						

Trade payables	17,100,258,709	-	-	8,893,029,319	-	-
Account payables	2,757,857,617	72,948,960	154,622	2,851,824,150	-	254,922,110
Total	19,858,116,326	72,948,960	154,622	11,744,853,469	-	254,922,110

The foreign exchange rates applied to the conversion of monetary assets and liabilities in foreign currency are as follows;

(Unit: KRW)		
Division	End of current year	End of previous year
USD	1,118.10	1,071.40
JPY	10.13	9.49
CNY	162.76	163.65

B) Sensitivity analysis

If the exchange rates of the key foreign currency that compose a large part of the financial assets and liabilities of the consolidated entity at the end of current year and previous year, the capital, incomes and losses of the consolidated entity would have changed. Such an analysis is based on the assumption of fluctuation the consolidated entity believes with rationalities at the end of current quarter. Also, it was assumed during the analysis of the sensitivity that other factors such as the interest rate do not change. The effect of changes in foreign currency exchange rates on foreign currency at the end of current and previous years is as follows;

(Unit: KRW)				
Division	End of current quarter		End of previous year	
	5% increase	5% Decrease	5% increase	5% Decrease
USD	(402,837,050)	402,837,050	199,860,246	(199,860,246)
JPY	(3,647,448)	3,647,448	62,307,272	(62,307,272)
CNY	5,300,258	(5,300,258)	(5,114,662)	5,114,662

② Interest rate risk

The assets of the consolidated entity with interests are fixed with the fixed interest rate, and the consolidated entity is not recognizing financial products with the fixed interest rate as the financial products for which the profits or losses should be recognized in the current fiscal year. Therefore, the profit and operating cash flows of the consolidated entity are actually independent from variations in the market interest rates.

(4) Fair values

The book value and fair value of financial instruments, including fair value hierarchy, are as follows:

① End of current year

(Unit: KRW)

Division	Book value	Level 1	Level 2	Level 3	Total
Financial assets measured with fair value					
Current profit or loss – financial assets measured with fair value	1,025,845,393	-	-	1,025,845,393	1,025,845,393
Financial assets not measured with fair value					
Cash and cashable assets	222,527,311,948	-	-	-	-
Trade receivables	158,800,076,125	-	-	-	-
Other receivables	8,945,885,594	-	-	-	-
Total	390,273,273,667	-	-	-	-
Financial liabilities not measured with fair value					
Account payables	114,566,795,190	-	-	-	-
Other liabilities	9,539,152,235	-	-	-	-
Total	124,105,947,425	-	-	-	-

② End of previous year

(Unit: KRW)

Division	Book value	Level 1	Level 2	Level 3	Total
Financial assets measured with fair value					
Transferrable financial assets	2,758,368,987	-	-	2,758,368,987	2,758,368,987
Financial assets not measured with fair value					
Cash and cashable assets (*1)	74,727,328,394	-	-	-	-
Short-term financial instruments(*1)	200,000,000,000				
Trade receivables (*1)	139,950,086,915	-	-	-	-
Other receivables (*1)	6,732,537,842	-	-	-	-
Transferrable financial assets (*2)	600,000,000	-	-	-	-
Total	422,009,953,151	-	-	-	-
Financial liabilities not measured with fair value					
Account payables (*1)	97,214,262,012	-	-	-	-
Other liabilities (*1)	14,483,706,230	-	-	-	-
Total	111,697,968,242	-	-	-	-

(*1) No fair value for financial assets and financial liabilities not measured with fair value is included because book values fall under the reasonable approximate values of fair values.

(*2) Measurements were done with cost in accordance with Corporate Accounting Standard No. 1039 because measurements could not be done in a reliable manner on fair values under other methods because they fall under the equity products without any announced price in the active market for the same product (i.e. input variable of Level 1).

Changes in financial assets classified as Level 3 fair value measurements during the current year are as follows:

(Unit: KRW)					
Division	Beginning	Accounting policy change	Evaluation (*)	Disposition	기말
Transferrable financial assets	2,758,368,987	(2,758,368,987)	-	-	-
Profit or loss –Fair value measurement Financial assets	-	2,758,368,987	(643,523,594)	(1,089,000,000)	1,025,845,393
Other comprehensive income - fair value measurement financial assets	-	600,000,000	(502,384,869)	(97,615,131)	-
Total	2,758,368,987	600,000,000	(1,145,908,463)	(1,186,615,131)	1,025,845,393

(*) Fair value was evaluated using methods such as transaction prices between independent third parties, etc.

(5) Capital management

The capital management of the consolidated entity aims at maintaining the existence of the company as a going concern, minimizing the cost for funding, maximizing the profits of the shareholders, and maintaining an appropriate equity structure. The consolidated entity manages its capital on the basis of the debt ratio, which is calculated by dividing the total liabilities by equity in the consolidated statement of financial position. The ratio of liabilities of the consolidated entity at the end of current quarter and previous year are as follows:

(Unit: KRW)		
Division	End of current year	End of previous year
Total liabilities	160,944,737,525	132,068,703,716
Total capital	446,613,568,339	412,225,421,612
Debt ratio	36.04%	32.04%

8. Cash and cashable assets

The status of the cash and cashable assets at the end of current year and previous year is as follows:

(Unit: KRW)		
Division	End of current year	End of previous year
Demand deposit	52,527,311,948	39,519,553,753
Time deposit (*)	170,000,000,000	35,207,774,641
Total	222,527,311,948	74,727,328,394

(*) The financial instruments have very high liquidity with the maturity of three months or less from the acquisition date, which are easily convertible into the fixed amounts and have the slight risk of fluctuation in value.

9. Short-term financial instruments

The details of short-term financial instruments as of the end of current year and end of the previous year are as follows;

(Unit: KRW)		
Division	End of current year	End of previous year
Time deposit		200,000,000,000-

10. Trade receivables and other receivables

The status on trade and other receivables at the end of current year and previous year is as follows;

(Unit: KRW)				
Division	End of current year		End of previous year	
	Current	Non-current	Current	Non-current
Trade receivables	158,800,076,125	-	139,950,086,915	-
Account receivables	1,051,633,029	-	691,189,239	-
Revenues receivables	586,848,898	-	750,906,229	-
Loans	606,550,616	4,738,651,170	170,952,006	1,421,352,204
Security deposits	-	1,962,201,881	-	3,698,138,164
Total	161,045,108,668	6,700,853,051	141,563,134,389	5,119,490,368

11. Transferrable financial assets

(1) The status of transferrable financial assets at the end of current year and previous year are as follows;

(Unit: KRW)		
Division	End of current year	End of previous year
Current profit or loss – financial assets measured at fair value:		
LB Investment(*1)	1,025,845,393	-
Transferable financial assets:		
LB Investment(*1)	-	2,758,368,987
Daedeok Investment (*2)	-	500,000,000
Daedeok Inno-Polis Venture Association (*3)	-	100,000,000
Total	1,025,845,393	3,358,368,987

(*1) 298,000 thousand won of principal amount was returned and 791,000 thousand won of profit was distributed during the current year, whereas 260,000 thousand won of principal amount was returned during the previous year.

(*2) Total evaluation losses were recognized during the current year.

(*3) All were disposed of by liquidation during the current year.

(2) Changes in the long-term investment assets in the current and previous years are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Beginning	3,358,368,987	3,313,528,716
Disposition	(1,186,615,131)	(260,000,000)
Evaluated profit or loss (*)	(1,145,908,463)	304,840,271
Ending	1,025,845,393	3,358,368,987

(*) The amount is the sum of evaluation profit or loss counted for in the current profit and loss and other comprehensive profit or loss.

12. Other assets

The details of other current assets at the end of current year and previous year are as follows;

	(Unit: KRW)			
Division	End of current year		End of previous year	
	Current	Non-current	Current	Non-current
Advanced payments	941,258,979	1,521,850,250	1,004,121,088	1,393,732,647
Advanced expenses	13,268,770,815	-	6,546,090,914	-
VAT fee	6,289,332,989	-	4,926,792,780	-
Total	20,499,362,783	1,521,850,250	12,477,004,782	1,393,732,647

13. Inventory assets

The details of inventory assets at the end of previous and current years are as follows;

(Unit: KRW)		
Division	End of current year	End of previous year
Products in process	112,091,770,740	63,454,067,429
Products in process return assets	123,976,321	-
Allowance for evaluated loss on products in process	(8,124,637,257)	(2,442,793,797)
Total	104,091,109,804	61,011,273,632

(2) Evaluated losses recognized with regard to inventory assets in the current and previous years are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Cost of goods sold:		
- Return of evaluated loss for inventory assets	5,681,843,460	282,894,592

14. Investments in affiliated companies

(1) The details of stock investments in associates as of the end of current year and end of the previous year are as follows;

(Unit: KRW)							
Name of company	Location	Major sales activities	Closing month	End of current year		End of previous year	
				Share ratio(%)	Book value	Share ratio(%)	Book value
Advanced power device Technology (*)	Korea	R & D and design of semiconductor devices	Mar	49.00	4,419,269,914	-	-

(*) The consolidated entity invested 4.410 billion KRW in Advanced Power Device Technology Co., Ltd., which was newly established, for the development of products and technologies during the current year.

(2) Changes in investments in associates during the current year are as follows.

(Unit: KRW)			
Beginning	Acquisition	Equity method gains / losses	End of current year
-	4,410,000,000	9,269,914	4,419,269,914

(3) The summarized financial information of the affiliates as of the end of current year is as follows;

(Unit: KRW)	
Classification	Advanced Power Device Technology Co., LTD.
Assets	9,659,044,994
Liabilities	372,663,647
Capital	9,286,381,347
Sales	2,942,094,711
Current quarter net profit	286,381,367
Total comprehensive income	286,381,367

(4) As of the end of current year, the Company has adjusted the amount of financial information of related companies to the carrying amount of equity interest in the associate as follows.

						(Unit: KRW)
Company name	Net asset at the end (A)	Consolidated entity's ratio of shareholding (%) (B)	Net assets equity (A*B)	(+) Goodwill	(±) Others (*)	Book value at the end
Advanced Power Device Technology Co., Ltd.	9,286,381,347	49.00%	4,550,326,860	-	(131,056,946)	4,419,269,914

(*) Unrealized profits and losses on internal transactions between the consolidated entity and affiliates are included.

15. Tangible assets

(1) The details of tangible assets at the end of previous and current years are as follows;

① End of current year

(Unit: KRW)							
Division	Land	Building	Structures	Machinery	Furnishings	Other tangible assets(*)	Total
Acquisition Cost	5,001,607,594	4,526,376,631	188,300,000	20,004,919,626	11,792,470,844	4,324,874,810	45,838,549,505
Accumulated amortization	-	1,853,620,440)	(2,353,752)	(11,204,418,944)	7,490,709,356)	(1,762,568,652)	(22,313,671,144)
Accumulated impairment loss	-	-	-	(564,056,013)	-	-	(564,056,013)
Government subsidy	-	-	-	(8,185,674)	(34,002)	-	(8,219,676)
Book value	5,001,607,594	2,672,756,191	185,946,248	8,228,258,995	4,301,727,486	2,562,306,158	22,952,602,672

(*) Other tangible assets include facilities and equipment, and leasehold improvement assets.

② End of previous year

(Unit: KRW)						
Division	Land	Building	Machinery	Furnishings	Other tangible assets(*)	Total
Acquisition Cost	5,220,274,972	5,086,600,513	13,206,896,938	8,839,223,226	1,962,923,167	34,315,918,816
Accumulated amortization	-	(1,830,382,745)	(9,183,084,762)	(5,953,895,204)	(1,562,802,912)	(18,530,165,623)
Accumulated impairment loss	-	-	(564,056,013)	-	-	(564,056,013)
Government subsidy	-	-	(12,819,917)	(190,588)	-	(13,010,505)
Book value	5,220,274,972	3,256,217,768	3,446,936,246	2,885,137,434	400,120,255	15,208,686,675

(*) Other tangible assets include facilities, leasehold improvements and vehicles

(2) Changes in the book value of tangible assets in the current and previous years are as follows;

① Current year

(Unit: KRW)							
Division	Land	Building	Structures	Machinery	Furnishings	Other tangible assets	Total
Beginning book value	5,220,274,972	3,256,217,768	-	3,446,936,246	2,885,137,434	400,120,255	15,208,686,675
Weighted Acquisition Amount	-	-	188,300,000	6,818,011,706	2,978,283,511	2,855,106,628	12,839,701,845
Disposition	(218,667,378)	(343,137,144)	-	-	(9,713,962)	(224,188,394)	(795,706,878)

in the year							
Depreciation cost	-	(240,324,433)	(2,353,752)	(2,018,674,652)	(1,551,355,620)	(468,732,331)	(4,281,440,788)
Acquisition amount due to business transfer(*)	-	-	-	8,636,108	-	-	8,636,108
Other increase / decrease	-	-	-	(26,650,413)	(623,877)	-	(27,274,290)
Ending book value	5,001,607,594	2,672,756,191	185,946,248	8,228,258,995	4,301,727,486	2,562,306,158	22,952,602,672

(*) They were acquired due to business succession during the current year. (See Note 36.)

② Previous year

(Unit: KRW)						
Division	Land	Building	Machinery	Furnishings	Other tangible assets	Total
Beginning book value	5,319,324,106	5,319,324,106	3,201,876,035	2,694,092,255	411,793,827	15,266,917,826
Weighted Acquisition Amount	-	-	1,529,956,492	1,406,470,845	122,168,000	3,058,595,337
Disposition in the year	(99,049,134)	(99,049,134)	(5,000)	(6,182,870)	(3,000)	(234,523,860)
Depreciation cost	-	-	(1,284,891,281)	(1,208,740,533)	(133,493,257)	(2,881,455,050)
Other increase / decrease	-	-	-	(502,263)	(345,315)	(847,578)
Ending book value	5,220,274,972	5,220,274,972	3,446,936,246	2,885,137,434	400,120,255	15,208,686,675

16. Intangible assets

(1) The details of intangible assets at the end of previous and current years are as follows;

① End of current year

(Unit: KRW)							
Division	Goodwill	Industrial property rights	Software	Membership	Other intangible assets(*1)	Intangible assets under construction	Total
Acquisition Cost	27,913,122,677	2,260,503,591	8,460,191,622	2,406,879,490	34,703,000,000	2,432,026,408	78,175,723,788
Accumulated amortization	-	(843,000,828)	4,603,858,101)	-	(15,484,999,994)	-	(20,931,858,923)
Accumulated impairment loss	-	-	-	(337,876,490)	-	-	(337,876,490)
Government subsidy	-	-	(10,929,374)	-	-	-	(10,929,374)
Book value	27,913,122,677	1,417,502,763	3,845,404,147	2,069,003,000	19,218,000,006	2,432,026,408	56,895,059,001

(*) Other intangible assets consist of intangible assets related to customer relationships arising from business succession, technological capabilities, etc.

② End of previous year

(Unit: KRW)							
Division	Goodwill	Industrial property rights	Software	Membership	Other intangible assets(*1)	Intangible assets under construction	Total
Acquisition Cost	9,044,018,628	1,929,008,700	4,832,285,462	2,182,961,643	14,783,000,000	2,100,643,000	34,871,917,433
Accumulated amortization	-	(630,796,680)	(3,474,576,001)	-	(12,532,999,960)	-	(16,638,372,641)
Accumulated impairment loss	-	-	-	(489,308,643)	-	-	(489,308,643)
Government subsidy	-	-	(28,572,309)	-	-	-	(28,572,309)
Book value	9,044,018,628	1,298,212,020	1,329,137,152	1,693,653,000	2,250,000,040	2,100,643,000	17,715,663,840

(*) Other intangible assets consist of intangible assets related to customer relationships arising from business succession, technological capabilities, etc.

(2) Changes in the book value of intangible assets in the current and previous years are as follows;

① Current year

(Unit: KRW)							
Division	Goodwill	Industrial property rights	Software	Membership	Other intangible assets(*1)	Intangible assets under construction	Total
Beginning book value	9,044,018,628	1,298,212,020	1,329,137,152	1,693,653,000	2,250,000,040	2,100,643,000	17,715,663,840
Acquisition in the year	-	331,494,891	1,527,263,160	613,350,000	-	2,432,026,408	4,904,134,459
Disposition in the year	-	-	-	(238,000,000)	-	-	(238,000,000)
Depreciations for intangible assets	-	(212,204,148)	(1,111,639,165)	-	(2,952,000,034)	-	(4,275,843,347)
Acquisition amount due to business transfer (*)	18,869,104,049	-	-	-	19,920,000,000	-	38,789,104,049
Transfer to the main account	-	-	2,100,643,000	-	-	(2,100,643,000)	-
Ending book value	27,913,122,677	1,417,502,763	3,845,404,147	2,069,003,000	19,218,000,006	2,432,026,408	56,895,059,001

(*) They were acquired due to business succession during the current year. (See Note 36.)

② Previous quarter

(Unit: KRW)

Division	Goodwill	Industrial property rights	Software	Membership	Other intangible assets(*1)	Intangible assets under construction	Total
Beginning book value	9,044,018,628	1,192,742,040	1,835,313,886	1,401,677,000	3,662,750,024	-	17,136,501,578
Acquisition in the year	-	301,918,062	425,067,159	308,019,690	-	2,100,643,000	3,135,647,911
Disposition in the year	-	(7,899,424)	-	-	-	-	(7,899,424)
Depreciations for intangible assets	-	(188,548,658)	(931,243,893)	-	(1,412,749,984)	-	(2,532,542,535)
Transfer to the main account	-	-	-	(16,043,690)	-	-	(16,043,690)
Ending book value	9,044,018,628	1,298,212,020	1,329,137,152	1,693,653,000	2,250,000,040	2,100,643,000	17,715,663,840

(3) Intangible assets subject to indefinite useful life

The consolidated entity classifies goodwill and membership out of the intangible assets into intangible assets with indefinite durable years, and we do not depreciate them while reviewing whether they are impaired or not every year. The collectible value of goodwill was calculated by discounting the projected cash flows based on the financial budget for the coming 5 years with the consolidated entity's weighted average cost of capital. Cash flows expected to accrue over a period of five years are estimated assuming an annual growth rate of 0%. No impairment amount was recognized for goodwill in both the current and previous years. On the other hand, there was no impairment loss recognized for membership in the current year, and the impairment loss of 16,044 thousand won was recognized in the previous year.

17. Government subsidies

The consolidated entity has concluded the technology development agreements with the managing organizations regarding the following new technology development projects as national projects. The consolidated entity spent the government subsidy provided under the above-mentioned program for purchase of various tangible and intangible assets, while recognizing the transactions as Decreasing in the relevant subsidy asset entry

Government project	Coordinating company
Digital holographic table top terminal technology development	ETRI

18. Payables and other liabilities

The details of payables and other liabilities at the end of current year and previous year are as follows;

(Unit: KRW)			
Division	End of current year	End of previous year	
	Current	Current	Non-current
Trade payables	114,566,795,190	97,214,262,012	-
Accounts Payable	16,143,658,885	17,739,427,532	-
Unpaid expense	3,826,637,576	5,483,629,938	-

Lease guarantee deposit	-	-	15,000,000
Total	134,537,091,651	120,437,319,482	15,000,000

19. Other liabilities

(1). The details of other non-current liabilities at the end of current year and previous year are as follows;

(Unit: KRW)				
Division	End of current year		End of previous year	
	Current	Non-current	Current	Non-current
Advances	5,400,675,881	-	66,240,000	-
Withholdings	778,058,278	-	625,902,748	-
Other allowance liabilities	3,941,853,811	-	4,063,333,282	-
Long-term employee salary liabilities	-	825,632,368	-	583,749,811
Recovery allowance liabilities	-	498,300,000	-	126,160,400
Total	10,120,587,970	1,323,932,368	4,755,476,030	709,910,211

(2) Changes in the allowance liabilities in the current and previous years are as follows;

(Unit: KRW)					
Division	Beginning	Established	Returned	Used	Ending
Provision for sales warrant	4,063,333,282	1,729,708,478	(1,482,954,785)	(531,232,276)	3,778,854,699
Return provision	-	201,225,885	(38,226,773)	-	162,999,112
Restoration allowance liabilities	126,160,400	498,300,000	(28,460,400)	(97,700,000)	498,300,000
Total	4,189,493,682	2,429,234,363	(1,549,641,958)	(628,932,276)	4,440,153,811

The consolidated entity recognizes warranty expense in the provision for product warranties as expected to be borne by the consolidated entity related to sales guarantee for the products, and recognizes the corresponding transferred amount in selling and administrative expenses. On the other hand, the consolidated entity recognizes the amount corresponding to the portion of revenue to be canceled at the time of product return as allowance liability for return and deduction to sales in accordance with the Korea Financial Accounting Standards No. 1115. In addition, we establish allowance liabilities for the lease assets with restoration obligations and use them when actual restoration-related expenses are incurred.

20. Capital and capital surplus

(1) The details of capital at the end of current year and previous year are as follows;

(Unit: Share, KRW)		
Division	End of current year	End of previous year
Number of authorized shares	50,000,000 shares	50,000,000 shares

price per share	500	500
Total number of issued shares	16,264,300 shares	16,264,300 shares
Capital	8,132,150,000	8,132,150,000

(2) There is no change in the number of outstanding shares (16,264,300 shares) in the current and previous years are as follows;

(3) The composition of capital surplus at the end of current year and end of previous year is as follows;

(Unit: KRW)		
Division	End of current year	End of previous year
Premium on capital stocks	66,560,617,129	66,560,617,129
Other Capital Surplus	9,782,553,371	9,782,553,371
Total	76,343,170,500	76,343,170,500

21. Other capital items

The composition of the other capital items at the end of current year and previous year are as follows:

(Unit: KRW)		
Division	End of current year	End of previous year
Loss from conversion on overseas businesses	(106,744,116)	(59,998,995)
Other comprehensive profit and loss - profit and loss on valuation of financial assets measured at fair values	(380,807,731)	-
Gain on valuation of available-for-sale financial assets	-	1,705,779,692
Total	(487,551,847)	1,645,780,697

22. Retained earnings

(1) The details of retained earnings at the end of current year and previous year are as follows;

(Unit: KRW)		
Division	End of current year	End of previous year
Legal reserve	4,066,075,000	4,066,075,000
Unappropriated retained earnings	358,559,724,686	322,038,245,415
Total	362,625,799,686	326,104,320,415

(2) The details of unappropriated retained earnings for the current year and previous year are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Beginning	322,038,245,415	290,666,587,342
Dividend	(11,385,010,000)	(14,637,870,000)
Adjustments for first application of K-IFRS 1109	1,705,779,692	-
Adjustments for first application of	(1,576,974,791)	-

K-IFRS 1115		
Current net profit	48,960,453,314	47,064,354,128
Re-measurement elements of defined benefit plans	(1,182,768,944)	(1,054,826,055)
Ending	358,559,724,686	322,038,245,415

(3) The statements of appropriations of retained earnings of the controlling company in the current term and previous years are as follows;

(Unit: KRW)				
Division	Current year		Previous year	
	Expected date of disposition: March 15, 2019		Confirmed date of disposition: March 16, 2018	
I. Unappropriated retained earning		357,756,648,422		321,264,254,194
Unappropriated retained earning carried over from previous year	309,879,244,194		275,861,546,597	
Adjustments for the first application of K-IFRS 1109	1,705,779,692		-	
Adjustments for the first application of K-IFRS 1115	(1,576,974,791)		-	
Current net income	48,931,368,271		46,457,533,652	
Re-measurement elements of defined benefit plans	(1,182,768,944)		(1,054,826,055)	
II. Appropriations of retained earnings		(13,499,369,000)		(11,385,010,000)
Dividends (Note 23)	(13,499,369,000)		(11,385,010,000)	
III. Unappropriated retained earnings carried over to subsequent year (I - II)		344,257,279,422		309,879,244,194

23. Dividend

Details of controlling company's dividends in the current and previous year are as follows;

(Unit: KRW)		
Division	Current year(*)	Previous year
Number of stocks for dividends	16,264,300 shares	16,264,300 shares
Face value per stock	500	500
Dividend ratio of face value	166.00%	140.00%
Dividend per share	830	700
Dividend	13,499,369,000	11,385,010,000

(*) It will be presented as an agenda for the general shareholders' meeting expected on 3/15/2019.

24. Earnings per share

(1) Basic earnings per share

① The calculated amounts of earnings per share in the current year and previous year are as follows;

(Unit: KRW, Shares)		
Division	Current year	Previous year
Current net income for share held by the ruling company	48,960,453,314	47,064,354,128
Number of weighted average outstanding common stocks	16,264,300 shares	16,264,300 shares
Earnings per basic share	3,010	2,894

② Details of calculations on the number of weighted average outstanding common stocks for the current year

Division	No. of issued shares (1)	No. of Treasury shares (2)	No. of outstanding common shares (1-2)	Weight	Number of weighted average outstanding common stocks
Beginning	16,264,300 shares	-	16,264,300 shares	365 days /365 days	16,264,300 shares
				365 days /365 days	16,264,300 shares

③ Details of calculations on the number of weighted average outstanding common stocks for the current year

Division	No. of issued shares (1)	No. of Treasury shares (2)	No. of outstanding common shares (1-2)	Weight	Number of weighted average outstanding common stocks
Beginning	16,264,300 shares	-	16,264,300 shares	365 days /365 days	16,264,300 shares
				365 days /365 days	16,264,300 shares

(2) Diluted earnings per share

The controlling company does not have any dilutive securities in the current and previous year. Therefore, the diluted earnings per share is the same as the basic earnings per share.

25. Financial revenues and expenses

(1) The details of financial revenues in the current year and previous year are as follows:

(Unit: KRW)		
Division	Current year	Previous year
Interest income	4,082,996,310	3,744,115,417
Foreign exchange gains (financial)	10,151,363	-
Profit from foreign currency conversion (financial)	42,500,435	390,621
Total	4,135,648,108	3,744,506,038

(2) The details of financial expenses in the current year and previous year are as follows;

(Unit: KRW)		
Division	Current year	Previous year

Interest income	4,294,589	62,250
Foreign exchange gains (financial)	16,234,053	70,316,403
Current profit or loss - evaluated losses of financial assets measured at fair value	643,523,594	-
Total	664,052,236	70,378,653

26. Other non-operating revenues and expenses

(1) The details of other non-operating revenues in the current year and previous year are as follows:

(Unit: KRW)		
Division	Current year	Previous year
Profit from foreign exchange rate (non-financial)	1,279,801,685	2,092,698,534
Profit from foreign currency conversion (non-financial)	141,813,204	229,541,115
Gains on disposition of tangible assets	416,783,357	91,159,335
Gains on disposition of intangible assets	15,000,000	-
Other profit	349,080,478	98,720,015
Total	2,202,478,724	2,512,118,999

(2) The details of other non-operating expenses in the current year and previous year are as follows:

(Unit: KRW)		
Division	Current year	Previous year
Profit from foreign exchange rate (non-financial)	1,780,372,655	878,397,960
Profit from foreign currency conversion (non-financial)	109,619,216	459,164,648
Gains on disposition of tangible assets	261,786,335	25,683,195
Gains on disposition of intangible assets	21,454,545	7,899,424
Impairment loss of intangible assets	-	16,043,690
Donation	1,000,000	1,000,000
Other loss	65,427,553	1,969,434,945
Total	2,239,660,304	3,357,623,862

27. Operating income

Major items and amounts included in calculating operating incomes in the current year and previous year are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Sales	791,818,131,828	692,761,282,198
Sales due to sales of goods	779,370,903,461	679,025,969,765
Other sales	12,447,228,367	13,735,312,433
Cost of sales	598,160,376,164	540,353,985,480
Cost of goods sold	593,177,080,211	512,689,142,867

Other cost of sales	4,983,295,953	27,664,842,613
Selling and administrative expenses	137,860,697,117	106,885,787,916
Salary and bonuses	23,423,714,054	12,501,578,012
Retirement benefits	2,235,999,785	855,039,958
Employee benefits	5,233,084,246	2,289,707,342
Travel expenses	1,826,192,294	1,808,930,627
Paid rents	4,487,169,470	2,437,121,569
Paid fees	7,278,348,955	3,613,243,751
Depreciation cost	2,204,636,859	837,155,186
Depreciation of intangible assets	780,321,137	120,706,258
Product loss guarantee cost	246,753,693	842,523,637
R & D expenses	85,708,859,112	79,214,210,936
Other selling and administrative expenses	4,435,617,512	2,365,570,640
Operating profit	55,797,058,547	45,521,508,802

28. Selling and administrative expenses

Details of selling and administrative expenses in the current and previous year are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Salary	17,536,904,256	11,070,027,951
bonuses	5,886,809,798	1,431,550,061
Retirement benefits	2,235,999,785	855,039,958
Employee benefits	5,233,084,246	2,289,707,342
Travel expenses	1,826,192,294	1,808,930,627
Communication	272,282,667	148,932,839
Consumables	181,648,906	159,703,464
Taxes and duties	558,544,535	651,522,109
Paid rents	4,487,169,470	2,437,121,569
Service fees	7,278,348,955	3,613,243,751
Depreciation expense	2,204,636,859	837,155,186
Repair	134,384,093	47,031,728
Insurance premium	557,616,035	231,297,984
Entertainment fee	555,872,518	421,816,492
Advertising expenses	17,400,000	70,320,090
Conference expenses	11,517,881	10,086,633
Books & printing	6,374,595	5,121,539
Freight expenses	81,322,549	34,073,337
Sample expenses	945,870,389	-
Education and training	684,156,080	186,974,454
Vehicle management fee	197,257,335	146,369,399

Water and heating expenses	231,369,929	252,320,572
Guarantee of product loss	246,753,693	842,523,637
Ordinary research and development expenditures	85,708,859,112	79,214,210,936
Depreciations of intangible assets	780,321,137	120,706,258
Total	137,860,697,117	106,885,787,916

29. Disclosure of expense per characteristics

Details of disclosure on expense per characteristics in the current and previous year are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Change of inventory assets	(43,079,836,172)	(2,725,979,441)
Expense of employees	80,709,579,996	68,586,149,434
Depreciation and intangible asset amortization	8,557,284,135	5,413,997,585
Outsourcing contract cost	620,670,816,474	506,771,198,992
Process costs	12,907,278,751	6,941,694,049
Research and development expenditure	36,054,190,423	49,287,347,250
Rental payables	4,487,169,470	2,437,121,569
Service fees	8,321,643,955	4,980,483,052
Freight expenses	1,868,608,784	1,155,370,781
Travel and transportation expenses	3,216,241,358	2,975,257,648
Guarantee of product loss	246,753,693	842,523,637
Sample expenses	945,870,389	-
Others	1,115,472,025	574,608,840
Total (*)	736,021,073,281	647,239,773,396

(*) The amount is the sum of cost of goods sold and selling and administrative expenses in the consolidated income statement.

30. Employee salaries

The consolidated entity is paying their retiring employees with the predetermined amount of severance payment in lump sum, based on the level of salaries and the years in service, and this is classified as defined salary system. Such severance payment amount can be withdrawn before the resignation of the employee as interim settlement, for which several legal requirements apply. The required years in service for such a settlement again after an interim settlement are set anew.

(1) The details of defined benefit liabilities at the end of previous and current years are as follows;

(Unit: KRW)		
Division	End of current year	End of previous year
Present value of defined salary liabilities	32,571,648,690	25,999,037,468
Fair value of assets deposited outside	(28,174,546,825)	(24,015,684,437)

of the company		
Defined salary liabilities (assets)	4,397,101,865	1,983,353,031

(2) Major assumptions used for actuarial evaluation at the end of the current and previous year are as follows;

Division	End of current year	End of previous year
Future wage increase rate	5.52%	5.36%
Discount rate	2.60%	3.10%

The discount rate was calculated based on the yield of corporate bonds similar to the expected payment period for the defined benefit liability as well as the credit ranking of the consolidated entity at the end of current year, and the future wage increase rate was calculated in consideration of the wage increase rate in response to price index increase and wage agreement as well as the empirical pay grade index of the consolidated entity.

(3) Changes in the present value of defined benefit liabilities in the current and previous years are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Beginning balance of defined salary liabilities	25,999,037,468	20,190,982,385
Service cost of the current year	5,140,809,654	4,143,562,051
Past service cost	461,529,333	-
Interest expenses	814,250,062	524,013,282
Re-measurement elements (before corporate income tax)		
Demographic assumption	(73,921,524)	533,333,399
Financial assumption	1,814,406,998	(454,983,444)
Empirical adjustments	(448,733,142)	1,170,766,386
Transfer between affiliates	1,286,677,491	1,847,196,839
Retirement benefit payment	(2,422,407,650)	(1,955,833,430)
Ending balance of defined benefit liabilities	32,571,648,690	25,999,037,468

(4) The changes in the fair values of the assets deposited outside of the company in the current year and previous year are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Beginning balance of externally reserved assets	24,015,684,437	15,729,358,445
Payment of externally reserved assets	6,000,000,000	10,000,000,000
Interest revenues	628,544,659	384,634,183
Re-measurement elements of externally reserved assets (before corporate income tax)	(268,628,861)	(142,474,761)
Retirement benefit payments from externally reserved assets	(2,201,053,410)	(1,955,833,430)
Ending balance of externally reserved assets	28,174,546,825	24,015,684,437

The reasonable estimate of employer contributions expected to be paid in 2019 with regard to defined benefit plans is 6,613,626 thousand won.

(5) Expenses recognized in profit or loss for the current year and the previous year are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Current working cost	5,140,809,654	4,143,562,051
Past service cost	461,529,333	-
Net interest cost	185,705,403	139,379,099
Total	5,788,044,390	4,282,941,150

(6) The composition of externally reserved assets for the end of current year and the end of the previous year are as follows;

(Unit: KRW)		
Division	End of current year	end of the previous year
Short-term financial products, etc.	28,174,546,825	24,015,684,437

(7) Sensitivity analysis

If the significant actuarial assumptions vary within a reasonable range at the end of current year, the effects on the defined benefit liabilities are as follows;

(Unit: KRW)		
Division	Increase	Decrease
Discount rate (1% change)	(2,968,040,577)	3,488,950,752
Future salary increase rate (1% change)	3,358,807,981	(2,924,774,441)

Sensitivity analysis does not take into account the variance of all cash flows expected to arise from the system, but it provides an approximation of the sensitivity to the assumptions used.

The weighted average durations of defined benefit liabilities at the end of current and previous years are 10.2 years and 10.1 years, respectively.

② Re-measurement elements in the defined benefit plans recognized in other comprehensive profit or loss in the current and previous year are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Beginning balance of cumulative re-measurement elements	5,280,095,450	4,225,269,395
Change in the current year	1,560,381,193	1,391,591,102
Effect of corporate income tax for change in the current year	(377,612,249)	(336,765,047)

Ending balance of cumulative re-measurement elements	6,462,864,394	5,280,095,450

31. Corporate tax expenses

(1) The components of corporate tax expenses in the current and previous years are as follows.

(Unit: KRW)		
Division	Current year	Previous year
Current corporate income tax	13,702,296,861	8,402,712,166
Adjustments recognized in the current year for current corporate tax in the past periods	(1,790,193,329)	(8,090,041,839)
Deferred corporate tax expense due to the generation and exhaustion of temporary difference (profit)	(2,131,003,480)	710,113,168
Corporate tax expense relating to items recognized as others than current profit or loss	499,189,387	262,993,701
Corporate tax expense	10,280,289,439	1,285,777,196

(2) Deferred corporate taxes related to the items recognized as other than current profit or loss in the current and previous years are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Deferred corporate tax:		
Re-measured profit or loss	377,612,249	336,765,047
Other comprehensive profit or loss - evaluated losses of financial assets measured at fair value	121,577,138	-
Evaluated profit or loss from transferable financial assets	-	(73,771,346)
Corporate tax expense reflected directly to capital	499,189,387	262,993,701

(3) The relationship between corporate tax expenses and accounting incomes in the current and previous years are as follows.

(Unit: KRW)		
Division	Current year	Previous year
Net income before corporate tax expenses	59,240,742,753	48,350,131,324
Applicable tax rate	23.42%	23.24%
Tax burden according to applicable tax rate	13,874,259,746	11,238,731,780
Adjustments:		
Non-taxable profit	(391,785,862)	(11,042)
Non-deductible expense	137,463,255	485,862,922
Tax deduction	(1,483,555,472)	(2,313,334,711)
Current adjustments recognized in relation to corporate tax in the past periods	(1,790,193,329)	(8,090,041,839)

Taxation not reversed	149,329,288	-
Others (effect of tax rate change, etc.)	(215,228,187)	(35,429,914)
Corporate tax expense	10,280,289,439	1,285,777,196
Average effective tax rate	17.35%	2.66%

(*) Corporate tax expense in the current and previous years include the tax refund received from claims for corrections in the previous tax periods.

(4) Changes in the deferred corporate tax assets (liabilities) in the current and previous years are as follows;

① Current year

(Unit: KRW)				
Division	Beginning amount	Reflection of current profit or loss	Reflection of other comprehensive profit or loss	Ending amount
Accrued income receivable	(181,719,307)	39,701,874	-	(142,017,433)
Net defined benefit liabilities	-	(377,612,249)	377,612,249	-
Impairment loss of intangible assets	118,412,692	(36,646,581)	-	81,766,111
Loss from decline in value of inventory	591,156,099	1,345,003,848	-	1,936,159,947
Depreciation limit excess	1,322,160,821	(146,751,574)	-	1,175,409,247
Impairment loss of tangible assets	136,501,555	-	-	136,501,555
Accrued expenses	1,013,138,795	172,004,037	-	1,185,142,832
Prepaid expenses	103,282,209	(18,294,698)	-	84,987,511
Allowance liabilities	998,165,880	(30,168,588)	-	967,997,292
① Current profit or loss - Financial assets measured at fair value	(544,589,295)	347,154,710	-	(197,434,585)
Other comprehensive profit or loss - financial assets measured at fair value	-	(577,138)	121,577,138	121,000,000
Long-term employee salary liabilities	141,267,454	58,535,579	-	199,803,033
Others	51,151,997	279,464,873	-	330,616,870
Total	3,748,928,900	1,631,814,093	499,189,387	5,879,932,380

② Current year

(Unit: KRW)				
Division	Beginning amount	Reflection of current profit or loss	Reflection of other comprehensive profit or loss	Ending amount
Accrued income receivable	(149,821,249)	(31,898,058)	-	(181,719,307)
Net defined benefit liabilities	-	(336,765,047)	336,765,047	-
Impairment loss of intangible assets	114,530,119	3,882,573	-	118,412,692

Loss from decline in value of inventory	522,695,608	68,460,491	-	591,156,099
Depreciation limit excess	2,179,026,560	(856,865,739)	-	1,322,160,821
Impairment loss of tangible assets	136,501,555	-	-	136,501,555
Accrued expenses	664,891,274	348,247,521	-	1,013,138,795
Prepaid expenses	125,180,337	(21,898,128)	-	103,282,209
Allowance liabilities	1,177,890,668	(179,724,788)	-	998,165,880
Transferable financial assets	(470,817,949)	-	(73,771,346)	(544,589,295)
Long-term employee salary liabilities	96,234,307	45,033,147	-	141,267,454
Others	62,730,838	(11,578,841)	-	51,151,997
Total	4,459,042,068	(973,106,869)	262,993,701	3,748,928,900

(5) Temporary difference amounts of the items not recognized as deferred corporate tax assets at the end of the current and previous year are as follows;

(Unit: KRW)		
Related assets	End of current year	End of previous year
Share of investment to subsidiaries	418,177,955	418,177,955

With regard to the investment equity in subsidiaries at the end of current year, the consolidated entity believes that it is unlikely that the temporary differences will disappear in the foreseeable future.

28. Cash flow statement

(1) The details on the reconciliation of the incomes and expenses for the sales activities for the current year and previous year are as follows

(Unit: KRW)		
Division	Current year	Previous year
Corporate tax expense	10,280,289,439	1,285,777,196
Depreciation expense	4,281,440,788	2,881,455,050
Depreciations of intangible assets	4,275,843,347	2,532,542,535
Guarantee of product loss	246,753,693	842,523,637
Long-term employee payroll	265,993,117	218,289,387
Retirement benefit	5,788,044,390	4,282,941,150
Losses on foreign exchange conversion	125,853,269	529,481,051
Loss on disposition of tangible assets	261,786,335	25,683,195
Loss on disposition of intangible assets	21,454,545	7,899,424
Impairment loss of intangible assets	-	16,043,690
Current profit or loss - evaluated losses of financial assets measured at fair value	643,523,594	-
Gain on disposal of tangible assets	(416,783,357)	(91,159,335)
Gains on disposition of intangible assets	(15,000,000)	-
Gains on foreign exchange translation	(184,313,639)	(229,931,736)

Interest revenues	(4,082,996,310)	(3,744,115,417)
Equity-method gains	(9,269,914)	-
Reversal of restoration allowance liabilities	(28,460,400)	-
Total	21,454,158,897	8,557,429,827

(2) The details on the changes in assets and liabilities due to sales activities for the current year and previous year are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Decrease (Increase) of trade receivables	(11,028,942,750)	(29,541,522,012)
Decrease (Increase) of other receivables	(360,652,249)	(665,276,203)
Decrease (Increase) of other current assets	(5,649,580,769)	(4,804,544,187)
Decrease (increase) of inventory assets	(40,571,370,922)	(2,725,979,441)
Decrease of other non-current assets	123,532,106	4,000,000
Increase (Decrease) of trade payables	14,849,987,971	27,050,608,767
Decrease (Increase) of other current liabilities	713,087,372	(1,604,767,258)
Increase (Decrease) of other payables	(2,863,656,860)	5,656,463,963
Increase (decrease) of other non-current liabilities	(24,110,560)	(50,906,122)
Increase (decrease) of net defined benefit liabilities	(4,934,676,749)	(8,152,803,161)
Total	(49,746,383,410)	(14,834,725,654)

The consolidated entity prepared cash flow from business activities in the cash flow statement under the indirect method, and significant transactions without cash inflow or outflow are as follows.

(Unit: KRW)		
Division	Current year	Previous year
Accrued expenses relating to acquisition of tangible assets	108,850,000	146,236,364
Accrued expenses relating to acquisition of intangible assets	647,491,147	1,008,411,000
Substitution of advance payments into intangible assets	331,494,891	301,918,062
Increase of tangible assets due to restoration obligation	498,300,000	-

33. Deposit with limited use

(2) Details of financial products with restriction in use are as follows;

(Unit: KRW)		
Division	Amount	Details of limit to use
Cash and cashable assets	570,304,031	Government subsidies

34. Insured assets

(2) Details of insured assets by the consolidated entity at the end of current year are as follows;

(Unit: KRW)				
Type of insurance	Assets	Book value	Insured amount	Insurance company

				name
Gas accident liability insurance	Buildings and structures	2,858,702,439	580,000,000	KB Insurance
Fire insurance			6,000,000,000	
	Machinery	7,036,604,801	2,590,000,000	
	Furnishings	4,258,311,510	500,000,000	
	Other tangible assets	2,562,306,158	2,590,000,000	
Total		16,715,924,908	12,260,000,000	

Other than the above insurances, the consolidated entity has purchased industrial disaster insurance for employees, general insurance for vehicle and delivery equipment, and fire indemnification liability insurances.

35. Special interest parties

(1) The details of specially interested parties of the consolidated entity at the end of current and previous years are as follows;

Type of special interest	End of current year	end of the previous year
Affiliates	Advanced Power Device Technology Co., LTD	-
Companies that exercise significant influence on the consolidated entity	LG Corp.	LG Corp.-
Etc.,	Affiliates of LG Corp.	Affiliates of LG Corp.
	Large Business Group Affiliated Company (*)	Large Business Group Affiliated Company (*)

(*) Not included in scope of related party pursuant to K-IFRS 1024 'Disclosure of related parties', but it belongs to the same large corporate group under the monopolistic regulation and fair trade law.

(2) The transactional details with special interest parties in the current year and previous year are as follows;

(Unit: KRW)

Division of special relationship	Name of special interest party	Transactional details	Current year	Previous year
Affiliates	Advanced Power Device Technology Co., Ltd.	Acquisition of tangible or intangible assets	1,441,626,408	-
Other subsidiaries of LG Corp	Lusem Co., Ltd. (*)	Sales	132,993,637	420,973,605
		Operating expenses	15,467,193,707	106,546,733,901
	LG CNS Co., Ltd.	Operating expenses	1,805,823,525	1,071,585,415
		Acquisition of tangible or intangible assets	5,852,467,460	1,659,745,000
	S&I Co., Ltd.	Sales	15,013,650	19,609,704
		Acquisition of tangible or intangible assets	13,012,410	-
		Operating expenses	773,973,668	72,264,826
	Serveone Co., Ltd.	Sales	3,762,000	-
		Operating expenses	4,641,178	-
	LG Management Development Institute Inhwawon Co., Ltd.	Operating expenses	285,072,410	71,554,500

Other corporations belonging to the large conglomerate group	LG Electronics USA Inc.	Sales	2,896,894,269	2,400,841,534
	LG International japan Ltd.	Sales	673,007,302	922,607,902
	LG Display Co., Ltd.	Sales	713,092,604,922	624,126,737,132
	LG Electronics Co., Ltd.	Sales	7,672,944,411	9,932,886,044
		Operating expenses	4,773,689,093	5,088,346,981
		Business transfer	46,129,996,611	-
	LG Chem Co., Ltd.	Sales	-	449,128,810
	LG Innotek Co., Ltd.	Operating expenses	21,754,169,913	10,623,276,490
	LG Innotek Co., Ltd. Indonesia	Sales	-	2,840,240
	LG U-plus	Sales	3,200,000	3,640,000
		Operating expenses	111,774,376	87,066,334
	LG NSYS Co., Ltd.	Operating expenses	-	3,779,000
	Pantos Co., Ltd.	Operating expenses	1,246,992,732	626,544,807
	Hi-M Solutech Co., Ltd.	Operating expenses	-	913,182
	HS Ad Co., Ltd.	Operating expenses	9,900,000	-

(*) It is excluded from related parties because LG Corp sold all shares of Lusem Co., Ltd. during the current year, and the transaction details after it is excluded from the scope of related parties are not included.

(3) The status of the credits / liabilities with special interest parties at the end of current year and end of the previous year are as follows:

(Unit: KRW)

Type of special relationship	Name of the party	End of current year		End of the previous year	
		Trade receivables	Trade payables and other payables	Trade receivables	Trade payables and other payables
Affiliates	Advanced Power Device Technology Co., Ltd.	-	220,821,862	-	-
Other Subsidiaries of LG Corp.	Lusem Co., Ltd.	-	-	101,571,313	20,006,255,832
	LG CNS Co., Ltd.	-	824,550,265	-	449,299,457
	LG Management Development Institute Co., Ltd.	-	161,700	-	-
	S&I Co., Ltd.	300,000,000	80,628,193	304,434,204	9,041,480
	Serveone Co., Ltd	3,762,000	5,105,296	-	-
Other corporations belonging to the large conglomerate group	LG Electronics USA Inc.	430,692,120	-	95,461,740	-
	LG International japan Ltd	-	-	214,698,440	-
	LG Display Co., Ltd.	140,694,084,067	-	120,031,080,096	-
	LG Electronics Co., Ltd.	2,328,583,856	362,298,327	2,934,441,593	2,489,197,156
	LG U-plus	3,520,000	-	-	-
	LG Innotek Co., Ltd.	-	2,946,258,263	-	3,822,924,292
	LG Innotek Co., Ltd. Indonesia	-	-	2,785,640	-

	LG NSYS Co., Ltd.	-	-	-	121,000
	Pantos Co., Ltd.	-	247,890,554	-	159,257,215

(*) As all shares of Lusem Co., Ltd. held by LG Co., Ltd. were sold during the current year and it was excluded from specially related parties at the end of current year, no receivable or payable amounts were recorded.

(4) The transactional details with special interest parties in the current year and previous year are as follows;

	(Unit: KRW)				
Type of special relationship	Name of the party	Current year		Previous year	
		Cash contribution	Dividend payments	Cash contribution	Dividend payments
Companies that exercise significant influence on the consolidated entity	LG Co., Ltd.	-	3,766,366,800		4,842,471,600
Affiliates	Advanced Power Device Technology Co., Ltd(*)	4,410,000,000		-	-
Total		4,410,000,000	3,766,366,800		4,842,471,600

(*)The Group invested ₩ 4,410 million in Advanced Power Device Technologies Co., Ltd., a newly established subsidiary, in the current quarter.

(5) The compensation for key management personnel for the current and previous quarter are as follows.

(Unit: KRW)		
Division	Current year	Previous year
Short-term salaries	2,210,982,838	1,923,439,850
Severance payment	274,055,953	211,367,698
Total	2,485,038,791	2,134,807,548

The major management of the consolidated entity included registered directors (including independent directors) and auditors.

(6) The consolidated entity has no security and guarantee detail providing to or provided by special interest parties at the end of end of current year and previous year.

36. Events after the reporting period

(1) General Information

On July 1, the parent company acquired all of the development, manufacturing and sales of OLED T-Con chip business from LG Electronics to build a total system semiconductor solution for OLED TV.

(Unit: KRW)	
Division	Amount
Transfer cost:	
Cash and cash equivalents	46,129,996,611
Succession assets and liabilities:	
Trade receivables and other receivables	7,879,739,697
Inventory	2,508,465,250
Tangible assets	8,636,108
Intangible assets such as contracts with customers	19,920,000,000
Trade payables and current liabilities	(3,055,948,493)
Goodwill	18,869,104,049
Total	46,129,996,611

Sales revenue of the current year recognized by the consolidated entity after the business transfer date is approximately 19.7 billion KRW. If the business transfer occurred on January 1, 2018, the consolidated entity's sales revenue of the current year would have increased by approximately 18.2 billion KRW. However, since the consolidated entity is reported and managed as a single operating segment, the current profit or loss after the business transfer and the current profit or loss in the case of the business transfer arising on January 1, 201 was not disclosed because it is not practicable to be distinguished.

4. Financial Statements

Statement of financial position

20th year as of 2018.12.31

19th year as of 2017.12.31

18th year as of 2016.12.31

(Unit: KRW)

	20th year	19th year:	18th year
Assets			
Current assets	506,873,236,097	538,987,627,609	496,552,389,629
Cash and cash equivalent	221,572,194,951	12,327,313,986	73,769,560,133
Short-term financial instruments		185,000,000,000	200,000,000,000
Trade receivables and other current receivables	158,800,076,125		
Trade receivables	158,800,076,125	215,223,641,891	139,950,086,915
Other receivables	2,244,662,653	2,426,197,656	1,612,693,033
Other current assets	20,165,192,564	21,624,487,593	12,238,263,202
Current tax assets		-	7,970,512,714
Inventory assets	104,091,109,804	102,385,986,483	61,011,273,632
Non-current assets	100,375,583,355	100,666,401,473	47,293,891,063
Long-term investment assets	1,025,845,393		
Non-current other credits	6,608,727,784	2,111,161,705	3,358,368,987
Equity securities to subsidiaries	2,316,636,045		
Investments in affiliates	4,410,000,000	6,749,760,604	5,077,388,910
Tangible assets	21,717,532,502	2,316,636,045	811,776,045
Intangible assets	56,895,059,001	4,410,000,000	
Other non-current assets	1,521,850,250	22,089,872,830	15,188,031,734
Deferred corporate tax assets	5,879,932,380	18,970,287,256	17,715,663,840
Total assets	607,248,819,452	1,426,161,163	1,393,732,647
Liabilities			
Current liabilities	155,610,549,028	162,845,288,724	97,214,262,012
Trade payables	114,566,792,039	25,979,556,183	23,534,385,271
Other payables	20,451,775,674	7,142,506,491	4,755,476,030
Other current liabilities	10,120,587,970	4,844,316,988	4,122,464,751
Accrued corporation tax	10,471,393,345	162,845,288,724	97,214,262,012
Non-current liabilities	5,721,034,233	7,728,112,786	2,708,263,242
Other non-current payables		15,000,000	15,000,000
Other non-current liabilities	1,323,932,368	1,222,518,149	709,910,211
Defined benefit liability	4,397,101,865	6,490,594,637	1,983,353,031
Total liabilities	161,331,583,261	208,539,781,172	132,334,851,306

Capital			
Capital	8,132,150,000	8,132,150,000	8,132,150,000
Capital surplus	76,343,170,500	76,343,170,500	76,343,170,500
Other capital accounts	(380,807,731)	(1,807,731)	1,705,779,692
Retained earnings	361,822,723,422	346,640,735,141	325,330,329,194
Total equities	445,917,236,191	431,114,247,910	411,511,429,386
Total equities and liabilities	607,248,819,452	639,654,029,082	543,846,280,692

Income Statement

20th year from 2018.01.01 to 2018.12.31

19th year from 2017.01.01 to 2017.12.31

18th year from 2016.01.01 to 2016.12.31

(Unit: KRW)

	20th year	19th year	18th year
Sales	791,817,912,209	692,756,755,514	610,042,625,661
Cost of goods sold	598,160,376,164	540,353,985,480	479,656,487,063
Gross profit on sales	193,657,536,045	152,402,770,034	130,386,138,598
Selling and administrative expenses	137,971,489,233	107,689,056,343	79,886,095,208
Operating profit(loss)	55,686,046,812	44,713,713,691	50,500,043,390
Financial income	4,091,253,656	3,743,751,120	7,479,592,902
Financial expense	644,761,062	70,378,653	24,067,919
Other profits	2,188,094,467	2,510,592,121	2,530,464,999
Other losses	2,239,545,674	3,344,387,627	2,575,044,042
Net profit (loss) before corporate tax	59,081,088,199	47,553,290,652	57,910,989,330
Corporate tax expense	10,149,719,928	1,095,757,000	7,347,167,487
Current net profit (loss)	48,931,368,271	46,457,533,652	50,563,821,843
Earnings per share			
Basic earnings per share(loss) (Unit: KRW)	3,009	2,856	3,109
Diluted earnings per share (loss) (Unit: KRW)	3,009	2,856	3,109

Comprehensive Profit and Loss Statement

20th year from 2018.01.01 to 2018.12.31

19th year from 2017.01.01 to 2017.12.31

18th year from 2016.01.01 to 2016.12.31

(Unit: KRW)

	20th year	19th year	18th year
Current year 순이익 (loss)	48,931,368,271	46,457,533,652	50,563,821,843
Other comprehensive profit or loss	1,563,576,675)	(823,757,130)	(1,325,802,390)
Items that are not reclassified to profit or loss (other comprehensive profit or loss before tax)			
Re-measurement elements of defined benefit plans	1,560,381,193)	(1,391,591,102)	(1,085,272,063)
Corporate tax effect	377,612,249	336,765,047	262,635,839
Gain on valuation of available-for-sale financial assets (other comprehensive profit or loss before tax)	(380,807,731)		
Items that are reclassified to profit or loss (other comprehensive profit or loss before tax)			
Evaluated profit or loss from transferable financial assets		304,840,271	(663,807,607)
Corporate tax effect		(73,771,346)	160,641,441
Total comprehensive profit or loss	47,367,791,596	45,633,776,522	49,238,019,453

Statement for Changes in Capital

20th year from 2018.01.01 to 2018.12.31

19th year from 2017.01.01 to 2017.12.31

18th year from 2016.01.01 to 2016.12.31

(Unit: KRW)

			Capital				
			Paid-in capital	Capital surplus	Other capital components	Retained earnings	Total capital
2016.01.01 (beginning capital)			8,132,150,000	76,343,170,500	1,977,876,933	261,088,605,978	347,541,803,411
Adjustments for the first application of K-IFRS 1109							
Adjustments for the first application of K-IFRS 1115							
Beginning capital (rewritten)							
Capital change	Total comprehensive profit or loss	Current net income				50,563,821,843	50,563,821,843

		Re-measurement elements of defined benefit plans				(822,636,224)	(822,636,224)
		Evaluated profit or loss from transferable financial assets			(503,166,166)		(503,166,166)
Transactions with shareholders directly recognized in capital	Acquisition of treasury stock						
	Annual dividend					(16,264,300,000)	(16,264,300,000)
	Gains on sale of treasury stock						
2016.12.31 (ending capital)			8,132,150,000	76,343,170,500	1,474,710,767	294,565,491,597	380,515,522,864
2017.01.01 (beginning capital)			8,132,150,000	76,343,170,500	1,474,710,767	294,565,491,597	380,515,522,864
Adjustments for the first application of K-IFRS 1109							
Adjustments for the first application of K-IFRS 1115							
Beginning capital (rewritten)							
Capital change	Total comprehensive profit or loss	Current net income				46,457,533,652	46,457,533,652
		Re-measurement elements of defined benefit plans				(1,054,826,055)	(1,054,826,055)
		Evaluated profit or loss from transferable financial assets			231,068,925		231,068,925
Transactions with shareholders directly recognized in capital	Acquisition of treasury stock						
	Annual dividend					(14,637,870,000)	(14,637,870,000)
	Gains on sale of treasury stock						
2017.12.31 (ending capital)			8,132,150,000	76,343,170,500	1,705,779,692	325,330,329,194	411,511,429,386
2018.01.01 (beginning capital)			8,132,150,000	76,343,170,500	1,705,779,692	325,330,329,194	411,511,429,386
Adjustments for the first application of K-IFRS 1109					(1,705,779,692)	1,705,779,692	
Adjustments for the first application of K-IFRS 1115						(1,576,974,791)	(1,576,974,791)
Beginning capital (rewritten)			8,132,150,000	76,343,170,500		325,459,134,095	409,934,454,595

Capital change	Total comprehensive profit or loss	Current net income				48,931,368,271	48,931,368,271
		Re-measurement elements of defined benefit plans				(1,182,768,944)	(1,182,768,944)
		Evaluated profit or loss from transferable financial assets			(380,807,731)		(380,807,731)
Transactions with shareholders directly recognized in capital	Acquisition of treasury stock						
	Annual dividend					(11,385,010,000)	(11,385,010,000)
	Gains on sale of treasury stock						
2018.12.31 (ending capital)			8,132,150,000	76,343,170,500	(380,807,731)	361,822,723,422	445,917,236,191

Cash Flow Statement

20th year from 2018.01.01 to 2018.12.31

19th year from 2017.01.01 to 2017.12.31

18th year from 2016.01.01 to 2016.12.31

(Unit: KRW)

	20th year	19th year	18th year
Cash flow from sales operations	27,514,347,281	32,304,674,119	48,955,179,050
Cash generated from sales	20,730,999,643	40,444,074,031	54,578,216,783
Current net profit (loss)	48,931,368,271	46,457,533,652	50,563,821,843
Increase or decrease for current net profit or loss adjustment	21,278,009,115	8,350,693,414	20,953,070,878
Change to equities/liabilities on sales operations	(49,478,377,743)	(14,364,153,035)	(16,938,675,938)
Gain on interest (operating)	4,245,440,351	3,611,550,340	3,320,267,400
Payment of corporate tax (return)	2,537,907,287	(11,750,950,252)	(8,943,305,133)
Cash flow from investments	131,674,418,893	(206,524,109,123)	640,963,360
Receipt of dividends			50,000,000
Increase of deposits in financial institutions	(185,000,000,000)	(200,000,000,000)	
Decrease of deposits in financial institutions	385,000,000,000		
Increase in other trade receivables	(4,298,935,340)	(1,464,857,238)	(792,713,455)
Decrease in other trade receivables	2,331,997,856	382,244,214	660,222,105
Increase of advance payment	(583,144,600)	(414,248,664)	(780,036,172)
Increase in other liabilities			15,000,000
Decrease of other liabilities	(15,000,000)		(40,000,000)

Acquisition of tangible assets	(11,038,943,577)	(2,976,649,686)	(3,243,983,754)
Acquisition of intangible assets	(4,933,559,421)	(1,936,143,749)	(459,089,000)
Disposition of tangible assets	936,400,000	300,000,000	
Disposition of intangible assets	231,545,455		30,063,636
Disposition of available-for-sale financial assets		260,000,000	5,201,500,000
Current profit or loss - disposition of financial assets measured at fair value	1,089,000,000		
Other comprehensive income - disposition of financial assets measured at fair values	97,615,131		
Acquisition of investment stocks in subsidiaries	(1,504,860,000)	(674,454,000)	
Acquisition of investment securities of related companies	(4,410,000,000)		
Cash outflow due to business transfer	(46,129,996,611)		
Cash outflow due to restoration obligation	(97,700,000)		
Cash flow from financial activities	(11,385,010,000)	(14,637,870,000)	(16,264,300,000)
Disposition of treasure stock			
Acquisition of treasury stock			
Dividend payments	(11,385,010,000)	(14,637,870,000)	(16,264,300,000)
Net Increase of cash and cash equivalents before taking into account changes in exchange rate	147,803,756,174	(188,857,305,004)	33,331,842,410
Cash and cash equivalents at the beginning	73,769,560,133	262,696,790,919	229,387,326,567
Effect of foreign exchange rate movements on cash and cash equivalents	(1,121,356)	(69,925,782)	(22,378,058)
Cash and cash equivalents at the end	221,572,194,951	73,769,560,133	262,696,790,919

Statement of appropriation of retained earnings

(Unit: KRW)				
Division	Current year		Previous year	
	Expected date of disposition: March 15, 2019		Confirmed date of disposition: March 16, 2018	
I. Unappropriated retained earning		357,756,648,422		321,264,254,194
Unappropriated retained earning carried over from previous year	309,879,244,194		275,861,546,597	
Adjustments for the first application of K-IFRS 1109	1,705,779,692		-	
Adjustments for the first application of K-IFRS 1115	(1,576,974,791)		-	
Current net income	48,931,368,271		46,457,533,652	
Re-measurement elements of defined benefit plans	(1,182,768,944)		(1,054,826,055)	
II. Appropriations of retained earnings		(13,499,369,000)		(11,385,010,000)
Dividends (Note 22)	(13,499,369,000)		(11,385,010,000)	
III. Unappropriated retained earnings carried over to subsequent year (I - II)		344,257,279,422		309,879,244,194

5. Notes on Financial Statements

1. Company overview

(1) Overview of the controlling company

Silicon Works Co., Ltd. (hereinafter referred to as the "controlling company") was established on November 11, 1999 for the purpose of manufacturing and designing FPD (flat panel display) semiconductor IC. And the company is located at 222 Techno 2-ro, Daedeok-gu, Daejeon, Korea. The controlling company was certified by the Korea Technology Promotion Agency as a corporate subsidiary research facility in accordance with Article 16 of the Technology Development Promotion Act and Clause 1 of Article 15 of the Enforcement Marree of the same act on October 19, 2001. Also, the controlling company has been designated as an "advanced technology company" as per Clause 1 of Article 9 of the Special Law on the Cultivation of the Special Research and Development District of Daedeok on October 23, 2011.

The controlling company was then listed on KOSDAQ market as of June 8, 2010. After several increases in capital with or without considerations, the amount of paid-in capital of the company at the end of the current year is KRW 8,132,150,000 (issued shares: 16,264,300 and authorized shares 50,000,000).

The status of the shareholders of the controlling company at the end of current year is as follows:

Shareholder	Number of shares owned	Ownership stake	Remarks
LG Corp.	5,380,524	33.08%	Largest shareholder
Templeton Asset Management, Ltd.	878,254	5.40%	-
BlackRock Fund Advisors	833,753	5.13%	-
Others	9,171,769	56.39%	-
Total	16,264,300	100.00%	-

2. Standards for the preparation of financial statements

(1) Application of accounting principle

The company prepared its financial statements in accordance with K-IFRS, the accounting standards adopted by the International Accounting Standards Board ("IAS") as stipulated in No. 1 of Clause 1 of Article 5 in the Act on the External Audit on Limited Liabilities Company.

The company's financial statements are the summarized interim financial statements prepared in accordance with the Korea - International Financial Reporting Standards (K-IFRS). These financial statements have been prepared in accordance with K-IFRS 1034 'Interim Financial Reporting' and contain less information than required by the consolidated financial statements. The selective disclosures include a description of significant transactions or events that are necessary to understand the Group's financial position and changes in its operating results since the end of the previous reporting period.

The company's financial statements were approved by the Board of Directors on January 30, 2019 and will be finally approved at the shareholders' meeting on March 15, 2019.

The company’s consolidated financial statements were prepared with the first application of K-IFRS 1115, 'Revenues from Contracts with Customers' and K-IFRS 1109 'Financial Instruments'. The changes therefrom are explained in Note 3.

(2) Measurement standards

The financial statements are based on historical cost except for the major items in the statement of financial position as listed below;

1) Current profit or loss measured at fair value - fair value measurement financial assets
2) Other comprehensive profit and loss measured at fair value - fair value measurement financial assets
3) Determinable benefit liabilities where the fair value of externally reserved assets is subtracted from the present value of determinable benefit liabilities

(3) Functional currency and presentational currency

The company’s financial statements are prepared in the currency of the primary economic environment in which the company operates (the "functional currency"). The company’s financial statements are prepared and reported in Korean won, which is the functional currency and the presentational currency of the company.

(4) Estimation and judgment

In preparing the financial statements, K-IFRS requires the use of estimates and assumptions based on the management's best judgment about the application of accounting policies or matters affecting the reported amounts of assets, liabilities, revenues and expenses as of the end of the reporting period. Actual results may differ from these estimates if estimates and assumptions that are based on management's best judgment at the end of the reporting period differ from the actual environment.

The estimates and assumptions underlying the estimation are constantly being reviewed and changes in accounting estimation are recognized during the period in which the estimates are changed and during the period in which they will be affected in the future.

① Management's judgment

Information on key management judgments related to the application of accounting policies that have a significant effect on the amounts recognized in the financial statements are included in the following notes.

- Note 4: Significant accounting policies

② Uncertainties of assumptions and estimations

Information about uncertainties in assumptions and estimations that have the significant risk of material adjustments within the next reporting period is included in the following notes.

- Note 18: Allowance liabilities - Assumptions about the possible outflow of resources and amounts
- Note 29: Measurement of defined benefit liabilities - main actuarial assumptions

③ Fair value measurement

The company's accounting policies and disclosures require fair value measurement for a number of financial and non-financial assets and liabilities, and the company has established the fair value assessment policies and procedures. These policies and procedures include the operation of the valuation department responsible for reviewing all significant fair value measurements, including fair values that are classified as Level 3 in the fair value hierarchy, and the results are reported directly to financial executive officers.

The evaluation department is regularly reviewing significant input variables and evaluation adjustment which cannot be observed. If any third party information such as the broker price or evaluation organization is used in measuring fair value, the evaluation based on information acquired from the third party by the evaluation department includes the classification per level in the hierarchy system of fair value and we are making a Decision on whether or not to conclude if requirement in the applicable standard are met.

If the fair value of an asset or liability is measured, the consolidated entity uses the input variable which can be observed from the market as much as possible. The fair values are classified within the hierarchy system of fair values based on input variables used in the valuation techniques as below;

- Level 1: Publicly announced price not adjusted in the active market accessible to the same asset or liability on the measured day
- Level 2: Input variable which can be observed directly or indirectly to the asset or liability other than publicly announced price
- Level 3: Input variable which cannot be observed to the asset or liability

If many input variables used for measuring the fair value of an asset or liability are classified into different levels within the hierarchy system of fair values, the consolidated entity classifies the entire fair value measurements into the same level with the lowest level of an input variable in the hierarchy system of significant fair values over the entire measurements while recognizing the transfer between levels in the hierarchy system of fair values at the end of the reporting period when the variation occurred.

Detailed information about the assumptions used to measure fair value is included in the following notes.
- Note 6: Financial risk management

3. Changes in accounting policies
The Group initially applied K-IFRS 1109, 'Financial Instruments' and No. 1115 'Revenue from customers' contracts, effective from January 1, 2018. Other standards effective after January 1, 2018 have no significant effect on the Group's financial statements.

The Group adopted the Korean IFRS for the first time as of January 1, 2018 and did not reclassify its financial statements in accordance with the transition rules.

The following are the major impacts of the first-time adoption of the Standard.

(1) K-IFRS No. 1109 Financial Instruments

K-IFRS 1109 provides for the recognition and measurement of certain financial assets, financial liabilities and certain contracts that can be bought or sold. This Statement replaces K-IFRS 1039 Financial Instruments: Recognition and Measurement.

Changes in the beginning balances of equity as a result of application of K-IFRS No. 1109 are as follows.

	(Unit: KRW)
Classification	Effect of application (Jan 1, 2018)
Retained earnings	
Profit or loss - Fair value measurement Financial assets Recognition of valuation gains under K-IFRS No. 1109	1,705,779,692
Effect of application (Jan 1, 2018)	1,705,779,692

The nature and effect of major changes in accounting policies in accordance with K-IFRS No. 1109 are as follows.

1) Classification of financial assets and financial liabilities

K-IFRS 1109 retained most of the existing requirements of K-IFRS 1039 for the classification and measurement of financial liabilities. However, we have eliminated the existing classification of held-to-maturity investments, loans and receivables and available-for-sale financial assets.

The adoption of K-IFRS No. 1109 has no significant effect on the Group's accounting policies related to financial liabilities. The effect of adoption of K-IFRS 1109 on classification and measurement of financial assets is as follows.

In accordance with K-IFRS 1109, financial assets are measured at amortized cost when initially applied. Financial assets, other comprehensive income - fair value measurement debt instruments, other comprehensive income - fair value measurement equity instruments, profit or loss - fair value measurement category it is classified. Classification of financial assets in accordance with K-IFRS No. 1109 is generally based on the nature of the contractual cash flows of the business models and financial assets in which the financial assets are managed. Derivatives embedded in contracts in which the host contract is a financial asset covered by the scope of this standard are not separated but classify financial assets based on the composite financial instruments as a whole.

Financial assets are measured at amortized cost unless they are both designated at fair value through profit or loss if both of the following conditions are met:

- Hold financial assets under a business model that is intended to hold to receive contractual cash flows.
- Under the terms of the contract, there is a cash flow consisting solely of interest payments on interest and principal balance on a particular day.

Debt instruments are measured at fair value when they meet both of the following conditions: profit or loss - if not

designated as fair value measurement, other comprehensive income at fair value.
- Retain financial assets under a business model that serves both through receipt of contractual cash flows and sale of financial assets.
- Under the terms of the contract, there is a cash flow consisting solely of interest payments on interest and principal balance on a particular day.

At the date of initial recognition of an equity instrument that is not a trading instrument, the Group may make an irrevocable choice to present subsequent changes in the fair value of that investment in other comprehensive income. This choice is made by financial instruments.

All of the financial instruments not measured at fair value are measured at fair value through profit or loss, including all derivatives, at fair value. If the entity designates a financial asset that meets the criteria for measurement at fair value as a component of fair value gain or fair value measurement, if the accounting mismatch is eliminated or significantly reduced, the asset can be designated as profit or loss - fair value measurement. However, such designation cannot be canceled.

The following accounting policies apply to subsequent measurement of financial assets.

Profit or loss - Fair value measurement Financial assets	These assets are subsequently measured at fair value. Net gain or loss, including interest and dividend income, is recognized in profit or loss.
Measurement of amortization cost financial assets	These assets are subsequently measured at amortized cost using the effective interest method. Amortization is reduced by loss of loss (see (b)). Interest income, foreign currency translation gains and losses are recognized in profit or loss. The gain or loss on disposal is also recognized in profit or loss.
Other comprehensive income - fair value measurement Debt instruments	These assets are subsequently measured at fair value. Interest income, foreign currency translation gains and losses calculated using the effective interest method are recognized in profit or loss. Other profit or loss is recognized in other comprehensive income. The gain or loss accumulated in other comprehensive income or loss on disposal is reclassified to profit or loss.
Other comprehensive income - fair value measurement equity instruments	These assets are subsequently measured at fair value. Dividends are recognized in profit or loss if the dividends do not clearly represent the number of investment costs. Other profit or loss is recognized in other comprehensive income and is never reclassified to profit or loss.

The effect on the carrying amount of a financial asset under the application of K-IFRS No. 1109 on January 1, 2018 relates only to the new impairment requirement as described below.

The following table and accompanying notes describe the new measurement categories of K-IFRS 1109 for each classification of the initial measurement categories in accordance with K-IFRS 1039 and January 1, 2018.

(Unit: KRW)					
Classification	Note	Classification according to K-IFRS 1039	Classification according to K-IFRS 1109	Carrying amount according to K-IFRS 1039	Carrying amount according to K-IFRS 1109
Financial assets					
Equity instruments	(a)	Available-for-sale financial assets	Other comprehensive income - fair value measurement equity instruments	600,000,000	600,000,000
Initial investment		Available-for-sale financial assets	Other comprehensive income - fair value measurement debt instruments	2,758,368,987	2,758,368,987
Trade receivables	(b)	Loans and receivables	Measurement of amortization cost Financial assets	139,950,086,915	139,950,086,915
Other receivables	(b)	Loans and receivables	Measurement of amortization cost Financial assets	6,690,081,943	6,690,081,943
Short-term financial instruments	(b)	Loans and receivables	Measurement of amortization cost Financial assets	200,000,000,000	200,000,000,000
Cash and cash equivalents	(b)	Loans and receivables	Measurement of amortization cost Financial assets	73,769,560,133	73,769,560,133

(a) Equity instruments are products that the Group invests for the purpose of holding long-term for strategic purposes. As permitted by K-IFRS 1109, the Group designates these investments as other comprehensive income-fair value measurement financial assets at the date of initial application.

(b) Trade receivables, other receivables, short-term financial instruments and cash and cash equivalents classified as loans and receivables in accordance with Korean IFRS 1039 are classified as amortized cost financial assets.

2) Impairment of financial assets
K-IFRS 1109 replaces the "Accrued Loss" model of K-IFRS 1039 with the "expected credit loss" model. The new impairment model is applied to financial instruments measured at amortized cost, contractual assets and other comprehensive income - for debt instruments measured at fair value, but not equity instruments. In accordance with K-IFRS 1109, credit losses will be recognized earlier than K-IFRS 1039.

Financial assets measured at amortized cost include trade and other receivables, short-term financial instruments and cash and cash equivalents

In accordance with K-IFRS 1109, allowance for losses is measured using two criteria:
- 12 months expected credit losses: expected credit losses due to defaults on financial instruments that can occur

within 12 months after the end of the reporting period
- Total expected credit losses: Expected credit losses due to any default event that may occur during the expected life of the financial instrument

The Group measures the allowance for losses by the amount corresponding to the expected credit loss for the whole period, except for the following financial assets measured at the expected credit loss of 12 months.
- Debt securities determined to have low credit risk at the end of the reporting period
- Other debt securities and bank deposits that do not have a significant increase in credit risk (i.e., non-default risk arising over the expected life of the financial asset)

When determining whether the credit risk of a financial asset has significantly increased since the initial recognition and when estimating the expected credit loss, the Group considers information that can be used and reasonably supported, without undue cost or effort. This includes qualitative and quantitative information and analysis based on the Group's past experience and known credit ratings, including forward-looking information.

① Measuring expected credit losses
The expected credit loss is the probability weight of the credit loss. Credit loss is measured as the present value of all cash deficits (ie, the difference between all contractual cash flows that are expected to be paid under the contract and all contractual cash flows that are expected to be received).

② Credit-impaired financial assets
At the end of each reporting period, the Group assesses the carrying amounts of financial assets measured at amortized cost and other comprehensive income - whether the creditworthiness of the debt securities measured at fair value is impaired. If there is more than one event that adversely affects the estimated future cash flows of the financial asset, the financial asset is impaired.

③ Indication of allowance for credit loss on statement of financial position
The allowance for losses on financial assets measured at amortized cost is deducted from the carrying amount of the asset. Other comprehensive income - for debt instruments measured at fair value, the provision for losses is recognized in other comprehensive income, instead of reducing the carrying amount of the asset.

④ Influence of new damage model
As a result of applying the impairment provisions of the Korea Financial Accounting Standards No. 1109, there is no additional provision for losses as compared with the allowances under No. 1039. In addition, the impact of the new impairment model on the income statement, comprehensive income statement and cash flow statement which ended on the same day as the company’s statement of financial position as of December 31, 2018 is not material.

(2) K-IFRS No. 1115, "Revenue from contracts with customers"
The Group has adopted K-IFRS 1115, 'Revenue from contracts with customers' as of January 1, 2018 as the initial application date.

K-IFRS 1115 is a comprehensive framework for determining when and how much revenue is recognized. The Standard is based on the current K-IFRS 1018 'Revenue', No. 1011 'Construction Contract', K-IFRS Interpretation No. 2031 'Revenue: Exchange Transaction of Advertising Services', No. 2113 'Customer Loyalty Program' 'Real estate construction contract', No. 2118 'Transfer of assets from customers'.

The company’s service business sector provides product development services at the request of the customers, which generally takes more than three months, and the company has recognized revenues proportionally according to the progress percentage estimated on the basis of service acceptance check reports when the Korea Financial Accounting Standards No. 1018 'Revenues’ before revision is applied.

In accordance with the Korea Financial Accounting Standards No. 1115, revenues can be recognized by applying the progress percentage only if the company has the payment claim rights that can be enforced for the completed portion of performance in its obligation up to now when the company itself has no alternative use of the assets that have been made with the performance of its obligation by the company. As the company's services business sector is considered to be unable to meet the requirements, revenues have been recognized based on the delivery criteria.

The Group recognizes the cumulative effect of the initial application of the Standard as an adjustment to the beginning balance of retained earnings and applies the Standard only to contracts that are not completed on January 1, Accordingly, the effect of adopting K-IFRS No. 1115 reflected in retained earnings as of January 1, 2018 is as follows.

	(Unit: KRW)
Classification	Effect of application (Jan 1, 2018)
Retained earnings	
Development Services Revenue recognized at one point	(3,953,203,200)
Development service-related costs	2,376,228,409
Effect of application (Jan 1, 2018)	(1,576,974,791)

The effect of applying K-IFRS 1115 to the company’s statement of financial position and comprehensive income statement which ended on the same day as the statement of financial position is as follows. The effect on the company’s cash flow statement that ended on the same day is not material.

The effect on the statement of financial position as of the end of current year is as follows;

(Unit: KRW)			
Classification	Classification	Classification	Classification
Assets			

Current assets	506,873,236,097	(3,055,934,070)	503,817,302,027
Inventory	104,091,109,804	(123,976,321)	103,967,133,483
Prepaid expenses	12,939,785,316	(2,931,957,749)	10,007,827,567
Non-Current assets	100,375,583,355	-	100,375,583,355
Total assets	607,248,819,452	(3,055,934,070)	604,192,885,382
Liabilities			
Current liabilities	155,610,549,028	(4,863,283,010)	150,747,266,018
Advance payment	5,400,675,881	(4,700,283,898)	700,391,983
Provision	3,941,853,811	(162,999,112)	3,778,854,699
Unpaid corporate tax	10,471,393,345	55,750,544	10,527,143,889
Non-Current Liabilities	5,721,034,233	-	5,721,034,233
Total Liabilities	161,331,583,261	(4,863,283,010)	156,468,300,251
Capital			
Retained earnings	361,822,723,422	1,751,598,396	363,574,321,818
Total capital	445,917,236,191	1,751,598,396	447,668,834,587
Total liabilities and capital	607,248,819,452	(3,055,934,070)	604,192,885,382

The effect on the income statement and comprehensive income statement for the current year is as follows;

			(Unit: KRW)
Classification	Disclosure amount	Adjustment	Amount before Reflection of No. 1115
Revenue	791,817,912,209	910,079,810	792,727,992,019
Cost of sales	598,160,376,164	679,705,661	598,840,081,825
Gross profit on sales	193,657,536,045	230,374,149	193,887,910,194
Operating income	55,686,046,812	230,374,149	55,916,420,961
Net income before corporate tax expenses	59,081,088,199	230,374,149	59,311,462,348
Corporate tax expense	10,149,719,928	55,750,544	10,205,470,472
Current quarter net profit	48,931,368,271	174,623,605	49,105,991,876
Current quarter total comprehensive profit	47,367,791,596	174,623,605	47,542,415,201

4. Significant accounting policies

The significant accounting policies applied by the company in the preparation of its financial statements in accordance with K-IFRS are as follows. The financial statements for the current year and those to be compared were prepared by applying the same accounting policies, except for the changes in the accounting policies explained in Note 3.

(1) Cash and cash equivalent assets
The company classifies its investments with the maturities of three months or less from the acquisition date as cash and cash equivalents. Equity securities are excluded from cash and cash equivalents, but they are included in cash and cash equivalents if the redemption date is fixed and they are actually cash equivalents like preferred stocks whose period from the acquisition date to the redemption date is short.

(2) Inventory assets
The unit cost of inventory assets is determined by the moving-average method. The acquisition costs include the purchase costs, conversion costs and other costs necessary to prepare the inventory assets for use.

The inventory assets are measured at the lower of acquisition cost and net realizable value. Any evaluated loss of the inventory assets from which the net realizable value is deducted, and loss due to spoilage are recognized as the expenses in the period when the deduction or spoilage accrued. The return of the evaluated loss due to the increased net realizable value of the inventory assets is deducted from the cost of inventory assets sold, which is recognized as the expenses in the period when the return arises.

(3) Non-derivative financial assets - policy applicable from January 1, 2018
1) Recognition and initial measurement
Trade receivables and issue debt securities are recognized for the first time at the time of issue. Other financial instruments and financial liabilities are recognized only when the company becomes a party to the financial instrument.

Except for trade receivables that do not include significant financial elements, financial instruments or financial liabilities are measured at fair value at the time of initial recognition. If they do not fall under the current profit or loss - fair value measurement financial instrument or current profit or loss - fair value measurement financial liabilities, the transactional cost directly related to the acquisition of the financial instruments or issue of financial liabilities is deducted from fair value. Trade receivables that do not include significant financial elements are initially measured at transaction prices.

2) Classification and follow-up measurement
At the time of initial recognition, financial assets are classified to be measured with the cost after amortization, other comprehensive profit or loss - fair value debt instruments, other comprehensive profit or loss - fair value equity instruments or current profit or loss - fair value.

Financial assets are not reclassified after initial recognition, unless the company changes its business model to manage the financial assets in which case all affected financial assets are reclassified on the first day of the first reporting period after the change in the business model.

A financial asset is measured at the cost after amortization if both the following two conditions are met and it is not assigned as the current profit or loss - fair value measurement item.
- It is kept under a business model that is intended to hold to receive cash flows on a contractual basis.
- In accordance with the contractual terms of the financial asset, there are cash flows consisting solely of principal and interest payments on principal balance at certain dates.

A liability product is measured at the current profit or loss - fair value if both the following two conditions are met and it is not assigned as the current profit or loss - fair value measurement item.
- The financial instrument is kept under a business model that is intended both to receive cash flows on a contractual basis and to sell it.
- In accordance with the contractual terms of the financial asset, there are cash flows consisting solely of principal and interest payments on principal balance at certain dates.

The company can choose the subsequent changes in the fair value of the investment assets to be indicated in other comprehensive profit or loss at the initial recognition of an equity instrument that is not held for short-term trading. However, it cannot be canceled once it is chosen. This choice is made on the basis of an investment asset.

All the financial assets not measured at the cost after amortization or other comprehensive profit or loss - fair value as described above are measured with the current profit or loss - fair value. These financial assets include all derivative financial assets. If the company assigns a financial asset measured at the cost after amortization or other comprehensive profit or loss - current profit or loss at the initial recognition as the current profit or loss - fair value measurement item, it can assign the financial asset as the current profit or loss - fair value measurement item to remove accounting mismatch or reduce it significantly. However, it cannot be canceled once it is chosen.

① Business model
The company evaluates the purpose of the business model held at the portfolio level of financial assets because it best reflects how the business is managed and the way in which information is provided to management. Such information considers the following:

- Accounting policies and objectives for the portfolio and the actual operation of these policies It includes obtaining contractual interest income, maintaining a certain level of interest rates, matching the duration of the debt to finance the asset and the duration of the asset, and management strategy focusing on outflowing or realizing the expected cash flow through selling the assets.
- The ways to evaluate the performance of the financial assets held by the business model and to report the evaluation details to the key management personnel
- The risks that affect the performance of the business model (and the financial assets held in the business model) and the way in which they are managed
- The manner of compensations to management (ex: whether compensations are made based on the fair value of the assets under management or contractual cash flows received)
- The frequency, amount, timing and reasons for the sale of financial assets in the past and the forecasts of future selling activities

For this purpose, a transaction that transfers a financial asset to a third party in the transaction that does not meet the removal requirements is not considered a sale.

A financial asset portfolio that meets the definition of short-term trading or whose portfolio performance is measured on a fair value basis is measured at the current profit or loss - fair value.

② Valuation of whether the contractual cash flow consists solely of principal and interest

The principal is defined as the fair value at the initial recognition of the financial asset. Interest consists of consideration for the time value of money, consideration for the credit risk associated with the principal balance in a particular time period, basic lending risk, and consideration for the costs (ex: liquidity risk and operating costs), and profits. When assessing whether the contractual cash flows are solely the payments of principal and interest, the company considers the contractual terms of the instrument.

If a financial asset includes a contractual term that changes the timing or amount of a contractual cash flow, then the contractual terms must determine whether the contractual cash flows that occur over the life of the financial instrument consist solely of the payments of principals and interests.

When evaluating this, the company considers the following:

- Conditional conditions that change the amount or timing of cash flows
- Provisions to adjust contractual nominal interest rates, including variable interest rate characteristics
- Interim repayment characteristics and maturity extension characteristics
- Contract terms that limit the company's claims for cash flows accruing from certain assets

If the interim repayment amounts actually represent the remaining principal and interests on the remaining principal and include reasonable additional compensation for the early liquidation of the contract, the early repayment characteristics are consistent with the conditions under which principal and interest are paid on a particular day.

In addition, these conditions are thought to be met if the interim repayment amounts actually represent the contractual face value and contractually accrued (but not paid) interests (in this case, a reasonable additional compensation can be included for the earlier liquidation of the contract) for the financial assets acquired at significant discounts or premiums on the contractual face value, and the fair value of the characteristics at the initial recognition of the financial asset is insignificant.

3) Subsequent measurement and profit / loss

① Current profit or loss - Financial assets measured at fair value

These assets are subsequently assessed at fair value. Net profit or loss, including interest or dividend income, is recognized in the current profit or loss.

② Financial assets measured at amortized cost

These assets are subsequently measured at amortized cost using the effective interest rate method. The amortized cost is reduced by impairment loss. Interest income, foreign currency translation gains and losses, and impairment loss are recognized in the current profit or loss. The gain or loss arising from the elimination is recognized in the current profit or loss.

③ Other comprehensive profit or loss - debt instruments measured at fair value
These assets are subsequently measured at fair value. Interest income is calculated using the effective interest rate method, and foreign currency translation gains and losses are recognized in the current profit or loss. Other net profit or loss is recognized in other comprehensive profit or loss. The gain or loss on removal is reclassified from the accumulated other comprehensive profit or loss to the current profit or loss.

④ Other comprehensive profit or loss - equity instruments measured at fair value
These assets are subsequently measured at fair value. Dividends are recognized in the current profit or loss unless they clearly represent the collection of the investment cost. Other net profit or loss is recognized in other comprehensive profit or loss and is never reclassified to the current profit or loss.

4) Removal of financial assets
If the contractual rights for the cash flows of the financial asset expires, the contractual rights to receive the cash flows of the financial asset are transferred and most of the risks and rewards due to the ownership of the transferred financial assets are substantially transferred, or if the company does not control the financial assets without retaining or transferring the majority of the risks and rewards of ownership, the company removes the financial asset.

If the company carries out a transaction to transfer the asset recognized in the statement of financial position but holds most of the risks and rewards of the ownership of the transferred asset, the transferred asset is not removed.

5) Offset of financial assets
The company offsets financial assets with financial liabilities and indicate them on a net basis in the statement of financial position only if it currently has a legally enforceable offset right for both the financial assets and financial liabilities as recognized and intends to make their repayment with the differences or to repay the liabilities as soon as to realize the assets.

6) Impairment of financial assets
① The company recognizes a loss reserve for the expected credit loss on the following assets:
- Financial assets measured at amortized cost

Loss allowances on trade receivables and other receivables measured at amortized cost are always measured at the amounts corresponding to the expected credit losses over the period.

When determining whether the credit risk of a financial asset has significantly increased since the initial recognition and when estimating the expected credit losses, the company considers information that can be used and reasonably supported, without undue cost or effort. This includes qualitative and quantitative information and analysis based on the company's past experience and known credit ratings, including forward-looking information.

The expected credit losses throughout the period are the expected credit losses due to any default event that may occur during the expected life of the financial instrument.
The longest period to consider when measuring the expected credit losses is the longest contract term for which the company is exposed to the credit risk.

② Measurement of expected credit loss
The expected credit loss is a probability weighted estimate of the credit losses. Credit losses are measured as the present value of all cash deficits (ex: the difference between all contractual cash flows that are expected to be paid under the contract and all contractual cash flows that are expected to be received). The expected credit losses are discounted at the effective interest rate of the financial asset.

③ Credit-impaired financial assets
At the end of each reporting period, the company assesses whether the creditworthiness of the financial asset measured at amortized cost is impaired. If there is more than one event that adversely affects the estimated future cash flows of a financial asset, the credit of the financial asset is impaired.

The evidence that the credit of a financial asset is impaired includes the following observable information:
- Significant financial difficulties of issuer or borrower

④ Indication of credit loss allowances on the statement of financial position
The loss allowances on financial assets measured at amortized cost is deducted from the book value of the asset.

⑤ Elimination
If there is no reasonable expectation of recovery of all or part of the contractual cash flows of a financial asset, the asset is eliminated. The company individually assesses the timing and amount of removal by evaluating whether there is a reasonable expectation of recovery for an enterprise customer. The company does not expect that the eliminated amount will recover significantly. However, the eliminated financial assets can be subject to collection activities in accordance with the collection procedures of the amount due to the company.

(4) Non-derivative financial assets - policy applicable before January 1, 2018
The company classifies non-derivative financial assets into four categories: financial assets recognized in the current profit or loss, financial assets held to maturity, loans and receivables, and transferable financial assets, which are recognized in the statement of financial position when it becomes a contractual party.

Non-derivative financial assets are measured at fair value at initial recognition. If they are not financial assets recognized in the current profit or loss, the transactional cost directly related to the acquisition of the financial assets are added to the fair value at initial recognition.

① Financial assets recognized in the current profit or loss
Financial assets designated as short-term trading financial assets or financial assets recognized in the current profit or loss at initial recognition are classified as financial assets recognized in the current profit or loss. Financial assets

recognized in the current profit or loss are measured at fair value after initial recognition, and changes in fair value are recognized in the current profit or loss. Meanwhile, transactional costs related to acquisition incurred at the time of initial recognition are recognized immediately in the current profit or loss as incurred.

② Financial assets held to maturity

They are classified as financial assets held to maturity if their maturity is fixed and the amounts to be paid are fixed or determinable for non-derivative financial assets when the company has the aggressive intent and ability to hold to maturity.

After initial recognition, they are measured at amortized cost using the effective interest rate method.

③ Loans and receivables

Non-derivative financial assets with fixed or determinable payments and their transaction price not quoted in an active market are classified as loans and receivables. After initial recognition, they are measured at amortized cost using the effective interest rate method.

④ Transferable financial assets

Non-derivative financial assets designated as available for sale or not classified as financial assets recognized in the current profit or loss, financial assets held to maturity or loans and receivables are classified as transferable financial assets. They are measured at fair value after initial recognition, and changes in fair value are recognized in other comprehensive profit or loss. However, equity securities that do not have a quoted market price in an active market and whose fair value cannot be measured reliably are measured at cost.

⑤ Removal of financial assets

Financial assets are removed when the contractual rights to cash flows from financial assets are terminated or when the rights to cash flow of financial assets are transferred and most of the risks and rewards for the ownership of financial assets are transferred. If the consolidated entity does not hold or transfer substantially most of the risks and rewards for the ownership of the financial asset, the company eliminates the financial asset if it does not control the financial asset and, if it continues to control the asset, it continues to recognize to the continuous involvement on the transferred assets while recognizing related liabilities together. If the company has transferred the rights to the cash flows of financial assets but the consolidated entity has the majority of the risks and rewards for the ownership of the financial assets, it continues to recognize the financial assets and recognizes the proceeds amounts from transfer as liabilities.

⑥ Offsetting of financial assets and liabilities

Financial assets and liabilities are offset, when there is a legally enforceable right to offset assets and liabilities, and only if there is the intention to settle the liability at the same time that the asset is realized.

⑦ Impairment of financial assets

Whether there is any objective evidence of impairment on financial assets except for financial assets recognized in the current profit or loss is evaluated at the end of every reporting period. If there is any objective evidence that financial assets have been impaired as a result of one or more events after the initial recognition and the impairment event affects the projected future cash flows of the financial assets, the financial assets are considered impaired. However, no impairment loss anticipated as a result of future events is recognized.

The events as an objective evidence that the financial assets are impaired might include if the issuer or debtor of the financial assets does not pay principal or interest; if the borrower does not pay principal or interest; if there are adjustments to liabilities such as the mitigation of borrowing conditions due to the borrower's financial difficulties; and if the active market for the financial assets has disappeared. In addition, it is considered that there is objective evidence on asset impairment for equity securities classified as transferable financial assets if the issuer is experiencing significant financial difficulties, or the fair value of the equity securities has fallen significantly or consistently below cost.

If there is objective evidence of impairment, the impairment loss is measured and recognized as follows:

A. Financial assets with amortized cost as the book value
Financial assets measured at amortized cost measure impairment losses as the difference from the present value of projected future cash flows discounted at the original effective interest rate or the fair value of the financial instruments using observable market prices for the convenience of practices in the field. Impairment losses use an allowance account or they are directly deducted from the book value of an asset. If the impairment loss amount subsequently decreases and the decrease is objectively related to the event occurring after the impairment was recognized, the already recognized impairment loss is directly returned or recognized in the current profit or loss by adjusting the allowance.

B. Financial assets with the cost as the book value
The impairment losses of financial assets measured at the cost are measured as the difference between the present value of the projected future cash flows discounted at the current market return of similar financial assets and the book value, and they are recognized in the current profit or loss. These impairment losses are not reversed.

C. Transferable financial assets
If there is any objective evidence of impairment losses on transferable financial assets where the decreased amount of fair value is recognized in other comprehensive profit or loss, the amount where the impairment loss already recognized in the current profit or loss in the previous period out of the accumulated losses, where the difference between the acquisition cost and the current fair value, recognized in other comprehensive profit or loss is deducted is reclassified to the current profit or loss. The impairment loss recognized in the current profit or loss for transferable equity securities is not reversed to the current profit or loss. On the other hand, if the fair value of the transferable debt securities increases in the subsequent periods and the increase is objectively related to the event occurring after the impairment loss is recognized, it is reversed and recognized in the current profit or loss.

(5) Investments in subsidiaries and affiliates in separate financial statements
The company's financial statements are separate financial statements pursuant to K-IFRS 1027. The company selected the cost method under K-IFRS 1027 in accounting for the investment assets in subsidiaries and associates. However, in the separate statement of financial position on the date of transition based on K-IFRS, Korea Financial

Accounting Standards No. 1101 'First Adoption of Korea - International Financial Reporting Standards (K-IFRS)' is applied and the book values according to the past accounting principles are used as deemed costs for their measurements. Meanwhile, dividends received from subsidiaries are recognized in the current profit or loss when the right to receive dividends is established.

(6) Tangible assets

Tangible assets are initially measured and recognized at cost. The cost of a tangible asset includes costs directly attributable to the location and condition necessary to operate the asset in an intended manner by management, and costs estimated to be necessary to dismantle, remove, or recover the property.

After initial recognition, the book value of a tangible asset is recognized as the amount where the accumulated depreciation and accumulated impairment losses are deducted from the cost.

The cost of replacing part of a tangible asset is included in the book value of the asset if it is highly likely that the future economic benefits from the asset will flow to the company and the cost can be measured reliably. Or, it is recognized as a separate asset, if appropriate. Here, the replacing part is removed from the book value. Other costs incurred in connection with the ordinary maintenance and repair are recognized in the current profit or loss as incurred.

The lands among tangible assets are not depreciated. Other tangible assets are depreciated from the amount where the residual value is deducted from the acquisition cost of the asset, using the straight-line method that best reflects the expected consumption pattern of the future economic benefits inherent in the asset over the economic durable years as presented below.

If a certain part of the cost, consisting of a tangible asset, is significant compared to the total cost of the tangible asset, the part is separately depreciated when the tangible asset is depreciated.

Any profit or loss arising from the elimination of a tangible asset is determined by the difference between the net selling price and the book value, and the difference is recognized as other non-operating income and other non-operating expense.

The projected durable years of tangible assets in the current and previous year are as follows;

Division	Durable years
Buildings and structures	20 years, 40 years
Machinery	5 years
Furnishings	4 years
Other tangible assets	5 years

The company reviews the residual value of the asset, durable years and depreciation method at the end of each reporting period and, if it is deemed appropriate to change it as a result of review, it is accounted for as a change in the accounting estimation.

(7) Intangible assets
An intangible asset is measured at cost when it is first recognized. After initial recognition, the book value is recognized as the amount where the accumulated depreciation and accumulated impairment losses are deducted from the cost.

Intangible assets are amortized using the straight-line method over the following durable years as their residual value is zero ("0") from the available point. As some intangible assets have, however, no foreseeable limit to the expected use period, they are not amortized as the durable years of the intangible assets are unlimited.

The projected durable years of intangible assets in the current and previous year are as follows;

Division	Durable years
Goodwill	Indefinite
Industrial property rights	10 years
Software	2 years ~ 5 years
Membership	Indefinite
Other intangible assets	2 years ~ 5 years

The amortization period and amortization method for intangible assets with finite useful lives are reviewed at the end of each reporting period. For intangible assets whose useful life is indefinite, whether the evaluation that the useful life is indefinite is continuously valid or not is reviewed at the end of each reporting period. If it is deemed appropriate to change it, it is processed as the change in the accounting estimation.

Subsequent expenditures are capitalized only when the future economic benefits of the related asset increase, and other expenses, including internally generated goodwill and trade names, are expensed as incurred.

(8) goodwill
Goodwill represents the payment in excess of the fair value for a net identifiable asset acquired at the time of business combination and it is recognized as an intangible asset. Goodwill is not amortized but is tested annually for impairment, and is stated as the value where the accumulated impairment losses are deducted from the cost.

(9) Government subsidy
Government subsidies are recognized only when there is reasonable assurance that the company will comply with the conditions attached to government subsidies and receive them.

① Asset related government subsidies
The company receives the government subsidies on which basic conditions are imposed as saying that they shall be used in acquiring or constructing non-current assets. When the book value of the asset is calculated, the government subsidies are deducted and they are recognized in the current profit or loss over the useful life of the depreciable asset.

② Revenue related government subsidies
The company recognizes government subsidies as a way to offset the related costs over the period in which the costs are recognized as an expense for which government subsidies are intended to be financed.

(10) Impairment of non-financial assets
For all non-financial assets except for the assets arising from employee benefits, inventories, deferred tax assets and non-current assets held for sale, we review whether there are indications that the asset is impaired and, if so, we estimate the recoverable amount of the asset. However, we test impairment annually by comparing the recoverable amount with the book value regardless of the indication of asset impairment for intangible assets with indefinite useful lives and intangible assets that are not yet available.

If the recoverable amount of or by individual asset cannot be estimated, the recoverable amount is estimated by each cash-generating unit to which the asset belongs. The recoverable amount is determined to be the greater of the value in use and net fair value. The value in use is estimated by discounting the expected future cash flows expected to be generated by the asset or cash-generating unit with an appropriate discount rate reflecting the current market's assessment on the risks unique to the asset, which is not adjusted when the time value of money and future cash flows are estimated.

If the recoverable amount of an asset or cash-generating unit is less than its book value, the book value of the asset is reduced and recognized immediately in the current profit or loss.

At the end of each reporting period, we review whether there is any indication that an impairment loss recognized in prior periods no longer exists or has decreased in respect of an asset other than goodwill. It is reversed only if there is a change in the estimate used to determine the recoverable amount after the time right before the recognition of the impairment loss. The increase in the book value due to the reversal of an impairment loss cannot exceed the depreciation of the book value or balance after depreciation before the recognition of the impairment loss in the past.

Goodwill acquired in a business combination is allocated to each cash-generating unit that is expected to benefit from the synergies resulting from the business combination. An impairment loss on a cash-generating unit is first reduced from the book value of the goodwill allocated to the cash-generating unit, and then the book value of the asset is reduced in proportion to the book value of other assets in the cash-generating unit, respectively.
An impairment loss recognized for goodwill cannot be reversed in the subsequent periods. At the end of each reporting period, we review whether there is any indication that an impairment loss recognized in prior periods no longer exists or has decreased in respect of an asset other than goodwill. It is reversed only if there is a change in the estimate used to determine the recoverable amount after the time right before the recognition of the impairment loss. The increase in the book value due to the reversal of an impairment loss cannot exceed the depreciation of the book value or balance after depreciation before the recognition of the impairment loss in the past.

(11) Non-derivative financial debentures

The company classifies financial debentures into finance debentures recognized in the current profit or loss and other finance debentures according to the contractual details in reality and definition of finance debentures, which are recognized in the statement of financial position when it becomes a contractual party.

① Financial debentures recognized in the current profit or loss

Financial debentures recognized in the current profit or loss include short-term trading finance debentures or other finance debentures designated as finance debentures recognized in the current profit or loss at initial recognition. Financial debentures recognized in the current profit or loss are measured at fair value after initial recognition and changes in fair value are recognized in the current profit or loss. Meanwhile, transactional costs related to the issue of finance debentures recognized in the current profit or loss at the time of initial recognition are recognized immediately in the current profit or loss as incurred.

② Other financial liabilities

Non-derivative financial liabilities that are not classified as financial liabilities recognized in the current profit or loss are classified as other financial liabilities. Other financial liabilities are measured as the amount where the transactional costs directly attributable to the issue is deducted from fair value at the initial recognition. Subsequently, other financial liabilities are measured at amortized cost using the effective interest rate method and the related interest expense is recognized.

Financial liabilities are removed from the statement of financial position only when they have ceased, i.e., when the contractual obligations have been fulfilled, canceled or expired.

(12) Employee payroll

① Short-term employee payroll

The company recognizes in the current profit or loss the short-term employee benefits payable within 12 months from the end of the accounting period in which the employees provide related services as the amount expected to be paid in exchange for their work service when those service works are provided. Short-term employee benefits are measured at the amounts without discount.

② Other long-term employee payroll

Other long-term employee payroll not to be paid within 12 months from the end of the reporting period that employees provide work services is discounted with the present value for the future payroll which is acquired in exchange for work services provided in the current and past period. Changes from re-measurement are recognized as the current profit or loss in the period that they occur.

③ Retirement benefit: Defined benefit plans

Defined benefit liability relating to defined benefit plans as of the end of the reporting period is recognized by deducting fair value of external reserve asset from present value of defined benefit liability.

Defined benefit liabilities are calculated in the estimated unit reserve method by an independent accountant every year. If the net amount calculated by deducting fair value of external reserve asset from present value of defined salary liability falls into asset, the asset is recognized to the extent of present value for the economic utility available in the way of return from the system or saving for future contribution to the system.

The re-measurement elements of net defined salary liabilities consist of variations of asset recognizing upper limit effect excluding the amount included in the net interest of profit from external reserve assets and net defined salary liabilities excluding the amount included in the actuarial profit and net interest of net defined salary liabilities, which are immediately recognized in other comprehensive profit or loss. The company determines the net interest of net defined benefit liabilities (assets) with the product of net defined benefit liabilities (assets) and a discount rate decided at the beginning of the annual reporting period in consideration of variations of net defined benefit liabilities (assets) due to the payment of contributions and payroll payment during the reporting period. Net interest expense and other expenses relating to the defined benefit plans are recognized in the current profit or loss.

If any revision or shrinkage in the system occurs, any profit or loss according to the change or shrinkage in the utility for the service in the past is immediately recognized in the current profit or loss. The company recognizes profit or loss from the settlement whenever it occurs in the defined benefit plans.

(13) Allowance liabilities
Allowance liabilities refer to the current obligations (legal or constructive obligations) as a result of past events, and it is highly likely that an outflow of resources with economic benefits will be required to settle the obligations, and they are recognized if the amounts required to fulfill the obligations are reliably estimated.

The amounts recognized as allowance liabilities are the best estimates of the expenditures required to fulfill the current obligations at the end of the reporting period, taking into account the unavoidable risks and uncertainties of the related events and circumstances.
If the effect of money's time value is material, allowance liabilities are measured at the present value of the expenditures expected to be required to settle the obligations.

We recognize the reimbursement amounts and counts them as separate assets only when it is almost certain that the reimbursement will be received if it is expected that the third party will repay part or all of the expenditure required to settle the allowance liabilities.

The company reviews the balances of allowance liabilities at the end of each reporting period and adjust them to reflect the best estimates at the end of the reporting period. If the likelihood of an outflow of resources incorporating economic benefits to fulfill the obligations is no longer high, the related allowance liabilities are reversed.

Provision for product warranties is recognized when the goods or services are sold or provided, and based on historical warranty data, all possible outcomes and their associated probabilities are estimated on a weighted average basis.

Allowance liabilities are only used for expenditures related to initial recognition.

(14) Transaction in foreign currency
In preparing the financial statements of the company, transactions in currencies other than the functional currency are recorded using the exchange rates on the dates of the transactions. At the end of each reporting period, monetary items denominated in foreign currencies are translated at the closing rate at the end of the reporting period. Non-monetary items in foreign currency, which are measured at fair value, are translated at the exchange rates prevailing on the dates when the fair value is determined, and non-monetary items measured at historical cost are translated at the exchange rates prevailing on the dates of the transactions.

Foreign exchange differences arising on the settlement of monetary items and foreign exchange differences arising on the translation of monetary items are recognized in the current profit or loss as other non-operating income and other non-operating expenses in the case of operating activities, and also recognized in the current profit or loss as financial income and financing expense in the case of non-operating activities.

If gains or losses on non-monetary items are recognized in other comprehensive profit or loss, the effects of changes in foreign exchange rates are also recognized in other comprehensive income. When the gains or losses are recognized in the current profit or loss, changes in foreign exchange rates are recognized in the current profit or loss as well.

(15) Paid-in capital
Common stocks are classified as capital, and incremental costs directly attributable to capital transactions are deducted from capital as a net amount reflecting tax effects.

When acquiring its equity instruments again, the company deducts those equity instruments directly from capital as the title of treasury stock. Any gain or loss on the purchase or sale of, or the issue or cancellation of, an equity instrument is not recognized in the current profit or loss. If the company acquires and retains treasury stocks, the consideration paid or received is recognized directly in capital.

(16) Revenue from contracts with customers
1) Policy applicable from January 1, 2018
The company first applies the Korea Financial Accounting Standards No. 1115 from January 1, 201 and recognizes profits by applying the 5 step profit recognition model (① Identify a contract → ② Identify performance obligation → ③ Estimate a transaction price → ④ Distribute the transaction price to performance obligation → ⑤ Recognize profit when performance obligation is completed) to every type of contract. The effect of the first application of K-IFRS 1115 is described in Note 3.

① Contract identification
The company identifies the contracts with customers when all of the following criteria are met:
- The contractual parties agree to approve the contract and carry out their obligations, respectively.
- The rights of each party in connection with the goods or services to be transferred can be identified.
- The payment terms of the goods or services to be transferred can be identified.

- There is a commercial substance in the contract.
- It is highly probable that the payments with the rights entitled to receive for the goods or services to be transferred to the customer will be collected.

The company identifies the contracts to supply the products and services which meet all of the above criteria as a contract with the customer.

② Identification of performance obligations
The company reviews the goods or services promised in the contract with the customer at the inception of the agreement and identifies the commitment to transfer either of the following to the customer as a performance obligation:
- Distinguishable goods or services (or bundles of goods or services)
- A series of distinguishable goods or services which are virtually the same, and the way they are transferred to customers is the same

The obligation of the company to perform for the customers identified in the contract with the customer is the provision of the promised product and the provision of the service.

③ Estimation of transaction prices
The company refers to the contractual terms and the corporate business practices in order to determine the transaction prices. The transaction prices are the amounts from the rights to receive the payments after the company transfer the goods or services promised to the customer, but the amounts collected on behalf of the third party are excluded.

The company estimates the transaction prices at the consideration to be received from the customer for the supply of goods and services. However, since the company allows the return of the products in the contract to supply the products, the prices to receive from the customer may change. The company estimates the variable costs using the expected value method that is expected to better anticipate the rights to receive, and recognizes revenues by including the variable costs in the transaction prices only up to the amounts highly possible of no significant return out of the cumulative revenues that have already been recognized when the return date has elapsed. The amounts that the company does not expect to have the rights to receive the payments which have been received or will be received are recognized as a refund liability and recognized as a new asset to the right to recover the returned asset.

④ Distribution of the transaction price to the performance obligation
The company allocates the transaction price to each performance obligation as an amount that represents the amount to have the rights to receive the payments after the goods or services promised to the customer are transferred.

The transaction price is not allocated because the performance obligation of the company consists of a single performance obligation that can be identified with the goods and services in the contracts that the consolidated entity has concluded with the customers.

⑤ Revenue recognition at the implementation of performance obligation
The company recognizes the transaction price allocated to the performance obligation as revenues when the goods and services promised to the customer are transferred and the performance obligation is fulfilled, and the customer controls the goods or services.

The company recognizes revenue when the obligation to provide the goods and services is fulfilled at one time. In particular, the revenues for the delivery of services are recognized as the performance obligation to be fulfilled at one time as we consider that the asset made with the fulfillment of obligation by the company has no alternative use in the company itself and fails to meet the requirements of the performance obligation to be fulfilled over a period when there should be a claim right for the payment that can be enforced for the completed portion up to date.

(2) Policy applicable before January 1, 2018
The company measures revenue at the fair value of the consideration received or receivable for the sale of goods, the provision of services or the use of assets and deducts sales allowances, discounts and reversals from revenues.

① Sales of goods
The company recognizes revenues when the significant risks and rewards for the ownership of the goods are transferred to the purchaser from the company; the company does not make the continuous managerial involvement in the normal level and effective control in relation to the ownership of the sold goods; it is highly likely that the economic benefits relating to the transaction will flow in to the company; and the costs and return possibility that has occurred or will occur in relation to the revenue amounts and transactions can be measured reliably.

② Others
The company recognizes other incomes when the revenue-generating process is completed; the amount of revenue can be reliably measured; and it is highly probable that the economic benefits will flow in.

If the company acts as an agent of the supplier not as a party to the transaction, the net amount where the amount to be paid to the actual supplier of the goods or services is deducted from the amount charged to the customer is recognized as commission income.

(17) Financial incomes and costs
Financial incomes include interest income, gains and losses from the conversion and exchange rate difference of foreign currency financial instruments, and current profit or loss - net profit or loss on financial assets measured at fair value. Interest income is recognized in the current profit or loss using the effective interest rate method over the period.

Finance costs include interest expense on borrowings, translation losses on foreign currency instruments and foreign exchange difference losses, and current profit or loss - net profit or loss on financial assets measured at fair value.

Interest expense on borrowings is recognized in the current profit or loss using the effective interest rate method over the period.

The effective interest rate is the interest rate at which the present value of the future cash payments or receivables estimated in the expected life of the financial instruments exactly matches the total book values of the financial asset or the amortized cost of the financial liability.

When interest incomes or interest expenses are calculated, the effective interest rate applies to the total book value of the asset (if the credit of the asset is not impaired) or the amortized cost of the liability. However, for financial assets whose credit is impaired subsequently after the initial recognition, interest income is calculated by applying the effective interest rate to the amortized cost of the financial asset. If the asset is no longer deemed as impaired, interest income is calculated by applying the effective interest rate to the total book value.

(18) Corporate tax
Corporate tax expense consists of current corporate tax and deferred corporate tax, which is recognized in the current profit or loss except for transactions directly recognized in other comprehensive profit or loss or capital, or tax amounts arising from business combinations.

① Current corporate tax
Current corporate tax is calculated based on taxable income for the current year. Taxable income differs from profit or loss in the income statement because it excludes profit or loss or tax-exempt items or non-deductible items that are added to or deducted from earnings before tax of the income statement in other taxable periods. Accrued corporate taxes payable related to the company's current corporate tax are calculated using the enacted or substantively enacted tax rates.

② Deferred corporate tax
The measurements of deferred corporate tax liabilities and deferred corporate tax assets reflects the tax effects according to the expected methods for the company to collect or pay the book values of the related assets and liabilities at the end of the reporting period. The temporary differences to be added to the investment equity of subsidiaries, affiliates and joint ventures are recognized as deferred corporate tax liabilities except that the company can control the expiration timing of temporary differences and it is highly probable that the temporary differences will not expire in the foreseeable future. In addition, the deferred corporate tax assets arising from the temporary differences to be deducted are recognized only if it is highly likely that the temporary differences can disappear in the foreseeable future and the taxable income will accrue in the period when the temporary differences can be used.
The book value of the deferred corporate tax assets is reviewed at the end of each reporting period and the book value of the deferred corporate tax asset is reduced if it is not highly likely that the taxable incomes will accrue enough to use the benefits of the deferred corporate tax asset.

Both the deferred corporate tax assets and liabilities are measured using the tax rate which is expected to be applied to the reporting period in which the asset is realized or the liability is settled, based on the tax laws enacted or substantively enacted at the end of the reporting period.

Both the deferred corporate tax assets and liabilities are offset only if the corporate taxes are imposed by the same taxation authority; if the company has the legal right to offset the recognized amount; and it is intended to settle both the current corporate tax liabilities and assets in the net amount. If an additional corporate tax expense arises as a result of dividend payments, it is recognized at the time when the liabilities related to the payment of dividends are recognized.

(19) Earnings per share

The company calculates basic and diluted earnings per common share for the current net profit or loss and presents them in the income statement. Basic earnings per share is calculated by dividing the current net profit or loss attributable to common stocks by the weighted average number of common stocks outstanding in the fiscal period. Diluted earnings per share is calculated by adjusting the current profit or loss and the weighted average number of common stocks attributable to common stocks, in consideration of the potential influence of common stocks with every diluted effect such as share-based compensation granted to employees, etc.

(20) Business consolidation

Business consolidation is accounted with the use of the acquisition method, except for the business entities or business combinations under the same control.

The transfer consideration is generally measured at fair values as if the identifiably acquired net assets were measured at fair values. If goodwill arises as a result of business combination, we conduct impairment tests every year. If any gain arises from bargain price acquisition, it is recognized immediately in the current profit or loss. Acquisition-related costs are recognized as expenses in the period in which they are incurred and services are received, except for the issue costs of debt and equity securities that are recognized in accordance with K-IFRS 1032 and K-IFRS 1109.

The transfer consideration does not include the amount related to the settlement of an existing relationship, and the settlement amount of an existing relationship is generally recognized in the current profit or loss.

Any conditional consideration is measured at fair value on the acquisition date. Any conditional consideration that is classified as equity is not remeasured and subsequent settlement is accounted for within equity. If the conditional consideration is not classified as equity, the subsequent changes in the fair value of the conditional consideration are recognized in the current profit or loss.

(21) Lease

The company classifies the lease as a financial lease if the majority of the risks and rewards for the ownership of the leased assets are transferred to the lessee and as an operating lease if most of the risks and rewards are not transferred.

There is no financial lease contracted by the company. In the case of an operating lease, lease payments are recognized as expenses on a straight-line basis over the lease term. The total benefits of operating lease incentives are recognized as they are deducted from the lease expenses over the lease term. At the end of current year, the company's total amount of future minimum lease payments under operating leases which cannot be canceled is 3,067,661 thousand won within a year, and 846,176 thousand won within 5 years exceeding a year.

(22) Established and revised standards that have not been applied
Below are the established or revised standards and interpretations whose enforcement date has not been in the fiscal year starting January 1, 2018 although they are established or revised. The company did not apply the following established / revised standards and interpretations earlier in preparing financial statements.

Korea Financial Accounting Standards No. 1116 'Lease'
Korea Financial Accounting Standards No. 1116 'Leases' replaces the current standards Korea Financial Accounting Standards No. 1017 'Lease', Korea Financial Accounting Standards Interpretation No. 2104 'Determination of Whether Lease is Included in the Agreement', No. 201 'Operating Lease: Incentive' and No. 2027 'Assessing the Substance of a Transaction Including a Lease in Legal Form'.

This standard shall be applied from the beginning of the financial year beginning on or after January 1, 2019.

Korea Financial Accounting Standards No. 1116 provides an accounting model in which the lessee recognizes lease-related assets and liabilities in the statement of financial position. The lessee is required to recognize the use right asset that represents the right to use the underlying asset and the lease liability that represents the obligation to pay the lease payments. Lease recognition may be exempted for short-term leases and minor lease assets. Lease provider accounting is similar to the existing standard that classifies leases as financial leases and operating leases.

The company has completed its initial assessment of the potential impact on the financial statements, but has not yet completed an accurate assessment. The actual effects of applying Korea Financial Accounting Standards No. 1116 to the financial statements will be determined by the future economic environment in the first application, such as the consolidated entity's interest rate on January 1, 2019, the composition of the company's lease portfolio on the applicable days, whether the company will exercise the option to renew the lease, to what extent the practical simplification laws and the lease recognition exemption regulations will be applied, etc.

The most significant impact so far identified is that the company should recognize new assets and liabilities for the buildings and vehicles that it is using as operating leases. As of December 31, 2018, the company's total future minimum lease payments under operating leases, which cannot be canceled, amounted to 3,913,837 thousand won prior to the present value discount.

The introduction of Korea Financial Accounting Standards No. 1116 will change the nature of the costs associated with the leases as operating leases recognized in the fixed amounts will be replaced with depreciation expenses for license assets and interest expenses for lease liabilities.

The impact on the company's financial leases is not expected to be significant.

As a lessee, the company may apply the new standard in one of the following ways:
- Retrospective application approach
- Modified retrospective application approach and optional practical simplification
The lessee shall consistently apply the option to all lease agreements.

The company plans to apply Korea Financial Accounting Standards No. 1116 for the first time using the retrospective application approach, which is amended on January 1, 2019. Therefore, the cumulative effect of applying Korea Financial Accounting Standards No. 1116 will be adjusted in the retained earnings on January 1, 2019, and the comparative information will not be prepared again.

When applying the revised retroactive application approach to leases that are classified as operating leases under the existing Korea Financial Accounting Standards No. 1017, the lessee can choose whether to apply a variety of practical simplification method on a lease-by-lease basis. The company is evaluating the potential impact when these practical simplification methods are applied.

5. Classification of Financial Products by Category
(1) Financial products by category
The carrying amounts of financial instruments by category at the end of current year and previous periods are as follows.

		(Unit: KRW)
Division	End of current year	End of previous year
Financial assets		
Profit or loss - Fair value measurement financial assets	1,025,845,393	-
Available-for-sale financial assets	-	3,358,368,987
Measurement of amortization cost Financial assets		
Cash and cash equivalents	221,572,194,951	73,769,560,133
Short-term financial instruments	-	200,000,000,000
Trade receivables	158,800,076,125	139,950,086,915
Other receivables	8,853,390,437	6,690,081,943
Sub total	389,225,661,513	420,409,728,991
Total	390,251,506,906	423,768,097,978
Financial liabilities		
Other financial liabilities		
Trade liabilities	114,566,792,039	97,214,262,012
Other liabilities(*)	10,020,631,448	14,795,034,031
Total	124,587,423,487	112,009,296,043

(*) Employee-related liabilities not included in financial liabilities are excluded.

(2) Financial revenues and financial costs by category

① Details of financial incomes and financing costs recognized in the current profit or loss in the current and previous year are as follows;

(Unit: KRW)				
Division	Interest income		Other income (*)	
	Current year	Previous year	Current year	Previous year
Measurement of amortization cost Financial assets	4,081,383,020	3,743,360,499	(459,743,814)	926,511,450
Current profit or loss - loss on evaluation measured at fair values	-	-	(643,523,594)	-
Total	4,081,383,020	3,743,360,499	(1,103,267,408)	926,511,450

(*) Other profits and losses are composed of foreign exchange conversion profits and losses, foreign exchange gains and losses, and current profits and losses - loss on valuation of financial assets measured at fair values

② Details of financial incomes and financing costs recognized in other comprehensive profit or loss in the current and previous year are as follows;

(Unit: KRW)		
Division	Evaluated profit or loss	
	Current year	Previous year
Other comprehensive profit or loss - financial assets measured at fair value	(380,807,731)	-
Available-for-sale financial assets	-	231,068,925

6. Financial risk management

The consolidated entity is exposed to credit risks, liquidity risks and market risks as far as the financial products are concerned. These notes disclose the information on the risks to which the company is exposed, as well as the goals, policies, the procedure for evaluating and managing the risks, and management of capital set by the company. Further quantifiable information is disclosed throughout these financial statements.

(1) Credit risks

Credit risks are the risks of suffering financial losses due to the default of contractual obligations by the customer or the other party in an agreement for a financial product. This kind of risk is mainly related to the account receivables and investment assets.

① Exposure to credit risks

The book value of a financial asset means the maximum level of exposure to credit risks. The maximum level of exposure to credit risks at the end of current year and previous year for the consolidated entity is shown below;

(Unit: KRW)		
Division	End of current year	End of previous year

Cash and cashable assets	221,572,194,951	73,769,560,133
Short-term financial instruments	-	200,000,000,000
Trade receivables	158,800,076,125	139,950,086,915
Other receivables	8,853,390,437	6,690,081,943
Available-for-sale financial assets (debt securities)	-	2,758,368,987
Profit or loss - Fair value measurement Financial assets	1,025,845,393	-
Total	390,251,506,906	423,168,097,978

② Impairment loss

The consolidated entity has established allowances for the possible losses from its accounts receivable. The allowance for the group of financial assets is set based on the past data on the recollection of similar financial assets.

Account receivables are indicated in the financial statement with the allowance for losses deducted. In this regard, the details on the allowance for losses related to the accounts receivables, as well as the accounts receivable in their entire amount before reduction at the end of current year and previous year are as follows:

(Unit: KRW)		
Division	End of current year	End of previous year
Account receivables	158,800,076,125	139,950,086,915
Allowance for bad debts:	-	-
Net book value of account receivables	158,800,076,125	139,950,086,915

The age of receivables and impaired amounts for each age at the end of current year and previous year are as follows:

(Unit: KRW)						
Division	End of current year			End of previous year		
	Total credits	Impaired amount	Book value	Total credits	Impaired amount	Book value
Within the maturity date	155,966,260,967	-	155,966,260,967	138,307,918,335	-	138,307,918,335
Maturity date ~ 3 months	2,337,833,843	-	2,337,833,843	1,624,452,580	-	1,624,452,580
3 ~ 6 months	413,348,156	-	413,348,156	-	-	-

More than 6 months	82,633,159	-	82,633,159	17,716,000	-	17,716,000
Total	158,800,076,125	-	158,800,076,125	139,950,086,915	-	139,950,086,915

There is no change to bad debt allowances for trade receivables in the current and previous year.

(2) Liquidity risks

The liquidity risks refer to the risks involved in difficulties on fulfilling the financial liabilities to be repaid by transfer of cash or other financial assets of the consolidated entity. The method of management of liquidity for the consolidated entity focuses on maintaining sufficient liquidity in order to repay the debts within the due date without damaging the reputation of the company or suffering excessive losses even during financial hardships.

The consolidated entity is managing the liquidity risks by maintaining cash, cashable assets, and short-term financial products to the satisfaction of any liquidity risk.

① Contractual maturities of financial liabilities held by the company at the end of current year are as follows; The amounts did not include the effect of the offsetting arrangements.

(Unit: KRW)

Division	Book value	Cash flow per contract	Less than a year	1 year to less than 5 years
Account payable	114,566,792,039	114,566,792,039	114,566,792,039	-
Other payables(*)	10,020,631,448	10,020,631,448	10,020,631,448	-
Total	124,587,423,487	124,587,423,487	124,587,423,487	-

(*) Employee-related liabilities not included in financial liabilities are excluded.

② Contractual maturities of financial liabilities held by the company at the end of current year are as follows; The amounts did not include the effect of the offsetting arrangements.

(Unit: KRW)

Division	Book value	Cash flow per contract	Less than a year	1 year to less than 5 years
Account payable	97,214,262,012	97,214,262,012	97,214,262,012	-
Other payables(*)	14,795,034,031	14,795,034,031	14,795,034,031	15,000,000
Total	112,009,296,043	112,009,296,043	112,009,296,043	15,000,000

(*) Employee-related liabilities not included in financial liabilities are excluded.

(3) Market risks

Market risks mean the risks of changes in future cash flows or fair values of financial products due to changes in market prices.

① Exchange rate risk

The consolidated entity is exposed to the exchange rate risk related to the sales profits and costs indicated in KRW, which is the functioning currency. The major presentation currency for these transactions is USD.

A) Exposure to exchange rate risks

The book values of the cash assets and liabilities presented in foreign currency other than the functioning currency at the end of the current year and previous year are as follows:

(Unit: KRW)						
Division	End of the current year			End of previous year		
	USD	JPY	CNY	USD	JPY	CNY
Assets in foreign currency:						
Cash and cashable assets	13,102,276	-	106,159,791	1,086,625,579	1,031,446,991	152,628,880
Account receivables	11,788,273,056	-	-	14,655,432,818	214,698,439	-
Total	11,801,375,332	-	106,159,791	15,742,058,397	1,246,145,430	152,628,880
Liabilities in foreign currency:						
Trade payables	17,100,258,709	-	-	8,893,029,319	-	-
Account payables	2,919,343,995	72,948,960	389,318,631	2,851,824,150	-	254,922,110
Total	20,019,602,704	72,948,960	389,318,631	11,744,853,469	-	254,922,110

The exchange rates used for the translation of monetary assets and liabilities denominated in foreign currencies are as follows.

(Unit: KRW)		
Division	End of the current year	End of previous year
USD	1,118.10	1,071.40
JPY	10.13	9.49
CNY	162.76	163.65

B) Sensitivity analysis

If the exchange rates of the key foreign currency that compose a large part of the financial assets and liabilities of the consolidated entity at the end of the current year and previous year, the capital, incomes and losses of the consolidated entity would have changed. Such an analysis is based on the assumption of fluctuation the consolidated entity believes with rationalities at the end of current year. Also, it was assumed during the analysis of the sensitivity that other factors such as the interest rate do not change. The effect of the changes in foreign exchange rate for Korean won (before corporate tax) for the end of current year and the previous year on the losses and gains are as follows:

(Unit: KRW)				
Division	End of the current year		End of previous year	
	5% increase	5% Decrease	5% increase	5% Decrease
USD	(410,911,369)	410,911,369	199,860,246	(199,860,246)
JPY	(3,647,448)	3,647,448	62,307,272	(62,307,272)
CNY	(14,157,942)	14,157,942	(5,114,662)	5,114,662

② Interest rate risk

The company's interest-bearing assets are fixed at the fixed interest rates and the company does not treat the fixed rate financial instruments as financial instruments measured at fair value. Therefore, the profit and operating cash flows of the consolidated entity are actually independent from variations in the market interest rates.

(4) Fair values

Book values and fair values of financial assets and financial liabilities including the hierarchy system of fair values are as follow;

① End of current year

(Unit: KRW)					
Division	Book value	Level 1	Level 2	Level 3	Total
Financial assets measured with fair value					
Profit or loss - Fair value measurement Financial assets	1,025,845,393	-	-	1,025,845,393	1,025,845,393
Financial assets not measured with fair value					
Cash and cashable assets	222,527,311,948	-	-	-	-
Trade receivables	158,800,076,125	-	-	-	-
Other receivables	8,853,390,437	-	-	-	-
Total	389,225,661,513	-	-	-	-
Financial liabilities not measured with fair value					
Account payables	114,566,792,039	-	-	-	-
Other liabilities	10,020,631,448	-	-	-	-
Total	124,587,423,487	-	-	-	-

② End of previous year

(Unit: KRW)					
Division	Book value	Level 1	Level 2	Level 3	Total
Financial assets measured with fair value					
Transferrable financial assets	2,758,368,987	-	-	2,758,368,987	2,758,368,987
Financial assets not measured with fair value					
Cash and cashable assets (*1)	73,769,560,133	-	-	-	-
Short-term financial instruments(*1)	200,000,000,000				

Trade receivables (*1)	139,950,086,915	-	-	-	-
Other receivables (*1)	6,690,081,943	-	-	-	-
Transferrable financial assets (*2)	600,000,000	-	-	-	-
Total	421,009,728,991	-	-	-	-
Financial liabilities not measured with fair value					
Account payables (*1)	97,214,262,012	-	-	-	-
Other liabilities (*1)	14,795,034,031	-	-	-	-
Total	112,009,296,043	-	-	-	-

(*1) No fair value for financial assets and financial liabilities not measured with fair value is included because book values fall under the reasonable approximate values of fair values.
(*2) Measurements were done with cost in accordance with Corporate Accounting Standard No. 1039 because measurements could not be done in a reliable manner on fair values under other methods because they fall under the equity products without any announced price in the active market for the same product (i.e. input variable of Level 1).

Changes in financial assets classified as Level 3 fair value measurements during the current year are as follows:

(Unit: KRW)

Division	Beginning	Accounting policy change	Evaluation (*)	Disposition	End of year
Transferrable financial assets	2,758,368,987	(2,758,368,987)	-	-	-
Profit or loss - Fair value measurement Financial assets	-	2,758,368,987	(643,523,594)	(1,089,000,000)	1,025,845,393
Other comprehensive income - fair value measurement financial assets	-	600,000,000	(502,384,869)	(97,615,131)	-
Total	2,758,368,987	600,000,000	(1,145,908,463)	(1,186,615,131)	1,025,845,393

(*) Fair value was evaluated using methods such as transaction prices between independent third parties, etc.

(5) Capital management

The capital management of the consolidated entity aims at maintaining the existence of the company as a going concern, minimizing the cost for funding, maximizing the profits of the shareholders, and maintaining an appropriate equity structure. The consolidated entity manages the capital based on the ratio of liability, which is calculated by dividing the total liability in the financial statement with capital. The ratio of liabilities of the consolidated entity at the end of the current year and previous year are as follows:

(Unit: KRW)

Division	End of current year	End of previous year
Total liabilities	161,331,583,261	132,334,851,306

Total capital	445,917,236,191	411,511,429,386
Debt ratio	36.18%	32.16%

7. Cash and cashable assets

The status of the cash and cashable assets at the end of the current year and previous year is as follows:

(Unit: KRW)

Division	End of current year	End of previous year
Demand deposit	51,572,194,951	38,561,785,492
Time deposit (*)	170,000,000,000	35,207,774,641
Total	221,572,194,951	73,769,560,133

(*) The financial instruments have very high liquidity with the maturity of three months or less from the acquisition date, which are easily convertible into the fixed amounts and have the slight risk of fluctuation in value.

8. Short-term financial instruments

The details of short-term financial instruments as of the end of the current year and end of the previous year are as follows;

(Unit: KRW)

Division	End of current year	End of previous year
Time deposit	-	200,000,000,000

9. Trade receivables and other receivables

The status on trade and other receivables at the end of the current year and previous year is as follows;

(Unit: KRW)

Division	End of current year		End of previous year	
	Current	Non-current	Current	Non-current
Trade receivables	215,223,641,891	-	139,950,086,915	-
Account receivables	300,862,766	-	690,834,798	-
Revenues receivables	1,605,246,566	-	750,906,229	-
Loans	520,088,324	4,738,651,170	170,952,006	1,421,352,204
Security deposits	-	1,870,076,614	-	3,656,036,706
Total	217,649,839,547	6,608,727,784	141,562,779,948	5,077,388,910

10. Transferrable financial assets

(1) The status of transferrable financial assets at the end of the current year and previous year are as follows;

(Unit: KRW)

Division	End of current year	End of previous year
Current profit or loss - debt instruments measured at fair values		
LB Investment (*1)	1,025,845,393	-
Transferable financial assets		

LB Investment (*1)	-	2,758,368,987
Daedeok Investment (*2)	-	500,000,000
Daedeok Inno-Polis Venture Association (*3)	-	100,000,000
Total	1,025,845,393	3,358,368,987

(*1) 298,000 thousand won of principal amount was returned and 791,000 thousand won of profit was distributed during the current year, whereas 260,000 thousand won of principal amount was returned during the previous year.
(*2) Total evaluation losses were recognized during the current year.
(*3) All were disposed of by liquidation during the current year.

(2) Changes in the long-term investment assets in the current and previous years are as follows;

		(Unit: KRW)
Division	Current year	Previous year
Beginning	3,358,368,987	3,313,528,716
Disposition	(1,186,615,131)	(260,000,000)
Evaluated profit or loss	(1,145,908,463)	304,840,271
Ending	1,025,845,393	3,358,368,987

(*) The amount is the sum of evaluation profit or loss counted for in the current profit and loss and other comprehensive profit or loss.

11. Other assets

The details of other current assets at the end of current year and previous year are as follows;

	(Unit: KRW)			
Division	End of current year		End of previous year	
	Current	Non-current	Current	Non-current
Advanced payments	936,074,259	1,521,850,250	1,003,622,446	1,393,732,647
Advanced expenses	12,939,785,316	-	6,307,847,976	-
Long-term advance payments	6,289,332,989	-	4,926,792,780	-
Total	20,165,192,564	1,521,850,250	12,238,263,202	1,393,732,647

12. Inventory assets

(1) The details of inventory assets for the consolidated entity at the end of current year and previous year are as follows;

		(Unit: KRW)
Division	End of current year	End of previous year
Products in process	112,091,770,740	63,454,067,429
Products in process return assets	123,976,321	-
Allowance for evaluated loss on products in process	(8,124,637,257)	(2,442,793,797)

Total	104,091,109,804	61,011,273,632

(2) The return of evaluated loss recognized for inventory assets during the current year and previous year are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Cost of goods sold:		
Return of evaluated loss for inventory assets	5,681,843,460	282,894,592

13. Investment stocks in subsidiaries and affiliates

(1) The details of investment stocks in subsidiaries as of the end of the current year and end of the previous year are as follows;

(Unit: KRW)							
Name of company	Location	Major sales activities	Closing month	End of current year		End of the previous year	
				Share ratio(%)	Book value	Share ratio(%)	Book value
Silicon Works Inc	U.S.A.	R & D and design of semiconductor devices	Dec	100.00	137,322,045	100.00	137,322,045
Silicon Works China Co., Ltd(*)	China	R & D and design of semiconductor devices	Dec	100.00	2,179,314,000	100.00	674,454,000
Total					2,316,636,045		811,776,045

(*) A Chinese corporation was newly established for the purpose of expanding into the Chinese market during the previous year, and 1,504,860 thousand Korean won was additionally invested in the current year.

(2) The details of stock investments in associates as of the end of the current year and end of the previous year are as follows;

(Unit: KRW)							
Name of company	Location	Major sales activities	Closing month	End of current year		End of the previous year	
				Share ratio(%)	Book value	Share ratio(%)	Book value
Advanced power device Technology (*)	Korea	R & D and design of semiconductor devices	Mar	49.00	4,410,000,000	-	-

(*) The company invested 4,410,000,000 KRW in Advanced Power Device Technology Co., Ltd. During the current year for the purpose of product and technology development.

14. Tangible assets

(1) Details of tangible assets at the end of the current year and previous years are as follows.

① End of the current year

(Unit: KRW)

Division	Land	Building	Construct	Machinery	Fixture	Other tangible assets(*)	Total
Acquisition Cost	5,001,607,594	4,526,376,631	188,300,000	18,724,967,569	11,738,952,312	4,324,874,810	44,505,078,916
Accumulated amortization	-	(1,853,620,440)	(2,353,752)	(11,116,121,081)	(7,480,606,800)	(1,762,568,652)	(22,215,270,725)
Accumulated impairment loss	-	-	-	(564,056,013)	-	-	(564,056,013)
Government subsidy	-	-	-	(8,185,674)	(34,002)	-	(8,219,676)
Book value	5,001,607,594	2,672,756,191	185,946,248	7,036,604,801	4,258,311,510	2,562,306,158	21,717,532,502

(*) Other tangible assets include facilities, leasehold improvements and vehicles.

② End of the previous year

(Unit: KRW)

Division	Land	Building	Machinery	Fixture	Other tangible assets(*)	Total
Acquisition Cost	5,220,274,972	5,086,600,513	13,206,896,938	8,816,226,250	1,924,812,398	34,254,811,071
Accumulated amortization	-	(1,830,382,745)	(9,183,084,762)	(5,951,553,169)	(1,524,692,143)	(18,489,712,819)
Accumulated impairment loss	-	-	(564,056,013)	-	-	(564,056,013)
Government subsidy	-	-	(12,819,917)	(190,588)	-	(13,010,505)
Book value	5,220,274,972	3,256,217,768	3,446,936,246	2,864,482,493	400,120,255	15,188,031,734

(*) Other tangible assets include facilities, leasehold improvements and vehicles.

(2) Changes in the book value of tangible assets in the current and previous years are as follows;

① Current year

(Unit: KRW)

Division	Land	Building	Construct	Machinery	Fixture	Other tangible assets	Total
Book value at the beginning of current year	5,220,274,972	3,256,217,768	-	3,446,936,246	2,864,482,493	400,120,255	15,188,031,734
Weighted	-	-	188,300,000	5,509,434,523	2,947,016,062	2,855,106,628	11,499,857,213

Acquisition Amount							
Weighted Disposition in the year	(218,667,378)	(343,137,144)	-	-	(9,713,962)	(224,188,394)	(795,706,878)
Depreciation cost	-	(240,324,433)	(2,353,752)	(1,928,402,076)	(1,543,473,083)	(468,732,331)	(4,183,285,675)
Acquisition amount due to business transfer (**)	-	-	-	8,636,108	-	-	8,636,108
Book value at the end of current year	5,001,607,594	2,672,756,191	185,946,248	7,036,604,801	4,258,311,510	2,562,306,158	21,717,532,502

(*) They were acquired due to business succession during the current year. (See Note 35.)

② Previous year

(Unit: KRW)						
Division	Land	Building	Machinery	Fixture	Other tangible assets	Total
Book value at the beginning of previous year	5,319,324,106	3,639,831,603	3,201,876,035	2,693,759,422	406,420,255	15,261,211,421
Acquisition in the year	-	-	1,529,956,492	1,384,256,558	122,168,000	3,036,381,050
Disposition in the year	(99,049,134)	(129,283,856)	(5,000)	(6,182,870)	(3,000)	(234,523,860)
Depreciation cost	-	(254,329,979)	(1,284,891,281)	(1,207,350,617)	(128,465,000)	(2,875,036,877)
Book value at the end of previous quarter	5,220,274,972	3,256,217,768	3,446,936,246	2,864,482,493	400,120,255	15,188,031,734

15. Intangible assets

(1) The details of intangible assets as of the end of the current year and end of the previous year are as follows;

① End of the current year

(Unit: KRW)							
Division	Goodwill	Industrial property rights	Software	Membership	Other intangible assets(*)	Intangible assets under construction	Total
Acquisition Cost	27,913,122,677	2,260,503,591	8,460,191,622	2,406,879,490	34,703,000,000	2,432,026,408	78,175,723,788
Accumulated amortization	-	(843,000,828)	(4,603,858,101)	-	(15,484,999,994)	-	(20,931,858,923)

Accumulated impairment loss	-	-	-	(337,876,490)	-	-	(337,876,490)
Government subsidy	-	-	(10,929,374)	-	-	-	(10,929,374)
Book value	27,913,122,677	1,417,502,763	3,845,404,147	2,069,003,000	19,218,000,006	2,432,026,408	56,895,059,001

(*) Other intangible assets consist of intangible assets related to customer relationships arising from business succession, technological capabilities, etc.

② End of the previous year

(Unit: KRW)

Division	Goodwill	Industrial property rights	Software	Membership	Other intangible assets(*)	Intangible assets under construction	Total
Acquisition Cost	27,913,122,677	2,260,503,591	8,460,191,622	2,406,879,490	34,703,000,000	2,432,026,408	78,175,723,788
Accumulated amortization	-	(843,000,828)	(4,603,858,101)	-	(15,484,999,994)	-	(20,931,858,923)
Accumulated impairment loss	-	-	-	(337,876,490)	-	-	(337,876,490)
Government subsidy	-	-	(10,929,374)	-	-	-	(10,929,374)
Book value	27,913,122,677	1,417,502,763	3,845,404,147	2,069,003,000	19,218,000,006	2,432,026,408	56,895,059,001

(*) Other intangible assets consist of intangible assets related to customer relationships arising from business succession, technological capabilities, etc.

(2) The changes to the book values of intangible assets in the current and previous year are as follows;

① Current year

(Unit: KRW)

Division	Goodwill	Industrial property rights	Software	Membership	Other intangible assets(*)	Intangible assets under construction	Total
Beginning book value	9,044,018,628	1,298,212,020	1,329,137,152	1,693,653,000	2,250,000,040	2,100,643,000	17,715,663,840
Acquisition in the year	-	331,494,891	1,527,263,160	613,350,000	-	2,432,026,408	4,904,134,459
Disposition in the year	-	-	-	(238,000,000)	-	-	(238,000,000)
Depreciations for intangible assets	-	(212,204,148)	(1,111,639,165)	-	(2,952,000,034)	-	(4,275,843,347)
Acquisition amount due to business transfer (*)	18,869,104,049	-	-	-	19,920,000,000	-	38,789,104,049
Transfer to the main account	-	-	2,100,643,000	-	-	(2,100,643,000)	-

Book values at the end of current year	27,913,122,677	1,417,502,763	3,845,404,147	2,069,003,000	19,218,000,006	2,432,026,408	56,895,059,001

(*) Acquired due to business transfer during the current year (See Note 35).

② Previous year

(Unit: KRW)

Division	Goodwill	Industrial property rights	Software	Membership	Other intangible assets(*)	Intangible assets under construction	Total
Beginning book value	9,044,018,628	1,192,742,040	1,835,313,886	1,401,677,000	3,662,750,024	-	17,136,501,578
Weighted Acquisition Amount	-	301,918,062	425,067,159	308,019,690	-	2,100,643,000	3,135,647,911
Disposition in the year	-	(7,899,424)	-	-	-	-	(7,899,424)
Amortization of intangible assets	-	(188,548,658)	(931,243,893)	-	(1,412,749,984)	-	(2,532,542,535)
Impairment loss	-	-	-	(16,043,690)	-	-	(16,043,690)
Ending book value	9,044,018,628	1,298,212,020	1,329,137,152	1,693,653,000	2,250,000,040	2,100,643,000	17,715,663,840

(3) Intangible assets subject to indefinite useful life

The company classifies goodwill and membership out of the intangible assets into intangible assets with indefinite durable years, and we do not depreciate them while reviewing whether they are impaired or not every year. The collectible value of goodwill was calculated by discounting the projected cash flows based on the financial budget for the coming 5 years with the company's weighted average cost of capital. Cash flows expected to accrue over a period of five years are estimated assuming an annual growth rate of 0%. No impairment amount was recognized for goodwill in both the current and previous years. On the other hand, there was no impairment loss recognized for membership in the current year, and the impairment loss of 16,044 thousand won was recognized in the previous year.

16. Government subsidies

The consolidated entity entered into a joint research and development agreement with the coordinating company for the new technology development under a national initiative. The consolidated entity spent the government subsidy provided under the above-mentioned program for purchase of various tangible and intangible assets, while recognizing the transactions as Decreasing in the relevant subsidy asset entry

Government project	Coordinating company
Digital holographic table top terminal technology development	ETRI

17. Payables and other liabilities

The details of payables and other liabilities at the end of the current year and previous year are as follows;

(Unit: KRW)

Division	End of the current year	End of previous year	
	Current	Current	Non-current
Trade payables	114,566,792,039	97,214,262,012	-
Accounts Payable	16,625,138,098	18,050,755,333	-
Unpaid expense	3,826,637,576	5,483,629,938	-
Lease guarantee deposit	-	-	15,000,000
Total	135,018,567,713	120,748,647,283	15,000,000

18. Other liabilities

(1). The details of other non-current liabilities at the end of the current year and previous year are as follows;

				(Unit: KRW)
Division	End of the current year		End of previous year	
	Current	Non-current	Current	Non-current
Advances	5,400,675,881	-	66,240,000	-
Withholdings	778,058,278	-	625,902,748	-
Other allowance liabilities	3,941,853,811	-	4,063,333,282	-
Long-term employee salary liabilities	-	825,632,368	-	583,749,811
Recovery allowance liabilities	-	498,300,000	-	126,160,400
Total	10,120,587,970	1,323,932,368	4,755,476,030	709,910,211

(2) Changes to allowance liabilities in the current year are as follows;

					(Unit: KRW)
Division	Beginning	Established	Returned	Used	Ending
Provision for sales warrant	4,063,333,282	1,729,708,478	(1,482,954,785)	(531,232,276)	3,778,854,699
Return provision	-	201,225,885	(38,226,773)	-	162,999,112
Recovery allowance liabilities	126,160,400	498,300,000	(28,460,400)	(97,700,000)	498,300,000
Total	4,189,493,682	2,429,234,363	(1,549,641,958)	(628,932,276)	4,440,153,811

The company recognizes warranty expense in the provision for product warranties as expected to be borne by the company related to sales guarantee for the products, and recognizes the corresponding transferred amount in selling and administrative expenses. On the other hand, the company recognizes the amount corresponding to the portion of revenue to be canceled at the time of product return as allowance liability for return and deduction to sales in accordance with the Korea Financial Accounting Standards No. 1115. In addition, we establish allowance liabilities for the lease assets with restoration obligations and use them when actual restoration-related expenses are incurred.

19. Capital and capital surplus

(1) The details of capital at the end of the current year and previous year are as follows;

(Unit: Share, KRW)		
Division	End of current year	End of previous year
Number of authorized shares	50,000,000 shares	50,000,000 shares
price per share	500	500
Total number of issued shares	16,264,300 shares	16,264,300 shares
Capital	8,132,150,000	8,132,150,000

(2) There are no changes in the number of shares outstanding (16,264,300 shares) in the current year and previous year.

(3) The composition of capital surplus at the end of the current year and end of previous year is as follows;

(Unit: KRW)		
Division	End of the current year	End of previous year
Premium on capital stocks	66,560,617,129	66,560,617,129
Other Capital Surplus	9,782,553,371	9,782,553,371
Total	76,343,170,500	76,343,170,500

20. Other capital items

The composition of the other capital items at the end of the current year and previous year are as follows:

(Unit: KRW)		
Division	End of the current year	End of previous year
Other comprehensive profit and loss - profit and loss on valuation of financial assets measured at fair values	(380,807,731)	-
Gain on valuation of available-for-sale financial assets	-	1,705,779,692
Total	(380,807,731)	1,705,779,692

21. Retained earnings

(1) The details of retained earnings at the end of the current year and previous year are as follows;

(Unit: KRW)		
Division	End of the current year	End of previous year
Statutory reserves	4,066,075,000	4,066,075,000
Unappropriated retained earnings	357,756,648,422	321,264,254,194
Total	357,756,648,422	325,330,329,194

(2) The details of unappropriated retained earnings for the current year and previous year are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Beginning	321,264,254,194	290,499,416,597
Dividend	(11,385,010,000)	(14,637,870,000)
Adjustments for first application of K-IFRS 1109	1,705,779,692	-
Adjustments for first application of K-IFRS 1115	(1,576,974,791)	-
Current net income	48,931,368,271	46,457,533,652
Re-measurement elements of defined benefit plans	(1,182,768,944)	(1,054,826,055)
Ending	357,756,648,422	321,264,254,194

(3) Statements of appropriations of retained earnings for the current and previous years are as follows;

(Unit: KRW)				
Division	Current year		Previous year	
	Expected date of disposition: March 15, 2019		Confirmed date of disposition: 3/16/2018	
I. Unappropriated retained earning		357,756,648,422		321,264,254,194
Unappropriated retained earning carried over from previous year	309,879,244,194		275,861,546,597	
Adjustments for first application of K-IFRS 1109	1,705,779,692		-	
Adjustments for first application of K-IFRS 1115	(1,576,974,791)		-	
Current net income	48,931,368,271		46,457,533,652	
Re-measurement elements of defined benefit plans	(1,182,768,944)		(1,054,826,055)	
II. Appropriations of retained earnings		(13,499,369,000)		(11,385,010,000)
Dividends (Note 23)	(13,499,369,000)		(11,385,010,000)	
III. Unappropriated retained earnings carried over to subsequent year (I - II)		344,257,279,422		309,879,244,194

22. Dividend

Details of dividends in the current and previous year are as follows;

(Unit: KRW)		
Division	Current year(*)	Previous year
Number of stocks for dividends	16,264,300 shares	16,264,300 shares

Face value per stock	500	500
Dividend ratio of face value	166.00%	140.00%
Dividend per share	830	700
Dividend	13,499,369,000	11,385,010,000

(*) It will be presented as an agenda for the general shareholders' meeting expected on 3/15/2019.

23. Earnings per share

(1) Basic earnings per share

① The calculated amounts of earnings per share in the current year and previous year are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Consolidated net income in the quarter	48,931,368,271	46,457,533,652
Number of weighted average outstanding common stocks	16,264,300 shares	16,264,300 shares
Earnings per share for common stocks	3,010	2,894

② Details of calculations on the number of weighted average outstanding common stocks for the current year

Division	No. of issued shares (1)	No. of Treasury shares (2)	No. of outstanding common shares (1-2)	Weight	Number of weighted average outstanding common stocks
Beginning	16,264,300 shares	-	16,264,300 shares	365days/365days	16,264,300 shares
Total				365days/365days	16,264,300 shares

③ Details of calculations on the number of weighted average outstanding common stocks for the previous year

Division	No. of issued shares (1)	No. of Treasury shares (2)	No. of outstanding common shares (1-2)	Weight	Number of weighted average outstanding common stocks
Beginning	16,264,300 shares	-	16,264,300 shares	365days/365days	16,264,300 shares

Total	365days/365days	16,264,300 shares

(2) Diluted earnings per share

The consolidated entity does not have any diluted stocks in the current year and previous year. Accordingly, the diluted earnings per share is the same as the basic earnings per share.

24. Financial revenues and expenses

(1) The details of financial revenues in the current year and previous year are as follows:

		(Unit: KRW)
Division	Current year	Previous year
Interest income	4,081,383,020	3,743,360,499
Gains on foreign currency transaction (financial)	9,754,524	-
Profit from foreign currency conversion (financial)	116,112	390,621
Total	4,091,253,656	3,743,751,120

(2) The details of financial expenses in the current year and previous year are as follows;

		(Unit: KRW)
Division	Current year	Previous year
Loss from foreign exchange rate (financial)	-	62,250
Loss from foreign currency conversion (financial)	1,237,468	70,316,403
Current profit or loss - loss on valuation of financial assets measured at fair values	643,523,594	-
Total	644,761,062	70,378,653

25. Other non-operating revenues and expenses

(1) The details of other non-operating revenues in the current year and previous year are as follows:

		(Unit: KRW)
Division	Current year	Previous year

Profit from foreign exchange rate (non-financial)	1,279,801,685	2,092,581,312
Profit from foreign currency conversion (non-financial)	141,813,204	228,244,543
Gains on disposition of tangible assets	402,479,457	91,159,335
Gains on disposition of intangible assets	15,000,000	-
Other profit	349,000,121	98,606,931
Total	2,188,094,467	2,510,592,121

(2) The details of other non-operating expenses in the current year and previous year are as follows:

(Unit: KRW)

Division	Current year	Previous year
Loss from foreign exchange rate (non-financial)	1,780,372,655	877,511,259
Loss from foreign currency conversion (non-financial)	109,619,216	446,815,114
Loss from disposition of tangible assets	261,786,335	25,683,195
Loss from disposition of intangible assets	21,454,545	7,899,424
Impairment loss of intangible assets	-	16,043,690
Donation	1,000,000	1,000,000
Other loss	65,312,923	1,969,434,945
Total	2,239,545,674	3,344,387,627

26. Operating income

Major items and amounts included in calculating operating incomes in the current year and previous year are as follows;

(Unit: KRW)

Division	Current year	Previous year
Sales	791,817,912,209	692,756,755,514
Sales due to sales of goods	779,370,683,842	678,930,908,867
Other sales	12,447,228,367	13,825,846,647
Cost of sales	598,160,376,164	540,353,985,480
Cost of goods sold	593,177,080,211	512,689,142,867
Other cost of sales	4,983,295,953	27,664,842,613

Selling and administrative expenses	137,971,489,233	107,689,056,343
Salary and bonuses	20,990,370,265	11,416,135,865
Retirement benefits	2,235,999,785	855,039,958
Employee benefits	5,175,239,128	2,268,174,611
Travel expenses	1,539,750,891	1,714,700,949
Rental payables	4,086,428,117	2,315,767,484
Service fees	11,610,009,582	5,974,980,142
Depreciation expenses	2,106,481,746	830,737,013
Depreciation of intangible assets	780,321,137	120,706,258
Product loss guarantee cost	246,753,693	842,523,637
R & D expenses	85,708,859,112	79,214,210,936
Others	3,491,275,777	2,136,079,490
Operating profit	55,686,046,812	44,713,713,691

27. Selling and administrative expenses

Details of selling and administrative expenses in the current and previous year are as follows;

		(Unit: KRW)
Division	Current year	Previous year
Salary	15,103,560,467	9,984,585,804
Bonus	5,886,809,798	1,431,550,061
Retirement benefit	2,235,999,785	855,039,958
Welfare and benefits	5,175,239,128	2,268,174,611
Travel and transportation expenses	1,539,750,891	1,714,700,949
Communication	242,593,474	134,451,988
Consumables	149,334,761	148,537,698
Taxes and duties	469,264,469	595,975,509
Rental payables	4,086,428,117	2,315,767,484
Service fees	11,610,009,582	5,974,980,142
Depreciation expense	2,106,481,746	830,737,013
Repair	134,384,093	47,031,728
Insurance premium	162,467,585	110,291,990
Entertainment fee	457,048,888	410,563,304
Advertising expenses	17,400,000	70,320,090
Conference expenses	11,517,881	10,086,633

Books & printing	6,374,595	5,121,539
Freight expenses	80,414,626	33,551,055
Sample expenses	945,870,389	-
Education and training	499,653,278	184,991,687
Vehicle management fee	87,047,252	133,466,686
Water and heating expenses	227,904,486	251,689,583
Guarantee of product loss	246,753,693	842,523,637
Ordinary research and development expenditures	85,708,859,112	79,214,210,936
Depreciations of intangible assets	780,321,137	120,706,258
Total	137,971,489,233	107,689,056,343

29. Disclosure of expense per characteristics

Details of disclosure on expense per characteristics in the current and previous year are as follows;

		(Unit: KRW)
Division	Current year	Previous year
Change of inventory assets	(43,079,836,172)	(2,725,979,441)
Expense of employees	78,218,391,089	67,479,174,556
Depreciation and intangible asset amortization	8,459,129,022	5,407,579,412
Outsourcing contract cost	620,670,816,474	506,771,198,992
Process costs	12,907,278,751	6,941,694,049
Research and development expenditure	36,054,190,423	49,287,347,250
Rental payables	4,086,428,117	2,315,767,484
Service fees	12,653,304,582	7,342,219,443
Freight expenses	1,867,700,861	1,154,848,499
Travel and transportation expenses	2,929,799,955	2,881,027,970
Guarantee of product loss	246,753,693	842,523,637
Sample expenses	945,870,389	-
Others	172,038,213	345,639,972
Total (*)	736,131,865,397	648,043,041,823

(*) The amount is the sum of cost of goods sold and selling and administrative expenses in the consolidated income statement.

29. Employee salaries

The consolidated entity is paying their retiring employees with the predetermined amount of severance payment in lump sum, based on the level of salaries and the years in service, and this is classified as defined salary system. Such severance payment amount can be withdrawn before the resignation of the employee as interim settlement, for which several legal requirements apply. The required years in service for such a settlement again after an interim settlement are set anew.

(1) The details of the defined salary liabilities at the end of the current year and previous year are as follows:

		(Unit: KRW)
Division	End of the current year	End of previous year
Present value of defined salary liabilities	32,571,648,690	25,999,037,468
Fair value of assets deposited outside of the company	(28,174,546,825)	(24,015,684,437)
Defined salary liabilities (assets)	4,397,101,865	1,983,353,031

(2) Major assumptions used for actuarial evaluation at the end of the current and previous year are as follows;

Division	End of the current year	End of previous year
Future wage increase rate	5.52%	5.36%
Discount rate	2.60%	3.10%

The discount rate was calculated based on the yield of corporate bonds similar to the expected payment period for the defined salary liability as well as the credit ranking of the company at the end of current year, and the future wage increase rate was calculated in consideration of the wage increase rate in response to price index increase and wage agreement as well as the empirical pay grade index of the company.

(3) Changes in the present value of defined salary liabilities during current year and the previous year are as follows;

		(Unit: KRW)
Division	Current year	Previous year
Beginning balance of defined salary liabilities	25,999,037,468	20,190,982,385
Service cost of the current year	5,140,809,654	4,143,562,051
Past service cost	461,529,333	-
Interest cost	814,250,062	524,013,282
Re-measurement elements (before corporate income tax)		
Demographic assumption	(73,921,524)	533,333,399
Financial assumption	1,814,406,998	(454,983,444)
Empirical adjustments	(448,733,142)	1,170,766,386
Transfer between affiliates	1,286,677,491	1,847,196,839
Retirement benefit payment	(2,422,407,650)	(1,955,833,430)
Ending balance of defined benefit liabilities	32,571,648,690	25,999,037,468

(4) The changes in the fair values of the assets deposited outside of the company in the current year and previous year are as follows;

		(Unit: KRW)
Division	Current year	Previous year

Beginning balance of externally reserved assets	24,015,684,437	15,729,358,445
Payment of externally reserved assets	6,000,000,000	10,000,000,000
Interest revenues	628,544,659	384,634,183
Re-measurement elements of externally reserved assets (before corporate income tax)	(268,628,861)	(142,474,761)
Retirement benefit payments from externally reserved assets	(2,201,053,410)	(1,955,833,430)
Ending balance of externally reserved assets	28,174,546,825	24,015,684,437

The reasonable estimate of employer contributions expected to be paid in 2019 with regard to defined benefit plans is 6,613,626 thousand won.

(5) The expenses recognized in the current profit or loss regarding the defined benefit plans in the current and previous years are as follows;

		(Unit: KRW)
Division	Current year	Previous year
Current working cost	5,140,809,654	4,143,562,051
Past service cost	461,529,333	-
Net interest cost	185,705,403	139,379,099
Total	5,788,044,390	4,282,941,150

(6) The composition of externally reserved assets for the end of current year and the end of the previous year are as follows;

		(Unit: KRW)
Division	End of current year	End of the previous year
Short-term financial products, etc.	28,174,546,825	24,015,684,437

(7) Sensitivity analysis

If the significant actuarial assumptions vary within a reasonable range at the end of current year, the effects on the defined benefit liabilities are as follows;

		(Unit: KRW)
Division	Increase	Decrease
Discount rate (1% change)	(2,968,040,577)	3,488,950,752
Future salary increase rate (1% change)	3,358,807,981	(2,924,774,441)

Sensitivity analysis does not take into account the variance of all cash flows expected to arise from the system, but it provides an approximation of the sensitivity to the assumptions used.

The weighted average durations of defined benefit liabilities at the end of current and previous years are 10.2 years and 10.1 years, respectively.

② Re-measurement elements in the defined benefit plans recognized in other comprehensive profit or loss in the current and previous year are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Beginning balance of cumulative re-measurement elements	5,280,095,450	4,225,269,395
Change in the current year	1,560,381,193	1,391,591,102
Effect of corporate income tax for change in the current year	(377,612,249)	(336,765,047)
Ending balance of cumulative re-measurement elements	6,462,864,394	5,280,095,450

30. Corporate tax expenses

(1) The components of corporate tax expenses in the current and previous years are as follows.

(Unit: KRW)		
Division	Current year	Previous year
Current corporate income tax	13,571,727,350	8,212,691,970
Adjustments recognized in the current year for current corporate tax in the past periods	(1,790,193,329)	(8,090,041,839)
Deferred corporate tax expense due to the generation and exhaustion of temporary difference (profit)	(2,131,003,480)	710,113,168
Corporate tax expense relating to items recognized as others than current profit or loss	499,189,387	262,993,701
Corporate tax expense	10,149,719,928	1,095,757,000

(2) Deferred corporate taxes related to the items recognized as other than current profit or loss in the current and previous years are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Deferred corporate tax:		
Re-measured profit or loss	377,612,249	336,765,047
Other comprehensive profit or loss - evaluated losses of financial assets measured at fair value	121,577,138	-
Evaluated profit or loss from transferable financial assets	-	(73,771,346)
Corporate tax expense reflected directly to capital	499,189,387	262,993,701

(3) The relationship between corporate tax expenses and accounting incomes in the current and previous years are as follows.

(Unit: KRW)		
Division	Current year	Previous year
Net income before corporate tax expenses	59,081,088,199	47,553,290,652
Applicable tax rate	23.42%	23.23%
Tax burden according to applicable tax rate	13,835,623,343	11,045,896,337
Adjustments:		
Non-taxable profit	(391,785,862)	(11,042)
Non-deductible expense	137,463,255	485,862,922
Tax deduction	(1,483,555,472)	(2,313,334,711)
Current adjustments recognized in relation to corporate tax in the past periods	(1,790,193,329)	(8,090,041,839)
Taxation not reversed	149,329,288	-
Others (effect of tax rate change, etc.)	(307,161,295)	(32,614,667)
Corporate tax expense	10,149,719,928	1,095,757,000
Average effective tax rate	17.18%	2.30%

(*) Corporate tax expense in the current and previous years include the tax refund received from claims for corrections in the previous tax periods.

(4) Changes in the deferred corporate tax assets (liabilities) in the current and previous years are as follows;

① Current year

				(Unit: KRW)
Division	Beginning amount	Reflection of current profit or loss	Reflection of other comprehensive profit or loss	Ending amount
Accrued income receivable	(181,719,307)	39,701,874	-	(142,017,433)
Net defined benefit liabilities	-	(377,612,249)	377,612,249	-
Impairment loss of intangible assets	118,412,692	(36,646,581)	-	81,766,111
Loss from decline in value of inventory	591,156,099	1,345,003,848	-	1,936,159,947
Depreciation limit excess	1,322,160,821	(146,751,574)	-	1,175,409,247
Impairment loss of tangible assets	136,501,555	-	-	136,501,555
Accrued expenses	1,013,138,795	172,004,037	-	1,185,142,832
Prepaid expenses	103,282,209	(18,294,698)	-	84,987,511
Allowance liabilities	998,165,880	(30,168,588)	-	967,997,292

① Current profit or loss - Financial assets measured at fair value	(544,589,295)	347,154,710	-	(197,434,585)
Other comprehensive profit or loss - financial assets measured at fair value	-	(577,138)	121,577,138	121,000,000
Long-term employee salary liabilities	141,267,454	58,535,579	-	199,803,033
Others	51,151,997	279,464,873	-	330,616,870
Total	3,748,928,900	1,631,814,093	499,189,387	5,879,932,380

② Current year

(Unit: KRW)

Division	Beginning amount	Reflection of current profit or loss	Reflection of other comprehensive profit or loss	Ending amount
Accrued income receivable	(149,821,249)	(31,898,058)	-	(181,719,307)
Net defined benefit liabilities	-	(336,765,047)	336,765,047	-
Impairment loss of intangible assets	114,530,119	3,882,573	-	118,412,692
Loss from decline in value of inventory	522,695,608	68,460,491	-	591,156,099
Depreciation limit excess	2,179,026,560	(856,865,739)	-	1,322,160,821
Impairment loss of tangible assets	136,501,555	-	-	136,501,555
Accrued expenses	664,891,274	348,247,521	-	1,013,138,795
Prepaid expenses	125,180,337	(21,898,128)	-	103,282,209
Allowance liabilities	1,177,890,668	(179,724,788)	-	998,165,880
Transferable financial assets	(470,817,949)	-	(73,771,346)	(544,589,295)
Long-term employee payroll	96,234,307	45,033,147	-	141,267,454
Others	62,730,838	(11,578,841)	-	51,151,997
Total	4,459,042,068	(973,106,869)	262,993,701	3,748,928,900

(5) Temporary difference amounts of the items not recognized as deferred corporate tax assets at the end of the current and previous year are as follows;

(Unit: KRW)

Related assets	End of current year	End of previous year
Share of investment to subsidiaries	418,177,955	418,177,955

With regard to the investment equity in subsidiaries at the end of current year, the consolidated entity believes that it is unlikely that the temporary differences will disappear in the foreseeable future.

31. Cash flow statement

(1) The details on the reconciliation of the incomes and expenses for the sales activities for the current year and previous year are as follows

(Unit: KRW)		
Division	Current year	Previous year
Corporate tax expense	10,149,719,928	1,095,757,000
Depreciation Cost	4,183,285,675	2,875,036,877
Guarantee of product loss	246,753,693	842,523,637
Long-term employee benefits	265,993,117	218,289,387
Retirement benefits	261,786,335	25,683,195
Losses on foreign exchange conversion	21,454,545	7,899,424
Loss on disposition of tangible assets	4,275,843,347	2,532,542,535
Loss on disposition of intangible assets	-	16,043,690
Impairment loss of intangible assets	5,788,044,390	4,282,941,150
Current profit or loss - evaluated losses of financial assets measured at fair value	110,856,684	517,131,517
Gain on disposal of tangible assets	643,523,594	-
Gains on disposition of intangible assets	(402,479,457)	(91,159,335)
Gains on foreign exchange translation	(15,000,000)	-
Interest revenues	(4,081,383,020)	(3,743,360,499)
Equity-method gains	(141,929,316)	(228,635,164)
Reversal of restoration allowance liabilities	(28,460,400)	-
Total	21,278,009,115	8,350,693,414

(2) The details on the changes in assets and liabilities due to sales activities for the current year and previous year are as follows;

(Unit: KRW)		
Division	Current year	Previous year
Decrease (Increase) of trade receivables	(11,029,536,243)	(29,523,468,012)
Decrease (Increase) of other receivables	(360,652,249)	(665,276,203)
Decrease (Increase) of other current assets	(5,550,700,953)	(4,561,308,249)
Decrease (increase) of inventory assets	123,532,106	4,000,000
Decrease of other non-current assets(increase)	(40,571,370,922)	(2,725,979,441)
Increase (Decrease) of trade payables	14,849,984,749	27,050,721,851
Increase (decrease) of other current liabilities	713,087,372	(1,604,767,258)
Increase (decrease) of other liabilities	(2,693,934,294)	5,846,929,438
Increase (decrease) of other non-current liabilities	(24,110,560)	(32,202,000)
Increase (decrease) of net defined benefit liabilities	(4,934,676,749)	(8,152,803,161)
Total	(49,478,377,743)	(14,364,153,035)

(3) The company prepared cash flow from business activities in the cash flow statement under the indirect method, and significant transactions without cash inflow or outflow are as follows.

(Unit: KRW)

Division	Current year	Previous year
Accrued expenses relating to acquisition of tangible assets	108,850,000	146,236,364
Accrued expenses relating to acquisition of intangible assets	647,491,147	1,008,411,000
Substitution of advance payments into intangible assets	331,494,891	301,918,062
Increase of tangible assets due to restoration obligation	498,300,000	-

32. Deposit with limited use

The details of financial products whose use is limited at the end of end of current year are as follows;

(Unit: KRW)

Division	Amount	Details of limit to use
Cash and cashable assets	570,304,031	Government subsidies

33. Insured assets

(2) Details of insured assets by the company at the end of current year are as follows;

(Unit: KRW)

Type of insurance	Assets	Book value	Insured amount	Insurance company name
Gas accident liability insurance	Buildings and structures	2,858,702,439	580,000,000	KB Insurance
Fire insurance			6,000,000,000	
	Machinery	7,036,604,801	2,590,000,000	
	Furnishings	4,258,311,510	500,000,000	
	Other tangible assets	2,562,306,158	2,590,000,000	
Total		16,715,924,908	12,260,000,000	

Other than the above insurances, the company has purchased industrial disaster insurance for employees and fire indemnification liability insurances.

34. Special interest parties

(1) The details of the company's specially interested parties at the end of previous and current years are as follows;

Type of special interest	End of current year	End of previous year
Subsidiaries	Silicon Works Inc.	Silicon Works Inc.
	Silicon Works China Co,. Ltd	Silicon Works China Co,. Ltd
Affiliates	Advanced Power Device	-

	Technology Co., LTD	
Companies that exercise substantial influences on the consolidated entity	LG Corp.	LG Corp.
Etc	Affiliates of LG Corp.	Affiliates of LG Corp.
	Large Business Group Affiliated Company (*)	Large Business Group Affiliated Company (*)

(*) Not included in scope of related party pursuant to K-IFRS 1024 'Disclosure of related parties', but it belongs to the same large corporate group under the monopolistic regulation and fair trade law.

(2) The transactional details with special interest parties in the current year and previous year are as follows;

(Unit: KRW)

Division of parties with special interest	Name of parties with special interest	Transaction details	Current year	Previous year
Subsidiary	Silicon Works Inc.	Sales	1,070,819	91,811,959
		Operating expenses	1,649,757,653	1,211,940,000
	Silicon Works China Co., Ltd.	Operating expenses	2,938,977,348	1,263,240,000
Affiliated companies	Advanced Power Device Technology Co., Ltd.	Acquisition of tangible or intangible assets	1,441,626,408	-
Other subsidiaries of LG Co., Ltd.	Lusem Co., Ltd. (*)	Sales	132,993,637	420,973,605
		Operating expenses	15,467,193,707	106,546,733,901
	LG CNS Co., Ltd.	Operating expenses	1,805,823,525	1,071,585,415
		Acquisition of tangible or intangible assets	5,852,467,460	1,659,745,000
	S&I Co., Ltd.	Sales	15,013,650	19,609,704
		Acquisition of tangible or intangible assets	13,012,410	-
		Operating expenses	773,973,668	72,264,826
	Serveone Co., Ltd.	Sales	3,762,000	-
		Operating expenses	4,641,178	-
	LG Management Development Institute Inhwawon Co., Ltd.	Operating expenses	285,072,410	71,554,500
Other corporations belonging to the large conglomerate group	LG Electronics USA Inc.	Sales	2,896,894,269	2,400,841,534
	LG International japan Ltd.	Sales	673,007,302	922,607,902
	LG Display Co., Ltd.	Sales	713,092,604,922	624,126,737,132
	LG Chem Co., Ltd.	Sales	-	449,128,810
	LG Electronics Co., Ltd.	Sales	7,672,944,411	9,932,886,044
		Operating expenses	4,773,689,093	5,088,346,981
		Business transfer	46,129,996,611	-
	LG Innotek Co., Ltd.	Operating expenses	21,754,169,913	10,623,276,490
	LG Innotek Co., Ltd. Indonesia	Sales	-	2,840,240
	LG U-plus	Sales	3,200,000	3,640,000

		Operating expenses	111,774,376	87,066,334
	LG NSYS Co., Ltd.	Operating expenses	-	3,779,000
	Pantos Co., Ltd.	Operating expenses	1,246,992,732	626,544,807
	Hi-M Solutech Co., Ltd.	Operating expenses	-	913,182
	HS Ad Co., Ltd.	Operating expenses	9,900,000	-

(*) It is excluded from related parties. LG sold all shares of Lusem Co., Ltd. during the current year, and the transaction details after it is excluded from the scope of related parties are not included.

(3) The details of receivables and payables to related parties as of the end of the end of current year and end of the current year말 are as follows;

(Unit: KRW)

Type of special relationship	Name of the party	End of current quarter		End of the previous year	
		Trade receivables	Trade payables and other payables	Trade receivables	Trade payables and other payables
Subsidiaries	Silicon Works Inc.	-	161,486,378	-	96,426,000
	Silicon Works China Co., Ltd.	-	389,164,009	-	245,475,000
Affiliates	Advanced Power Device Technology Co., Ltd	-	220,821,862	-	-
Other Subsidiaries of LG Corp.	Lusem Co., Ltd. (*)	-	-	101,571,313	20,006,255,832
	LG CNS Co., Ltd.	-	824,550,265	-	449,299,457
	LG Management Development Institute Co., Ltd.	-	161,700	-	-
	S&I Co., Ltd.	300,000,000	80,628,193	304,434,204	9,041,480
	Serveone Co., Ltd.	3,762,000	5,105,296	-	-
Other corporations belonging to the large conglomerate group	LG Electronics USA Inc.	430,692,120	-	95,461,740	-
	LG International japan Ltd	-	-	214,698,440	-
	LG Display Co., Ltd.	140,694,084,067	-	120,031,080,096	-
	LG Electronics Co., Ltd.	2,328,583,856	362,298,327	2,934,441,593	2,489,197,156
	LG U-plus	3,520,000	-	-	-
	LG Innotek Co., Ltd.	-	2,946,258,263	-	3,822,924,292
	LG Innotek Co., Ltd. Indonesia	-	-	2,785,640	-
	LG Nsys Co., Ltd.	-	-	-	121,000
	Pantos Co., Ltd.	-	247,890,554	-	159,257,215

(*) As all shares of Lusem Co., Ltd. held by LG Co., Ltd. were sold during the current year and it was excluded from specially related parties at the end of current year, no receivable or payable amounts were recorded.

(4) The transactional details with special interest parties in the current year and previous year are as follows;

(Unit: KRW)					
Type of special relationship	Name of the party	Current year		Previous year	
		Cash contribution	Dividend payments	Cash contribution	Dividend payments
Companies exercising significant influence on the consolidated entity	LG Co., Ltd.	-	3,766,366,800	-	4,842,471,600
Subsidiaries	Silicon Works China Co., Ltd.(*1)	1,504,860,000	-	674,454,000	
Affiliates	Advanced Power Device Technology Co., Ltd(*2)	4,410,000,000	-	-	-
Total		5,914,860,000	3,766,366,800	674,454,000	4,842,471,600

(*1) The company invested 674,454 thousand KRW to establish a Chinese corporation for the purpose of expansion in the Chinese market during the previous year, and additionally invested 1,504,860 thousand KRW during the current year.
(*2) The Group invested ₩ 4,410 million in Advanced Power Device Technologies Co., Ltd., a newly established subsidiary, in the current year.

(5) The compensation for key management personnel for the current year and previous year are as follows.

(Unit: KRW)		
Division	Current year	Previous year
Short-term salaries	2,210,982,838	1,923,439,850
Severance payment	274,055,953	211,367,698
Total	2,485,038,791	2,134,807,548

The key executives of the controlling company include the auditors and the registered directors (including outside directors.)

(6) The consolidated entity has no security and guarantee detail providing to or provided by special interest parties at the end of current year and previous year

35. Events after the reporting period

(1) General Information

On July 1, the parent company acquired all of the development, manufacturing and sales of OLED T-Con chip business from LG Electronics to build a total system semiconductor solution for OLED TV.

(2) Transfer consideration and identifiable acquisition assets

	(Unit: KRW)
Division	Amount
Transfer cost:	
Cash and cash equivalents	46,129,996,611
Succession assets and liabilities:	
Trade receivables and other receivables	7,879,739,697
Inventory	2,508,465,250
Tangible assets	8,636,108
Intangible assets such as contracts with customers	19,920,000,000
Trade payables and current liabilities	(3,055,948,493)
Goodwill	18,869,104,049
Total	46,129,996,611

The company's sales of the current year recognized from the business transfer after the date of the business transfer was about 19.7 billion KRW.

If the business transfer had occurred on January 1, 2018, the company's sales of the current year would have increased by about 18.2 billion KRW. However, the company is reported and managed as a single sales sector. Therefore, the expected current profit or loss if the business transfer had occurred on January 1, 2018 as well as the current profit or loss after the business transfer were not disclosed because they could not be distinguished practically.

6. Other Financial Matters

A. Cautions such as re-preparation of financial statements

1) Consolidated financial statements

Not applicable

2) Financial statements

Not applicable

3) Business transfer

A. Business transfer

Division	Contract date (Board resolution date)	Contracting party	Contract contents	Transfer amount (100 million KRW)	Transferred date	Key items report Submission date
Business transfer	2018.05.29	LG Electronics Co., Ltd.	All of T-Con chip business related assets and personnel for OLED TV	461	2018.07.01	-

Note) Refer to XI. Other matters necessary for the protection of investors -> 3. Other information such as sanctions -> Information after the merger -> (2) Financial comparison tables before and after the business transfer.

B. Establishment of allowance for bad debts

1) Established allowance for bad debts per each accounting title

[Basic date: Dec. 31, 2018] (Unit: KRW, %)

Division	Accounting title	Receivables amount	Allowance for bad debt	Ratio of allowance establishment
Q3 of 20th year	Trade receivables	158,800,076,125	-	0.0
	Other receivables	2,245,032,543	-	0.0
	Non-current other receivables	6,700,853,051	-	0.0
	Total	167,745,961,719	-	0.0
19th year	Trade receivables	139,950,086,915	-	0.0
	Other receivables	1,613,047,474	-	0.0
	Non-current other receivables	5,119,490,368	-	0.0
	Total	146,682,624,757	-	0.0
18th year	Trade receivables	110,873,434,017	-	0.0
	Other receivables	773,139,051	-	0.0
	Non-current other receivables	4,037,643,302	-	0.0
	Total	115,684,216,370	-	0.0

Note) The consolidated subsidiaries of the company have no record of establishing allowance for bad debts.

2) Changes in allowance for bad debts

Changes in the allowance for bad debts on trade receivables during the period are as follows:

[Basic date: Dec. 31, 2018] (Unit: KRW)

Item	20th year	19th year	18th year
1. Total allowance for bad debts at the beginning	0	0	0
2. Net recognition as bad debts(①+②±③)	-	-	-
① Amount processed as bad debts (Receivables written-off)	-	-	-
② Recollected receivables	-	-	-
③ Other increases/Decreases	-	-	-
3. Amount in reflection of allowance for bad debts	0	0	0
4. Total allowance for bad debts at the end	0	0	0

Note) The consolidated subsidiaries of the company have no record of changes with the allowance for bad debts.

(3) Policy on establishing the allowance for bad debts over the account receivables

The assumed bad debt amounts are set to allowances for bad debts in parallel use of the individual analysis method and age analysis for the balances of trade receivables.

- Establish 100% of allowance for bad debts to receivables with the age of a year or longer as a result of analysis on the age of receivables.
- The experience ratio of bad debts is calculated and established on the basis of the accrued bad debts in reality on the average balance of receivables in the past 3 years.

4) Outstanding amount of account receivables at the end of current quarter by their ages

[Basic date: Dec. 31, 2018] (Unit: KRW, %)

Item	Age of receivables			Total
	Less than 3 months	3 ~ 6 months	Above 6 months	
Account receivables	158,304,094,810	413,348,156	82,633,159	158,800,076,125
Total	158,304,094,810	413,348,156	82,633,159	158,800,076,125
Percentage (%)	99.69	0.26	0.05	100.00

C. Inventory status

(1) Status on inventory asset per business division

[Basic date: Dec. 31, 2018] (Unit: KRW)

Business Division	Accounting title	20th year	19th year	18th year	Remarks
Semiconductor	Products	-	-	-	-
	Products in process	104,091,109,804	61,011,273,632	58,285,294,191	-

Total	104,091,109,804	61,011,273,632	58,285,294,191	-
Portion of inventory over gross assets (%) [Total inventory ÷ total assets at the end × 100]	17.13	11.2	11.9	-
Inventory turnover ratio (recollection) [Converted annual sales cost÷{(Inventory at the beginning + Inventory at the end)÷2}]	7times	9times	8times	-

(2) Due diligence results on inventories
- Date of due diligence
Due diligence on inventory assets is carried out twice a year on the basis at the end of June and December.

- Method of due diligence
Examination with samples is carried out for some items with less importance although total quantity shall be examined in principle.
The external auditor shall be present in the due diligence of inventory, take samples and check out the existence of inventory assets.

- Status of long-term stagnant inventory, etc.
Not applicable

D. Contract status
Not applicable

E. Evaluation details of fair value
(1) Summary of Fair Value Evaluation Procedures

[Non-derivative financial assets]
The consolidated entity divides non-derivative financial assets into 4 categories such as financial assets to be recognized in the current profit or loss, financial assets held until maturity, lending and receivables, and transferrable financial assets, and they are recognized in the statement of financial position.
Non-derivative financial assets are measured with fair value at the initial recognition. If they do not belong to financial assets to be recognized in the current profit or loss, transactional cost directly relating to the acquisition of financial assets is added to fair value at the initial recognition.

① Financial assets to be recognized in the current profit or loss
The company classified short-term trading financial assets or financial assets designated as financial assets to be recognized in the current profit or loss at the initial recognition into financial assets to be recognized into the current profit or loss. Financial assets to be recognized into the current profit or loss are measured with fair value after initial recognition and any change in fair value is recognized in the current profit or loss. On the other hand, any transactional cost relating to the acquisition at the initial recognition is recognized in the current profit or loss immediately on its occurrence.

② Held to maturity financial assets

If the company has the active intention and ability to hold until maturity as non-derivative financial assets whose maturity is fixed and amount to be paid is confirmed or possibly determined, the company classifies them into financial assets held until maturity. After initial recognition, the company applies the effective interest rate method and measures them with the cost after amortization.

③ Lending and receivables

Non-derivative financial assets whose payment is fixed or possibly determined and trading price is not publicized in the active market are classified into lending and receivables. After initial recognition, the company applies the effective interest rate method and measures them with the cost after amortization.

④ Transferrable financial assets

If non-derivative financial assets are designated as transferrable items or not classified into either of financial assets to be recognized in the current profit or loss, financial assets held until maturity or lending and receivables, they are classified as transferrable financial assets. After initial recognition, they are measured with fair value and any change in fair value is recognized as other comprehensive profit or loss. However, cost is used for measurements for equity products and others whose market price is not publicized in the active market and fair value cannot be measured in a reliable manner.

⑤ Financial products by category

For this matter, refer to "III. Financial matters. 3. Notes to consolidated financial statements, 5. Classification of financial instruments by category (1), 6. Financial risk management (4).

F. Record on issue of liability securities

Issue of Liability Securities

[Basic date: Dec. 31, 2018] (Unit: KRW, %)

Type	Method of issue	Type of issue	Date of issue	Total amount	Interest rate	Rating grade (Rating organization)	Date of Maturity	Repayment	Undertaking company
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-

Outstanding Balance of Corporate Paper

[Basic date: Dec. 31, 2018] (Unit: KRW)

Remaining to maturity		10 days or less	Exceeding 10 days Not more than 30 days	Exceeding 30 days Not more than 90 days	Exceeding 90 days Not more than 180 days	Exceeding 180 days Not more than a year	Exceeding a year Not more than 2 years	Exceeding 2 years Not more than 3 years	Exceeding 3 years	Total
Unpaid balance	Public offering	-	-	-	-	-	-	-	-	-

	Private offering	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-

Outstanding Balance of Electronic Short-term Bond

[Basic date: Dec. 31, 2018] (Unit: KRW)

Remaining to maturity		10 days or less	Exceeding 10 days Not more than 30 days	Exceeding 30 days Not more than 90 days	Exceeding 90 days Not more than 180 days	Exceeding 180 days Not more than a year	Total	Limit of issue	Remaining limit
Unpaid balance	Public offering	-	-	-	-	-	-	-	-
	Private offering	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-

Outstanding Balance of Corporate Bonds

[Basic date: Dec. 31, 2018] (Unit: KRW)

Remaining to maturity		1 year or less	Exceeding 1 year Not more than 2 years	Exceeding 2 years Not more than 3 years	Exceeding 3 years Not more than 4 years	Exceeding 4 years Not more than 5 years	Exceeding 5 years Not more than 10 years	Exceeding 10 years	Total
Unpaid balance	Public offering	-	-	-	-	-	-	-	-
	Private offering	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-

Outstanding Balance of Hybrid Securities

[Basic date: Dec. 31, 2018] (Unit: KRW)

Remaining to maturity		1 year or less	Exceeding 1 year Not more than 5 years	Exceeding 5 years Not more than 10 years	Exceeding 10 years Not more than 15 years	Exceeding 15 years Not more than 20 years	Exceeding 20 years Not more than 30 years	Exceeding 30 years	Total
Unpaid balance	Public offering	-	-	-	-	-	-	-	-
	Private offering	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-

Outsourcing Balance of Conditional Capital Securities

[Basic date: Dec. 31, 2018] (Unit: KRW)

Remaining to maturity		1 year or less	Exceeding 1 year Not more than 2 years	Exceeding 2 years Not more than 3 years	Exceeding 3 years Not more than 4 years	Exceeding 4 years Not more than 5 years	Exceeding 5 years Not more than 10 years	Exceeding 10 years Not more than 20 years	Exceeding 20 years Not more than 30 years	Exceeding 30 years	Total
Unpaid	Public	-	-	-	-	-	-	-	-	-	-

balance	offering										
	Private offering	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-	-

IV. Directors' Management Diagnoses and Analytic Opinions

1. Cautions about forecast information

This document includes "forecast data" on the future.

The company has come up with expectations and forecasts on activities, incidents and phenomena reflecting its opinions on incidents and financial results as of the date preparing this report. The forecast data is based on various assumptions with regard to future business environments. Hence, they may prove to be incorrect in the end. In addition, the assumptions include risks, possibilities and other factors that may cause significant discrepancy between expected results based on the forecast data and the actual results. Those included factors may cause significant discrepancies with regard to the company's internal and external factors and others.

The company has no obligations to publicly announce amended reports, which revise forecast data, so as to reflect the risks and uncertainties that take place after provision of forecast data. In conclusion, the company cannot be sure that the company's expectations and forecast influence on this report will take place as such. Forecast data on the report are offered as of the timing of providing the report. Please understand that the company has no plans to revise such risk factors and forecast data.

2. Overview

As to directors' diagnosis on accounting and business during the 20th year from January 1 to December 31, 2018, the board of directors of Silicon Works Co., Ltd. reports its opinions as follow. To completely understand the company's management, the board of directors has read account books and related documents and thoroughly reviewed financial statement and this annexed specifications. To understand the company's management, the board of directors has taken advantage of appropriate methods as it has been supplied with sufficient documents, which it thought are necessary for diagnosis of management, and it has read and intensively studied significant documents.

Despite intense market competition, the company achieved 791.8 billion KRW of sales in 2018, up 14% from the previous year. This year, the company will continue research and development to launch competitive products, as well as expand the weight of overseas markets through our active business development to grow up as a global corporation beyond our domestic market.

3. Financial Status and Operating Results

A. Financial status - summarized statement of financial position (consolidated)

(Unit: Million KRW, %)

Title	20th (current) year	19th (previous) year	Change	Change ratio (%)
Assets	607,558	544,294	63,264	11.6
[Current assets]	508,163	497,749	10,414	2.1
[Non-current assets]	99,395	46,545	52,850	113.5
Liabilities	160,945	132,069	28,876	21.9
[Current liabilities]	155,224	129,360	25,863	20.0

[Non-current liabilities]	5,721	2,708	3,012	111.2
Capital	446,614	412,225	34,388	8.3
[Paid-in capital]	8,132	8,132	-	-
[Retained earnings]	362,626	326,104	36,521	11.2
Debt ratio (%)	36.0%	32.0%	4.0%	-

(1) Assets

At the end of 2018, our total assets increased by 63.3 billion KRW to 607.6 billion KRW compared to those of the previous year due to increases in receivables and inventory assets according to increased sales. Current assets among them account for 83.6% of total assets, while non-current assets account for 16.4% of total assets.

Non-current assets increased by 113.5% year-on-year mainly due to the increase in goodwill and other intangible assets due to the transfer of LG Electronics' OLED ASIC business.

(2) Liabilities

At the end of 2018, our total liabilities increased by 28.9 billion KRW to 160.9 billion KRW due to the effect of payables according to the increase volumes, of which current liabilities account for 155.2 billion KRW or 96.4%, and non-current liabilities 5.7 billion KRW or 3.6%.

Non-current liabilities increased 111.2% year-on-year, mainly due to the increase of defined benefit liabilities according to the increase in the number of employees.

(3) Capital

At the end of 2018, our total capital increased by 34.3 billion KRW from the previous year to 446.6 billion KRW mainly due to the fact that the net profit excluding dividends contributed to the capital surplus.

B. Sales performance - summarized income statement (consolidated)

(Unit: Million KRW, %)

Title	20th (current) year	19th (previous) year	Change	Change ratio (%)
Sales	791,818	692,761	99,057	14.3
Cost of goods sold	598,160	540,354	57,806	10.7
Gross margin	193,657	152,407	41,250	27.1
- Selling and administrative expenses	137,861	106,886	30,975	29.0
Operating income	55,797	45,522	10,276	22.6
Net income before corporate taxes	59,241	48,350	10,891	(22.5)
Corporate tax expense	10,280	1,286	8,995	699.5
Current net income	48,960	47,064	(1,896)	4.0
Gross profit margin	24.5%	22.0%	2.5%	-
Operating margin	7.0%	6.6%	0.4%	-
Ratio of ordinary R&D cost to sales	10.8%	11.4%	(0.6%)	-

Effective tax rate	17.4%	2.7%	14.7%	-

In 2018, sales increased by 99.1 billion KRW to 791.8 billion KRW compared to the previous year. This was mainly attributable to the increase in sales of large driver ICs due to increased demand for OLED TVs and high-end monitors and the increase in Mobile DDI sales according to the increased mobile quantity.

Gross profit increased by 41.3 billion KRW to 193.7 billion KRW compared to the previous year together with the increased weight of high-end product groups. The selling and administrative expenses increased by 31.0 billion KRW compared to the previous year due to the increased personnel and increased expenses according to the integration of Seoul / Gyeonggi R&D centers into Yangjae Campus, but the operating income increased 10.3 billion KRW compared to the previous to achieve 55.8 billion KRW. In this regard, the ordinary development costs, which account for the largest portion of the selling and administrative expenses, dropped slightly from 11.4% in 2017 to 10.8% in 2018 compared to sales volume.

The corporate tax expenses for the current year was 10.3 billion, an increase of approximately 9 billion KRW from 1.3 billion KRW in the previous year.
The final corporate tax expense of the previous year recorded in the financial statements amounted to 1.3 billion KRW by deducting 8 billion KRW of the correction claim effect from 9.3 billion KRW of the accrued corporate tax expense thanks to the effect of correction claim.
As a result, the corporate tax expense for the current year actually increased by 1 billion KRW from 9.3 billion KRW to 10.3 billion KRW. This can be seen as the effect of the increase in the current net profit of 2.5 billion KRW and the tax reconciliation effect due to the difference in the timing of revenue recognition.

C. Sales performance by business division

(Unit: Million KRW, %)

Division	Business division	20th (current) year	19th (previous) year	Change	Change ratio (%)
Sales	System IC	791,818	692,761	99,057	14.3
Operating income	System IC	55,797	45,522	10,276	22.6

[System IC Division]
In 2018, System IC sales increased by 14.3% year-on-year to 791.8 billion KRW and operating income increased by 22.6% year-on-year to 55.8 billion KRW.

Despite the decline in the market prices for LCD products, sales grew by 14.3% year-on-year due to the higher portion of high-end products. Operating income also increased by 22.6% year-on-year despite the increased selling and administrative expenses due to customer support expansion and increased number of new technological engineers.

The company is making continuous investments in developing system semiconductors for a variety of new areas such as automotive and home appliances due to the slowdown in related sales growth according to the maturation of the display industry. As a result, the burden of expenses is affecting our income due to the inflowing manpower and increase development cost before the commencement of sales in earnest.

D. Key considerations
The sales and purchase amount of the company is calculated by the unit price and settlement in USD. Therefore, the fluctuation of KRW/USD exchange rate is one of the main factors in our operating results.
In addition, the wafer market price fluctuates depending on the supply and demand environment of the wafer. Also, we have to continuously keep an eye on the price variation trends on the wafers because the weight of foundry is the largest in our manufacturing cost.

4. Liquidity, financing and spending

A. Liquidity index

(Unit: Million KRW, %)

Title	20th (current) year	19th (previous) year	Change	Change ratio (%)
I. Circulation assets	508,163	497,749	10,414	2.1
Cash and cash equivalents	222,527	74,727	147,800	197.8
Dues from financial institutions	0	200,000	(200,000)	(100.0)
Trade receivables	158,800	139,950	18,850	13.5
Inventory assets	104,091	61,011	43,080	70.6
II. Current liabilities	155,224	129,360	25,863	20.0
Trade payables	114,567	97,214	17,353	17.8
Current ratio	327.4%	384.8%	(57.4%)	-

As the company keeps stable financial status, it is anticipated that the company will not be vulnerable to liquidity risks as a result of abrupt business fluctuations.

As of December 2018, the company retained222.5 billion KRW in cash and cash equivalents and 158.8 billion KRW of account receivables. Thus, the company is thought to secure a stable liquidity level in line with the company's cash demands. The company is well prepared for sudden changes in the financial environment and unanticipated cash expenditure that could potentially impact liquidity hereafter. The current ratio still stands at 327.4%, while the company maintains a stable current ratio without any loan in its management.

B. Financing
As of the reporting date, the company realizes management free from debts from financial institutes based on its stable cash flow. As a result, the company is expected to less vulnerable to the risks of interest changes or others, which can take place due to external financing.

C. Expenditure
The Company's major expenditures during the disclosing period are as follows.

(Unit: Million KRW)

Division	Date of expenditure	Purpose of expenditure	Amount of expenditure	Financing method	Remarks
1	March 9, 2018	Investment in other corporations - Advanced Power Device Technology Co., Ltd. (unlisted)	4,410	Internal reserved funds	
2	July 1, 2018	Business transfer - All of development, manufacturing and sales divisions of T-Con chip business for OLED TV	46,130	Internal reserved funds	

5. Other Matters Necessary for the Decision-making of Investors

A. Significant accounting policies and estimations

The company's financial statements have been prepared based on accounting principles generally accepted in the Republic of Korea.

Refer to 'III. Financial Information' for significant accounting policies and estimations.

B. Environments and employees

Refer to XI. Other matters necessary for the protection of investors -> 3. Other information such as sanctions for sanctions or administrative actions on environment.

There are no significant employee-related changes such as key personnel movements during the current year.

C. Statutory regulations

Refer to XI. Other matters necessary for the protection of investors -> 3. Other information such as sanctions for major statutory regulations relating to our businesses.

D. Derivative instruments and risk management policy

Refer to 'II. Contents of business', 8. Derivatives trading' and 'III. Financial matters', 3. Notes to consolidated financial statements' and '5. Notes to financial statements' for our major derivative instruments and risk management policies.

V. Auditor's Audit Opinion

1. Audit Opinion of Auditor

1. Name and audit opinion of auditor

Business year	Auditor	Audit opinion	Special remarks in the audit report
20th year (current)	Samjung KPMG, Inc.	Appropriate	-
19th year (previous)	Samjung KPMG, Inc.	Appropriate	-
18th year (previous before last)	Samjung KPMG, Inc.	Appropriate	-

2. Status of audit service contract

(Unit: Thousand KRW)

Business year	Auditor	Subject	Remuneration	Total required time
20th year (current)	Samjung KPMG, Inc.	Consolidated financial statements, financial statements, interim financial statements	165,000	1,783
19th year (previous)	Samjung KPMG, Inc.	Consolidated financial statements, financial statements, interim financial statements	105,000	1,174
18th year (previous before last)	Samjung KPMG, Inc.	Consolidated financial statements, financial statements, interim financial statements	115,000	1,321

3. Status of non-audit service contracts with auditor

(Unit: Thousand KRW)

Business year	Contract date	Services	Period	Remuneration	Remarks
20th year (current)	-	-	-	-	-
19th year (previous)	-	-	-	-	-
18th year (previous before last)	2016.09.19	Advisory works for the design, construction and operation of internal accounting control system	2016.09.19 ~ 2016.12.31	20,000	-

4. Auditor's opinion on subsidiaries

There is no subsidiary which has received any audit opinion other than appropriate from auditor during the current quarter.

2. Change of Auditors

The Audit Committee of the company approved Samjung KPMG, Inc. as the company's external auditor for the period from the 19th year to the 21st year on February 28, 2017, following the 18th year.
The change of external auditors was reported to the 18th regular general shareholders' meeting of the company in accordance with Article 4-3 of the Act on the External Auditor of Limited Liability Company, and Article 4 and 53 of the company's Articles of Incorporation.

3. Internal Accounting Management System

A. Status of operation of internal accounting management system
(1) Report by the Internal Accounting Manager

Business year	Reporting date	Report	Comment
20th year	Jan 30th , 2019	The company's internal accounting control system as of January 30, 2018 is thought to be effectively designed and operated in terms of importance, considering the standard regulations on the internal accounting control system.	
19th year	Feb 1st, 2018	The company's internal accounting control system as of February 1, 2018 is thought to be effectively designed and operated in terms of importance, considering the standard regulations on the internal accounting control system.	
18th year	Feb 1st, 2017	The company's internal accounting control system as of February 1, 2017 is thought to be effectively designed and operated in terms of importance, considering the standard regulations on the internal accounting control system.	

(2) Overall opinions represented in the audit report by auditor
As a result of review by the external auditor, the auditor presented the opinion for the 20th, 19th and 18th year that there is no discovery that the details of operating status report for the company's internal accounting control system have not been prepared in accordance with regulations on the internal accounting control system in terms of importance.

VI. Company's Organizations such as the Board of Directors

1. Board of Directors

A. Overview of the Structure of Board of Directors

As of the day this report is prepared, the board of directors comprises of 2 full-time directors, 1 uncategorized non-executive director and 3 independent directors. Our representative director Shon Bo-Ik also takes charge of the chairman of the board of directors and he was elected as chairman in accordance with Article 5 of the Board of Directors Regulations.
With regard to the history and roles of each director, please refer to "Ⅷ. Executives and Employees - 1. Executives and Employees".

B. Major Resolutions

No.	Date held	Agenda	Passed or not	Name of director								
				Shon Bo-Ik (attendance rate: 100%)	Bae Dong-su (attendance rate: 0%)	Choi Sung-kwan (attendance rate: 100%)	Min Byeong-Hun (attendance rate: 100%)	Jeong Hyeon-Ok (attendance rate: 40%)	Lee Nam-Joo (attendance rate: 86%)	Yoon Il-Gu (attendance rate: 86%)	Moon Geon-Woo (attendance rate: 50%)	Shin Yeong-Soo (attendance rate: 100%)
				Agreed or not								
1	2018.2.1	Approval of the 19th year financial statements and the business reports	Passed	Agreed	Not attended	-	Agreed	-	Agreed	Agreed	Agreed	-
		Reporting on the operation of internal accounting management system	-	Reporting item	Reporting item	-	Reporting item	-	Reporting item	Reporting item	Reporting item	-
2	2018.2.28	Approval of time and place of the 19th regular general shareholders' meeting	Passed	Agreed	Not attended	-	Agreed	-	Agreed	Agreed	Not attended	-
		Approval of deciding the purposes of the 19th	Passed	Agreed	Not attended	-	Agreed	-	Agreed	Agreed	Not attended	-

		regular general shareholders' meeting										
		Revision of the Audit Committee Operation Regulations	Passed	Agreed	Not attended		Agreed		Agreed	Agreed	Not attended	
3	2018.3.16	Increase in capital of Chinese corporations	-	Reporting item		Reporting item		Reporting item	Reporting item	Reporting item		Reporting item
		Approval of remunerations for executive officers	Passed	Agreed		Agreed		Agreed	Not attended	Agreed		Agreed
		Approval of personnel affairs management regulations for executive officers	Passed	Agreed		Agreed		Agreed	Not attended	Agreed		Agreed
		Approval of special bonus allowance for executive officers	Passed	Agreed	-	Agreed	-	Agreed	Not attended	Agreed	-	Agreed
4	2018.5.29	Business transfer decision	Passed	Agreed		Agreed		Not attended	Agreed	Not attended		Agreed
		Establishment of compliance supporter election and enactment of compliance control standards	Passed	Agreed		Agreed		Not attended	Agreed	Not attended		Agreed
		Approval of remunerations for independent directors	Passed	Agreed		Agreed		Not attended	Agreed	Not attended		Agreed
5	2018.7.24	Business performance report for the second quarter of	-	Reporting item		Reporting item		Reporting item	Reporting item	Reporting item		Reporting item

		2018										
		Revision of the Audit Committee Regulations	Passed	Agreed		Agreed		Not attended	Agreed	Agreed		Agreed
6	2018.10.28	Business performance report for the first quarter of 2018	-	Reporting item		Reporting item		Reporting item	Reporting item	Reporting item		Reporting item
7	2018.11.28	Business plan report for 2019	-	Reporting item		Reporting item		Reporting item	Reporting item	Reporting item		Reporting item
		Revision of the Audit Committee Regulations	Passed	Agreed		Agreed		Not attended	Agreed	Agreed		Agreed
		Approval of self-transaction with directors and others	Passed	Agreed		Agreed		Not attended	Agreed	Agreed		Agreed
		Approval of personnel affairs for executive officers	Passed	Agreed		Agreed		Not attended	Agreed	Agreed		Agreed

Note) In-house Director Choi Sung-kwan was elected in the 19th Regular General Shareholders' Meeting, and has a three-year term.

Note) Other Non-permanent Managing Director Jeong Hyeon-Ok was elected in the 19th Regular General Shareholders' Meeting, and has a three-year term.

Note) Independent Director and Audit Committee Member Young-Su Shin was elected from the 19th Regular General Shareholders Meeting, and his term is 3 years.

Note) In-house Director Bae Dong-Soo resigned on March 31, 2018.

Note) In-house Director Min Byeong-Hun resigned on March 16, 2018.

Note) Independent Director and Audit Committee Member Gun-Moon resigned on March 16, 2018.

C. Committees within the Board of Directors

The audit committee was excluded in accordance with preparation standards of corporate disclosure forms.

D. Independence of Directors

The directors are elected at the shareholders' meeting, and the candidates for the directors to be elected at the shareholders' meeting are appointed by the board of directors meeting and submitted to the general shareholders' meeting as an agenda. If there is a shareholder’s proposal pursuant to the relevant laws and regulations related to the election of directors, the Board of Directors shall submit it to the general meeting of shareholders within the legal scope. As the total assets as of the end of the current business year are less than 2 trillion KRW, we have no

obligation to establish a recommendation committee for independent directors. In order to secure fairness and independence in appointing independent directors, we have been internally and rigorously screened and ultimately appointed independent directors at the general shareholders' meeting.
The directors elected in accordance with these procedures are as follows.

Job title	Name	Background of appointment	Recommender	Field of activity (business in charge)	Transactions with the company	Relationship with the largest or major shareholders	Term of office	Consecutive term or not
In-house director	Shon Bo-Ik	Appointed as the representative director to stably carry out internal and external affairs	Board of directors	Board chairman, representative director	None	Executive of affiliated Company	3 years	-
In-house director	Choi Sung-kwan	Appointed as an in-house director to stably carry out financial affairs	Board of directors	CFO		Executive of affiliated Company	3 years	-
Non-executive director	Jeong Hyeon-Ok	Appointed as a non-executive director to stably carry out overall management	Board of directors	System semiconductors development and commercialization advice		Executive of affiliated Company	1 years	-
Independent director	Lee Nam-Joo	Appointed as a qualified financial and accounting expert	Board of directors	Auditor chairperson		-	3 years	Applicable (once)
Independent director	Yoon, IL-Gu	Appointed as a qualified expert in the business field	Board of directors	Auditor committee member		-	3 years	-
Independent director	Shin Yeong-Soo	Appointed as a qualified expert in the business field	Board of directors	Auditor committee member		-	3 years	-

Note) Other Non-permanent Managing Director Jeong Yeon-Chae was elected in the 20th Regular General Shareholders' Meeting, and has a three-year term.
Note) Independent Director and Member of the Audit Committee Wee Gyeong-Woo was elected again in the 20th Regular General Shareholders' Meeting, and has a three-year term.

■ Authorities of the board of directors

1) The board of directors Decides important corporate issues pursuant to Chapter 5 of the Articles of Incorporation.
2) The board of directors must review and Decide the following issues pursuant to Article 393-2 of the Commercial Law:

- Proposal of issues requiring the approval of the general shareholders’ meeting
- Appointment of CEO and Decision of co-representatives
- Decisions on appointment, term, position, and remuneration of executives
- Other important matters as to the company’s basic policies and operating activities

E. Professionalism of independent directors

1) Job performance support organizations for independent directors

- CFO Finance Team
- Main task: Board of Directors operation and independent director job performance support
- Team staff: 2 people

2) Education for independent directors

Status of education implementation for independent directors

Education date	Educational organizer	Participating independent directors	Reason for absence	Key education details
April 25, 2019	LG Management Development Institute Co., Ltd.	Shin Yeong-Soo	-	Activities of the Board of Directors and major items related to company management

2. Audit System

A. Audit Committee

(1) The composition of the Audit Committee and inclusion of independent directors

[Basic date: Dec. 31, 2018]

Name	Career Information	Independent director or not	Comments
Nam-Ju, Lee	Bachelor's degree in Business Administration at Seogang University Director at SAMIL PricewaterhouseCoopers (Current) Director of Sungjee Accounting Corporation	Outside Director	Auditor Chairperson
Yoon-Il, Gu	Ph.D. Electric Engineering, School of Engineering, Georgia University, USA (Current) Professor, Department of Electric and Electronic Engineering, College of Engineering, Yonsei University	Outside Director	-
Young-Su, Shin	Masters and Doctorate Degree in Power Electronics at Seoul National University (Current) Professor of Electricity and Electronics at KAIST	Outside Director	-

Note) Lee Nam-Joo is qualified for a certified public accountant and has more than five years of experience in the work related to the qualification.

Note) The 3-year term of the Independent Director and member of the Audit Committee Lee Nam-Joo expired on March 17, 2019.

Note) Independent Director and Member of the Audit Committee Wee Gyeong-Woo was elected again in the 20th Regular General Shareholders' Meeting, and has a three-year term.

(2) Independence of the members of the Audit Committee

The members of the Audit Committee (three persons) are all independent directors who do not have any reasons for disqualification in accordance with the Commerce Law. They are maintaining their independence and the appointment of the members has been made after a thoroughly review by the board of directors and the final approval by the general meeting of shareholders.
The company is complying with the procedures set forth in the Commerce Law and other relevant laws. Also, the organization, authority, and the scope of works are clearly stated in the relevant rules in order to carry out the auditory works.

Main contents of election criteria	Whether selection criteria are satisfied	Related laws
Consisting of three directors	Satisfied (3 people)	Article 415-2 (2) of the Commercial Code
Two-thirds or more of independent directors as members	Satisfied (all are independent directors)	
One or more members as an accounting or financial expert	Satisfied (Lee Nam-Joo)	Article 542-11 (2) of the Commercial Code
independent director as the Representative of the Audit Committee	Satisfied	
Other disqualification requirements (specially related parties with the largest shareholder)	Satisfied (not applicable)	Article 542-11 (3) of the Commercial Code

(3) Activities of the Audit Committee

No.	Date held	Agenda	Pass	Approval				Comment
				LEE, Nam- Ju	Moon, Gun-Woo	Yoon, Il-Goo	Shin, Young-soo	
				Approved or disapproved				
1	2018.01.18	Evaluation on the operation of 19th internal accounting control system	Passed	Approved	Approved	Approved	-	-
2	2018.07.24	Report on management performance in the Q2 of 2018	-	-	Report item	Report item	Report item	-

3	2018.10.24	Business performance report for the first quarter of 2018		-	Approved	Approved	Approved	
4	2018.11.28	Revision of the Audit Committee Regulations	Passed	-	Approved	Approved	Approved	

(4) Education implementation plan and status

The company is establishing a plan to conduct education for the members of the Audit Committee.

Status of education implementation for the Audit Committee

Education date	Educational organizer	Participating auditor members	Reason for absence	Key education details
-	-	-	-	-

(5) Status of support organizations for the Audit Committee

Department (team) name	Number of employees (persons)	Position (years of service)	Major activity details
Finance Team	2	1 general manager, 1 assistant manager (average 3 years)	Support for the operation and job performance of the Audit Committee
Right Way Management Team	2	1 general manager, 1 assistant manager (average 9 months)	Important matters related to the operation of the internal accounting management system

Note) The service years are calculated based on the period of service at the company.

B. Compliance support person etc.

Name	Date of Birth	Major Career	Date of Appointment
Jin-Bok, Kim	1960.10	Bachelor of Law, Chungnam National University Team Leader of Management & Legal Team, Team Leader of Contract Legal Team, LG Electronics Current, Diagnostic / Legal Team / Legal, Silicon Works	2018.05.29

Note) The compliance officer Kim Jin-Bok has more than 10 years of experience in listed companies while working in the auditing, Audit Committee, compliance officer or related legal department.

(2) Major activities and results of the compliance officer

As a result of evaluating the effectiveness of our compliance control standards and checking compliance with them, our compliance control standards have been created and adhered to in accordance with all laws and regulations and control standards for compliance.

Check date &	Main check details	Check results

time		
Always	Ensure that matters specified by the Commercial Code are stipulated in the compliance control standards	Details compliance control standards - Appropriately established in accordance with the requirements of the Commercial Code and standard compliance control criteria.
	Ensure that compliance control systems, procedures, instruments, training and compliance support matters are effectively established	Evaluation and management system of legal risks - Formalizing legal risks and preparing detailed check items by type in progress
		Independent business performance system of compliance support officer - The compliance support officer has been appointed in the Board of Directors and his term of office is guaranteed.
		Sanctions system for violations - Relevant contents are appropriately reflected in the employment rules and disciplinary regulations.
		Compliance check and reporting system - Relevant contents are appropriately reflected in the employment rules and disciplinary regulations.
	Ensure that the categorization of risky actions, compliance check, matters relating to the compliance officer are effectively implemented	Compliance check and reporting system - We are preparing to carry out the regular annual compliance check and prepare and operate a process to report to the board of directors.

(3) Status of support organizations for the compliance officer

Department (team) name	Number of employees (persons)	Position (years of service)	Major activity details
Legal Affairs Team	2	1 general manager, 1 manager (average 6 months)	Important matters related to the operation of the compliance control criteria

Note) The service years are calculated based on the period of service at the company.

3. Shareholders’ Exercise of Voting Rights

A. Voting system

(1) Adopting the concentrated voting system, voting in writing or the electronic voting system

As of the day that the company prepared the report, there is no relevant information.

B. Exercise of the Right of the Minority Shareholders

As of the day that the company prepared the report, there is no relevant information.

C. Competition over Management Right

As of the day that the company prepared the report, there is no competition over management right.

VII. Shareholders

1. Shareholding of the Largest Shareholder and its Special Interest Parties

A. Shares Held by the Largest Shareholder and its Special Interest Parties

(Basic date: Dec. 31, 2018) (Unit: Shares, %)

Name	Relation	Share type	Number of shares owned (stake)				Comment
			Beginning of the term		End of the term		
			Number of shares	Stake	Number of shares	Stake	
LG Corp.	Principal	Common stock	5,380,524	33.08	5,380,524	33.08	
SON, Bo-Ik	Executive	Common stock	1,766	0.01	1,766	0.01	
Total		Common stock	5,402,986	33.09	5,402,986	33.09	-
		-	-	-	-	-	

Note) The number of shares includes the allocation of shares under the employee-stock-ownership plan to unregistered executives (Joon-Ho, NA)
Note) Refer to “VII. Executives and Employees” for details on the change of management.

B. Important Issues Related to the Largest Shareholder

(1) Basic information of the largest shareholder (as of Dec 30, 2018)

Name	Number of investors	CEO (Representative member)		Business executive (Business executive member)		Largest shareholder (The largest investor)	
		Name	Portion (%)	Name	Portion (%)	Name	Portion (%)
LG Co., Ltd.	32,583	Kwang-mo Koo	15.00	-	-	Kwang-mo, Ku	15.00
		Young-Soo Kwon	-	-	-	-	-

Note 1) Stake is based on common stock.
Note 2) The above stake is based on Dec 31, 2018, which is the closing date of the shareholder list.

Changes of representative directors, business executives, and largest shareholder of corporations or groups

Date of change	CEO (Representative member)		Business executive (Business executive member)		Largest shareholder (The largest investor)	
	Name	Portion (%)	Name	Portion (%)	Name	Portion (%)
2018.06.29	Kwang-mo Koo	6.24	-	-	-	-
2018.08.29	Kwon Yeong-Soo	-	-	-	-	-
2018.11.01	Koo Kwang-Mo	15.00	-	-	Koo Kwang-Mo	15.00

Note 1) On May 20, 2018, Koo Bon-Mu resigned from office due to his death. On June 29, 2018, Koo Kwang-Mo was newly elected as the representative director through the board of directors meeting.
Note 2) On August 29, 2018, the representative director Ha Hyeon-Hee resigned and the representative director Kwon Yeong-Soo was newly elected.
Note 3) The largest shareholder was changed to the representative director Koo Bon-Mu due to the inheritance of shares from the largest shareholder (late Koo Bon-Mu) before change on November 1, 2018.
Note 4) Stake is based on common stock (after change).

(2) Financial status
This is LG's current financial status as our largest shareholder.

(Unit: Million KRW)

Division	
Name of corporation or organization	LG Co., Ltd.
Total assets	22,835,911
Total liabilities	4,671,434
Total capital	18,164,478
Sales and profit or loss under equity method	11,944,790
Operating income	1,963,803
Current net profit	1,882,897

Note 1) Based on consolidated financial statements

(3) Major contents that may affect the stability of the company's business including business status

Our company’s largest shareholder LG Corp. was established on January 5, 1947 and listed on the stock market on February 13, 1970. LG Corp. is a holding company which owns 14 subsidiaries such as LG Electronics, LG Chemicals, LG U Plus at the end of December 2017. Major income sources of LG Corp. consist of dividend income, trademark use income, rental income, etc.

2. Changes to the Largest Shareholders

A. Details for changes to the largest shareholder
- Not applicable

3. Distribution of Shares

Status of shares held

(Basic date: Dec. 31, 2018) (Unit: shares)

Classification	Name of shareholder	Number of shares owned	Stake	Notes
5% or higher shareholders	LG Corporation	5,380,524	33.08%	-
	Templeton Asset Management, Ltd.	853,688	5.25%	(*)
	BlackRock Fund Advisors	816,703	5.02%	(**)
Employee Stock Ownership Association		6,995	0.04%	

(*) The number of shares owned by Templeton Asset Management, Ltd. includes the share owned by three funds within the company.
(**) The number of shares owned by BlackRock Fund Advisors includes the ownership interests of the four funds within the company.

Minority Shareholder Status

(Basic date: Dec. 31, 2018) (Unit: shares)

Division	Shareholder		Shares hold		Comment
	Number of shareholders	Rate	Number of shares	Stake	
Minority shareholders	8,919	99.82%	7,612,055	46.79%	Shareholders having shares under 1/100 of the total shares issued

4. Operations for Shares

Division	Information
Preemptive rights based on the Articles of Association	①Shareholders have the rights to receive new shares in proportion to the number of shares held by themselves. ②Despite Clause 1, the company may distribute new shares in the event of the following, 1. When the company issues new shares via the general capital increase by public offering based on their solution of the board of directors according to Article 165-6 of「the Act on Capital Market and Financial Investment」 2. When the company issues new shares via stock option according to Article 542-3 of 「Commercial Law」 3. Primary distribution to the members of the Employee Stock Ownership Association within 20% of the total number of shares issued. 4. When necessary to achieve the management goals such as the introduction of new technology and improvement of the financial structure according to Article 418 of the Commerce Act 5. When collecting new shares or having the acquirers take over the shares to be listed in the security market or KOSDAQ 6. When the company issues new shares for foreigners' investment based on the reasons of management according to the Foreigners Investment Promotion Act. 7. When issuing new shares according to the issuance of depository receipts(DR) within 50% of the total number of shares issued ③The handling of odd lots generated from the allocation of shares and new shares based on the abandonment or loss of preemptive rights shall be Decided based on the resolution of the board of directors. ④ Pursuant to Section 2, in the event one other than a shareholder assigns a new stock, he/she must notify the shareholder at least two weeks prior to the date of payment the provisions prescribed in Sections 1,2 and 2(2), 3 and 4 of Article 416 of the Commercial Law.
Settlement date	December 31
Regular shareholders' general meeting	Within three months after the closing of each business year
Period closing the Shareholders' list	January 1 ~ January 7, every year (Date shareholders' list is closed: December 31 every year)
Type of shares	One-share, 5-share, 10-share, 50-share, 100-share, 500-share, 1000-share, and 10,000-share certificates(8 types)
Transfer agent	The Korea Securities Depository / Busan International Finance Center (BIFC), 40, Munhyeon Geumyung Road, Nam-gu, Busan, Korea / (Tel) +82 51-519-1500
Public notices	The company's public announcement is posted at its Website (www.siliconworks.co.kr). When network glitches or other unavoidable factors prevent the posting at its Website, the company makes notices at the Maeil Economic Daily published in Seoul.

5. Stock Price and Stock Trading

A. Domestic Stock Market

(Unit: KRW, share)

Type			2018					
			Dec	Nov	Oct	Sep	Aug	Jul
Silicon Works (A108320) Common Stock	Stock price	Maximum	36,750	39,050	40,800	47,200	46,950	47,750
		Minimum	32,500	34,550	34,300	40,550	43,700	35,300
		Average	34,408	37,132	37,119	44,368	45,761	41,491
	Volume of Transaction	Maximum (day)	97,373	143,500	253,435	200,955	197,119	510,480
		Minimum (day)	32,038	37,318	37,847	50,761	52,084	84,548
		Monthly	1,048,809	1,606,478	1,973,756	1,585,777	1,933,994	3,490,553

※ The maximum and minimum share prices as well as the amount of trade are based on the closing price and the amount of daily transaction of the day.

B. Overseas Stock Market

As of the day that prepared for the report, the company has nothing to report on this matter.

VIII. Executives and Employees

1. Status of the Executives and Employees

A. Status of Executives

(Basic date: Dec. 31, 2018) (Unit: shares)

Name	Gender	Date of birth	Job title	Registered or not	Full-time or not	Responsibilities	Major career	Number of shares owned		Relationship with the largest shareholder	Service term	Term expiration date
								Voting stocks	Non-voting stocks			
Shon Bo-Ik	Male	1961.09	Representative director	Registered	Full-time	Representative Director, CEO	MIT (MA) CTO SIC Center Director, LG Electronics Co., Ltd.	1,766	-	Executive of affiliated Company	`15.06.10 ~ now	2020.03.16
Choi Sung-Kwan	Male	1973.02	Managing Director	Registered	Full-time	CFO	Yonsei University Department of Business Administration General manager of Finance Team, LG Co., Ltd.	-	-	Executive of affiliated Company	`18.01.01 ~ now	2021.03.15
Jeong Hyeon-Ok	Male	1966.02	Executive Director	Registered	Part-time	System semiconductors development and commercialization advice	University of Helsinki (MA) In charge of management planning / administration, LG Electronics Co., Ltd.	-	-	Executive of affiliated Company	'18.03.16 ~ now	2019.03.15
Yoon, IL-Gu	Male	1967.06	Independent director	Registered	Part-time	Auditor committee member	Georgia Tech (Ph.D.), professor, Department of Electronic Engineering, College of Engineering, Yonsei University	-	-	-	'17.03.17 ~ now	2020.03.16
Shin Yeong-Soo	Male	1967.08	Independent director	Registered	Part-time	Auditor committee member	Ph.D. Department of Electronic Engineering, Seoul National University Professor, Department of Electrical and Electronics Engineering, KAIST	-	-		'18.03.16 ~ now	2021.03.15
Lee Nam-Joo	Male	1962.11	Independent director	Registered	Part-time	Auditor chairperson	Department of Business Administration, Sogang University, Director, Samil PwC Certified Public Accountant, Accounting Firm Sungji	-	-	-	'13.03.29 ~ now	2019.03.17
Seung Gil-Byeong	Male	1961.07	Managing Director	Non-registered	Full-time	CHO	Boston Univ. Management (MA) CHO, LG Siltron Co., Ltd.	-	-	Executive of affiliated Company	'17.12.01 ~ now	-
Na Jun-Ho	Male	1968.09	Managing Director	Non-registered	Full-time	R&D	Department of Electronic Engineering (MA), Inha University LG Semiconductor	20,636	-	Executive of affiliated Company	'11.05.18 ~ now	-
Ko Dae-Hyeop	Male	1965.09	Managing Director	Non-registered	Full-time	R&D	Department of Electronic Engineering (MA), Seoul National University SIC Center DTV SoC Development Chief, LG Electronics Co., Ltd.	-	-	Executive of affiliated Company	'17.07.31 ~ now	-
Seo Cheol-Gyo	Male	1963.01	Director	Non-registered	Full-time	Operation Officer	Techno MBA SIC Center DIC Business Team Leader, LG Electronics Co., Ltd.	1,262	-	Executive of affiliated Company	'15.07.01 ~ now	-
Jeon Hyun-Gyu	Male	1971.02	Director	Non-registered	Full-time	R&D	Department of Electrical and Electronics Engineering (Ph.D.), Korea Advanced Institute of Science and Technology Korea Electronics and	20,691	-	Executive of affiliated Company	'03.09.01 ~ now	-

							Telecommunications Research Institute					

Note) The number of shares owned includes allocations of shares under the employee-stock-ownership plan to unregistered executives (NA, Joon-Ho, Chun, Hyun-kyu).
Note) Director Sung-kwan Choi was elected in the 19th Regular General Shareholders' Meeting, and has a three-year term.
Note) Independent Director and Member of the Audit Committee Shin Yeong-Soo was elected again in the 19th Regular General Shareholders' Meeting, and has a three-year term.
Note) Managing Director Go Dae-Hyeop, Director Seo Cheol-Gyo and Director Jeon Hyeon-Gyu were newly elected on January 1, 2018.
Note) Managing Director Hong Min-Seok, Director Na Yeong-Seon and Director Woo Yeong-Jin were newly elected on January 1, 2019.
Note) Non-executive Managing Director Jeong Yeon-Chae was elected at the 20th regular general meeting of shareholders for a term of 3 years, while working as the Executive Director of LG Co., Ltd. and non-executive director of LG Innotek Co., Ltd.

Note) Independent Director and Member of the Audit Committee Wee Gyeong-Woo was elected again in the 20th Regular General Shareholders' Meeting, and has a three-year term.
Note) In-house Director Bae Dong-Soo resigned on March 31, 2018.
Note) In-house Director Min Byeong-Hun resigned on March 16, 2018.
Note) Independent Director and Member of the Audit Committee Moon Geon-Woo resigned on March 16, 2018.
Note) Representative Director Shon Bo-Ik resigned from the non-executive managing director of Lusem Co., Ltd. On March 15, 2018.
Note) Managing Director Seung Gil-Byeong resigned on March 31, 2019.
Note) Non-executive Jeong Hyeon-Ok resigned on March 15, 2019.
Note) The 3-year term of the Independent Director and member of the Audit Committee Lee Nam-Joo expired on March 17, 2019.
Note) In-house Director Choi Sung-Kwan also serves the director of Advanced Power Device Technology Co., Ltd.
Note) Jeon Hyeon-Gyu also serves the director of Advanced Power Device Technology Co., Ltd.

B. Status of Employees

(Basic date: Dec. 31, 2018) (Unit: Thousand KRW)

Business area	Gender	Number of employees					Average working years	Total annual salary	Average salary per person	Remarks
		Employees without defined term		Term-based employees		Total				
		All	(Short-term employees)	All	(Short-term employees)					
All	Male	754	-	8	8	762	4.28	49,970,826	65,579	-
All	Female	116	-	6	6	122	3.56	5,423,329	30,822	-
Total		870	-	14	14	894	4.18	55,394,154	62,663	

Status of remuneration for non-registered executives

(Basic date: Dec. 31, 2018) (Unit: Thousand KRW)

Division	Number of persons	Total annual salary	Average salary per person	Remarks
Non-registered executive	5	1,078,019	215,604	-

2. Remuneration to Executives

<Remuneration to all directors and auditors>

1. Amount Approved by Shareholders' Meeting

(Unit: Thousand KRW)

Division	Number	Amount approved in the shareholders' meeting	Comment
Registered director	3	-	The approval amount of the shareholders' meeting is based on the sum of registered executives.
Independent director	-	-	The approval amount of the shareholders' meeting is based on the sum of registered executives.
Members of the Audit Committee or auditor	3	-	The approval amount of the shareholders' meeting is based on the sum of registered executives.
Total	6	5,000,000	

2. Amount paid

2-1. All directors / auditors

(Unit: Thousand KRW)

Number of persons	Total remuneration	Average per capita remuneration	Remarks
6	1,431,207	238,534	-

Note) The number of people is based on the reporting date.

Note) The total amount of remunerations is based on the income on the Income Tax Act, which has been paid under the qualification of the registered executive by the serving or resigned registered directors, independent directors and members of the Audit Committee pursuant to the provisions of Article 159 of the Capital Market and Financial Investment Services Act and Article 168 of the Enforcement Decree of the same act.

2-2. Type

(Unit: Thousand KRW)

Division	Number of persons	Total remuneration	Average per capita remuneration	Remarks
Registered director (Excluding independent directors, members of the Audit Committee)	3	1,305,142	435,047	-
Independent director (Excluding members of the Audit Committee)	-	-	-	-
Member of the Audit Committee	3	126,065	42,022	-
Auditor	-	-	-	-

Note) The number of people is based on the reporting date.
Note) The total amount of remunerations is based on the income on the Income Tax Act, which has been paid under the qualification of the registered executive by the serving or resigned registered directors, independent directors and members of the Audit Committee pursuant to the provisions of Article 159 of the Capital Market and Financial Investment Services Act and Article 168 of the Enforcement Decree of the same act.
Note) Registered director Dong-su, Bae retired on Mar 31, 2018
Note) Independent Director and Audit Committee Member Gun-woo Moon resigned on March 16, 2018.

3. Standards for the remuneration payment of directors and auditors
The remuneration of directors and auditors is carried out in accordance with the standards established by the board of directors, taking into consideration the positions and responsibilities of the directors within the amount approved by the general meeting of shareholders.

<Individual remuneration status of directors and auditors>
1. Individual payment amount

Name	Job title	Total remuneration	Payment not included in the total remuneration
Shon Bo-Ik	Representative director	688	-

2. Calculation criteria and method

Name	Type of remuneration	Total amount	Calculation criteria and method

Shon Bo-Ik	Earned income	Salary	517	1. Basic salary - Basic salary is determined in consideration of the pay grade in accordance with the remuneration regulations of the executives determined by the Board of Directors - About 32 million KRW was paid monthly in January ~ March, and about 33 million KRW in April ~ December. 2. Role-based pay - Considering the importance of job and role comprehensively - - About 9 million KRW was paid monthly in January ~ March, and about 10 million KRW in April ~ December.
		Bonus	167	Determined by the Board of Directors based on the performance evaluation in accordance with the special bonus regulations in the executive remuneration regulations. Paid within 0 ~ 150% of the annual salary by evaluating the metric index including the company's sales figures and operating profits of the previous year, as well as non-metric index including the mid-to-long-term key tasks to prepare for the future. Regarding the metric index, our sales grew 14.3% year-on-year to 791.8 billion KRW this year, from 692.8 billion KRW in the previous year Operating profit rose 22.6% year-on-year to 55.8 billion KRW this year from 45.5 billion KRW in the previous year Considering that the net profit increased by 4.0% year-on-year to 49 billion KRW from 47.1 billion KRW in the previous year, the company's internal control has been working smoothly with no accidents related to internal control with regard to non-metric indexes so that the compliance management and Ethical management culture were disseminated. In addition, the leadership was demonstrated to achieve its management objectives as well. Therefore, the company has calculated and paid bonuses of 167 million KRW.
		Gain on the exercise of stock options		- None
		Other earned	4	- Paid in the welfare and benefits in accordance with the company

		income		regulations
	Retirement income			- None
	Other income			- None

<Top 5 Individuals' Remuneration of Over 500 Million KRW>

1. Individual payment amount

Name	Job title	Total remuneration	Payment not included in the total remuneration
Shon Bo-Ik	Representative director	688	-

2. Calculation criteria and method

Name	Type of remuneration		Total amount	Calculation criteria and method
Shon Bo-Ik	Earned income	Salary	517	1. Basic salary - Basic salary is determined in consideration of the pay grade in accordance with the remuneration regulations of the executives determined by the Board of Directors - About 32 million KRW was paid monthly in January ~ March, and about 33 million KRW in April ~ December. 2. Role-based pay Considering the importance of job and role comprehensively – - About 9 million KRW was paid monthly in January ~ March, and about 10 million KRW in April ~ December.
		Bonus	167	Determined by the Board of Directors based on the performance evaluation in accordance with the special bonus regulations in the executive remuneration regulations. Paid within 0 ~ 150% of the annual salary by evaluating the metric index including the company's sales figures and operating profits of the previous year, as well as non-metric index including the mid-to-long-term key tasks to prepare for the future. Regarding the metric index, our sales grew 14.3% year-on-year to 791.8 billion KRW this year, from 692.8 billion KRW in the previous year. Operating profit rose 22.6% year-on-year to 55.8 billion KRW this year from 45.5 billion KRW in the previous year.

				Considering that the net profit increased by 4.0% year-on-year to 49 billion KRW from 47.1 billion KRW in the previous year, the company's internal control has been working smoothly with no accidents related to internal control with regard to non-metric indexes so that the compliance management and Ethical management culture were disseminated. In addition, the leadership was demonstrated to achieve its management objectives as well. Therefore, the company has calculated and paid bonuses of 167 million KRW.
		Gain on the exercise of stock options		- None
		Other earned income	4	- Paid in the welfare and benefits in accordance with the company regulations
	Retirement income			- None
	Other income			- None

<Status on the grant and exercise of stock options>
No stock option has yet to be exercised by executives and employees as of the reporting reference date.

Note) The closing price on Dec 28, 2018 was 33,600 KRW

IX. Affiliates

1. Name of the relevant corporate group and names of affiliates

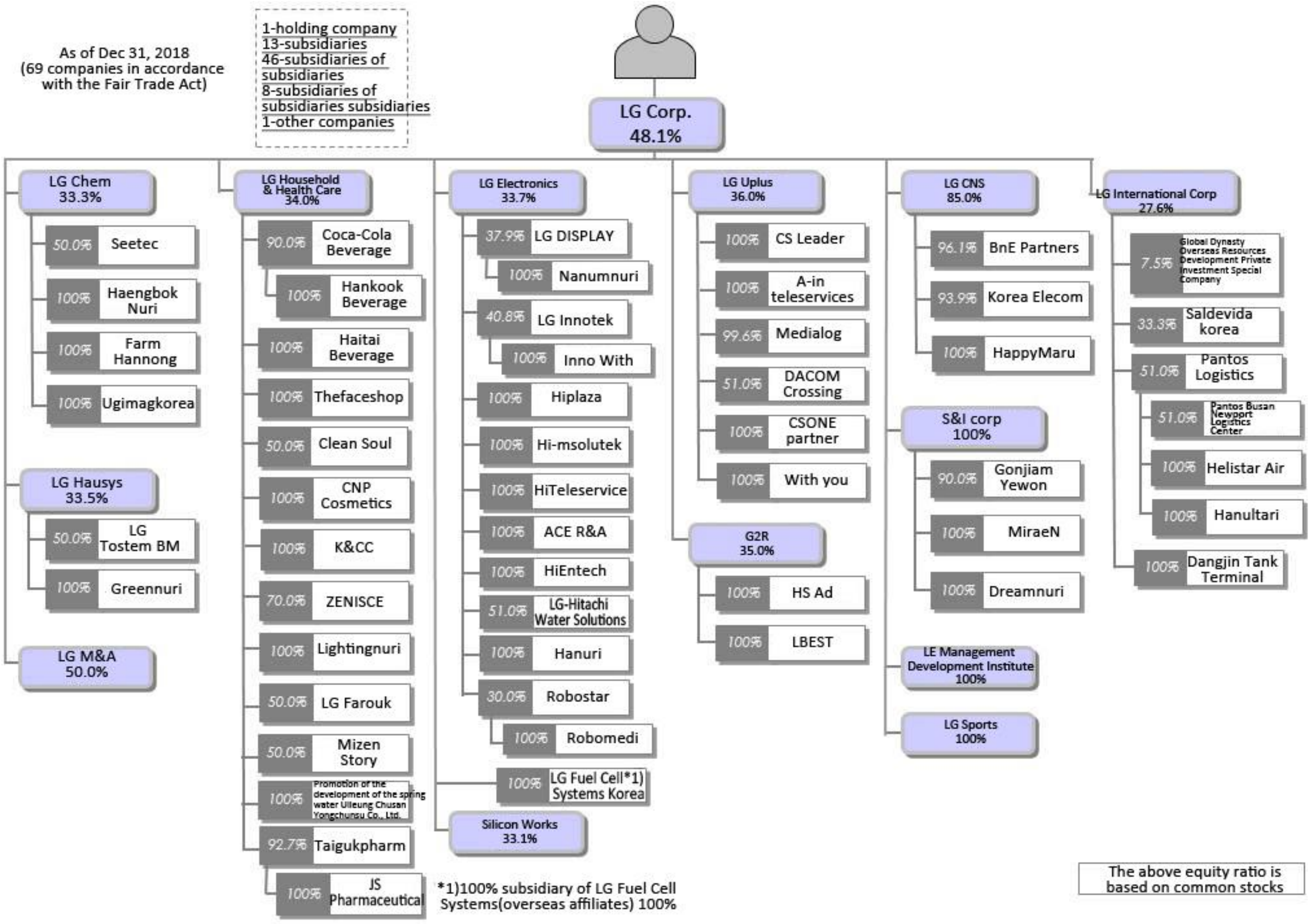
Name of corporate group: LG affiliates

Name of the belonging company: Silicon Works

- Corporate Registration No.: 160111-0089395
- Business Registration No.: 314-81-29147

Refer to " I . Company Overview, 1. Company Overview - G. Total Number of Affiliates, Name of Major Affiliates and their Listing Status" in the disclosure documents for more details on the corporate group and its belonging companies to which the company belongs.

2. Diagram to Identify the Control, Dependence and Investment among Subsidiaries



3. Name of companies and details if there is any company directly or indirectly affecting the management of the company among affiliates

LG Corporation: Holding company

4. Status of Additional Positions in the Company and Subsidiaries

Name	Position	Status of Additional Positions		
		Company	Position	Regular or not
Bo-Ik, Shon	Representative director	Silicon Works Inc.(USA)	CEO	Non-regular
Choi Sung-Kwan	Registered	A7dvanced Power Device Technology Co., Ltd.	Director	Non-regular
Jeon Hyun-Gyu	Non-registered executive	Advanced Power Device Technology Co., Ltd.	Director	Non-regular
Jeong Hyeon-Ok	Registered	LG Co., Ltd.	Executive Director	Regular
		LG Innotek Co., Ltd.	Non-executive director	Non-regular

Note) Representative Director Bo-IK SON resigned the position of other non-permanent managing director for Lusem Co., Ltd. in parallel on Mar.15 2018

Note) Non-executive director Jeong Hyeon-Ok resigned from the company's non-executive director on March 15, 2019.

Note) Non-executive Managing Director Jeong Yeon-Chae was elected at the 20th regular general meeting of shareholders for a term of 3 years, while working as the Executive Director of LG Co., Ltd. and non-executive director of LG Innotek Co., Ltd.

5. Status of Investment in Other Companies

(Basic date: Dec. 31, 2018) (Unit: Million KRW, Thousand shares, %)

Company Name	First Acquisition Date	Purpose of Investment	Amount of the First Acquisition	Balance at the beginning			Increase (Decrease)			Balance at the end			Recent financial state	
				Quantity	Share	Book value	Acquisition (disposition)		Assessed profit or loss	Quantity	Share	Book Value	Total assets	Current net profit or loss
							Quantity	Amount						
Daedeok Investment (Not listed)	May 20, 2011	Simple investment	500	100	8.9	500	-100	-500	-500	-	-	-	-	-
Silicon Work Inc. (Not listed)	October. 15, 2012	Pioneering new markets	555	2,000	100	137	-	-	-	2,000	100	137	298	-49
Daedeok Venture Dream Town	January 3, 2014	Simple investment	100	20	20	100	-20	98	-2	-	-	-	-	-

(Not listed)														
Silicon Works China Co., LTD (Not listed)	March 3, 2017	Pioneering new markets	674	-	100	674	-	-	-	-	100	674	2,869	68
Advanced Power Device Technology	Mar 12 2018	Pioneering new markets	4,410	176	49	4,410	-	-	-	176	49	4,410	9,659	35
Total				2,296	-	5,821	-120	-402	-502	2,176	-	5,221	12,826	54

Note) Net profit and total assets of companies to which the company made equity investments in the latest fiscal year are calculated as of Mar. 31, 2018.

Note) Advanced Power Device Technology was newly invested in this quarter and Net profit and total assets of the company was Dec. 31, 2018.

Daedeok Venture Dream Town was liquidated and closed on September 12, 2018 and the liquidation expenses amounted to approximately 2 million KRW.

Daedeok Investment Co., Ltd. recorded a total loss of 500 million KRW for the book value due to continuous operating loss and net loss.

X. Transactions with Stakeholders

1. Credit Granting to Large Shareholders

Our company is not applicable as of the report preparing day.

2. Transfer or Succession of Assets to or from Large Shareholders

A. Business transfer

Division	Date of contract (Date of board resolution)	Contract party	Contract details	Amount for transfer (100 million KRW)	Date of transfer	Date of major fact report
Business transfer	2018.05.29	LG Electronics Co., Ltd.	Entire assets and manpower related to T-Con chip business for OLED TV	461	2018.07.01	-

Note) Refer to "XI. Other matters necessary for the protection of investors -> 3. Other information such as sanctions -> Information after the merger -> (2) Comparison table of financial matters before and after the transfer of business" for profit or loss arising from the transactions.

Our company is not applicable as of the day of the reporting preparation.

3. Operational Transactions with Large Shareholders

[Basic date: Dec. 31, 2018] (Unit: Thousand KRW)

Division	Company name	Sales	Purchase		
			Raw materials purchased	Outsourcing expense	Others
Affiliates and their subsidiaries	Lusem Co., Ltd. (*)	132,994		15,463,355	3,839
	LG CNS Co., Ltd.				7,658,291
	S&I Co., Ltd.	15,014			786,986
	Serveone Co., Ltd.	3,762			4,641
	LG Management Development Institute Inhwawon Co., Ltd.				285,072
	LG Electronics USA Inc.	2,896,894			

Division	Company name	Sales	Purchase		
			Raw materials purchased	Outsourcing expense	Others
	LG International japan Ltd.	673,007			
	LG Display Co., Ltd.	713,092,605			
	LG Electronics Co., Ltd.	7,672,944	12,662		50,891,024
	LG Innotek Co., Ltd.		20,864,579		889,591
	LG U-plus	3,200			111,774
	Pantos Co., Ltd.				1,246,993
	HS-AD Co., Ltd.				9,900

(*) It was excluded from the specially related parties due to the disposal of all shares of Lusem Co., Ltd. held by LG Co., Ltd. during the current year, and the transactions after the exclusion from the scope of specially related parties are not included.

4. Transactions with stakeholders other than major shareholders

The company is not applicable as of the reporting date.

XI. Other Matters Necessary for the Protection of Investors

1. Summary of Minutes from the General Shareholders' Meeting

<Progress and change status of disclosure>

- None

<Summary of minutes of shareholders' meeting>

Date	Agenda	Resolution	Comment
20th Regular General Shareholders' Meeting 2019.3.15)	Agenda 1: Approval of 20th year (January 1 ~ December 31, 2018) consolidated financial statements and financial statements Agenda 2: Approval of changes in the Articles of Incorporation Agenda 3: Approval of the election of directors Agenda 3-1: Election of Non-executive Director Jeong Yeon-Chae Agenda 3-2: Election of Independent Director Wee Gyeong-Woo Agenda 4: Appointment of members of the Audit Committee [1 person candidate for Independent Director and Member of Audit Committee Wee Gyeong-Woo] Agenda 5: Approval of directors remuneration limit Agenda 6: Approval of the retirement benefit payment regulations for executive officers	Agenda 1~6: Approved as original plans	-
19th Regular General Shareholders' Meeting (2018.03.16)	Agenda 1: Approval of 19th (January 1 ~ Mar 31, 2017) consolidated financial statements and financial statements Agenda 2: Appointment of directors Agenda 2-1: Appointment of Director Sung Kwan Choi Agenda 2-2: Appointment of Other Non-Permanent Director Hyun-ok Jeong Agenda 2-3: Appointment of Independent Director Young-soo Shin Agenda 3: Appointment of members of the Audit Committee [1 person candidate for Independent Director and Member of Audit Young-soo Shin] Agenda 4: Approval of remuneration limit for directors	Agenda 1~4: Approved as original plans	-
18th Regular General Shareholders' Meeting (2017.03.17)	Agenda 1: Approval of 18th (January 1 ~ Mar 31, 2016) consolidated financial statements and financial statements Agenda 2: Appointment of directors Agenda 2-1: Appointment of Director Bo-Ik Son Agenda 2-2: Appointment of Other Non-Permanent Director Byeong-Hun Min Agenda 2-3: Appointment of Independent Director Il-Gu Yoon Agenda 3: Appointment of members of the Audit Committee [1 person candidate for Independent Director and Member of Audit Il-Gu Yoon]	Agenda 1~4: Approved as original plans	-

	Agenda 4: Approval of remuneration limit for directors		

2. Contingent liabilities

<Important Litigations>
- None

<Status of Promissory Note, Notes and Checks as Collateral>
(Basic date: Dec. 31, 2018) (Unit: KRW)

Submitted to	Number	Amount	Remarks
Bank	-	-	-
Financial institution (except bank)	-	-	-
Incorporated entity	-	-	-
Others (individual)	-	-	-

<Status of debt guarantees and debt acceptance agreements, other contingent liabilities, etc.>
- None

3. Sanctions and Other Situations

<Status of sanctions>

There is no case of any violation against domestic and/or international financial and tax obligations from laws and regulations such as the Commercial Code, Capital Market Act, External Audit Act, Fair Trade Act.

< Significant Incidents after the Basic Date for Preparation >
None

<Use of directly financed funds>
None

<Information after merger>
None

A. General

Division	Contents
Date of transfer	2018.07.01
Amount for transfer	48 billion KRW
Company name	LG Electronics Co., Ltd.
Representative director	Do-Hyun Jeong

Address of head office	LG Twin Tower, 128, Yeoui Road, Yeongdeungpo-gu, Seoul
Background of business transfer	Total solution construction for system semiconductors for OLED TV
Legal form	Business transfer and succession
Specific details	Related business on T-Con chip for OLED TV
Key schedule	Acquisition of entire assets and manpower in exchange for 48 billion KRW

Note) The difference in the working capital between the valuation time and the acquisition time was settled, and the final acquisition amount was changed from 48.0 billion KRW to 46.1 billion KRW.

B. Comparison table of financial matters before and after business transfer

(Unit: Million KRW)

Applicable company	Title of account	Projection		Performance				Remarks
				1st year		2nd year		
		1st year	2nd year	Performance	Difference rate	Performance	Difference rate	
LG Electronics Co., Ltd.	Sales	16,209	38,766	19,698	(22%)	-	-	-
	Operating income	1,888	4,755	1,622	14%	-	-	-
	Current net income	947	2,636	748	21%	-	-	-

Note 1) 1st year is July 1, 2018 (from the date of transfer) to December 31, 2018, and 2nd year is 2019.

Note) Gap ratio: (Forecast - Actual) / Forecast

Note) Reason for the gap ratio of over 10%

- Sales increased due to increased demand from customers compared to those in the business environment expected in the acquisition and operating profit decreased slightly due to the upfront investment for development costs (to stabilize the business earlier).

[Confirmation of Expert]

1. Confirmation by experts

- Not applicable

2. Interests with experts

- Not applicable