

from Transition
to Transformation



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- Reference Page
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Letter to Shareholders

2018 was an important year for Dong-A Socio Group, as we set out our plans for Jeong-Do Management based on which we will continue to grow in the right way.



To Our Shareholders

Dong-A Socio Group has been committed to relentless innovation and investment over recent years, which was paid off in a significant way in 2018. We responded actively to a rapidly changing market environment, with a particular focus on developing distinctive competitiveness. In addition, we strengthened our internal business fundamentals to build the foundations for future growth.

Dong-A Socio Holdings acquired Gayasan Mineral Water Inc. and merged it with DONGCHEONSU, in response to the growth of the Korean bottled water market and with the aim of expanding our business portfolio. Dong-A ST once again proved the strengths of its R&D by signing a license-out agreement with the US-based NeuroBo Pharmaceuticals for a botanical drug for diabetic neuropathy treatment. Dong-A Pharmaceutical's Bacchus® continued to grow its business, thereby enhancing the brand value of Dong-A, while also entering the Vietnamese market and continuing to expand globally. Other major subsidiaries, including Yong-Ma Logis and Soo Seok, achieved significant success in increasing sales despite the difficult market environment thanks to their efforts to improve core competitiveness.

In addition, we put Jeong-Do Management* at the center of our management principles based on our founding spirit of 'integrity', 'sincerity' and 'consideration'. We strongly believe that Jeong-Do Management will enable us to enhance our corporate value and achieve sustainable growth for the long-term, and our commitment to Jeong-Do Management was made clear to all of our internal and external stakeholders through a declaration ceremony. One of the first steps towards fully establishing Jeong-Do Management at the heart of our corporate culture has already been taken as Dong-A Socio Holdings, the holding company, and major subsidiaries, including Dong-A ST and Dong-A Pharmaceutical, are now moving forward together to achieve ISO 37001 – a certification standard for anti-bribery management systems.

As such, Dong-A Socio Group put Jeong-Do Management into practice, and thus took another step towards realizing our 'Vision 2025' which aims 'to be a global healthcare player by establishing distinctive competencies in each business area'. In 2019, we will continue to strive towards early realization of that vision by pursuing the following strategic tasks.

First, we will enhance corporate value through Jeong-Do Management.

We believe that the trust we earn from our stakeholders results in better corporate competitiveness. We will therefore focus on improving management ethics and transparency. In particular, we will establish the culture of Jeong-Do Management at the Group level by encouraging all Group affiliates to put the Jeong-Do Management system in place.

Second, we will develop sustainable competitiveness through innovation and cooperation.

We will continue to grow by strengthening our partnerships with global pharmaceutical companies, and at the same time, we will develop drivers of new growth through open innovation in our R&D. In addition, we will build foundations for long-term growth by expanding our global-standard production facilities.

Third, we will fulfill our social responsibilities and grow in partnership with our local communities.

We will go beyond corporate social responsibility activities and create new values. We will therefore adopt ISO 26000, an international standard offering voluntary guidance on social responsibility, and act in the public interest by developing a model to generate economic, social and environmental values, with the goal of creating shared values (CSV) and growing in partnership with all of our stakeholders.

2018 was an important year for Dong-A Socio Group, as we set out our plans for Jeong-Do Management based on our founding spirit, and experienced a year of new challenges. We are fully aware that the trust shown by all of our stakeholders is essential in enabling us to change and innovate. We will continue to grow in the right way, with stakeholder trust at the roots of that growth, and the fruits we bear will be shared with our customers, shareholders and local communities. As Dong-A Socio Group grows further through Jeong-Do Management, I ask for your continuing trust, interest and support.

Jung-Seok Kang
Chairman, Dong-A Socio Group

* Jeong-Do Management: Jeong(鼎) and Do(道) are Chinese characters meaning 'cauldron' and 'way' – describing Dong-A's ethical management, which is based on the spirit of sharing and sincerity shown by our founder Choong-Hee Kang, who served hot meals to all visitors from a cauldron and built up trust with his neighbors.

Group Overview

Dong-A Socio Group is a healthcare company committed to its founding spirit of integrity, sincerity and consideration, and its corporate motto is to pursue creativity, collaboration and philanthropy. Founded in 1932, Dong-A Socio Group has worked towards healthy growth for both the company and society as a whole, and as part of that commitment, we put Jeong-Do Management at the center of our management principles in order to make further advances toward sustainable growth and grow into a global company.



In March 2013, Dong-A Socio Group demerged the former Dong-A Pharmaceutical to form Dong-A Socio Holdings, the holding company, Dong-A ST, a company specializing in ethical (ETC) drugs, and Dong-A Pharmaceutical, a company specializing in over-the-counter (OTC) drugs, with the aim of transforming into a holding company structure. The existing Dong-A Socio Holdings entity completed a change of listing on the Korea Exchange (KRX) securities market on April 8th, 2013. Dong-A ST, the company created as a result of the equity spin-off, was re-listed. Approval was received from the Fair Trade Commission on the change to a holding company structure in December 2014. ST Pharm, a company specializing in new drug active pharmaceutical ingredients (APIs), was listed on KOSDAQ in June 2016. Dong-A Socio Holdings has thus satisfied all the holding company requirements stipulated in the Fair Trade Act, and has completed the change to a holding company structure. As of the end of 2018, there were 26 entities in Dong-A Socio Group. Under the leadership of Dong-A Socio Holdings, every member company of the Group continually seeks out challenge and change, and works together to enhance the value of Dong-A Socio Group.

Dong-A Socio Holdings As the holding company of Dong-A Socio Group, Dong-A Socio Holdings defines the overall vision and formulates the strategic goals at the Group level, and draws up the Group's human resource and investment plans based on those

strategic goals. It is leading the phased business expansion of the Group by moving beyond the previous focus on pharmaceutical drugs to include medical services and other new businesses.

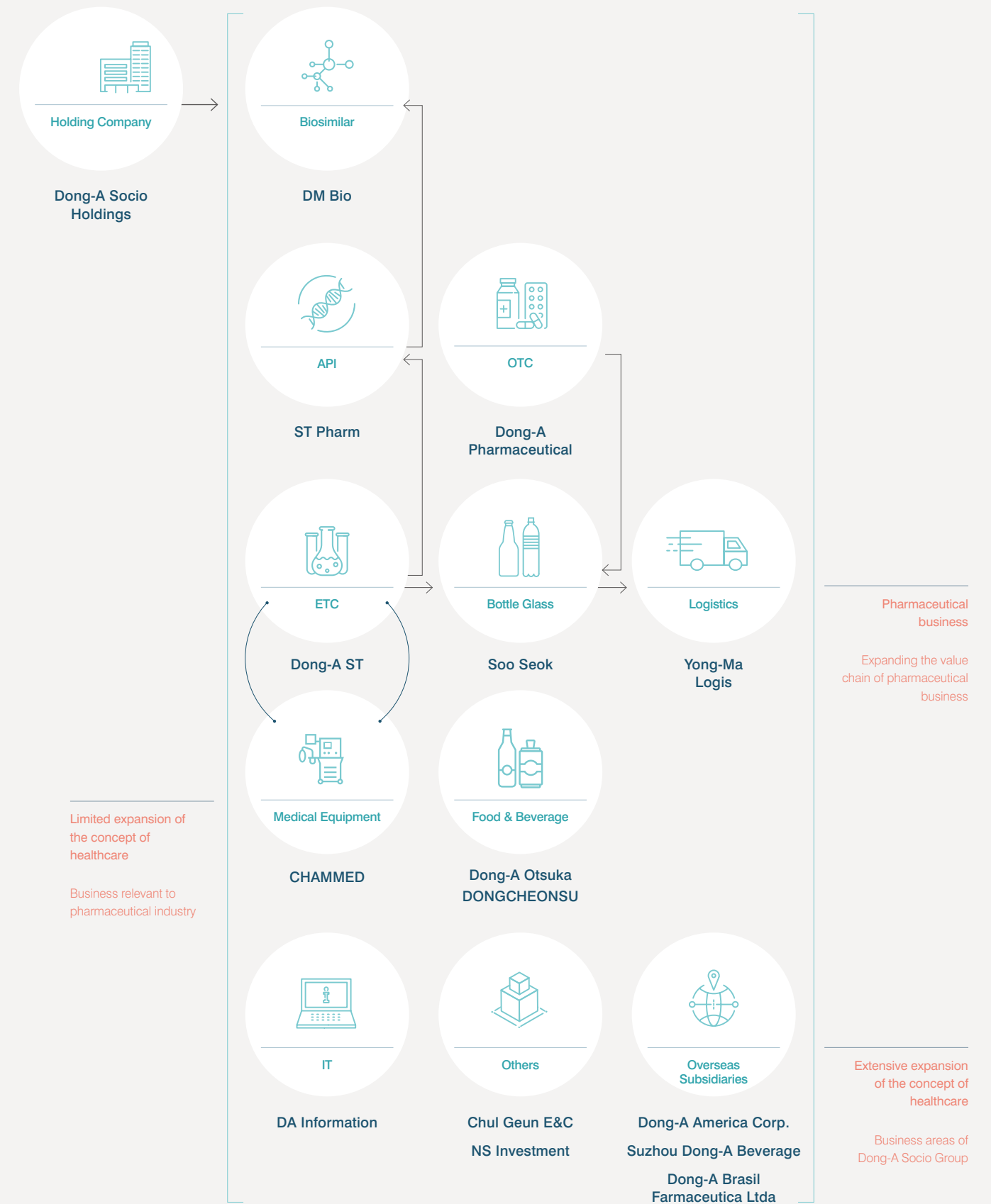
Dong-A ST Dong-A ST operates ETC drug, overseas, and medical equipment & diagnostics businesses. As the R&D hub of Dong-A Socio Group, Dong-A ST puts considerable efforts on developing global new drugs, supported by a top-level research infrastructure which includes cutting-edge research centers and highly-skilled research experts.

Dong-A Pharmaceutical Dong-A Pharmaceutical's main businesses include OTC drugs which can be bought without a prescription, quasi-drugs and health functional foods.

ST Pharm ST Pharm is a contract development and manufacturing organization (CDMO) with expertise in new drug APIs and generic APIs. The company is also an Asia's leading oligonucleotide CDMO in nucleic acid-based therapeutics API which is a new form of treatment.

Others Dong-A Socio Group affiliates include Yong-Ma Logis, a third-party logistics company, Soo Seok, a producer of bottles glass, DM Bio, a biosimilar company, Dong-A Otsuka, a beverage company, DONGCHEONSU, a specialist in mineral water, and Chul Geun E&C, a construction company.

Group Organization & Business Area



Milestones

1932

1932-1958

The Prelude of Dong-A

1932

Choong-Hee Kang's Wholesaler, a pharmaceutical and hygiene material wholesaler, began operations in Joonghak-dong, Jongro-gu, Seoul, Korea

1947

Pharmaceutical business began full operation

1949

Changed name to Dong-A Pharmaceutical Corporation

1957

Constructed modern facility, headquartered in Yongdu-dong, Dongdaemun-gu, Seoul, Korea

Manufactured antibiotics, such as Penicillin®

1975-1992

Establishment of Growth Foundation

1977

Established a research center in Yongdu-dong, Dongdaemun-gu, Seoul, Korea

1979

Developed the world's third antibiotics, Talampicillin®

1988

Released AIDSIA®, Korea's first ever first-generation AIDS diagnostic reagent

Constructed the industry's first Korea Good Laboratory Practice (KGLP)-compliant research center in Sanggal, Gyeonggi, Korea

1991

Received the IR52 Jang Young Shil Award for AIDSIA®

2000-2007

Becoming an R&D-centered Pharmaceutical Company

2001

Received the Excellent Shareholder Focused Management Award

2002

Released Stillen®, Dong-A's first in-house developed original drug and a phytomedicine for gastritis

2005

Released Zyderna®, Dong-A's second in-house developed original drug and an erectile dysfunction treatment

2006

Released Gonadopin®, a first-generation biomedicine and infertility treatment

2007

Licensed out Sivextro®, an oxazolidinone class antibiotics, to Trius Therapeutics of the US (currently Merck & Co.) for the worldwide territory except Korea

2013-2018

On the Wings of a New Era

2013

Demerged into three new companies – Dong-A Socio Holdings (the renamed existing entity), Dong-A ST (a stock spinoff entity), and Dong-A Pharmaceutical (an asset split-off entity)

Established a Korea's first dementia research center

Exports exceed KRW 100 billion

2015

Demerged the Biosimilar Business Department and established DM Bio

Obtained European Commission (EC) approval and launched Sivextro® (Tedizolid) in European countries

Licensed out Evogliptin to Eurofarma Laboratórios of Brazil for 17 countries in Latin America

Licensed out Evogliptin to GEROPHARM of Russia for the Russian, Ukrainian and Kazakhstan markets

Annual sales of Bacchus® exceeded KRW 200 billion

2017

Announced Dong-A Socio Group's new vision system 'Vision 2025'

Dong-A Socio Holdings and DM Bio signed an MOU with Alteogen on cooperation for biopharmaceutical production and research

Signed an MOU with the Vietnamese government on supplying contraceptives

Acquired CHAMMED, a medical device company

Dong-A ST and Dong-A Socio Holdings signed an MOU on developing a new antibody drug with ABL Bio

Hosted a ceremony to celebrate the 20th anniversary of Dong-A Pharmaceutical's Tour Korea for College Students

1961

Began manufacturing Bacchus®

1964

Bacchus® ranked first in domestic tonic market

1967

Ranked first in sales among domestic pharmaceutical companies

1970

Initial Public Offering (IPO)

Modernization of Pharmaceutical Business
1959-1974

1993

Developed Growtropin®, a first-generation biomedicine and human growth hormone

1994

Released Interferon-alfa™, a first-generation biomedicine and multiple myeloma treatment

Developed the world's first simultaneous diagnostic reagent for AIDS and hepatitis C

1995

Bacchus® became Korea's first single pharmaceutical product to achieve sales of KRW 100 billion

1997

Became the first company in Korea to develop a tuberculosis treatment, Closerin®

1999

Released Leucostim®, a first-generation biomedicine and neutropenia treatment, and Eporon®, a renal anemia treatment

Overcoming Obstacles by Working Together
1993-1999

2010

Acquired Samchully Pharmaceutical specializing in API and changed name to ST Pharm

2011

Released Motilitone®, Dong-A's third in-house developed original drug and a phytomedicine for functional dyspepsia

Signed a comprehensive business alliance contract on biosimilars with Meiji Seika Pharma of Japan

2012

Began the construction of the DM Bio Plant in Songdo, Korea in conjunction with Meiji Seika Pharma

80th anniversary of the foundation of Dong-A

Challenging to Become a Global Company
2008-2012

2014

Completed the construction of the DM Bio Plant

Received holding company approval from the Fair Trade Commission

Obtained US FDA approval and launched Sivextro® (Tedizolid), an oxazolidinone class antibiotic, in the US by Cubist (currently Merck & Co.)

Signed a strategic alliance contract with Combiphar of Indonesia

Secured Korean Ministry of Food and Drug Safety (MFDS) approval for Dulastin®, DA-3031 (PEG-G-CSF), a long-acting biopharmaceutical drug for neutropenia

2016

IPO of ST Pharm on the Korean Securities Dealers Automated Quotations (KOSDAQ)

Released Stillen® 2X, an Incrementally Modified Drug (IMD) of Stillen®

Released Suganon® (Evogliptin) and Sugamet®-XR (combination product of Evogliptin and Metformin), Dong-A's fifth in-house developed original drug and a type 2 diabetes treatment

Licensed out MerTK inhibitors, a cancer immunotherapy pipeline, to AbbVie Biotechnology for the worldwide territory except Korea

2018

Hosted a ceremony to set out Jeong-Do Management

Acquired Gayasan Mineral Water, a mineral water company

Signed a joint research agreement with AstraZeneca to develop innovative Immuno-Oncology Drugs

Licensed-out DA-9801, a botanical drug for the treatment of diabetic neuropathy, to NeuroBo Pharmaceuticals

Assigned the right of DA-9803, a botanical drug for the treatment of Alzheimer's disease, to NeuroBo Pharmaceuticals

Licensed-in and joint research agreement with ABL Bio to develop Immuno-Oncology Bispecific Antibody Drugs

Dong-A ST obtained the ISO 37001 anti-bribery management system certification

2018

from Challenge to Achievement


At this time of volatility, uncertainty, complexity and ambiguity (VUCA), only companies that turn crisis into opportunities can achieve sustainable growth. Dong-A Socio Group strengthened its foundations for new growth in 2018, despite the difficult market environment, by investing for the future, building on the expertise and know-how we have built as a healthcare specialist, and by promoting innovation through cooperation.



Innovation



Partnership with NeuroBo Pharmaceuticals


P. 64-65

In January 2018, Dong-A ST signed a licensing-out agreement with US-based NeuroBo Pharmaceuticals for DA-9801, a treatment for diabetic neuropathy. This was followed by the assignment of rights for DA-9803, a treatment for Alzheimer's disease. Both DA-9801 and DA-9803 are botanical drugs developed in-house by Dong-A ST. A phase II clinical trial has been successfully completed in the U.S. for DA-9801, and a phase III clinical trial is planned. A pre-clinical study for DA-9803 has been completed in Korea, and preparations are now being made for investigational new drug (IND) application in the U.S. Based on the agreements signed with NeuroBo Pharmaceuticals, Dong-A ST has become a major shareholder of the company which specializes in neuroscience botanical drugs, which will in turn enable Dong-A ST to expedite global market entry for the botanical drugs it develops in-house.



Partnership to Develop Immuno-Oncology Drugs


P. 66

Dong-A ST has been building extensive partnerships with Korean and overseas companies in the field of immuno-oncology. In January 2018, the company entered a joint research agreement with the UK-based global biopharmaceutical company AstraZeneca, to develop candidates for innovative new immuno-oncology drugs. This agreement represents global recognition of Dong-A ST's R&D strengths. In Korea, Dong-A ST signed a joint development and licensing-in agreement for a bispecific antibody new drug with a new immuno-oncology mechanism with ABL Bio, a company which owns key technologies related to the development of bispecific antibody and antibody drug conjugates. Dong-A ST will continue to widen its cooperation with others in order to develop innovative immuno-oncology drugs to compete in the global market.

10%

plus

Dong-A ST continues to strengthen its global competitiveness by investing at least 10% of its sales into R&D



1.5 mol

Invested approximately KRW 33 billion to build the new Banwol Plant, with an annual production capacity of 1.5 mol

 **Capacity Expansion for Stronger Growth**

 P. 44-45

ST Pharm's new Banwol Plant began full operations in October 2018. The new plant's annual production capacity is 1.5 mol of oligonucleotides, which is approximately 15 times larger than the 0.6 mol capacity available at the existing Sihwa Plant. With a total annual production capacity of 800 kg, ST Pharm is now the largest contract manufacturing organization (CMO) in Asia, and the third-largest in the world. Following the completion of the new plant, the older production facilities will be used to supply clinical samples, and the new plant will produce commercial and larger scale oligonucleotide active pharmaceutical ingredients (APIs).

In May 2018, ST Pharm attended TIDES, an international conference held in the U.S. to accelerate the development of oligonucleotide and peptide products, and gave a presentation about its CMO business as the only company in the world to undertake batch production at all stages of the synthesis of oligonucleotides. ST Pharm is currently in contact with a number of companies which are at various RNA therapeutics development and commercial stages, and will strive to win future orders for oligonucleotides, with the aim of making its oligonucleotide-based new drug APIs become a major source of sales product for the company.



Momentum

 **New Momentum in Bottled Water Market**

Dong-A Socio Holdings acquired Gayasan Mineral Water in October 2018, thereby expanding its dominance in the mineral water market. In February 2019, a new consolidated corporation, DONGCHEONSU, was launched through the merger of Gayasan Mineral Water, the former DONGCHEONSU and Soo Seok Agriculture¹⁾. Following the acquisition of Gayasan Mineral Water, Dong-A Socio Holdings is confident of increasing its presence in the growing bottled water in Korea, and thus creating new sources of revenue.

 **Global Momentum for Bacchus®**

 P. 39-40
P. 61

Bacchus®, a flagship product of Dong-A Socio Group, once again achieved record sales both in Korea and overseas. The long-term success of Bacchus® can be attributed to the efforts to ensure constant change in line with market trends. Examples include the Bacchus®-Jelly, which was launched in December 2018, aimed at younger customers. In 2018, sales of Bacchus® in Korea recorded KRW 221.7 billion, a year-on-year increase of 2.6%, while overseas sales grew by 9.5% to reach KRW 71.5 billion. In particular, Park Hang Seo, the widely-admired Korean coach of the Vietnamese national football team, took part in marketing activities for Bacchus® in Vietnam, which led to a new sales volume record of more than 2.8 million bottles in four months.

No.1

Leading the tonic market in Korea and Cambodia, setting new records every year



¹⁾ DONGCHEONSU and Soo Seok Agriculture is a mineral water company and an agriculture and fisheries company, respectively, within Dong-A Socio Group

from Today to Tomorrow

With increasing worldwide focus on corporate social responsibility (CSR), companies should reduce their impact on the natural environment while increasing positive impacts on local communities, in order to enhance their corporate values. Dong-A Socio Group faithfully fulfills our role as a member of local communities, and is creating a brighter future based on the principles of respect for life, humankind and the environment.



CSR Highlights





Social Contributions

Fostering Future Talents

'Dong-A Pharmaceutical's Tour Korea for College Students' is an event at which 144 college students walk a total of around 600 kilometers over 21 days. The tour was launched in 1998 to help young people to develop a spirit of challenge and hope. As of the 21st walk in 2018, the total number of participants has reached 3,001, and the cumulative distance walked is 12,153 kilometers.

'Class for Youth on Caring for the Environment and Life' is a five day class designed to teach 60 junior high school students how precious the environment is, and how to protect it.

'Kidzania Job Experience Program' helps children learn about different careers. Children from low-income families are given an opportunity for job experience, and they are encouraged to form views on various occupations. Launched in 2014, the program is run twice a year each in Seoul and Busan.

Staff Volunteering Activities

'Baffor Sharing Volunteer Work' refers to soup kitchen volunteering program participated by Dong-A Socio Group employees. Some 40 staff members help prepare food for around 800 people in need, distribute the food, and clean up afterwards. We have been supporting this program for 14 straight years since 2005, and we won the 'DAIL Volunteer Grand Prize' in 2018 at the DAIL Volunteer Awards Ceremony held to celebrate the 30th anniversary of the founding of the DAIL Community.



'Bigen Again' is volunteer work that involves staff members helping senior citizens dye their hair by using Dong-A Pharmaceutical's Bigen® Cream Tone. Begun in 2015, and now taking place every winter, this program helps seniors feel stylish and young.

'Doori Volunteer Team' was established by Dong-A ST's labor union in 2014 to support employee participation in volunteer work. The Team repairs houses to improve the living conditions of people on low incomes, and delivers coal briquettes in order to give a helping hand to the underprivileged.

Employees of Dong-A Socio Group have taken part in volunteer work since 2017 on and around December 1st, the anniversary of the Group's founding, across Korea, including at the Seoul Headquarters and around 40 branches throughout the nation. Volunteer work included delivering heating briquettes, making kimchi for the winter, and cleaning the environment. This demonstrated Dong-A Socio Group's commitment to growing in partnership with local communities and fulfilling social responsibilities.

Sponsorships

'Sharing Bazaar' is a market at which Dong-A Socio Group sells Dong-A Pharmaceutical and Donga Otsuka products to local residents and employees at low prices. The proceeds are then donated to the Dongdaemun Social Welfare Council. The Bazaar has been held every May since 2009 at Dong-A Socio Group Headquarters.

As part of our 'Valuing Myself' campaign, we have established a partnership agreement with the Korea Army Training Center whereby we provide Bacchus® for free to army recruits. We have supplied 150,000 bottles of Bacchus® every year since 2016.

'Wednesdays with Bacchus®' is a program to provide Bacchus® to senior citizens in the local area. We signed an agreement with the Dongdaemun Senior Welfare Center in May 2017 to provide a bottle of Bacchus® each to some 200 senior citizens aged 65 and over at the welfare center cafeteria every Wednesday.

'MYSTERYBUS' is a volunteering journey for young adults in their 20s and 30s. Dong-A Pharmaceutical signed a sponsorship agreement with MYSTERYBUS in April 2018, and supports the volunteers by providing funds to cover the expenses incurred during their volunteering work, and also through the direct provision of such items as Bacchus®, Morning Care® and Garglin®.

Donation of Pharmaceuticals and Talent

Dong-A Socio Group has been donating Growthropin®, a human growth hormone, to children from low-income families since 2013. In addition, we have been providing Garglin® pouches for blood donors to the Korean Red Cross since 2017, to encourage people to donate blood. These donations won a very positive response from blood donors, which in turn led to Dong-A Pharmaceutical's 2018 journey across Korea to deliver an additional 630,000 Garglin® products.

DA Information, an IT company within Dong-A Socio Group, has developed 'Share Me', an application that enables fund-raising, through the talent donation of its employees, and donated it to the Korean National Tuberculosis Association.

Since 2000, Dong-A Socio Group has helped new employees settle in to their new jobs through 'Dong-A Mentoring' by matching the new employees with experienced staff members. As part of the program, participants have taken part in the 'Sharing Joy and Sorrow' program since 2017. In the first half of the year, they spend time with mentally disabled people who are supported by the Dongdaemun Welfare Center for Disabilities, and in the second half of the year, they create murals in the local area in cooperation with the Architecture Division of the Dongdaemun-gu Office.

Global CSR

Dong-A Socio Group carries out various CSR activities in every country where we operate. We have provided scholarships to students at the University of Pharmacy, Yangon, in Myanmar since 2014, with Dong-A Socio Group staff also giving lectures about pharmacy. In addition, we have signed an agreement with Cambodia Hebron Hospital in Phnom Penh, through which we have been donating drugs and medical supplies to the hospital since 2018, as well as supporting education, research and treatment-related activities.



Environmental Protection

Dong-A ST has been participating in the creation of an urban forest as part of its efforts to improve awareness of environmental issues. The company signed an agreement with the Seoul Metropolitan Government and Forest for Life in August 2018 to reduce fine dust and improve the urban environment in Seoul. It provides the operational and project funds required to establish an urban forest in the Mt. Choan area, near downtown Seoul. As well as financial support, its employees also take part in tree-planting events. In November, Dong-A ST staff members, including the CEO, participated in a tree-planting event alongside local residents, and planted a total of 2,332 trees in an urban forest area covering 3,184 square meters around Mt. Choan.

Sooseok Cultural Foundation

The Sooseok Cultural Foundation runs a scholarship and other programs that promote academic and cultural activities. The Foundation had provided scholarships to 1,761 high school students and undergraduates, totaling KRW 3.08 billion as of the end of 2018. In addition, the Sooseok Cultural Foundation has been sponsoring the 'Marronnier Women's Composition Contest' to encourage female writers since 1992. It has also published the '3,000 Chinese Characters Used in Daily Life' and distributed it for free to schools, companies and various other groups. 40,000 copies of the book have been distributed as of the end of 2018 since its first publication in 2006.

Sangju Institution

Sangju Institution is the educational foundation of Sangju High School. Former Chairman Joong-Hui Kang served as the 4th through 7th chair from 1964 to 1977, and Honorary Chairman Shin-Ho Kang served as the 8th chair and onwards. It provides scholarships, supports to school operations, and offers field trips to Dong-A's Research Center and Plant to help foster future talent.

Group Highlights
03

from Compliance
to Integrity

Ethical management goes beyond previous concepts of corporate responsibility, and is an essential part of running a business and developing core competencies. Dong-A Socio Group has led innovation and development in the Korean pharmaceutical industry, and we have stayed ahead in ethical management as well. In 2018, we set out our commitment to Jeong-Do Management, and prepared ourselves for further advances towards sustainable growth and becoming a truly global company.



Pledge for Jeong-Do Management

Dong-A Socio Holdings has established the Jeong-Do Management system to prevent corruption and conflict of interests, and to ensure fair trade. The company has therefore set out the following standards and values that must be observed by the company and all its employees. Dong-A Socio Holdings declares that it will put these standards into practice, and establish a fair and ethical work environment.



鼎道*

* Chinese characters meaning 'cauldron' and 'way' – describing Dong-A's ethical management, which is based on the spirit of sharing and sincerity shown by our founder Choong-Hee Kang, who served hot meals to all visitors from a cauldron and built up trust with his neighbors.



Ethical Management

Building a culture of integrity



Shaping an Ethical Workplace Culture

Compliance is essential to the sustainable growth of any company. Dong-A Socio Group recognized the importance of ethical management at an early stage, so that we established our compliance program (CP) in September 2007, and have continued to conduct monitoring and provide trainings to employees on a wide range of issues around compliance and fair trade. Dong-A Socio Group continuously emphasizes to all employees the mindset and behavior required to ensure ethical management. To this end, we have shared CP regulations and the code of conduct with all employees, and have drawn up CP training plans and systems to support ethical management. In addition, we strive to ensure that ethical management takes root at the center of Dong-A Socio Group's unique corporate culture. This will create the foundations for sustainable growth and build strong, trusting relationships with our stakeholders.

Promoting Integrity and Preventing Corruption

Dong-A Socio Group is creating the right environment for a sustainable business, with Jeong-Do Management at its heart. In 2018, Dong-A Socio Holdings, the Group's holding company, led the way by establishing Jeong-Do Management as the company's top priority, based on our founding spirit of integrity, sincerity and consideration, with the aim of enhancing our management transparency and credibility in Korea and overseas. The core values we pursue include 'integrity, reflecting our commitment to social justice rather than simply generating profits, 'sincerity', referring to a sense of purpose based on perseverance and endurance, and 'consideration', demonstrating our commitment to sharing. Jeong-Do Management is based on these values, and will serve as the driving force that enables Dong-A Socio Group to achieve sustainable growth.



Dong-A Socio Holdings In April 2018, Dong-A Socio Holdings set up the 'Jeong-Do Management Team' dedicated to establishing and running the Group's sustainable management system. It is under the direct control of the CEO, ensuring quicker decision-making, a

strong execution capacity, and independence of action. The Team plays its role in implementing a corporate level anti-bribery management system which meets global standards, adopting ISO 26000 for guidance on social responsibility, and establishing a risk management system, thus helping to fully establish Jeong-Do Management within the Group.

Dong-A Socio Holdings hosted the Jeong-Do Management Declaration Ceremony in July, attended by the CEO and all employees, to set out its determination to practice Jeong-Do Management both internally and externally. At the ceremony, there was a pledge to generate added value through fair competition, fulfill obligations toward shareholders and society through a strong sense of ethics, practice Jeong-Do Management in full within the organization, and refuse to engage in any act that is in violation of the Jeong-Do Management standards and other relevant regulations. Dong-A Socio Holdings also set a plan to obtain ISO 37001 anti-corruption management system certification and adopt ISO 26000, and it received ISO 37001 certification in February 2019. Going forward, Dong-A Socio Holdings will encourage all Group affiliates to establish the Jeong-Do Management system.



Dong-A ST The former Dong-A Pharmaceutical created the Compliance Team in 2010 for the first time among Korean pharmaceutical companies. When Dong-A Pharmaceutical was demerged into Dong-A Socio Holdings, Dong-A ST and Dong-A Pharmaceutical in 2013, the Compliance Team was made part of Dong-A ST, and was upgraded to the CP Management Department in 2014, to handle all compliance-related work and training within the company. In 2016, all employees received training on the enforcement of the 'Improper Solicitation and Graft Act', and awards were handed out to branches and teams showing excellence in CP. In 2017, Dong-A ST selected 23 internal auditors for ISO 37001 certification, and increased the number of dedicated CP personnel to ensure the efficient sharing of a compliance culture.

In 2018, Dong-A ST created the Anti-bribery Audit Committee Secretariat under the Dong-A ST Anti-bribery Audit Committee (DAAC), and undertook internal ISO 37001 evaluations across all departments. It focused on identifying potential bribery and corruption risks in each department, inspecting and managing the operational process of the anti-bribery management systems (ABMS), conducting training, and spreading a compliance culture. In addition, there were six meetings of Dong-A ST's internal auditors, and ABMS due diligence was completed at all departments of the company and at all parties with whom Dong-A ST has business relations, including partner companies, through 552 inspections. Moreover, a 'Dong-A ST Anti-corruption Management System' booklet and a 'Dong-A ST Anti-corruption Policy' poster were produced. Employees were also notified of policies relating to the prevention of the bribery of public officials. As a result of these efforts, Dong-A ST received ISO 37001 certification from the Korean Standards Association in July 2018, and plans to request follow-up evaluation and the renewal of the certification.

Dong-A ST also focused on spreading a culture of compliance in 2018. To this end, the company conducted a CP awareness survey of all employees, produced the 'Always with CP' logo to enhance compliance, shared CP materials in electronic form, and ran the 'Dialogue with the Chief Compliance Officer' bulletin board. In addition, Dong-A ST published the 'CP Magazine' in the Dong-A Socio Webzine every month, and also issued such compliance-related publications as the 'Dong-A ST Business Ethics Briefs' on whistle-blowing and the '2018 CP Handbook'. The CEO's message on Jeong-Do Management was shared three times throughout the year with Dong-A ST employees, including at a compliance ceremony for all employees in July 2018, to strengthen ethical management and compliance.

Moreover, the company built a system to respond to the so-called K-Sunshine Act, connected the 'CP-M' compliance reporting system with the 'e-Accounting' system, carried out monitoring of the Audit Command Language (ACL) on a regular basis, and established a homepage on ethical management for Dong-A ST's business associates, with the aim of further developing its CP systems. Dong-A ST is also striving to improve compliance throughout the entire Korean pharmaceutical industry by engaging in regular exchanges with compliance teams of other pharmaceutical companies. The Deputy Compliance Officer of Dong-A ST serves as the chair of the Sub-Committee on Compliance Management of the Korea Pharmaceutical and Bio-Pharma Manufacturers Association.



Dong-A Pharmaceutical Dong-A Pharmaceutical has continued to spread a compliance culture across the entire company ever since creating its compliance organization in 2016. After adopting CP in March 2017, the company established the Dong-A Pharm. Compliance Committee (DPCC), and announced the Dong-A Pharm. Code of Conduct. It also provides CP training, and monitors compliance with relevant laws and regulations. The BOD appointed the CEO as the Chief Compliance Officer in April, thus demonstrating its full commitment towards CP.

2017 was a year for building the foundations of CP, and 2018 was a year for spreading the culture of compliance. After ISO 37001 was adopted in July, Dong-A Pharmaceutical hosted a ceremony to declare its commitment to anti-corruption in August, and set up organizations to operate the anti-corruption management system, including the Dong-A Pharm. Anti-bribery Committee (DPAC), the Anti-bribery Compliance Function, and internal auditors. In the following November, the BOD approved the anti-bribery policy.

The company strived to spread a culture of CP by producing CP-related posters, sharing CP-related documents on the company homepage, and providing related trainings, while all employees made a sincere pledge to practice compliance. Furthermore, Dong-A Pharmaceutical focuses on building the systems needed to satisfy the requirements of anti-corruption management, and ensuring their effective operation.

Compliance Milestones

2007

Adopting Compliance Program

- 2007 Adopted Compliance Program (CP)
- 2010 Created the Compliance Team
Established CP Standards
- 2011 Built a CP website
Provided CP training to executives and staff members at headquarters
- 2012 Conducted CP training and monitoring at branches
Adopted Medical Advisor

Demerger into three companies

2013

Responsible Management and Ethical Management

Dong-A ST

- 2013 Built a CP electronic approval system
- 2014 Appointed the CEO and President of Dong-A ST as the compliance officer and expanded the CP-dedicated organization
All employees made a compliance pledge
- 2015 Received 'AA' rank on CP Evaluation Program from Fair Trade Commission
- 2016 Published a manual on the 'Improper Solicitation and Graft Act' and the Fair Trade Act; and announced standard operating procedure and guidelines
- 2017 Established the Dong-A ST Anti-bribery Audit Committee (DAAC) to implement ABMS

Dong-A Pharmaceutical

- 2016 Established the C&C Team (Credit Management & Compliance Team) dedicated to CP
- 2017 Adopted CP
Appointed the CEO as a Chief Compliance Officer (CCO)

2018

Declaration of Jeong-Do Management

Dong-A Socio Holdings

- Established the Jeong-Do Management Team
- Hosted a ceremony to declare the Jeong-Do Management of Dong-A Socio Group

Dong-A ST

- Put into place a monitoring system to respond to the enactment of the K-Sunshine Act
- Set up a regular Audit Command Language (ACL) monitoring system
- Obtained the ISO 37001 certification
- Opened an ethical management homepage for Dong-A ST's business associates

Dong-A Pharmaceutical

- Established the anti-corruption management system
- Established the Dong-A Pharm. Anti-bribery Committee (DPAC) and appointed the Anti-bribery Compliance Function





Human Resources Management

Valuing dignity and integrity

Number of HRD programs offered in 2018

228



Attracting and Retaining the Best Talent

As of the end of 2018, there were 2,660 employees at the four major entities of Dong-A Socio Group – 210 at Dong-A Socio Holdings, 1,533 at Dong-A ST, 784 at Dong-A Pharmaceutical, and 133 at DM Bio. We particularly focus on recruiting professionals, including pharmacists, lawyers and patent agents, so that there are 132 pharmacists, accounting for 5.0% of total personnel. There are 332 R&D personnel, 12.5% of the total, and of these, 78.1% hold a master's or doctorate degree. Furthermore, we continue to recruit global talent, and there are also 80 personnel handling overseas business, accounting for 3.0% of total personnel at the four companies.

In 2017, Dong-A Socio Group became the first Korean pharmaceutical company to adopt 'blind recruitment'. We recruit outstanding talent in an impartial manner through both rolling recruitment and a formal semi-annual recruitment process for college graduates. In 2018, we used blind recruitment to hire a total of 190 people, comprising 81 regular employees and 109 interns eligible for full-time employment.

Developing Talents to Their Full Potential

In 2018, the HR Development Center launched its integrated training in full at the Group level, and it now offers training to staff at all Group affiliates, including programs on the Group's vision, new employee training and stepping stone courses. The Vision Internalization Step 2 course goes beyond the understanding of the Group's vision system, and encourages employees to practice core values in the field and also ensures the very best in individual patterns of professional behavior. There were 85 training courses in total, offered to around 4,500 employees across the Group. There was also training on the specific skills required for each business area, with 35 courses provided on 90 occasions to a total of 3,220 employees, with the goal of fostering healthcare specialists.

In addition, we created the 'Job Common Academy', consisting of 15 courses across five areas – management, sales, marketing, production and global – to improve common job skills across the Group, and will continue to operate the Academy in the future. The HR

Development Center has also worked on integrating online training across the Group and adopting a new learning management system, and will continue to enhance individual growth and organizational development by expanding the training provided to employees.

Creating a Great Workplace

Dong-A Socio Group promotes a healthy workplace and helps staff achieve a good balance between their work and personal lives. We have been offering a mentoring program to help new employees get adjusted to their new roles since 2010, which involves such activities as volunteer work, sports, as well as culture and art performances. In addition, we operate the 'Dong-A Family Day', which encourages a corporate culture that balances work and personal lives and builds an autonomous, creative organizational culture. We also run an anti-smoking campaign and a 'Healthy Place to Work' program which checks the health of employees through monthly customized one-on-one counseling with a medical specialist. Moreover, we run a brunch café, 'DA-1201 (DA One)', for employees to relax in, and have also created the 'Rosarium' rooftop garden at our HQ, for relaxation, meetings and other events.

Dong-A Socio Group launched the 'DO DON'T 1010' campaign in 2018, consisting of 10 elements of our corporate culture that employees should most strive to uphold and 10 bad habits that should be eradicated. This campaign was created by employees from start to finish, and as a result, there is full commitment to it. The DOs and DON'Ts were chosen through an online vote among 1,414 staff opinions, and will be updated through regular votes in the future. By doing so, we are seeking to improve or eliminate any negative aspects in our corporate culture, and enhance the positive aspects.

Portion of R&D personnel to total personnel at Dong-A Socio Holdings and Dong-A ST

16.9%

Vision 2025

Guided by a clear mission, together with a strategic focus on long-term value creation, all members of Dong-A Socio Group work in unison to realize our vision into reality.



PURSUE INNOVATION

We will lead the dynamics of the market by creating distinctive value through a broader perspective and a unique mindset. We will not be afraid of challenge or failure while pursuing innovation, and will encourage colleagues to accept challenges.

- Constant innovation
- New perspectives
- A spirit of challenge
- Sincerity and tenacity



LEAD CHANGE

We will grasp new opportunities in the global healthcare market in this era of rapid change driven by an ageing society, personal consumption, uncertain economic growth, and technological convergence, with an ultimate goal to lead the change.

- Act promptly
- Never stop changing
- Open-minded
- Lead by example

Our Strategy

Dong-A Socio Group will strengthen our business capabilities, and expand business areas and global outreach, with a goal to realize our vision. We will secure differentiated competitiveness across all of our established businesses, where we have focused on pharmaceutical business. Furthermore, we will expand business areas in order to satisfy increasingly complex and diverse market and customer requirements. We are accelerating efforts to expand overseas business, in particular, thus overcome the saturated domestic market and develop new growth drivers.



TRUST OTHERS

Based on the belief that trust is a foundation for greater innovation, we will build a strong relationship of trust and a win-win relationship with all of our stakeholders by communicating actively and cooperating seamlessly with them.

- Create synergy
- Win-win
- Proactive communication
- Act with consistency



THRIVE TOGETHER

We will faithfully fulfill our social responsibilities as a healthcare company which contributes to better lives, based on our responsibility and capability. This will enhance our corporate value, and more importantly, it will form the basis for sustainable growth for ourselves and society as a whole.

- Social responsibilities
- Sharing and contributions
- Self-development
- Sense of responsibility

Directions



Key Figures

Dong-A Socio Holdings

(Unit: KRW billion)

	Separate Figure	Consolidated Figure
Statements of Financial Position		
Total assets	796.1	1,241.9
Total liabilities	245.9	506.2
Total shareholders' equity	550.2	735.8
Statements of Income		
Operating revenue	71.1	707.5
Operating expenses	47.1	656.9
Operating profit	24.0	50.5
Income before income tax	(78.8)	(173.1)
Net profit	(78.9)	(163.9)

Dong-A ST

(Unit: KRW billion)

	Separate Figure	Consolidated Figure
Statements of Financial Position		
Total assets	958.4	948.7
Total liabilities	369.3	369.3
Total shareholders' equity	589.1	579.4
Statements of Income		
Sales	567.2	567.4
Cost of goods sold	274.1	274.1
SG&A expenses	179.7	179.8
R&D expense	74.0	74.0
Operating profit	39.4	39.4
Income before income tax	25.6	16.1
Net profit	17.6	8.0

CEOs of Major Entities of Dong-A Socio Group

Dong-A Socio Holdings

Jong-Hyeon Han
CEO & President

Dong-A ST

Dae-Sik Eom
CEO & Chairman

Dong-A Pharmaceutical

Ho-Jin Choi
CEO & President

ST Pharm

Kyung-Jin Kim
CEO & President

* As of December 31, 2018

Corporate Governance

BOD Composition

Dong-A Socio Holdings, Dong-A ST and Dong-A Pharmaceutical each has a separate expert and independent Board of Directors (BOD). Outside directors have a diverse and in-depth range of relevant experience and expertise. At Dong-A Socio Holdings and Dong-A ST, outside directors comprise the majority of the BOD, thus enhancing independence and transparency. In addition, the chair of the BOD is an outside director, separate from the CEO, in order to ensure that the BOD monitors and supervises top management with complete independence. Dong-A Socio Holdings and Dong-A ST are not obligated to disclose their corporate governance information according to the guideline set by Financial Supervisory Service. Nevertheless, they develop and share their corporate governance reports publicly, and thus provide extensive details on governance to shareholders and other stakeholders.

Committees under the BODs of Dong-A Socio Holdings and Dong-A ST are delegated to perform certain BOD functions, as stipulated by relevant laws and the Articles of Association. They also monitor the BOD and provide advice on important business matters. Each committee consists of a majority of outside directors with professional knowledge in their respective fields, and contributes to the increased expertise and independence of the BOD.

Committee	Composition	Major Roles
Audit Committee	3 outside directors	Audit business operations and accounting of the company and its subsidiaries
Evaluation & Compensation Committee	3 outside directors	Set a plan for evaluation and compensation of the CEO and executives, and review performance
Committee for Recommending Candidates for Outside Directors	1 internal director and 2 outside directors	Manage candidates on a regular basis and recommend candidates for outside directors

* As of December 2018

BOD Operations

Dong-A Socio Holdings and Dong-A ST hold regular BOD meetings to take decisions on matters set forth by relevant laws and the Articles of Association, and to discuss major business matters. If required, they also hold extraordinary meetings. In 2018, the Dong-A Socio Holdings BOD undertook in-depth discussions and strategic decision-making on a wide range of important business matters. These included adopting a system for electronic voting and electronic power of attorney, appointing a compliance officer, making decisions on increases in paid-in capital of DM Bio, Soo Seok and other subsidiaries, acquiring shares in Dong-A ST, and enacting and amending BOD, Audit Committee and Evaluation & Compensation Committee regulations. The Dong-A ST BOD also made discussions on various agenda in 2018, including adopting a system for electronic voting and electronic power of attorney, and enacting and amending BOD, Audit Committee and Evaluation & Compensation Committee regulations.



	Dong-A Socio Holdings	Dong-A ST	Dong-A Pharmaceutical
Composition	3 internal directors and 4 outside directors	3 internal directors and 4 outside directors	2 internal directors, 2 outside directors, and 2 affiliated directors
Portion of outside directors	4/7	4/7	2/6

* As of December 2018

	Dong-A Socio Holdings	Dong-A ST	Dong-A Pharmaceutical
Activities	13 meetings on 23 agenda items and 6 reporting items	11 meetings on 17 agenda items and 7 reporting items	8 meetings on 8 agenda items and 6 reporting items
Outside directors' participation rate	100%	100%	100%

* As of December 2018

Board of Directors

Dong-A Socio Holdings

Inside Directors

Jong-Hyeon Han

(Current) CEO & President, Dong-A Socio Holdings
CEO & President, M.I.Tech

Min-Young Kim

(Current) Executive Director of Management & Planning Division, Dong-A Socio Holdings
Executive Director of Management & Planning Division, Dong-A Pharmaceutical

Sung-Keun Park

(Current) Executive Director & CFO, Dong-A Socio Holdings
Executive Director of Finance Team, Dong-A Pharmaceutical

Outside Directors

Han-Sang Yi

(Current) Chairman of the Audit Committee, Dong-A Socio Holdings

(Current) Professor at the Department of Business, Korea University

Assistant professor at Business college of Oklahoma State University

Bong-Soon Cho

(Current) Member of the Audit Committee, Dong-A Socio Holdings

(Current) Professor at Graduate School of Business, Sogang University

Senior Research Engineer at Shinhan Research Institute

Dong-Chul Kim

(Current) Member of the Audit Committee, Dong-A Socio Holdings

(Current) Partner of Hyun Law
Legal Counsel at Lee Kim & Partners

Chang-Jin Moon

(Current) Professor of Department of Health Administration & Social Welfare & Health Information, CHA University
Assistant Minister of the Ministry of Health and Welfare

* As of December 31, 2018

Dong-A ST

Inside Directors

Dae-Sik Eom

(Current) CEO & Chairman, Dong-A ST
CEO & Chairman, Korea Otsuka Pharmaceutical

Dong-Hoon Lee

(Current) Vice President, Dong-A ST
CEO & Vice President, Dong-A Socio Holdings

Tae-Young Yoon

(Current) Head of Research Center, Dong-A ST
Head of Innovative Drug Discovery Research Laboratories, Dong-A Socio Holdings

Outside Directors

Keun-Soo Kim

(Current) Chairman of the Audit Committee, Dong-A ST

(Current) Professor at the Faculty of International Business, Gyunghee International College

Research Fellow at the Korea Securities Institute

Byoung-Chang Woo

(Current) Member of the Audit Committee, Dong-A ST

(Current) Professor at the Faculty of Law, Sookmyung Women's University

Ph.D. in Law, Korea University

Chairman of the Mediation Committee, Seoul Family Court

Hee-Joo Choi

(Current) Member of the Audit Committee, Dong-A ST

(Current) Senior Advisor of Yulchon LLC

Head of Office for Population Policy, Ministry of Health & Welfare

Jae-Sang Ryu

(Current) Department Chair of Department of Pharmacy, Ewha Womans University

Researcher at Memorial Sloan-Kettering Cancer Center

Dong-A Pharmaceutical

Inside Directors

Ho-Jin Choi

(Current) CEO & President, Dong-A Pharmaceutical
Executive Director Communication Department, Dong-A Pharmaceutical

Heung-Sig Kim

(Current) Executive Director of Sales, Dong-A Pharmaceutical

Head of Honam Branch, Dong-A Pharmaceutical

Outside Directors

Sang-Gyung Jun

(Current) Professor, Business Administration, Hanyang University

Vice Chairman, Korean Finance Association

You-Jae Yi

(Current) Professor, Business Administration, Seoul National University

Head of Institute of Management Research, SNU Business School

Affiliated Directors

Jung-Seok Kang

(Current) Chairman, Dong-A Socio Group
CEO & Vice Chairman, Dong-A Socio Holdings

Jong-Hyeon Han

(Current) CEO & President, Dong-A Socio Holdings

CEO & President, M.I.Tech

Auditor

Sam-Beom Choi

(Current) Auditor, Dong-A Pharmaceutical
Director, Accounting Firm Doore

Shareholder Value



Promoting Active and Open IR Activities

Following the transition to a holding company structure, Dong-A Socio Group has put substantial efforts into improving its investor relations (IR) activities. We hosted a diverse range of IR events in 2018, including company visits, non-deal roadshows (NDRs) and Corporate Day. In total, these IR activities reached out to some 134 Korean and overseas investors. We also continued to host quarterly performance announcements and regular NDRs for analysts and institutional investors of Dong-A ST, as we have done for many years as part of our commitment to improving transparency and building trust with our investors. As well as Dong-A ST's IR activities, Dong-A Socio Holdings also hosts its own IR events.

Dong-A Socio Group will continue to make the utmost effort to enhance shareholder value by improving corporate governance, expanding the roles of the Board of Directors and the auditor, and strengthening compliance, based on Jeong-Do Management.

Number of IR activities conducted in 2018

134

Performance announcements, internal IR Council

Every Quarter

Continuing to publish an annual report for constant and transparent disclosure of information

11 years

Building Efficient IR Communication Channels

Dong-A Socio Group has built several IR communications channels. Our 'IR Council' meets before every quarterly performance announcement and public notice, with members from key departments sharing information to investors on major issues. After performance announcements, top management and senior executives are rapidly informed about market and investor feedback. The IR Team works closely with the Public Relations (PR) Team to share accurate and timely information. We also participate in industry outlook seminars, conferences, and meetings with investor relations officers (IROs) from other companies, in order to enable quick responses to changes in the market environment, to identify industry trends and to build networks and exchange information.

Dong-A Socio Group delivers important and essential information of the Group both quickly and accurately via fair disclosure. IR materials are posted on our website for the transparent sharing of information. We publish an annual report in English every year, and our 2017 Annual Report won the Gold Award in the pharmaceuticals category at the League of American Communications Professional (LACP) Vision Awards, a global annual report contest, ranking 79th among the 'Global Top 100 Annual Reports'. The Annual Report also won the Silver Award at the International ARC Awards. In Korea, it received the Excellent Overseas PR Material Award at the Korea Business Communications Awards for the fifth consecutive year.



Dong-A Socio Holdings



BROADENING PERSPECTIVES

As the holding company of Dong-A Socio Group, Dong-A Socio Holdings looks into the future from a wider perspective, in order to enable the Group to achieve higher goals. In particular, after Jeong-Do Management was established in 2018, Dong-A Socio Group set its path firmly on the right way, rather than the fast and easy way by focusing on improving the fundamentals of its business, thereby building the foundations for long-term sustainable growth.



Dong-A Socio Holdings at A Glance



¹⁾ Listed company

*As of December 31, 2018

Business Areas	Establishment	Sales (KRW billion)	Operating Profit Margin (%)	Total Assets (KRW billion)
Dong-A Socio Holdings ¹⁾	December 1932	707.5	7.1	1,241.9
Dong-A ST ²⁾	March 2013	567.2	6.9	958.4
Dong-A Pharmaceutical ³⁾	March 2013	381.2	13.8	200.4
ST Pharm ¹⁾	August 2008	97.7	-	345.5
DM Bio ³⁾	April 2015	8.4	-	154.5
Yong-Ma Logis ³⁾	February 1979	212.0	3.4	140.8
Soo Seok ³⁾	September 1969	111.3	4.2	167.7

¹⁾ Consolidated figures ²⁾ Separate figures ³⁾ Individual figures

Dong-A Socio Holdings is the holding company of Dong-A Socio Group. It aims to enhance shareholder value by increasing the transparency of its governance and improving business efficiency.

The company has been establishing a responsible management system by supporting an independent and autonomous management, and by creating a high-quality performance evaluation system. Dong-A Socio Holdings also strives to improve its competitiveness by establishing the right decision-making system for each business area and efficiently distributing resources with a goal of supporting potential growth and minimize business risks. Dong-A Socio Holdings has five strategic business units, such as holding company, pharmaceuticals, logistics, bottle glass and others, providing different products and services. As the skills and marketing strategies required by each strategic business unit are different, each business unit is run separately.

Business Performance

In 2018, Dong-A Socio Holdings' consolidated operating revenues recorded KRW 707.5 billion, a 2.5% increase over the previous year. This was attributable to balanced growth at major subsidiaries, including Dong-A Pharmaceutical, Yong-Ma Logis and Soo Seok, and thanks to CHAMMED, a medical device company which Dong-A Socio Holdings acquired at the end of 2017. However, operating profits fell by KRW 2.8 billion year-on-year to KRW 50.5 billion, caused by increases in the Korean minimum wage, the adoption of the 52-hours-a-week working system, and rising prices for raw materials.



Holding Company Dong-A Socio Holdings is responsible for subsidiary management, and it offers business management services. Its main sources of revenue are dividend incomes, shared services fees and fees associated with license-out. The company's separate operating revenue went down by KRW 11.6 billion year-on-year to KRW 71.1 billion in 2018. This decrease was caused by providing fewer business management services to Group affiliates, which in turn was the result of the transfer of business management services previously provided by Dong-A Socio Holdings, including HR, finance and economy, legal affairs and others, to each individual company.



Pharmaceuticals Dong-A Pharmaceutical is Dong-A Socio Holdings' wholly-owned subsidiary, in charge of the over-the-counter (OTC) and Bacchus[®] businesses. The company recorded sales of KRW 381.2 billion, a year-on-year decrease of 2.7%, mainly attributable the termination with contract with GlaxoSmithKline (GSK), and despite steady growth in the Bacchus[®] business.



Logistics Yong-Ma Logis, a company specialized in logistics, posted sales of KRW 212.0 billion, a year-on-year increase of 13.7%. This strong growth was thanks to the success of the company's tailored customer services, and the winning of contracts from new customers.



Bottle Glass The main businesses of Soo Seok are glass bottles, bottle caps and PET bottles. Soo Seok recorded sales of KRW 111.3 billion, a year-on-year increase of 17.8%. In July, it acquired ColorPack, a packing material company, which generated new sales of KRW 10.4 billion. The Glass and PET units also benefited from increased demand.

Future Plans

Dong-A Socio Holdings will continue to strive to establish itself as a global company by responding actively to the fast-changing business environment, both in Korea and overseas. The company and all of its subsidiaries will work together to put into practice the Jeong-Do Management which was set out in 2018, and to realize the company vision 'to be a global healthcare player by establishing distinctive competencies in each business area'. The development of each company's distinctive competitiveness will be based on its professional expertise and skills. Synergies between companies will further expedite the development of innovative new drugs, which will support our entry into global markets. The holding company will act as drivers for new growth at the holding company level by attracting new businesses and new investments, which in turn will be helped by increased transparency, improvements in governance, and strengthened trust from investors.

Dong-A Pharmaceutical

Dong-A Pharmaceutical leverages its outstanding expertise in R&D in order to improve its products, while helping customers improve their quality of life through customer-centric management. As such, Dong-A Pharmaceutical continues to grow in a sustainable way, not only by providing high-quality products, but also by contributing to building a healthy society.

Dong-A Pharmaceutical is a company that specializes in healthcare, and is a 100%-owned subsidiary of Dong-A Socio Holdings. Its main business areas include over-the-counter (OTC) drugs, which can be bought without a prescription, as well as health functional foods and quasi-drugs such as Bacchus®. The company focuses its research capabilities on preventative medicine and new functional products to enhance quality of life, rather than post-disease treatment, and thus boosts its product competitiveness. Dong-A Pharmaceutical is a leading healthcare company in Korea, and will continue to strengthen its ability to develop innovative medicines and services, with the ultimate goal of becoming a global healthcare company.

Business Performance

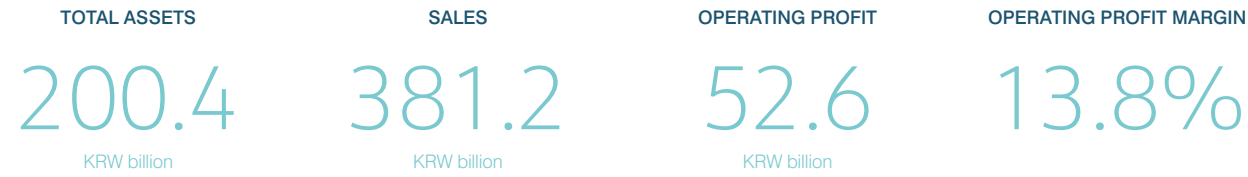
Dong-A Pharmaceutical recorded sales of KRW 381.2 billion in 2018, a year-on-year decrease of 2.7%. Operating profits, however, rose by 6.9% to KRW 52.6 billion, mainly attributable to efforts made to control expenses and reduce costs. The operating profit margin was 13.8%. The Bacchus Unit recorded sales of KRW 221.7 billion, a year-on-year increase of 2.7% thanks to strong sales of Bacchus®-F. Sales at the Healthcare Unit were KRW 151.7 billion, down 10.9% year-on-year which was due to the termination of contract with GlaxoSmithKline (GSK).

• **Bacchus Unit** Bacchus® is the leading tonic drink in Korea, and one of the most successful brands in the country. It has been a consumer favorite for more than half a century since its launch in 1963. It has also set many records, including becoming the first single product sold by a pharmaceutical company in Korea to achieve annual sales of more than KRW 200 billion in 2015. Bacchus® continued its success story in 2018, recording sales of KRW 221.7 billion.

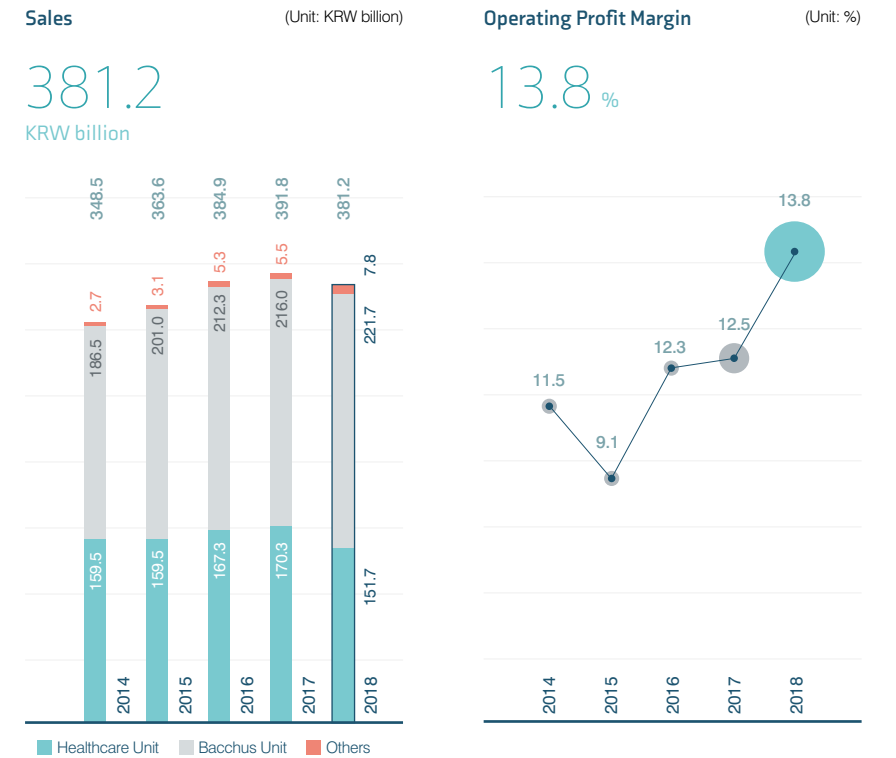
Dong-A Pharmaceutical has increased sales of Bacchus® by implementing a dual distribution strategy – Bacchus®-D is sold through pharmacies, while Bacchus®-F is sold through general distribution channels, including convenience stores. Dong-A Pharmaceutical runs 25 distribution teams in Korea, mainly in four major metropolitan areas, in order to ensure smooth supply and distribution of Bacchus®. In 2018, the company added two teams dedicated to Bacchus®-F in an effort to increase consumer contact points. The company has moved away the traditional distribution system through which retailers purchase goods from wholesalers by setting up the Route Sales System, with Bacchus® being supplied directly to retailers. This system enables a timely supply of products, detailed inventory control and precise cash flow management.

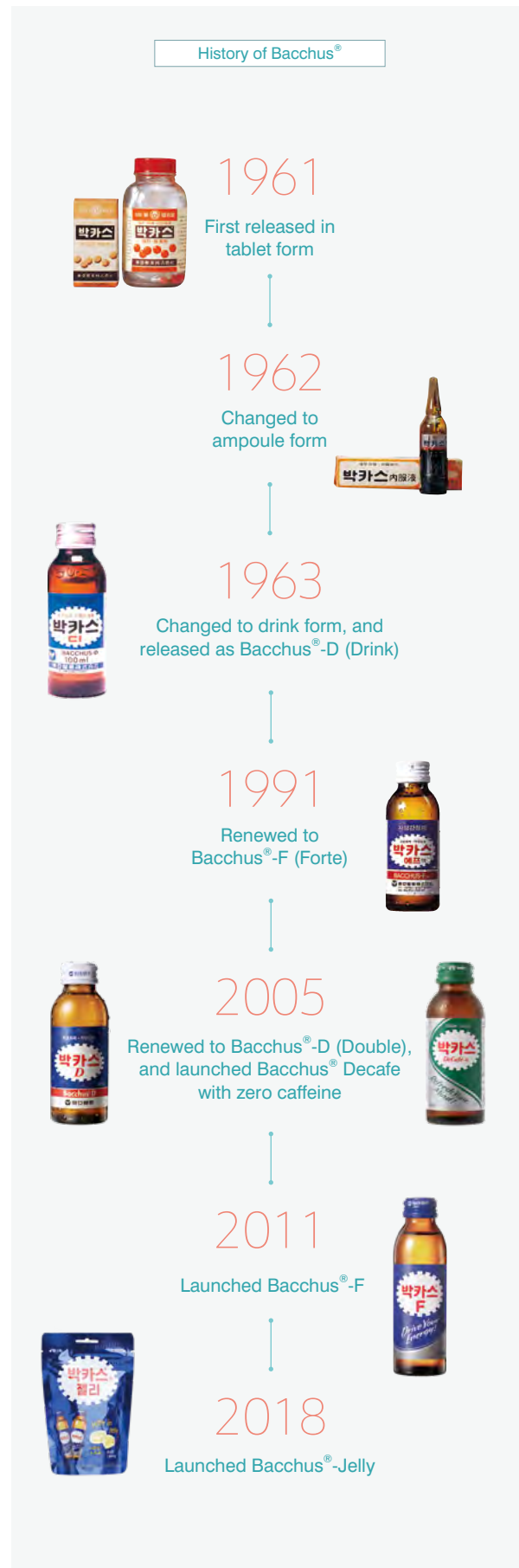
Bacchus® had sold 20.7 billion bottles as of the end of 2018, enough to go around the globe more than 60 times. This phenomenal statistic is the result of Dong-A Pharmaceutical's outstanding product competitiveness, substantial production capacity, highly efficient operations, and unwavering commitment to quality.

Marketing at Dong-A Pharmaceutical does more than simply delivers information; instead, it reaches out to customers through content with which they can truly identify. In particular, TV advertisements for Bacchus® have told the stories of the everyday lives of ordinary people for more than half a century. This is regarded as a leading example of successful marketing in Korea, and has been pivotal in the success of Bacchus® over such a long period. Dong-A Pharmaceutical's marketing also aims to widen the range of its customers. For example, it has targeted young consumers by collaborating with companies in different business sectors, including foods and cosmetics. In 2017, the company launched a limited-time 'Bacchus-scent sorbet' brand in collaboration with Baskin-Robbins, and in 2018, it launched Oxford Block, a Taurine Facial Mask, a Warming Eye Mask and a lip balm in partnership with 1300K, a shopping mall which specializes in designed products. Dong-A Pharmaceutical plans to increase its collaborations in order to create new aspects for the Bacchus® brand and to generate curiosity among young consumers who represent the customer base of the future.

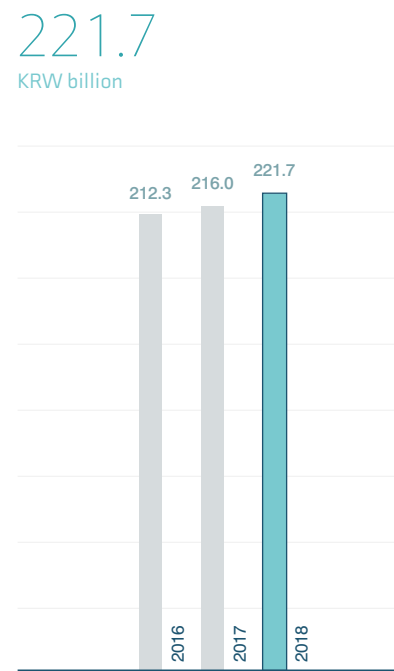


* As of December 31, 2018





Bacchus® Sales (Unit: KRW billion)



As part of its efforts to attract young consumers, Dong-A Pharmaceutical expanded the product group of Bacchus® to include a jelly-type product for customers in their teens and 20s by launching Bacchus®-Jelly in 2018.

Dong-A Pharmaceutical further expanded the product group of Bacchus® as part of its efforts to attract young consumers who lead consumer trends. Accordingly, the company focused on developing a jelly-type product for customers in their teens and 20s, and thus launching Bacchus®-Jelly in 2018. Bacchus®-Jelly has 1,000 mg of taurine in each bag, the same amount as Bacchus®-F. Taurine, the main ingredient of Bacchus®, is a type of amino acid contained in the body, and is known to help with fatigue recovery. The new product also contains vitamins B1, B2, and B6, while there is no added caffeine, which means that it can be consumed by people of any age.

• **Healthcare Unit** The Healthcare Unit offers a diverse range of more than 60 products, including OTC products, quasi-drugs and health functional foods. Supported by outstanding teamwork and field management, around 140 sales staff supply products through many different channels, including some 20,000 pharmacies, large discount stores, convenience stores, supermarkets, online channels and duty-free stores. The company has dedicated OTC marketers, and also has branches for OTC products that can only be sold to pharmacies – these products are supplied directly to pharmacies across Korea, and through around 80 wholesalers which specialize in serving pharmacies.



In 2018, the Healthcare Unit recorded sales of KRW 151.7 billion, a year-on-year decrease of 10.9%. The main reason for this decline was the termination of contract with GSK. On the other hand, most of the company's major products achieved sales growth. Sales of the Garglin® mouthwash recorded KRW 31.5 billion, up 32.5% year-on-year. Garglin® is one of Dong-A Pharmaceutical's flagship brands, and leads the market for mouthwash in Korea. For the second consecutive year in 2018, the company focused its marketing on emphasizing product safety, and specifically the lack of color additives. In addition, in response to feedback from a customer survey, it launched Garglin® Lime, Grapefruit and Chamomile, enabling it to build on its position as a market leader.

Sales of Benachio®, a treatment for dyspepsia, have grown continually since its launch, backed by positive advertising and the concept of the brand as a carbonic acid-free liquid digestive medicine. It generated sales of KRW 9.2 billion in 2018, up 8.1% compared to the previous year, reinforcing its position as the number two brand in its market. Panpyrin® is Dong-A Pharmaceutical's flagship cold medicine, and is sold at pharmacies and convenience stores. Sales in 2018 went up slightly by 0.2% year-on-year to KRW 35.5 billion. Tempo®, a tampon product, recorded sales of KRW 9.9 billion, an increase of 10.4%, despite fierce market competition. Morning Care®, a hangover drink, achieved an increase in sales of 11.1%, compared to the previous year, to reach KRW 15.1 billion. Morning Care Lady®, which is formulated especially for female consumers, led the overall growth of the brand, with sales growing substantially thanks to the expansion of its sales channels. In response to an aging population, the company targeted the silver market by launching CLEADENT®, a denture cleanser, in April 2018. Thanks to a diverse range of marketing activities, CLEADENT® generated sales of KRW 2.2 billion in only eight months after its launch.

Future Plans

The global healthcare market continues to change rapidly, driven by diversifying customer needs. The boundaries between the pharmaceutical industry and non-pharmaceutical industries, such as the food industry, are becoming blurred. There are also non-industry variables, including changes in social structures and climate. This all points to the need for accurate market insights and preemptive responses to change.

Dong-A Pharmaceutical responds actively and rapidly to changes in its markets by developing its own distinctive products and business strategies, with the long-term goal of becoming a global healthcare company. The company will therefore increase its marketing efforts, with a particular focus on global businesses, including Vietnam and China, in order to develop new engines for future growth. In addition, Dong-A Pharmaceutical will reinforce its leadership in the Korean market by expanding its distribution channels and developing innovative new products. It will also create a business structure that will generate the innovation needed for long-term success. Dong-A Pharmaceutical will thus be able to increase its expertise and competitiveness, and fulfill its expectations for the markets of the future.



Key Products

Over-the-counter Drugs

Panpyrin®-Q Anti-inflammatory, Antipyretic, Analgesic Drug

Panpyrin®-Q is a cold medicine renewed in liquid form in 2007. It is effective for colds, aches, and headaches, as well as for coughs and phlegm, and delivers outstanding effects in the initial phase of a cold. As Dong-A Pharmaceutical's flagship OTC product, it maintained strong market share of about 65%, reinforcing its leading position in the domestic liquid cold medicine market.

Panpyrin®-T Anti-inflammatory, Antipyretic, Analgesic Drug

Released in 1956, Panpyrin®-T is a cold medicine tablet that is effective in treating colds, aches and headaches, and particularly effective in the initial phase of a cold. It is available in two packages – 300 tablets and 3 tablets. The 3-tablet product was nominated as one of 13 safe household drugs determined by a government selection process that began in 2012, and is also available at convenience stores.

Benachio® Dyspepsia Treatment

Released in 2009 as a functional dyspepsia treatment, Benachio® is effective for general indigestion as well as loss of appetite, epigastric distension, nausea, and vomiting. In 2015, it became Korea's first liquid digestive medicine to demonstrate proven effects of functional dyspepsia improvement through a clinical trial. This phytomedicine, which contains no carbonic acid and indicates low irritation levels, has continued high growth since its launch, and currently ranks second in domestic market share.

Noscarna® Gel Scar Treatment

Released in 2013, this scar treatment is effective for keloids and hypertrophic scars, surgery scars, and acne scars. Compared to similar products in Korea, this product has the highest content of the main ingredients – heparin sodium and allantoin. Its effect of normalizing skin color and reducing scar size was proven through a preclinical study.

Myvlar® Tab. Contraceptive Medicine

This third-generation contraceptive medicine contains gestoden. It is a flagship product from among the four contraceptive medicines Dong-A Pharmaceutical acquired from Bayer Korea in 2015. With Myvlar®, which enjoys the second highest share of the market, serving as a growth driver, a sub-brand Meliane® has outrun competitor products to take the No. 3 spot in market share and continues to grow. As second-generation contraceptive medicines, Minivlar® and Triquilar® have a low risk of thrombosis, which in turn makes them popular with women who are at greater risk of related illnesses.

Eyebon® Eyewash

Launched in 2016, Eyebon® is the first eyewash product from a Korean pharmaceutical company. It washes away foreign substances in the eyes that come directly or indirectly from perspiration, fine dust, contact lenses or cosmetics. Eyebon® also prevents problems in the eyes by protecting the cornea and helping with recovery from fatigue, thus contributing to improving quality of life.



Panpyrin®-Q

Panpyrin®-T

Benachio®

Noscarna® Gel

Myvlar® Tab.

Eyebon®

Bacchus®

Garglin®

Tempo®

CLEADENT®

Bigen®

Morning Care®

Quasi-Drugs

Bacchus® Tonic

Bacchus® has been leading the domestic tonic market since its launch in 1963. It was reclassified from an OTC drug to a quasi-drug in 2011, and in 2018, it recorded sales of KRW 221.7 billion in Korea. Bacchus®-D, which is available at pharmacies, contains vitamin B1 and taurine 2,000 mg, which is an essential amino acid for modern people. Bacchus®-F, which is continuing high growth across general distribution channels, is 20 ml larger than Bacchus®-D, and contains DL-carnitine which improves digestive functions.

Garglin® Mouthwash

Garglin® is effective in cavity prevention and in reaching a level of oral care that cannot be achieved by brushing alone. It kills 99.9% of S. mutans, which causes cavities. Through the renewal of existing products and launch of new products in 2015, its product group was further strengthened, including the cavity prevention line, mouth cleansing line and children line. In 2016, Dong-A Pharmaceutical moved into the gum disease market by launching Gum Guard®, which prevents gum disease as well as cavities. Garglin® Lime, Grapefruit and Chamomile products were successfully launched in 2018.

Tempo® Tampon

Released in 1977, Tempo® is Korea's first domestic tampon. It is completely safe to use, even for sensitive skin, as it is manufactured from an absorbent material made of pure cotton. In addition, unlike menstrual pads, it does not cause skin irritation and ensures convenience in daily life. Tempo® Eco Natural, that uses 100% pure organic cotton, was launched in 2014, which was followed by product renewal in 2017 for greater convenience in celebration of 40th anniversary of the product.

Bigen® Hair Color Product

Bigen® has been a long-time market leader in the highly competitive hair color product market, thanks to its high level of customer awareness and proven product quality, based on the tradition of more than 100 years. Bigen® was launched as a powder form in 1957, followed by the release of the Bigen® Cream Tone in 1991, the Bigen® Cream Foam in 2011, and the Bigen® Cream Tone Speedy in 2015, in order to satisfy different consumer needs.

CLEADENT® Denture Cleanser

CLEADENT® is a denture cleanser that Dong-A Pharmaceutical launched in April 2018. The number of denture users has been rising as a result of an increasing aging population and reduced coinsurance rate beginning in November 2017. Accordingly, CLEADENT® helps consumers manage their dentures more cleanly and safely. Its major characteristics include 99.9% sterilization, plaque removal, and coloring- and preservative-free, which sets it apart from competitors.

Drinks

Morning Care® Hangover Drink

Morning Care® is a drink that eases the symptoms of hangovers, and helps to protect the liver from the damage caused by alcohol. First released in 2005, Dong-A Pharmaceutical has been expanding its product line-up by releasing Morning Care® Plus, which was recognized as a health functional food, and Morning Care® Lady for women, which contains hyaluronic acid and collagen. It has further strengthened market dominance by releasing Morning Care® Turmeric in 2015 which contains turmeric, water chestnut, and rice soybean extract (RSE), and Morning Care® Turmeric S in a large-size container (470 ml) and Turmeric T (Tomato) with lycopene added in 2016.

ST Pharm

ST Pharm is determined to provide high-quality products and services to its clients world-wide through investment into R&D and constant improvements in skills, which enables it to become a global CDMO.

ST Pharm is a contract development manufacturing organization (CDMO) for active pharmaceutical ingredients (APIs) and other chemicals. Founded in 1983 as Samchully Pharm, it became a subsidiary of Dong-A Socio Group in 2010, and it was listed on the KOSDAQ market in 2016.

The business area of ST Pharm is divided into the pharmaceutical and non-pharmaceutical sectors. In the pharmaceutical sector, ST Pharm manufactures small molecule APIs, oligonucleotide APIs and generic APIs. The company has also a pipeline of new drugs, focused on early stage development. In the non-pharmaceutical sector, ST Pharm manufactures new materials in areas such as polymer catalysts, OLEDs and secondary battery electrolytes.

2018 Achievements

In 2018, ST Pharm was selected by the Korean government as one of its 'World Class 300 Companies'¹⁾ by satisfying a number of criteria, including a high proportion of exports (83.1% of total revenues), a commitment to R&D investment (5.5% of sales), and a strong increase in sales (24.5% year-on-year). As a result, ST Pharm will receive financial support for its R&D investment from the government over next five years, which will be used to develop the technology required to manufacture phosphoramidite and oligonucleotides.

In addition, ST Pharm's new drug candidate for HIV received a Research Project (R01) grant awarded by National Institutes of Health of the U.S., and as a result, it will receive a grant of USD 1.39 million over the next five years. This new drug candidate has been subject to research by the Center for Drug Discovery at Emory University, and the patent belongs to ST Pharm. This candidate drug is a new type of integrase compared to existing HIV drugs, and targets the non-catalytic site rather than catalytic site, thus overcoming resistance to existing HIV therapeutic agents. ST Pharm has co-developed this new drug candidate in partnership with the Korea Research Institute of Chemical Technology since 2014. Technical transfer took place in September 2016, and pre-clinical tests are currently on-going, with the aim of entering clinical phase I in 2020.

2018 was the most difficult year for ST Pharm since its inception, with sales of KRW 97.7 billion. The global sales of hepatitis C drugs, for which ST Pharm supplies the APIs, have fallen drastically. The prognosis of the corresponding hepatitis C drug is over 90%, resulting in a sharp decrease in the number of patients. This situation was particularly severe for ST Pharm because it derived two-thirds of its sales from APIs for hepatitis C treatments in 2017.

Business Strategy and Future Plans

ST Pharm is a specialist in the synthesis and manufacturing of nucleotides, and this is the main pillar of its CDMO business. ST Pharm has supplied antiviral APIs and intermediates for several years, including the API of a blockbuster new drug for HCV. Another ST Pharm specialty is as a CDMO in the manufacturing of oligonucleotides, an important area of therapeutics for the future. With demand for RNA-based drugs growing, ST Pharm has



* As of December 31, 2018



www.stpharm.co.kr

established itself as an important manufacturer of oligonucleotide APIs. To this end, ST Pharm completed the expansion of its new plant at Banwol, which is dedicated to oligonucleotides. This expansion has increased manufacturing capacity up to 2.1-mol scale, and it will be above 3.0-mol scale in the near future. As a result of these efforts to increase capacity and develop its client network, ST Pharm won the Global API Manufacturing (Oligonucleotide) Growth Excellence Leadership Award at the Frost & Sullivan Asia Pacific Best Practices Awards in November 2018.

Another vital component of ST Pharm's business is the discovery and development of new drugs through its virtual R&D strategy. Virtual R&D employs a defined amount of internal core resources to organize and monitor the work flow of the drug discovery and development process. This increases the efficiency of R&D investment and makes the management of the entire drug discovery platform more effective. ST Pharm mainly focuses the early-stage development of new drugs, with the aim of signing licensing-out agreements. More than seven projects are currently on-going, with three in pre-clinical trials. ST Pharm is seeking strategic partnerships to further expand its acquisition & development (A&D) and connection & development (C&D) strategies, and is also open to a broad range of other collaborative relationships for synergy creation and win-win partnership.

ST Pharm will also put substantial efforts into enhancing its capabilities in R&D and building a global network, so that it can become a comprehensive global CDMO.

Capacity Expansion

Total Capacity as of 2018

- 453,400 L for small molecules
- 2,100 mmol for oligonucleotides

Commercial Scale Plants

	Sihwa Site	Banwol Site
Number of plants	5 plants	4 plants
Reactor size	3,000 to 7,000 L	100 to 7,000 L

Pilot Scale Plants

	Sihwa Site		Banwol Site	
Number of plants	Kilo-lab	Pilot Plant	Sector 4	Sector 3
Reactor size	50-100 L	200-500 L	500-1,000 L	1,000-2,000 L

Oligonucleotide Manufacture Capacity

Service Lines	Annual Capacity (std ~ max. operation)	Spec
Small scale	(1~100 nmol/ea); (for 10 mg~100 mg/ea)	MM-192 synthesizer, MM-12 (10~200 μmol)
Mid-small scale	(for 100 mg~5 gram/ea)	OP-100 (0.2~4 mmol x3)
Large-mid scale	20~50kg (for standard RNA/DNA)	2 of TK synthesizers (100-300 mmol), Prep-HPLC, UF, Freeze dryer (20L/100L)
	250~500 kg	GE 1 mole (200 mmol~1,800 mmole), Prep-HPLC, Freeze dryer (300L)
Large scale	250~1,000 kg	1-4 mole line
	250~1,000 kg	1-4 mole line

* TK (AKB): Technikrom
OP-100 (GE): AKTA Oligo Pilot 100
MM-192/12: Mermade-192/12

Capability and Capacity

ST Pharm is a leading global CDMO partner, offering reliability and high-quality products to customers around the world. The company's manufacturing facilities and systems have been certified by international regulatory inspectors, including the US Food and Drug Administration, the Korean Ministry of Food and Drug Safety, the Pharmaceuticals and Medical Devices Agency of Japan, the Therapeutic Goods Administration of Australia and the World Health Organization. It has also earned a current Good Manufacturing Practice (cGMP) certification from the European Medicines Agency.

Backed by the history of inspections, ST Pharm has ample experience in nucleoside and oligonucleotide GMP manufacturing, having begun in the 1980's. The company also has substantial capacity, with new facilities being retrofitted and constructed at the Sihwa and Banwol sites, and total capacity at these sites is 425,100 liters. The new Banwol oligonucleotide plant, completed in 2018, has an annual capacity of 1.5 mol and manufactures commercial supplies. This capacity expansion at the Banwol site is another breakthrough for ST Pharm's oligonucleotide business, part of the company's commitment to responding flexibly and proactively to its clients' demands and market requirements. Furthermore, the company plans to expand its production capacity up to 3.0 mol scale and beyond.

¹⁾ A government-funded scheme to support Korean small and medium-sized enterprises with strong potential to grow into global companies

DM Bio

DM Bio is strengthening its position as a leading CDMO specializing in biopharmaceuticals based on its unique combination of ample expertise, extensive experience and an outstanding infrastructure.

DM Bio is a biopharmaceutical company, founded through cooperation between Dong-A Socio Holdings and Meiji Seika Pharma of Japan.

In 2011, Dong-A Socio Holdings formed a comprehensive alliance in the biosimilars business with Meiji Seika Pharma, with the two companies agreeing to cooperate throughout the entire business process, from R&D to manufacturing and sales. The two companies invested approximately KRW 100 billion and completed the construction of a current Good Manufacturing Practice (cGMP) biopharmaceutical plant, designed in accordance with global regulations, in May 2014. Shortly afterwards, DM Bio was launched in April 2015 as a joint venture company, specializing in biosimilars. In addition to manufacturing and supplying products jointly developed by the two companies, DM Bio carries out contract development manufacturing organization (CDMO) business for other companies, which includes product manufacturing and process development services.

Core Strengths

The DM Bio plant covers a site of around 144,430 m² in the Incheon Free Economic Zone, with a total floor space of 22,267 m². The plant consists of the main three-story building, a waste-water treatment facility, a hazardous substances warehouse and a gas station.

The plant has a total capacity of 8,000 liters, consisting of three independent 2,500 liter drug substance production lines on the second floor and a 500 liter drug substance production line on the first floor, enabling several products to be produced simultaneously. DM Bio has also established a flexible and efficient hybrid production system that combines the advantages of single-use and multi-use systems for the efficient production of therapeutic biologics. In addition, DM Bio provides fill & finish services through the operation of one semi-automated pre-filled syringe production line, established using the state-of-the-art facilities. As the drug product (DP) CMO market has been expanding, DM Bio increased its capacity for raw materials and half-finished product storage in 2018 by enlarging its buildings. It also expanded laboratory and office space to meet the requirements of global CDMO customers.

DM Bio began manufacturing drug substances in March 2015, and received a drug substance manufacturing license from the Korean Ministry of Food and Drug Safety (MFDS) in September. The company received its drug product manufacturing license in April 2016, and then began producing drug products based on an aseptic filling and packaging process. In December 2016, it also received a license from MFDS for a recombinant protein drug substance and GMP certification for a drug substance 500 liter production line, followed by GMP certification for a drug product (pre-filled syringe) production line in March 2017. Meanwhile, DM Bio has obtained the Accreditation Certificate of Foreign Drug Manufacturer from Japan's Ministry of Health, Labour and Welfare, in February 2017. In 2018, the company obtained a license for a monoclonal antibody drug substance and GMP certification for a 2,500 liter drug substance production line from the MFDS.

Furthermore, DM Bio set up a fully equipped process development lab in August 2016, in order to satisfy bio industry requirements, which was followed by the placement of dedicated personnel and the beginning of full operations in February 2017. Since then, the lab has been receiving transfers of small-scale process from clients for checking and verifying. In addition, the lab analyzes the process risks involved in scale-up and performs preliminary tests on other variables. In 2019, DM Bio will continue its investment in improving its capabilities and personnel in the full range of process development, thus enhancing its position as a CDMO.

Major advantages of DM Bio are the experiences, expertise and know-how of two leading pharmaceutical companies of Korea and Japan, as well as their outstanding infrastructure. Leveraging these capabilities, DM Bio plans to advance into Korea, Japan, Europe and the U.S. while Dong-A Socio Holdings and Meiji Seika Pharma will obtain sales approvals for their respective countries, and will work in partnership in global markets.

Current Progress & Future Plans

DM Bio is currently developing DMB-3111, a biosimilar of Herceptin[®]. In 2015, the company successfully completed a phase I clinical trial of DMB-3111 in Japan which proved that it has extremely high equivalence with the original drug. In October 2016, DM Bio signed a licensing-out agreement for DMB-3111 with Gedeon Richter, a Hungarian pharmaceutical and biopharmaceutical company. Under this agreement, DM Bio has licensed out manufacturing technology of DMB-3111 to Gedeon Richter for local production in Hungary, as well as exclusive rights for Europe, Russia, Commonwealth of Independent States (CIS) and Latin America. As of now, DM Bio receives an up-front fee and milestone payments at certain stages of development, and it will receive defined royalties after commercialization.

DM Bio is also preparing a phase 1 clinical trial for a biosimilar of Stelara[®], a psoriasis treatment, and is researching biosimilars of Opdivo[®] and Keytruda[®], which are immuno-oncology drug. The company is planning on license-out these biosimilars to global pharmaceutical companies, so that it will actively seek for partners at each phase of the clinical development. In addition, DM Bio will widen its business areas, beginning with CDMO, and will also expand its geographical reach by entering global markets, including Europe and the U.S.

TOTAL ASSETS

154.5

KRW billion

SALES

8.4

KRW billion

PRODUCTION CAPACITY

8,000

liters

* As of December 31, 2018



www.dmbio.com

Yong-Ma Logis

Yong-Ma Logis is a third party logistics (3PL) company and has 20 logistics centers, five transportation centers and 35 distribution centers across Korea. Through these directly-managed network, the company stays agile in responding to customer requirements. It also runs a quality assurance (QA) organization offering high-quality services, and has earned advanced logistics qualifications such as Korean Good Supplying Practice (KGSP) and ISO 9001/14001 certification. Yong-Ma Logis became the first Korean logistics company to adopt the Warehouse Management System (WMS), and offers advanced logistics information systems, including the Transportation Management System and the Delivery Management System, which provide freight visibility. The company is also increasing its presence in the e-logistics sector by integrating its information systems and adopting new technologies. Yong-Ma Logis has won widespread recognition for delivering customer satisfaction, and it became the first company in the industry to receive an A Grade in the delivery service evaluation conducted by the Korean Ministry of Land, Infrastructure and Transport for three years in a row since 2016.

Key Achievements

Yong-Ma Logis continued its steady growth in 2018 to generate sales of KRW 212.0 billion, up 13.7% year-on-year. The delivery service business achieved sales of KRW 67.3 billion, a year-on-year increase of 3.6%. Sales of the 3PL service business went up by 22.7% year-on-year to record KRW 67.9 billion, thanks to the addition of a significant number of new customers, particularly in the medical equipment sector where consignors were attracted by high added-value services, such as the pharmaceutical serial numbering system and the KGSP-certified warehouse. The transportation service business targeted paper pulp industry and other specific industry groups, which has resulted in sales of KRW 38 billion, up 3.4% year-on-year. The forwarding service business achieved strong growth and recorded sales of KRW 31.8 billion, a year-on-year increase of 20.0%.

In 2018, Yong-Ma Logis won Authorized Economic Operator (AEO) certification from the Korean National Tax Service in recognition of its outstanding capabilities as an export import safety management company, and expanded its airport bonded warehouse operations. The company also signed a memorandum of understanding (MOU) for mutual exchange and cooperation with the Army General Depot, thereby establishing foundations for entering the market for military logistics. Meanwhile, Yong-Ma Logis has been actively participating in the Korean government's diverse range of drone-related pilot projects since 2017, and in 2018 it was selected as one of operators of the 'regulatory sandbox program for drones' implemented by the Ministry of Land, Infrastructure and Transport to promote the drone industry. Yong-Ma Logis has already developed a shipment station which will enable pharmaceuticals to be shipped by drone, a case for pharmaceutical drones and a shipping control system, and is now striving to bring about their early commercialization.

Future Plans

Yong-Ma Logis puts its efforts into expanding business areas and building a mid- to long-term infrastructure, with the goal of realizing its vision of becoming a global supply chain management (SCM) leader in health & beauty by 2025. It will therefore focus on one promising business for each business unit and improve competitiveness in that area. The company will also diversify its business areas by identifying new businesses and expanding overseas. In addition, Yong-Ma Logis will further improve its logistics processes and build a global quality management system. Over the long term, Yong-Ma Logis plans to lead this era of rapid change in the logistics industry by adopting logistics 4.0 technologies, including artificial intelligence (AI) and smart technologies.

TOTAL ASSETS

140.8

KRW billion

SALES

212.0

KRW billion

OPERATING INCOME

7.3

KRW billion

OPERATING PROFIT MARGIN

3.4%

* As of December 31, 2018

Soo Seok

Soo Seok is a comprehensive packaging container manufacturer that produces packaging containers, such as glass bottles, aluminum caps, plastic caps and PET bottles. Founded in 1969, the company became a member of Dong-A Socio Group in 1978. As of the end of 2018, the company consists of the Glass Unit which produces amber and colorless bottles; the Cap Unit for a wide range of caps, including standard caps and polyethylen mold caps; the PET Unit to manufacture non-pressure resistant (NR) PET, heat resistant (HR) PET, pressure resistant (PR) PET and plastic caps; and the ColorPack Unit which prints and produces carton boxes. In 2017, the company's Cap Unit and PET Unit moved to a new plant located in South Chungcheong Province. The new plant brings together the latest facilities with the company's extensive know-how, thereby enabling it to focus better on increasing its production capabilities and widening distribution channels.

Key Achievements

Soo Seok continues to improve the stability and profitability of its established businesses, while also expanding into new markets. The company's main product is glass bottles, and it has leveraged its more than 45 years of experience to build state-of-the-art automatic bottle-forming facilities and automation systems for all of its production processes. This has enabled the company to produce high quality glass bottles in large quantities. Meanwhile, Soo Seok has responded continually to the diversification of packaging containers, and thus expanded its business into aluminum caps in 2007, plastic caps in 2009, and the PET market in 2011. In July 2018, the company entered the carton box market by creating the ColorPack Unit.

Soo Seok received FSSC 22000, an international food safety management system certification, from SGS Société Générale de Surveillance, a globally-renowned international standard certification company. This recognition was attributable to the company's outstanding manufacturing and quality management systems, and ensures that customers can place greater trust in its food safety systems. As a result of these efforts, Soo Seok maintained strong growth in 2018, recording sales of KRW 111.3 billion, a year-on-year increase of 17.8%.

Future Plans

Soo Seok plans to further expand its sales by increasing market share with existing customers, acquiring new customers, and fully establishing the new carton box business. It will also improve profitability by continuing to reduce costs across all its business divisions and enhancing productivity. In the mid- to long-term, the company will move beyond its existing businesses in the beverage container market, and plans to set up new businesses as part of its efforts to realize its vision of becoming a comprehensive packaging specialist.

TOTAL ASSETS

167.7

KRW billion

SALES

111.3

KRW billion

OPERATING PROFIT

4.7

KRW billion

OPERATING PROFIT MARGIN

4.2%

* As of December 31, 2018

Yong-Ma Logis is growing into a leader in the global SCM market by leveraging its logistics network and technological competitiveness to offer comprehensive logistics services that ensure customer satisfaction.


www.yongmalogis.co.kr


Soo Seok is moving towards its vision of becoming a comprehensive packaging specialist based on the production system which meets global standards, and through outstanding quality assurance capabilities.


www.isooseok.com


Dong-A Socio Holdings Financial Review

Consolidated Statements of Financial Position

As of December 31, 2018 and 2017

(In thousands of won)	2018	2017
ASSETS		
Cash and cash equivalents	₩ 107,493,899	179,487,937
Trade receivables	90,392,273	82,561,180
Other current financial assets	7,363,073	5,434,842
Short-term held-to-maturity financial assets	–	212,980
Short-term derivative assets	–	4,439,744
Inventories	81,362,122	77,260,517
Other current assets	4,827,361	3,386,992
Current tax assets	264,315	1,135,739
Total current assets	291,703,043	353,919,931
Other financial assets	8,728,798	7,061,919
Available-for-sale financial assets	–	24,532,471
Held-to-maturity financial assets	–	342,930
Financial assets designated at fair value through profit or loss	16,393,413	–
Financial assets at fair value through other comprehensive income	13,319,695	–
Other non-current assets	237,981	185,824
Investments in joint ventures and associates	483,947,646	679,404,383
Property, plant and equipment	347,029,577	338,802,980
Intangible assets	48,120,415	26,455,495
Investment property	21,871,735	20,079,831
Deferred tax assets	10,580,477	8,659,513
Total non-current assets	950,229,739	1,105,525,346
Total assets	₩ 1,241,932,782	1,459,445,277
LIABILITIES		
Trade payables	₩ 25,239,576	24,671,683
Other financial liabilities	48,065,364	43,720,453
Short-term borrowings	220,199,866	227,037,267
Provisions	6,057,953	5,971,324
Other current liabilities	17,213,428	17,393,361
Income tax payable	3,122,628	4,171,130
Total current liabilities	319,898,815	322,965,217
Other non-current financial liabilities	276,000	99,662
Long-term borrowings	150,673,475	171,469,833
Employee benefits	15,218,817	8,345,238
Other non-current liabilities	–	8,382,628
Deferred tax liabilities	20,102,673	33,934,247
Total non-current liabilities	186,270,965	222,231,608
Total liabilities	506,169,780	545,196,825
EQUITY		
Share capital	30,691,470	30,691,140
Share premium	285,853,204	285,845,009
Capital adjustments	(197,914,366)	(197,914,366)
Other equity components	137,564,726	146,190,908
Retained earnings	477,999,155	647,940,713
Equity attributable to owners of the company	734,194,188	912,753,404
Non-controlling interests	1,568,813	1,495,049
Total equity	735,763,001	914,248,453
Total liabilities and equity	₩ 1,241,932,782	1,459,445,277

Consolidated Statements of Comprehensive Income

For the years ended December 31, 2018 and 2017

(In thousands of won, except per share information)	2018	2017
Operating revenue	₩ 707,495,924	690,264,582
Finished goods and merchandise	453,503,553	444,628,676
Transport and delivery	193,099,258	168,828,379
Commissions	30,109,592	37,714,182
Construction contract revenue	28,638,034	37,189,772
Others	2,145,487	1,903,574
Operating expense	656,947,152	636,890,164
Finished goods and merchandise	238,394,384	229,263,305
Transport and delivery	197,278,133	171,835,091
Commissions	8,805,829	7,194,386
Construction contract cost	26,373,937	35,114,643
Others	957,737	1,088,558
Salaries	60,198,838	63,195,636
Retirement benefits	6,132,147	5,785,258
Employee benefits	10,150,728	8,021,909
Other selling, general and administrative expenses	86,477,863	97,801,020
Research and development costs	22,177,557	17,590,357
Operating profit	50,548,772	53,374,418
Other income	2,590,777	2,665,369
Other expenses	201,675,756	5,219,497
Finance income	4,058,509	5,916,979
Finance costs	16,926,623	16,398,394
Equity income on investments	(11,717,280)	6,796,934
Profit before income tax	(173,121,600)	47,135,808
Income tax expense (profit)	(9,232,096)	14,592,421
Profit (loss) for the year	₩ (163,889,505)	32,543,387
Other comprehensive income (loss)		
Items that will not be reclassified to profit (loss):		
Defined benefit plan remeasurement	₩ (6,674,810)	(909,249)
Change in retained earnings – change in equity method accounted investments	(2,269,268)	1,134,375
Gain (loss) on financial assets at fair value through other comprehensive income	1,408,324	–
Items that are or may be reclassified subsequently to profit (loss):		
Unrealized net change in fair value of available-for-sale financial assets	–	283,048
Gain (loss) on overseas business translation	6,976	–
Capital adjustment for equity method accounted investments	(1,480,303)	11,267
Other comprehensive income (loss) for the year	(9,009,080)	519,439
Total comprehensive income for the year	(172,898,585)	33,062,826
Profit attributable to:		
Owners of the company	(163,977,361)	32,543,387
Non-controlling interests	87,857	–
Profit for the year	(163,889,505)	32,543,387
Total comprehensive profit attributable to:		
Owners of the company	(172,972,349)	33,062,826
Non-controlling interests	73,764	–
Total comprehensive profit for the year	₩ (172,898,585)	33,062,826
Earnings per share		
Basic earnings per share (won)	(26,714)	5,311
Diluted earnings per share (won)	(26,714)	4,967

Consolidated Statements of Changes in Equity

For the years ended December 31, 2018 and 2017

	(In thousands of won)	Attributable to owners of the Company					Non-controlling interests	Total equity
		Share capital	Share premium	Capital adjustments	Other equity components	Retained earnings		
Balance at January 1, 2017	₩	30,251,565	278,587,197	(197,914,366)	143,710,513	621,222,515	–	875,857,423
Total comprehensive income for the year:								
Profit for the year		–	–	–	–	32,543,387	–	32,543,387
Other comprehensive income (loss):								
Change in fair value of available-for-sale financial assets		–	–	–	283,048	–	–	283,048
Capital adjustment for equity method accounted investments		–	–	–	11,267	–	–	11,267
Defined benefit plan remeasurement		–	–	–	–	(909,250)	–	(909,250)
Change in retained earnings-change in equity method accounted investments		–	–	–	–	1,134,375	–	1,134,375
Total other comprehensive income (loss)		–	–	–	294,314	225,125	–	519,439
Total comprehensive income (loss) for the year		–	–	–	294,314	32,768,512	–	33,062,826
Transactions with owners of the Company, recognized directly in equity:								
Dividends		–	–	–	–	(6,050,313)	–	(6,050,313)
Exercise of stock warrants		439,575	7,257,812	–	(244,090)	–	–	7,453,297
Transactions with non-controlling interest		–	–	–	–	–	1,495,049	1,495,049
Issuance of bonds with warrants		–	–	–	2,430,170	–	–	2,430,170
Total transactions with owners		439,575	7,257,812	–	2,186,080	(6,050,313)	1,495,049	5,328,204
Balance at December 31, 2017	₩	30,691,140	285,845,009	(197,914,366)	146,190,908	647,940,713	1,495,049	914,248,453

For the years ended December 31, 2018 and 2017

	(In thousands of won)	Attributable to owners of the Company					Non-controlling interests	Total equity
		Share capital	Share premium	Capital adjustments	Other equity components	Retained earnings		
Balance at January 1, 2018	₩	30,691,140	285,845,009	(197,914,366)	146,190,908	647,940,713	1,495,049	914,248,453
Effect of adoption of new accounting standards		–	–	–	(5,378,390)	5,921,340	–	542,950
Balance at January 1, 2018 (Restatement)		30,691,140	285,845,009	(197,914,366)	140,812,518	653,862,053	1,495,049	914,791,403
Total comprehensive income for the year:								
Profit for the year		–	–	–	–	(163,977,361)	87,857	(163,889,505)
Other comprehensive income (loss):								
Gain (loss) on financial assets at fair value through other comprehensive income		–	–	–	1,408,324	–	–	1,408,324
Capital adjustment for equity method accounted investments		–	–	–	(1,480,303)	–	–	(1,480,303)
Gain (loss) on overseas business translation		–	–	–	4,884	–	2,093	6,976
Defined benefit plan remeasurement		–	–	–	–	(6,658,624)	(16,186)	(6,674,810)
Change in retained earnings – change in equity method accounted investments		–	–	–	–	(2,269,268)	–	(2,269,268)
Other comprehensive income (loss) for the year		–	–	–	(67,096)	(8,927,891)	(14,093)	(9,009,080)
Total comprehensive income (loss) for the year		–	–	–	(67,096)	(172,905,253)	73,764	(172,898,585)
Transactions with owners of the Company, recognized directly in equity:								
Dividends		–	–	–	–	(6,138,228)	–	(6,138,228)
Exercise of stock warrants		330	8,195	–	(114)	–	–	8,411
Replacement of revaluation surplus		–	–	–	(2,358,035)	2,358,035	–	–
Replacement of other capital surplus		–	–	–	(822,547)	822,547	–	–
Total transactions with owners		330	8,195	–	(3,180,696)	(2,957,646)	–	(6,129,817)
Balance at December 31, 2018	₩	30,691,470	285,853,204	(197,914,366)	137,564,726	477,999,155	1,568,813	735,763,001

Consolidated Statements of Cash Flows

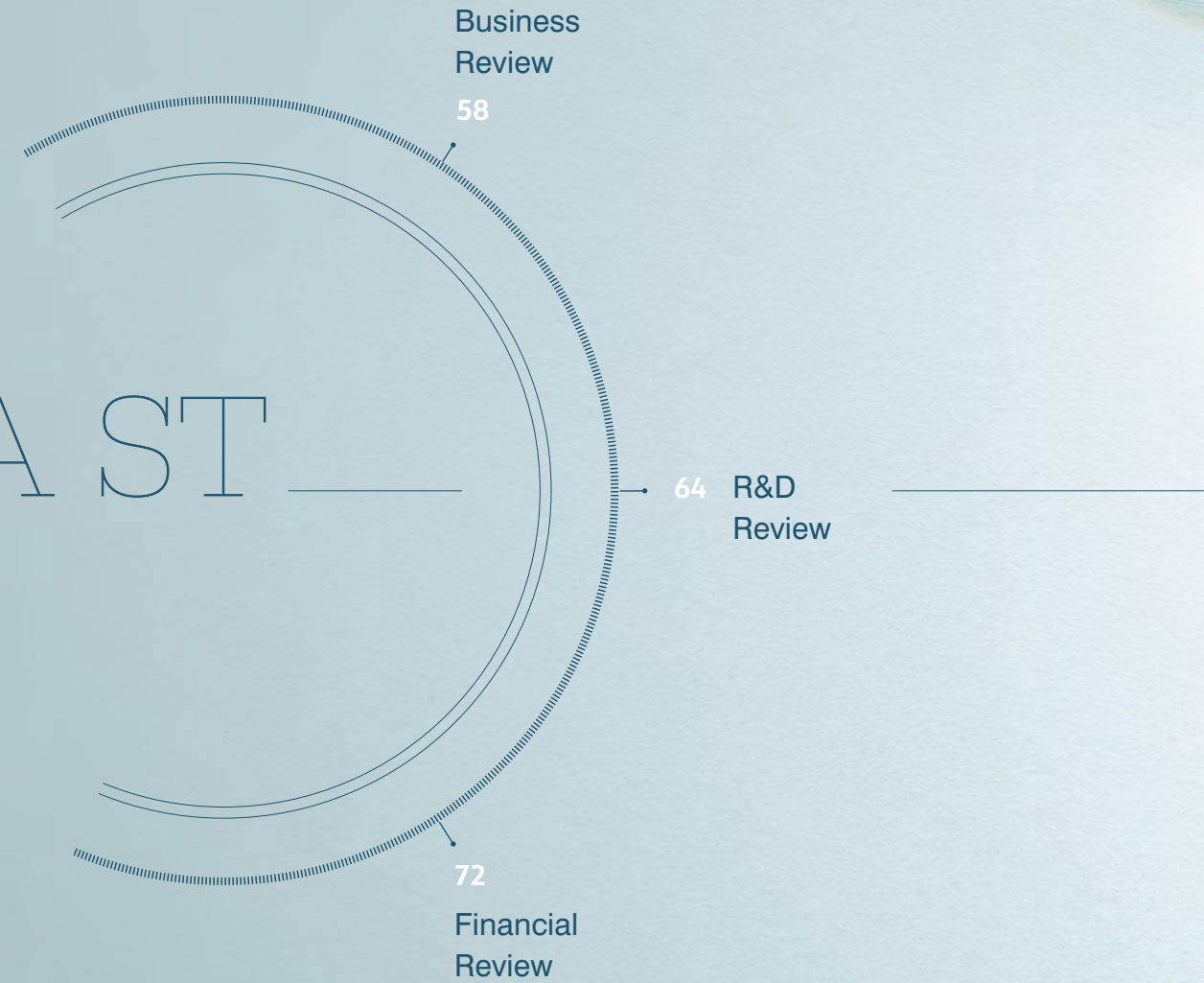
For the years ended December 31, 2018 and 2017

(In thousands of won)	2018	2017
Cash flows from operating activities		
Profit (loss) for the year	₩ (163,889,505)	32,543,387
Adjustments	250,224,050	54,596,792
Changes in assets and liabilities	(26,722,466)	17,742,008
Dividends received	5,060,684	167,467
Income taxes paid	(6,350,910)	(20,593,143)
Net cash from operating activities	58,321,852	84,456,510
Cash flows from investing activities		
Cash inflows from investing activities	18,428,447	13,290,666
Interest received	2,241,579	2,141,327
Decrease in short-term financial instruments	12,745,960	3,000,000
Decrease in short-term loans	507,575	1,640,969
Proceeds from sale of held-to-maturity investments	–	13,585
Proceeds from sale of available-for-sale financial assets	–	443
Proceeds from sale of property, plant and equipment	815,974	1,088,284
Proceeds from sale of intangible asset	30,000	168,201
Proceeds from sale of investment property	125,454	155,000
Decrease in long-term financial instruments	82,421	2,511,578
Disposal of financial assets measured at amortized cost	158,290	–
Decrease in deposits	1,721,195	2,571,279
Cash outflows for investing activities	(93,493,803)	(39,622,712)
Increase in short-term financial instruments	14,495,960	1,640,000
Increase in short-term loans	1,824,254	1,497,899
Increase in long-term financial instruments	60,000	2,506,999
Increase in financial assets designated at fair value through profit or loss	1,313,163	–
Acquisition of held-to-maturity financial assets	–	9,955
Acquisition of available-for-sale financial assets	–	760
Increase in financial assets at fair value through other comprehensive income	2,000,013	–
Acquisition of financial assets measured at amortized cost	9,310	–
Acquisition of property, plant and equipment	25,124,617	24,986,150
Acquisition of intangible assets	6,948,343	4,413,199
Acquisition of investments in associates	4,337,491	1,669,860
Acquisition of investments in joint ventures	15,300,000	–
Increase in deposits	2,093,776	2,125,385
Cash outflow due to change in scope of consolidation	19,986,876	772,505
Net cash used in investing activities	(75,065,356)	(26,332,046)
Cash flows from financing activities		
Cash inflows from financing activities	60,990,490	152,360,641
Proceeds from short-term borrowings	40,940,233	31,890,000
Proceeds from long-term borrowings	20,000,000	15,200,000
Proceeds from bonds with warrants	–	97,847,817
Proceeds from exercise of stock warrants	257	7,417,824
Proceeds from rental deposits received	50,000	5,000

For the years ended December 31, 2018 and 2017

(In thousands of won)	2018	2017
Cash outflows for financing activities	(117,057,328)	(125,063,075)
Interest paid	11,862,816	9,773,313
Dividends paid	6,138,228	6,050,313
Repayment of short-term borrowings	93,041,777	95,647,943
Repayment of current portion of long-term borrowings	6,014,507	5,591,507
Repayment of long-term borrowings	–	8,000,000
Net cash provided by (used in) financing activities	(56,066,837)	27,297,566
Net increase (decrease) in cash and cash equivalents	(72,810,341)	85,422,030
Cash and cash equivalents at January 1	179,487,937	95,936,341
Effect of exchange rate fluctuations on cash held	816,303	(1,870,434)
Cash and cash equivalents at December 31	₩ 107,493,899	179,487,937

Dong-A ST



COMPELLING PERSPECTIVES

Dong-A ST pursues healthy growth of the company and society as a whole based on the belief that it contributes to society by developing new drugs. Thanks to this unique perspective, its outstanding R&D expertise has been recognized in global markets. In 2018, Dong-A ST also won ISO 37001 anti-bribery management certification, which has enabled the company to demonstrate its integrity and transparency.



Business Review



As the R&D hub of Dong-A Socio Group, Dong-A ST is committed to innovation, and taking on the challenges of realizing its vision of becoming a 'leading pharmaceutical company, advancing through the development of new global drugs'.

Dong-A ST reported sales of KRW 567.2 billion in 2018, up 2.2% over the previous year. Operating profits grew by 63.1% year-on-year to KRW 39.4 billion, mostly thanks to cost reductions and the efficient control of expenses. The ETC Unit reported sales of KRW 298.8 billion, a year-on-year increase of 0.6%. Dong-A ST launched a new anti-corruption management system last year, earning ISO 37001 certification. Based on this, the company has further strengthened its compliance program, and is pursuing the new Group philosophy of Jeong-Do Management. Dong-A ST has therefore improved evidence-based marketing activities involving the sharing of pharmaceutical information, which has enabled it to achieve its first performance turnaround since the demerger. In particular, Dong-A ST successfully increased its sales of new products, including Suganon[®], a treatment for diabetes, Jublia[®], a treatment for onychomycosis, and Edarbi[®], a treatment for hypertension.

The Overseas Unit generated sales of KRW 140.2 billion, a year-on-year increase of 0.3%. Sales of key export items, including bio-pharmaceuticals and anti-tuberculosis drugs, fell slightly due to changes in the tender market, but sales of Bacchus[®] cans continued to grow strongly in Cambodia, helping the overall growth in sales. Dong-A ST also diversified its product portfolio through the successful launch of a new beverage line in Indonesia. The Medical Equipments Unit recorded sales of KRW 34.5 billion, down 22.1% year-on-year as a result of the termination of sales contract for some items, and delays in the licensing-in of replacement items. In contrast, the Diagnostics Unit achieved sales of KRW 38.3 billion, up 10.3% compared to 2017, as it further improved its position in the market by licensing-in new products and increasing the number of customers.

Dong-A ST also achieved a good performance in royalty income from out-licensing deals and others and generated KRW 55.6 billion in sales, 41.7% increase year-on-year. In 2018, the company licensed out DA-9801, a botanical drug for the treatment of diabetic neuropathy, and assigned the right of DA-9803, a botanical drug for the treatment of degenerative neuronal disease, to NeuroBo Pharmaceuticals, and thus generated new sales of KRW 17 billion. In addition, there was also strong fee income from milestone and royalty payments related to R&D pipeline items that had already been licensed-out.

Future Plans

Dong-A ST aims to lead trends in the fast-moving pharmaceutical market by leveraging its extensive experience in order to generate innovation. The company will therefore focus on immune checkpoint inhibitors over the short term, as it is currently an area of substantial interest in the global pharmaceutical market. Over the longer term, the company will undertake major R&D investments into the treatment of dementia, for which there are still substantial unmet needs. Dong-A ST will also build a strong R&D pipeline of new, first-in-class drugs through open innovation, thereby enhancing research productivity.

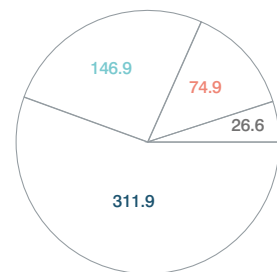
Business Performance

Dong-A ST reported sales of KRW 567.2 billion on a non-consolidated basis in 2018, up 2.2% over the previous year. Operating profits grew by 63.1% year-on-year to KRW 39.4 billion, mostly thanks to cost reductions and the efficient control of expenses. The ETC Unit reported sales of KRW 298.8 billion, a year-on-year increase of 0.6%. Dong-A ST launched a new anti-corruption management system last year, earning ISO 37001 certification. Based on this, the company has further strengthened its compliance program, and is pursuing the new Group philosophy of Jeong-Do Management. Dong-A ST has therefore improved evidence-based marketing activities involving the sharing of pharmaceutical information, which has enabled it to achieve its first performance turnaround since the demerger. In particular, Dong-A ST successfully increased its sales of new products, including Suganon[®], a treatment for diabetes, Jublia[®], a treatment for onychomycosis, and Edarbi[®], a treatment for hypertension.

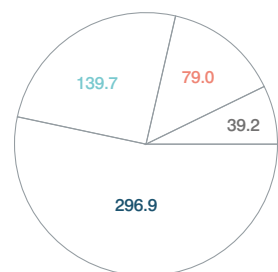
Sales by Business

- ETC
- Overseas
- Medical Equipments & Diagnostics
- Royalty income from out-licensing deals and others

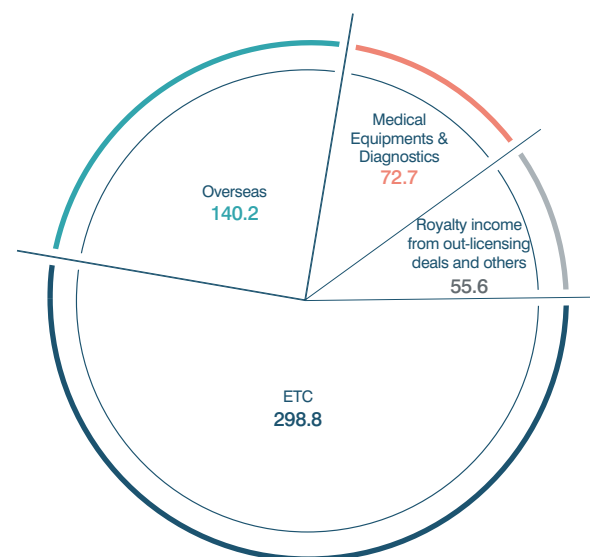
(Unit: KRW billion)



2016



2017



2018





ETC Unit

Dong-A ST's ETC Unit supplies around 90 ETC products to approximately 1,000 hospitals and 10,000 clinics throughout Korea, supported by the nation's leading pharmaceutical sales system. ETC products in Korea are categorized into in-house developed original drugs, licensed-in original drugs, bio-pharmaceuticals, and generic products. Dong-A ST has the most in-house developed original drugs in Korea's pharmaceutical industry, with a portfolio that comprises Stillen[®], Zyderna[®], Motilitone[®], Sivextro[®] Tablet/Injection, and Suganon[®]. Around 500 Medical Representatives (MRs) offer the best medical information, enabling Dong-A ST's products to be prescribed in the right place and at the right time.

Dong-A ST plays a leading role in the pharmaceutical industry through its evidence-based marketing activities. In particular, it has conducted clinical trials comparing generic products with their original drugs, in order to prove the efficacy and safety of the generic products, thereby building customer trust. Dong-A ST has also established the Compliance Program (CP) Management Department, one of the largest such organizations within any Korean pharmaceutical company, and there are also other company-wide efforts being made to strengthen CP. As a result, in 2018 Dong-A ST obtained the ISO 37001 anti-bribery management system certification in recognition of its impartial and ethical compliance culture and an anti-corruption management system which meets global standards.

Key Achievements

According to IMS Health Data, the Korean pharmaceutical market grew by 8.5% in 2018, to around KRW 18,592.6 billion. The ETC market in particular saw year-on-year growth of 9.3%. Despite the government's continued tightening of regulatory policies and changes in the business environment, the Korean pharmaceutical industry is expected to continue to grow, due to an increasing trend towards a western diet, an aging population, and greater wealth, all of which have generated greater need for medical services and promoted more pharmaceutical R&D.

Against this backdrop, sales for the ETC Unit grew by 0.6% compared to the previous year, to KRW 298.8 billion. Broken down by product, Suganon[®], a Dipeptidyl Peptidase-4 (DDP-4) inhibitor class treatment for diabetes that was developed in-house and launched in 2016, achieved sales of KRW 9.9 billion in 2018, up 50.4%, thus being established as a blockbuster drug. Released in June 2017, Jublia[®] is the only topical ETC drug for the treatment of onychomycosis available in Korea, and it generated sales of more than KRW 12 billion in 2018, and continues to grow rapidly. Jublia[®] was originally developed by Kaken Pharmaceutical of Japan, and has also won US Food and Drug Administration (FDA) approval. It has become a new blockbuster product within just two years of its launch in Korea. Growthropin[®] is a human growth hormone, and is Dong-A ST's leading bio-pharmaceutical product. It recorded sales of KRW 19.5 billion in 2018, which was a year-on-year increase of 17.8%. In addition, in October 2018, it became the first human growth hormone developed by a Korean pharmaceutical company to be certified as stable at room temperature once it has been opened. Growthropin[®] can be stored for up to ten days at room temperature (no higher than 25°C) after it is opened, which is a substantial improvement in patient convenience. Meanwhile, Dong-A ST signed a Korean licensing-in agreement in August 2018, for Canerpaturev (C-REV), a new oncolytic virus drug being developed by Takara Bio of Japan. The early licensing-in of a new oncolytic virus drug which has the potential to be a next-generation immuno-oncology drug will further improve Dong-A ST's competitive edge in anti-cancer.

Production Facilities and Capacity

Plant	Size (m ²)	Produced Items	Major Products
Cheonan Plant	138,162	In-house developed original drugs and other capsules, tablets and injections	Suganon [®] , Sugamet [®] , Stillen [®] , Motilitone [®] , Zyderna [®]
Dalseong Plant	36,323	Bio-pharmaceuticals	Growthropin [®] , Eporon [®] , Leucostim [®] , Gonadopin [®]



Domestic Network

Local Sales Organization

Seoul Branch
Anyang Branch
Ilsan Branch
Busan Branch
Daegu Branch
Changwon Branch
Gyeongju Branch
Daejeon Branch
Gwangju Branch
Jeonju Branch
Wonju Branch



Future Plans

Dong-A ST will continue to widen the evidence-based marketing activities carried out in the field by its MRs. It will also improve the efficiency of its marketing activities by focusing on key products with high potential for growth and profitability. Moreover, Dong-A ST will demonstrate its product excellence by announcing clinical results, including data on efficacy and stability, at academic conferences both in Korea and overseas. Other marketing activities for the year ahead include market surveys and analyses. Dong-A ST will also rapidly review whether to license-in or develop major products, and will make quick decisions on expanding its product portfolio, with the aim of ensuring the momentum for continued growth.



Medical Equipments & Diagnostics Unit

The Medical Equipments Unit operates in three specialized areas. In orthopedics, which accounts for the most, it handles products from ZimmerBiomet and ScienceMedic. In medical device, it handles surgery equipment from ERBE and blood pressure equipment from OMRON. In cardiothoracic surgery, it handles products from Medtronic and ZimmerBiomet.

The Diagnostics Unit sells diagnostics & testing equipment, and reagents. It distributes products from Becton Dickinson, DiaSorin, Thermo Fisher Scientific, and Energium. The Diagnostics Unit continues to expand its portfolio, which now includes an infection control product from MH Healthcare and immunity diagnosis equipment from Ortho Clinical Diagnostics.

Key Achievements

In 2018, the Medical Equipments Unit recorded sales of KRW 34.5 billion, a year-on-year decline of 22.1%. This was attributable mainly to an adjustment in the product portfolio which resulted in the ending of sales of certain products, and base effects from one-off sales in 2017. In order to generate growth going forward, the Medical Equipments Unit created the Business Development Team in 2018, and it is making the utmost effort to build a new product line-up and increase sales of large equipment.

The Diagnostics Unit achieved sales of KRW 38.3 billion, a year-on-year increase of 10.3%, thanks to stable growth in sales of products from Becton Dickinson, and sales of new products. The Diagnostics Unit has established a product line-up that is particularly competitive in the fast-growing infection control and immunity diagnosis markets. It is focused on maintaining growth by diversifying its product line-up and increasing the number of its customers.

Future Plans

In 2019, the Medical Equipments Unit plans to launch an arthroscope which has been developed in-house. This will be the first diagnostic arthroscope developed in Korea, and has already demonstrated outstanding competitiveness in its technical specifications and price, compared to imported products, so that this product is expected to rapidly earn market share. The Unit is also planning to expand its sales of large equipment, including a gamma-knife and an ultrasound device, and generate additional growth by selling new lines of products.

The Diagnostics Unit aims to achieve continued growth by further increasing sales of existing products and strengthening its position in new markets. It will also focus its competencies on recently-released infection control and immunity diagnosis products, and thus further enhance relevant competitiveness.





Overseas Unit

Dong-A ST's Overseas Unit is in charge of the company's overseas sales. As of the end of 2018, it exports in-house developed original drugs, including Stillen[®] and Zydena[®], and bio-pharmaceuticals, such as Gwotropin[®], Eporon[®] and Leucostim[®], to more than 50 countries around the world, across Europe, Latin America, Asia, the Middle East, and Africa. It also exports active pharmaceutical ingredients (APIs), such as Cycloserine, Terizidone, and Atorvastatin, as well as various finished pharmaceutical products, including Closerin[®]. The Overseas Unit is also in charge of exporting Bacchus[®], Dong-A's flagship brand.

Dong-A ST is striving to increase the market shares of its existing products and to diversify markets, in order to become a global pharmaceutical company. It is also aiming to build a global network through strategic alliances with overseas companies, and by conducting overseas clinical trials. To reach the goals, Dong-A ST is hiring outstanding talent with global capabilities and offers them comprehensive training on a regular basis, such as the Training Road Map.

Key Achievements

Dong-A ST's Overseas Unit recorded sales of KRW 140.2 billion in 2018, an increase of 0.3% over the previous year. The Unit's major export revenues include exports of bio-pharmaceuticals to Brazil and Turkey, sales of anti-tuberculosis drugs to the World Health Organization (WHO), and sales of Bacchus[®], which is exported to Southeast Asia and Latin America.

Sales in the bio-pharmaceutical sector decreased by 5.3% compared to the previous year, to KRW 35.1 billion. This was due to lower sales of the human growth hormone Gwotropin[®], the main product in this sector. In its anti-tuberculosis business, Dong-A ST earned pre-qualification (PQ) from the WHO at the end of 2012, and has won a contract to supply Closerin[®] to the WHO for six straight years, since 2013. Dong-A ST also exports Cycloserine and Terizidone, APIs for anti-tuberculosis drugs, to Russia and India. In 2018, the WHO's international tenders for anti-tuberculosis drugs temporarily decreased, which in turn resulted in Dong-A ST's sales of anti-tuberculosis drugs falling by 28.2% compared to the previous year, to KRW 20.8 billion.

In contrast, the Bacchus[®] sector reported sales of KRW 71.5 billion in 2018, up 9.5% year-on-year. Bacchus[®] cans continue to achieve strong sales growth in Cambodia with the nation enjoying robust economic growth. Dong-A ST has been implementing localization strategy, in collaboration with a local partner company, with the aim of increasing the brand awareness of Bacchus[®], and as a result, it has become one of the most famous energy drinks in Cambodia.

Overseas Subsidiaries

Dong-A America Corp.
(California, U.S)

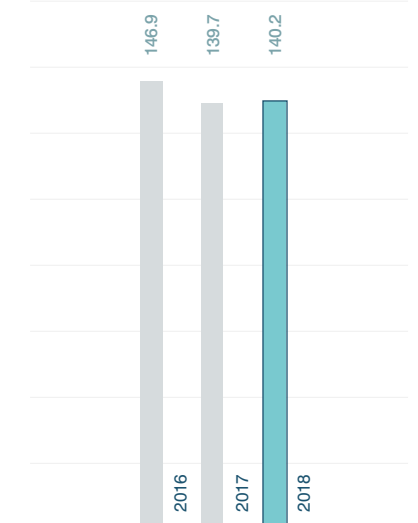
Dong-A Brasil Farmaceutica Ltda.
(Sao Paulo, Brazil)

Dong-A ST India Liaison Office
(Mumbai, India)



Overseas Sales Trend (Unit: KRW billion)

140.2
KRW billion



Dong-A ST also made significant achievements in exporting other beverages. Dong-A ST received Halal certification for its main beverage products from 'Majelis Ulama Indonesia', one of the world's top three Halal certification organizations in 2018. And then the company entered into the Indonesian market and exported 6.29 million cans of the soft drink OranC[®] in its first year in the market.

Dong-A ST is focused on building a global network, so that it can establish a stronger presence in the global pharmaceutical market. The company is therefore forming strategic alliances with companies around the world to enter both developed and emerging markets. In early 2018, the construction of PT Combiphar Dong-A Indonesia biopharmaceutical plant was completed, the outcome of joint investments made by Dong-A ST and Combiphar, a pharmaceutical company in Indonesia. The two companies had previously formed a strategic alliance for mid- to long-term growth, and the joint investments into the new plant are a major part of that alliance. Dong-A ST now has a bridgehead in Indonesia, and the company will strive to ensure successful entry into the Indonesian bio-pharmaceutical market by continuing close cooperation.

Major Export Products

Category	Product Name	Indication	Major Export Countries	Sales in 2017	Sales in 2018	Change (%)
Bio-pharmaceutical	Gwotropin [®]	Human growth hormone	Brazil	28.6	27.0	-5.6
	Eporon [®]	Erythropoietin	Turkey	5.4	5.9	9.4
Tuberculosis Treatment	Cycloserine	Tuberculosis (API)	Russia	8.9	6.5	-28.2
	Closerin [®]	Tuberculosis (Finished product)	WHO (Europe)	12.4	8.7	-29.5
	Terizidone	Tuberculosis (API)	Russia	7.7	5.6	-27.1
Bacchus [®]		Energy Drink	Cambodia	65.3	71.5	9.5

Dong-A ST has two overseas subsidiaries and one overseas office – the Brazilian subsidiary, Dong-A Brasil Farmaceutica, is located in São Paulo, the US subsidiary, Dong-A America, is located in California, and the Indian office is in Mumbai.

Future Plans

In 2019, Dong-A ST's Overseas Unit aims to maintain its growth pace by exploring new markets for its major products, strengthening product portfolio, and developing new businesses. In anti-tuberculosis drugs sector, the company will expand its business portfolio and targeted market by implementing a dual price strategy and diversifying sources of APIs in order to respond actively to conditions in existing markets. In addition, Dong-A ST will continue to expand its exports of beverages, including Olatte[®] and OranC[®]. The Overseas Unit will create new business by exporting APIs to generic pharmaceutical markets, as well as products that can meet local market needs. It will also continue to build a long-term global business network by establishing strategic alliances and partnerships with overseas companies.



R&D Review



R&D INVESTMENT¹⁾
76.8
 KRW billion

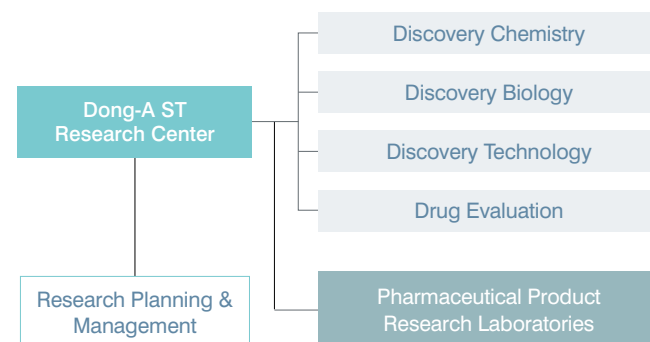
R&D INVESTMENT PER SALES
13.5
 Percent

R&D PERSONNEL
225
 Persons

* As of December 31, 2018

Dong-A ST aims to contribute to building a healthier society by ensuring sustainable development and by making continued investments in R&D with a relentless passion for developing innovative drugs.

Dong-A ST Research Center Organization



¹⁾ R&D expenses and the R&D expenses from production costs

Dong-A ST Research Center

Established in 1977, the Dong-A ST Research Center performed a pivotal role in the company's development of new drugs. By combining the expertise and commitment of the Research Center with the company's R&D investment policy, Dong-A ST has developed the most in-house original drugs amongst any other Korean pharmaceutical companies.

Stillen[®], the first original drug developed in-house by the company, is a treatment for gastritis and was launched in 2002. Zydena[®], launched in 2005 as the first erectile dysfunction treatment in Korea, was the company's second in-house developed original drug. Motilitone[®] is a functional dyspepsia treatment, and was released in 2011 as Dong-A ST's third in-house developed original drug. The fourth was Sivextro[®], an oxazolidinone class antibiotic, which was successfully launched by a partner company in the U.S. and Europe in 2014 and 2015 respectively, as a treatment for Acute Bacterial Skin and Skin Structure Infections (ABSSSI). The fifth original drug developed in-house is Suganon[®], a diabetes treatment of the DPP-4 inhibitor class, which was launched in Korea in 2016. Suganon[®] has also been licensed-out in several major countries, including India, Brazil and Russia. A phase III clinical trial was completed in 2018, and therefore, it is expected to be launched in other overseas countries in the near future. Dong-A ST's R&D expertise has thus received both global and domestic recognition in the market, and the company will continue to make efforts to maintain a competitive novel drug pipeline.

Dong-A ST has moved beyond the traditional pharmaceutical research, and is implementing a two-track R&D strategy in order to become a global pharmaceutical company through the development of innovative new drugs. In Korea, the company adopts market-focused decision-making in order to quickly develop products which increase the domestic market share. In the overseas markets, it focuses on developing innovative new drugs that create the mid- to long-term value. In addition to aspiring to strengthen its internal R&D capabilities, Dong-A ST is also actively expanding its cooperation with external partners.



Key Achievements

Dong-A ST saw outstanding results in R&D in 2018, namely the release of new products in Korea and overseas, and the initiation of global clinical trials and joint research. Moreover, the company consolidated research collaboration between the industry and academia by initiating 'Dong-A ST Open Innovation Research Project Contest' as a way to provide support for academic physicians and researchers.

In Korea, Dong-A ST selected high-value products which reflected the current market needs, and undertook formulation studies, using the latest drug delivery system technology to improve patient compliance. The company launched Dutavan Plus Tab.[®], a benign prostatic hyperplasia treatment in the tablet form that offered an improved level of convenience and stability compared to the previous soft capsule. In 2017, Dong-A ST formulated Sugamet[®] SR tab (launched in 2016) with a reduced particle size that culminated to MFDS's (Ministry of Food and Drug Safety) approval of a new formulation drug, a combination of Suganon[®], one of Dong-A ST's in-house developed new drugs, and Metformin. In 2018, Dong-A ST was also granted an authorization to conduct bioequivalence studies for a further reduction in the formulation size of Sugamet[®] SR tab.

Dong-A ST also saw significant achievements in the global development. In the new chemical entities, a phase I clinical trial was completed in Europe for DA-8010, a treatment for overactive bladders, and a phase 2b clinical trial is under way in Korea. Furthermore, a phase 1a clinical trial was completed in the U.S. for DA-1241, an oral type 2 diabetes treatment of the GPR-119 agonist class, and a phase 1b clinical trial is now under way.

The company has established partnerships for its botanical drugs to enter the global market. A license-out agreement for DA-9801, a treatment for diabetic neuropathy, was signed with NeuroBo Pharmaceuticals of the U.S. with the plan to begin a phase III clinical trial in the U.S. in 2019. Dong-A ST also signed a technology transfer agreement with NeuroBo Pharmaceuticals for DA-9803, a botanical treatment for Alzheimer's disease whose pre-clinical study had already been completed with aid of government grants. DA-9805, a government-funded project by the Ministry of Trade, Industry and Energy is a treatment for Parkinson's disease, and its outlook of the phase II trial is bright in the US. Dong-A ST has also completed a phase III clinical trial in Japan for DA-3880, a biosimilar of Aranesp[®], erythropoiesis stimulating agent Darbepoetin- α , through its partnership with Sanwa Kagaku Kenkyusho, a pharmaceutical company in Japan. An application for manufacturing and sales in Japan has been made to the Japanese Ministry of Health, Labour and Welfare.



R&D History

Dong-A ST began active collaboration and joint research in Korea and overseas. Beginning with the company's licensing-out of DA-4501, an immuno-oncology drug Mer tyrosine kinase inhibitor (MerTk), to AbbVie, a global pharmaceutical company, in 2016, Dong-A ST won global recognition for its excellence of the R&D in immuno-oncology. As a result, the company signed a joint research agreement with AstraZeneca, a British biopharmaceutical company at the JP Morgan Healthcare Conference, held in San Francisco in January 2018 to work together on immuno-oncology drugs. The collaboration aims to discover a novel IO candidate based on three immune checkpoint inhibitor targets, provided by AstraZeneca. Furthermore, Dong-A ST signed a joint research and licensing-in agreement with ABL Bio of Korea in January 2018, for a bispecific antibody drug with a novel immuno-oncology mechanism. This agreement further consolidated Dong-A ST's R&D competitiveness by securing a novel antibody drug pipeline in the area of immuno-oncology, in addition to existing compounds. In August 2018, the company also signed an agreement with the Daegu-Gyeongbuk Medical Innovation Foundation to work together on the development and commercialization of key technologies for new chemical drug research. The two institutions are now conducting joint research for discovering novel immuno-oncology drugs.

In 2018, Dong-A ST began the 1st 'Dong-A ST Open Innovation Research Project Contest' to foster the cooperation between the industry and academia. After two active rounds, the company has selected 13 projects, including ones primarily related to basic research on immuno-oncology biology, and research on expanding the indications of Dong-A's approved drugs. Dong-A ST's continued efforts to support these programs across basic areas of science and drug repositioning, coupled with its partnerships with the creativity and expertise of academia will help the company further enhance its R&D capabilities.

Future Plans

The pharmaceutical industry has entered an era of slow growth, mainly due to the slowing economic growth in Korea and overseas, industry-specific factors such as the limited growth of blockbuster drugs and other key products, falling drug prices, and declining R&D productivity. Dong-A ST is determined to overcome these difficult market conditions, and become a leading company, equipped with novel global drugs. To this end, Dong-A ST will focus its research efforts on the development of first-in-class drugs, with an emphasis on anti-cancer drugs, as there are still many unmet market needs in this area. In the longer-term, Dong-A ST will also undertake research projects on neuro- degenerative diseases that are in line with Dong-A's business strategy of early global licensing-out, both at the drug discovery stage and pre-clinical stage. In addition, Dong-A ST will strengthen its pipeline and R&D capabilities through open innovation and collaboration with Korean and overseas universities, and research institutes. The company will also run projects through global partnerships, analyze the market environment in detail, expand its business networks, and continue to adopt new technologies.

1977

Established the central research institute in Yongdu-dong, Dongdaemun-gu, Seoul, Korea

1979

Developed the world's third antibiotics, Talampicillin®

1981

Received the Invention Award for the production method for beta lactam antibiotics

1988

Released AIDSIA®, Korea's first ever first-generation AIDS diagnostic reagent

Constructed the industry's first Korea Good Laboratory Practice (KGLP)-compliant research center in Sanggal, Gyeonggi, Korea

1991

Received the IR52 Jang Young Shil Award for AIDSIA®

1993

Developed Gwotropin®, a first-generation biomedicine and human growth hormone

1994

Released Interferon-alfa™, a first-generation biomedicine and multiple myeloma treatment

Developed the world's first simultaneous diagnostic reagent for AIDS and hepatitis C

Acquired the Korea Good Technology mark for AIDSIA®, an AIDS diagnostic reagent

1997

Became the first in Korea to develop a tuberculosis treatment, Closerin®

1999

Released Leucostim®, a first-generation biomedicine and neutropenia treatment, and Eporon®, a renal anemia treatment

2002

Released Stillen®, Dong-A's first in-house developed original drug and a phytomedicine for gastritis

2005

Released Zyderna®, Dong-A's second in-house developed original drug and an erectile dysfunction treatment

2006

Released Gonadopin®, a first-generation biomedicine and infertility treatment

2007

Licensed out Sivextro® (Tedizolid), an oxazolidinone class antibiotic, to Trius Therapeutics of the US (currently Merck & Co.) for the worldwide territory except Korea

Received the IR52 Jang Young Shil Award for Zyderna®

2011

Released Motilitone®, Dong-A's third in-house developed original drug and a phytomedicine for functional dyspepsia

2012

Received the IR52 Jang Young Shil Award for Motilitone®

Licensed out Evogliptin to Alkem Laboratories of India for the Indian and Nepali markets

2013

Established a Korea's first dementia research center

2014

Licensed out DA-3880 (Darbepoetin-α biosimilar), a long-acting biopharmaceutical drug stimulating erythropoiesis, to Sanwa Kagaku Kenkyusho (SKK) of Japan for the Japanese market

Obtained US FDA approval and launched Sivextro® (Tedizolid), in the US by Cubist (currently Merck & Co.)

Licensed out Evogliptin to Eurofarma Laboratórios of Brazil for the Brazilian market

2015

Obtained European Commission (EC) approval and launched Sivextro® (Tedizolid) in European countries

Licensed out Evogliptin to Eurofarma Laboratórios of Brazil for 17 countries in Latin America

Licensed out Evogliptin to GEROPHARM of Russia for the Russian, Ukrainian and Kazakhstan markets

Released Dulastin® (PEG-G-CSF), a long-acting biopharmaceutical drug for neutropenia

2016

Released Stillen® 2X, an Incrementally Modified Drug (IMD) of Stillen®

Released Suganon® (Evogliptin) and Sugamet® XR (combination product of Evogliptin and metformin), Dong-A's fifth in-house developed original drug and a type 2 diabetes treatment

Licensed out MerTK inhibitors, immuno-oncology drug, to AbbVie Biotechnology for the worldwide territory

2017

Signed an MOU on developing a bispecific antibody drug with ABL Bio

2018

Signed a joint research agreement with AstraZeneca to develop innovative immuno-oncology drugs

Licensed-out DA-9801, a botanical drug for the treatment of diabetic neuropathy, to NeuroBo Pharmaceuticals

Assigned the right of DA-9803, a botanical drug for the treatment of Alzheimer's disease, to NeuroBo Pharmaceuticals

Licensed-in and joint research agreement with ABL Bio to develop immuno-oncology bispecific antibody drugs



R&D Pipeline

Code Name (Brand Name)	Description	Indication	Development Stage	Licensing Availability
New Chemical Entity				
Sivextro® (Tedizolid)	Oxazolidinone class antibiotic	Infection (ABSSSI, Acute Bacterial Skin and Skin Structure Infections) Pneumonia (Hospital-Acquired/ Ventilator-Associated Bacterial Pneumonia)	Launched (USA, EU, etc.) Ph III completed (Global)	—
Suganon®/ Sugamet® XR (Evogliptin)	DPP(Dipeptidyl Peptidase)-4 inhibitor	Type 2 diabetes	Launched (Korea)	Available for some territories
DA-6886	5-HT (Hydroxytryptamine)4 agonist	Irritable bowel syndrome-constipation	Ph I completed (Korea)	Available
DA-8010	M ₃ receptor antagonist	Overactive bladder	Ph I completed (EU), Ph II (Korea)	Available
DA-1241	GPR119 agonist	Type 2 diabetes	Ph Ia completed (USA) Ph 1b (USA)	Available
DA-4501	Novel IO target	Cancers, etc.	Drug discovery	—
Botanical Drug				
DA-9801	Botanical Drug	Diabetic neuropathy	Ph II completed (USA)	—
DA-9803	Botanical Drug	Alzheimer's disease	Non-clinical (USA)	—
DA-9805	Botanical Drug	Parkinson's disease	Ph II (USA)	Available
DA-9701 (Motilitone®)	Botanical drug	Functional dyspepsia	Launched (Korea) Ph II completed (USA)	Available
Biopharmaceutical Products				
DA-3880	Darbepoetin α	Anemia	Ph I completed (EU) NDA submitted (Japan)	Available for some territories
DA-3131	New anti-VEGF mAb	Age-related macular degeneration	Non-clinical completed (Korea)	Available
DMB-3111	Trastuzumab biosimilar	Breast cancer	Ph I completed (Japan)	Available except Korea, Japan, EU, Russia, CIS and Latin America
DMB-3115	Ustekinumab biosimilar	Psoriasis	Non-clinical completed (UK)	Available except Korea and Japan

Key Pipeline Items

Tedizolid; Sivextro® Tedizolid is a second generation oxazolidinone class antibiotic developed for both intravenous and oral administration to treat serious gram-positive infections, including those caused by Methicillin-Resistant Staphylococcus Aureus (MRSA). In 2007, Dong-A ST licensed-out Tedizolid to US-based Trius Therapeutics (acquired by Cubist, in turn acquired by MSD) for all territories except Korea. Since then, Trius has developed Tedizolid from phase I to phase III clinical trials for the indication of Acute Bacterial Skin and Skin Structure Infections (ABSSSI); these trials have demonstrated that Tedizolid, with shorter course of therapy, was statistically non-inferior to the same class market competitor in the primary and secondary efficacy endpoints. Tedizolid also showed a better safety profile than its competitor, and is expected to improve patient compliance, as it only has to be taken once daily. Cubist/Merck launched Tedizolid under the brand name Sivextro® following an NDA approval from the US FDA in June 2014. In addition, marketing authorization for Sivextro® was granted by the European Medicines Agency (EMA) in the 1st half of 2015, so Sivextro® has been marketed in Europe, starting in the UK. Also, Sivextro® has been launched in Asia including Japan, Latin America, Africa and other territories. In addition, global phase III study for hospital-acquired/ventilator-associated bacterial pneumonia (HABP/VABP) was completed in 2018.

Evogliptin; Suganon®/Sugamet® XR Evogliptin is an anti-diabetic compound of the Dipeptidyl Peptidase-4 (DPP-4) inhibitor class, with high selectivity for DPP-4. A phase I clinical trial of Evogliptin showed that a single administration of Evogliptin 5mg inhibited DPP-4 activity by more than 80%, and a repeated once daily dose of Evogliptin 5mg maintained the inhibition of DPP-4 for more than 24 hours. In the phase II clinical trial, it was confirmed that Evogliptin 5mg significantly decreased HbA1C levels compared to a placebo. In phase III studies, Evogliptin 5mg showed superiority over the placebo, and non-inferiority to Sitagliptin. In addition, Evogliptin does not need dose adjustment in patients with renal impairment and showed a renal protective effect in animal studies, which would be beneficial to diabetic patients with renal disease. Suganon® (Evogliptin monotherapy) and Sugamet® XR (a fixed-dose combination tablet of Evogliptin and an extended release form of Metformin) were launched in Korea in 2016.

For the global markets, with strong points of Evogliptin, Dong-A signed licensing-out agreements with Alkem Laboratories for India and Nepal, in 2012. Dong-A also made a license-out agreement with Eurofarma Laboratórios for the territory of Brazil in 2014 and signed an additional license-out agreement for 17 countries in Latin America in 2015.

Also, Evogliptin was licensed to Geropharm for the Russian and other CIS markets (Ukraine, Kazakhstan) in 2015. The Indian partner, Alkem obtained an NDA approval for Evogliptin at the end of 2018.

DA-9801 DA-9801 is a botanical drug, a mixture of Dioscorea Rhizome and Dioscoreae Nipponicae Rhizoma in tablet form, for pain associated with diabetic neuropathy. Its main mechanism is considered to lift levels of Nerve Growth Factor (NGF) back to normal, which leads to nerve regeneration. DA-9801's efficacy in pain reduction and nerve regeneration has been confirmed in various non-clinical animal disease models.

A 12-week Phase II study in the US was completed successfully. DA-9801 300 mg and 600 mg groups showed a statistically significant reduction of more than 2 points in mean pain scores at Week 12, in comparison to their respective baseline scores. In addition, improvements of 50% or more were achieved in 46.9%, 50%, and 43.8% of the patients in the 300 mg, 600mg, and 900mg groups, respectively.

In March 2016, the safety and efficacy of the Phase II results and the plans for a Phase III study were confirmed at the End of Phase II meeting with the FDA. Through this meeting and the Chemistry, Manufacturing and Control (CMC) meeting with the

FDA, all categories that must be addressed ahead of market release have now been discussed and confirmed.

Since the CNS drugs or anti-depressants that are commonly used to treat diabetic neuropathy cause side effects such as dizziness and somnolence, there is market demand for a new, safe treatment. It is believed that DA-9801 will be a new treatment option for diabetic neuropathic pain with its comparable efficacy and favorable safety profile. The potential of DA-9801 has been recognized in the global pharmaceutical market as well. As a result, Dong-A ST signed a license-out agreement with NeuroBo Pharmaceuticals of the U.S. in January 2018. NeuroBo Pharmaceuticals is a venture company specializing in the development of neuroscience-based botanical drugs, and will be in charge of global clinical development and approval as well as sales of DA-9801.

DA-9803 DA-9803, a multimodal botanical drug, is a pre-clinical candidate substance that is being developed as an Alzheimer's treatment. It offers special benefits compared to other treatments in that it eases symptoms and improves the cause of the illness by enhancing cognitive skills by restraining beta amyloid (Aβ) buildup and tau phosphorylation, which are known as the main cause of Alzheimer's. Preclinical study results confirm that DA-9803's effects include improving cognitive skills as well as protecting nerve cells and making improvements in relation to the illness. Joint research conducted with Harvard University, which has the world's most advanced technologies in relation to Alzheimer's research, indicates that DA-9803 delivers outstanding effects in restraining Aβ buildup and Ca²⁺ overload. Also, its effect of restraining AChE and improving cognitive skills in a scopolamine-caused memory impairment model was confirmed by a pre-clinical study. This is why there is anticipation of a high possibility of clinical success compared to other company pipelines. An acquisition agreement was signed with NeuroBo Pharmaceuticals in the US to transfer the right of DA-9803 in January 2018. Accordingly, NeuroBo Pharmaceuticals will take charge of global clinical development and approval as well as sales of DA-9803.

DA-9805 DA-9805 is a proprietary botanical drug consisting of three bioactive ingredients designed as an oral pill for the treatment of Parkinson's Disease (PD). DA-9805 is being developed as a potential disease-modifying treatment for PD due to its prevention against dopaminergic neurodegeneration via multiple effects. In preclinical studies, DA-9805 demonstrated anti-Parkinsonian efficacy with reduced neuronal loss and improved behavior outcomes in PD animal models. No toxicity was observed in acute and chronic GLP toxicity studies. Dong-A ST initiated a phase II study with PD patients from 2017 after gaining an IND approval from the US FDA. The recruitment has been completed and the top-line data are expected to be collected by the first half of 2019.

DA-9701; Motilitone® Motilitone® is an herbal medicine containing Corydalis Tuber and Pharisbitis Seed extracts for the treatment of Functional Dyspepsia (FD). Motilitone® works by enhancing gastric emptying as well as improving gastric accommodation and visceral hypersensitivity in FD patients. It is the only FD drug that exhibits this triple mode of action, and acts through 5-HT₄, 5-HT_{1A} and α₂-adrenergic agonism as well as D₂ antagonism. A phase II and a non-inferiority phase III trial have been conducted in Korea, which have shown that Motilitone® has potential as a safe and effective therapeutic drug for FD patients. The product was approved for marketing in Korea in 2011. A phase IIa study in the U.S. has been completed in individuals with Rome III defined FD and Motilitone® showed an overall safety profile.

DA-1241 DA-1241 is a novel small molecule of GPR119 agonist for type 2 diabetes. DA-1241 showed higher potency and efficacy than its competitors via in vitro and in vivo tests. In addition to the glucose-lowering efficacy of DA-1241, it also effectively inhibited postprandial increase of plasma lipid levels in mice, at the dose showing glucose lowering effect. Therefore, it is expected that DA-1241 can offer therapeutic benefit for the treatment of type 2 diabetic patients with dyslipidemia by controlling postprandial lipid as well as glucose levels, at the same dose range. Also, potential for treating NASH was shown in the animal model. Based on its PK profile in animals, it was expected that DA-1241 has a feasibility of once-daily dosing in human and phase Ia study in the US confirmed the long half-life, feasible for once-daily dosing, of DA-1241. In mid-2018, phase 1b study was initiated in the U.S.

DA-8010 DA-8010 is a novel muscarinic receptor 3 antagonist being developed for the treatment of OAB/UI (overactive bladder/urinary incontinence). As muscarinic receptor antagonists [current gold standard for overactive bladder] have the limitations of intolerable and frequent side effects (i.e. dry mouth, constipation and tachycardia), there still are unmet needs. DA-8010 is a highly potent M₃ antagonist with affinity (more potent than its main competitor), and highly selective for urinary bladder over salivary gland, large intestine and heart in preclinical studies, compared with other antimuscarinic agents. Such high potency and selectivity of DA-8010 will provide therapeutic benefit with less frequency/degree of side effects observed in other antimuscarinic agents. The Phase I study was successfully completed in EU, and the phase II study was initiated in Korea in mid-2018.

DA-3880 DA-3880 is a biosimilar of darbepoetin alfa which stimulates erythropoiesis (increases red blood cell levels), and is used to treat anemia associated with chronic renal failure and cancer chemotherapy. Darbepoetin alfa has a longer half-life than erythropoietin, resulting in less frequent administrations. Due to the complex glycosylation, development of a darbepoetin alfa biosimilar is known to be difficult. However, a high similarity of

DA-3880 to the reference product was demonstrated through non-clinical and European phase I clinical studies. In January 2014, Dong-A ST signed a licensing agreement with Sanwa Kagaku Kenkyusho (SKK) of Japan for DA-3880 that completed phase 1 and phase 3 clinical study, and submitted an NDA application to the PMDA of Japan in 2018. For the global market, Dong-A ST is preparing for phase III clinical trials with global scope.

DA-4501 DA-4501 is a first-in-class drug discovery program aiming at developing a small molecule drug that inhibits MER tyrosine kinase (MerTK). MerTK is a member of TAM (Tyro3, Axl, and MerTK) family receptor tyrosine kinases, and best known to drive tolerogenic clearance of apoptotic cells. Inhibition of MerTK therefore is anticipated to expose dying tumor cells to immune surveillance and thereby increase the chance of triggering host immunity against cancer cells. Dong-A has initiated a MerTK inhibitor program in 2013, and has been able to come up with a series of MerTK inhibitors with unprecedented specificity. In December 2016, Dong-A ST and AbbVie Biotechnology entered into a Development and License Agreement. Dong-A ST and AbbVie will collaborate until the IND submission and AbbVie will be responsible for clinical development, regulatory approval and commercialization.

DMB-3111 DMB-3111 is a biosimilar of Trastuzumab, which is a monoclonal antibody that interferes with the HER2 receptor. Its main use is to treat for metastatic/early breast cancer and metastatic gastric cancer. DMB-3111 is one of the assets in co-development with Meiji Seika Pharma of Japan, and the results of the Japanese phase I clinical trial showed high similarity with the reference product. Based on these results, in October 2016 Dong-A ST contracted with a European company, Gedeon Richter, for the development and commercialization of DMB-3111 in Europe, Russia, CIS and Latin America.

DMB-3115 As the second wave biosimilar, Dong-A and Meiji Seika Pharma are developing new monoclonal antibody biosimilar, DMB-3115, a biosimilar of Ustekinumab. Ustekinumab is directed against interleukin 12 and interleukin 23, naturally occurring proteins that regulate the immune system and immune-mediated inflammatory disorders. Ustekinumab is indicated for the treatment of adult patients with active psoriatic arthritis, moderate to severe plaque psoriasis, and moderately to severely active Crohn's disease, and additional indication was approved for adolescent patients with moderate to severe plaque psoriasis in 2017. Development is ongoing, targeting to be the first biosimilar in the Ustekinumab biosimilar space.

Key Products

In-house Developed Original Drugs

Stillen® Tab.

Gastritis Treatment



Stillen® Tab. is Dong-A ST's first in-house developed original drug, and it is a treatment for gastritis with main ingredients of eupatilin and jaceosidin, extracted from the herb Artemisia. Developed in 2002 as Korea's first independently developed cytoprotectant drug, it has proven its outstanding efficacy and safety and led the Korean cytoprotectant drug market while maintaining the highest market share. Dong-A ST launched Stillen® 2X Tab., an incrementally modified drug (IMD) of Stillen®, in 2016, which is taken twice a day instead of the previous three times a day thanks to the use of floating technology.

Zydena® Tab.

Erectile Dysfunction Treatment



Zydena® Tab. was developed by Dong-A ST in 2005 as the first oral erectile dysfunction drug in Korea, and the fourth worldwide. It entered the Russian market in 2008, and is currently exported to six countries. Zydena® comes in four dose forms – 50 mg, 75 mg, 100 mg and 200 mg – with the dosage controlled based on symptoms. Research on various other indications, including pulmonary arterial hypertension and dementia, is being conducted. There is anticipation of an expansion in the application scope.

Motilitone® Tab.

Functional Dyspepsia Treatment



Motilitone® Tab. is an original drug, developed in-house by Dong-A ST and launched in 2011. It is a botanical drug, the main ingredients of which are extracts of corydaline and pharbitis. It is the only triple action functional dyspepsia treatment, with a Dopamine D2 antagonist action added to serotonin 5-HT1A and 5-HT4 agonistic actions. It has led the market in Korea for functional dyspepsia treatment over the last six years, since 2013.

Sivextro® Tab./Inj.

Oxazolidinone Class Antibiotic



Sivextro® is an antibiotic that Dong-A ST has licensed out for development. It received US FDA approval in June 2014, European Medicines Agency (EMA) approval in March 2015, and the approval from Korean Ministry of Food and Drug Safety (MFDS) in 2015. It has demonstrated outstanding efficacy for Acute Bacterial Skin and Skin Structure Infections (ABSSSI) in clinical trials, and also shown an excellent safety record compared to competitor products. In 2018, a global multi-center phase III clinical trial was completed to verify additional effects for the treatment of pneumonia.

Suganon® Tab.

Diabetes Treatment



Suganon® is a type 2 diabetes treatment of the DPP-4 inhibitor class that was developed by Dong-A ST through its inhouse capabilities, and was launched in 2016. Also released was Sugamet® SR Tab., a combination drug comprised of Suganon® and Metformin. Taken once a day in tablet form, Suganon® provides blood sugar regulation effects for 24 hours, and can be prescribed safely for it has fewer side effects. There is no need for dose adjustment for renal disorder patients, but careful administration is required for moderate and serious renal disorder patients. Research and development is underway for a combination drug to treat multiple chronic diseases, especially for patients with metabolic syndrome.

Incrementally Modified Drugs

Stillen® 2X Tab.

Gastritis Treatment



Dong-A ST used floating technology for Stillen® 2X, an IMD of Stillen®, which extends gastric emptying time to increase the drug retention. This enables Stillen® 2X to offer the same efficacy and effects as the original drug with fewer administrations – twice a day, not the previous three times. Dong-A ST aims to solidify its share of the cytoprotectant agent market by providing wider treatment options through Stillen® and Stillen® 2X.

Orodipine® Tab.

Hypertension Treatment



Orodipine® Tab., a calcium channel blocker (CCB) and an oral hypertension treatment, is an IMD that used amlodipine orotate. As of the end of 2018, it recorded the fifth highest share of the amlodipine market in Korea.

Orosartan® Tab.

Hypertension Treatment



As an IMD of Exforge®, this oral hypertension treatment is a combination drug comprising an Angiotensin II Receptor Blocker (ARB) and a calcium channel blocker (CCB). CCB used an ingredient of amlodipine orotate, which is an IMD. A phase IV clinical trial compared Orosartan® Tab. with an ARB/diuretic combination drug, and showed its distinctiveness compared to competing products.

Virreal® Tab.

Hepatitis B Treatment



Virreal® (Tenofovir) is a hepatitis B treatment, and is an IMD of Viread®. It is the first ETC item to adopt a 7-day pill organizer and an application that alerts patients of the medicine-taking time. This product is aimed at improving drug compliance for patients. Also, a non-inferiority clinical trial is underway on naive patients, and thus medical evidence is expected to be established.

Biological Products

Growtrophin II® Inj.

Human Growth Hormone



Growtrophin® is a human growth hormone that was developed in-house by Dong-A ST using its state-of-the-art gene recombination technologies. Available in such various forms as liquid form and pen device, it provides greater patient convenience. It has an indication of low height resulting from impaired growth hormone secretion in young children and idiopathic short stature (ISS). In 2018, Growtrophin II® became the first human growth hormone developed by a Korean pharmaceutical company to be clinically approved as stable at room temperature after being opened. Growtrophin II® has many other benefits, including convenience in adjusting the administered dose and easy storage. Clinical trials are under way for its use with Turner syndrome, when short stature is caused by a chromosomal disorder, and for babies who are small for their gestational age and have growth delays since birth.

Leucostim® Inj.

Neutropenia Treatment



Leucostim® is a neutropenia treatment, the main ingredient of which is filgrastim. It was developed in-house by Dong-A ST, and has been produced and sold since 1999. Backed by its price competitiveness, it is currently prescribed at around 70 general hospitals, at a price that is as much as 50% lower than the market leader.

Dulastin® Inj.

Neutropenia Treatment



Dulastin® was launched in 2015, and is the first PEG-G-CSF medication to be developed in-house in Korea. It combines PEG with filgrastim, the main ingredient in Leucostim®. Only one dose is needed per chemotherapy cycle, making it easier for medical staff and ensuring greater patient compliance, while the price is 25% cheaper than other PEG-G-CSF medications. Dulastin® is now prescribed at some 40 general hospitals.

Licensed-in Original Drugs

Acelex® Cap.

Osteoarthritis Treatment



Acelex® was released in September 2015 as the 22nd new drug in Korea. The main ingredient of this selective cyclooxygenase-2 (COX-2) inhibitor is polmacoxib. Originally developed by Crystal Genomics, a Korean pharmaceutical company, Acelex® is especially fast-acting and effective in relieving pain from osteoarthritis. It has earned recognition as an advanced and globally competitive product, and in 2018, it was acknowledged as a next-generation world-leading product by the Ministry of Trade, Industry and Energy. Acelex® is prescribed at around 100 general hospitals across Korea.

Flivas® Tab.

Benign Prostatic Hyperplasia Treatment



Flivas® is the first alpha-blocker to have high selectivity for the α1d receptor. It is effective against dysuria symptoms of prostatic hyperplasia. It also has high prostate and urethra selectivity, making it safe with regard to orthostatic hypotension and ejaculation disorder side effects. Originally developed by Asahi Kasei of Japan, Flivas® comes in various doses, including 25 mg, 50 mg and 75 mg, depending on the patient's symptoms.

Opalmon® Tab.

Lumbar Spinal Stenosis Treatment



Opalmon® is an oral prostaglandin E1 derivative. It is a safe product with low side effects. It was originally developed by Ono Pharmaceutical of Japan. With an indication of spinal stenosis, this original drug has been prescribed for more than a decade.

Jublia® Topical Solution

Antifungal Drugs, Topical Onychomycosis Treatment



Originally developed by KAKEN of Japan, Jublia® is a topical onychomycosis treatment, first in the triazole class, and its main ingredient is efinaconazole. Offering similar treatment effects as the Itraconazole oral solution, it indicates the highest healing rate among topical agents. This world-renowned product has obtained US FDA approval, and ranks first in sales in the onychomycosis treatment market of North America and Japan. It has also maintained its number one position in the ETC topical onychomycosis treatment market since its launch in Korea in 2018.

Teribone® Inj.

Osteoporosis Treatment



Teribone® hypodermic injection 56.5μg is a Teriparatide-class medication with mechanism to enhance bone formation. It is an osteoporosis treatment for post-menopausal women, who are at high risk of bone fracture. It is effective for treating patients with bone fracture due to osteoporosis. It improves bone density as well as bone quality to enhance patients' bone strength, thereby preventing additional fractures. Originally developed by Asahi Kasei in Japan, it was released in Korea in 2016.

Edarbi® Tab.

Hypertension Treatment



Edarbi® is an angiotensin II receptor antagonist originally developed by Takeda of Japan. The blood pressure reductions of 80mm/mg were proved to be statistically superior when compared to the FDA-approved active comparators such as olmesartan medoxomil (Benicar®) 40mg/day and valsartan (Diovan®) 320mg/day. It delivers outstanding 24-hour blood pressure control with fast and sustained blood pressure reduction. With a trough-to-peak (T/P) ratio of 0.95, it indicates the highest level among ARBs as well as in the class of antihypertensive drugs.

Edarbyclor® Tab.

Hypertension Treatment



Originally developed by Takeda of Japan, Edarbyclor® is a combination drug comprising an angiotensin II receptor antagonist and a diuretic. It is the only ARB and Diuretics 2 combination drug to use chlorthalidone as the diuretic. Compared to thiazide diuretics, chlorthalidone delivers stronger effects and a longer half-life. As a result, Edarbyclor® has been proven to lower blood pressure more effectively than Olmesartan medoxomil 40 mg and Hydrochlorothiazide 25 mg combination drugs.

Generic Drugs

Baracle® Tab.

Hepatitis B Treatment



Baracle® (Entecavir) is a generic of Baraclude®, a hepatitis B treatment. Baracle® uses a high-purity, high-quality API provided by ST Pharm, a subsidiary of Dong-A Socio Holdings, which manufactures active pharmaceutical ingredients (APIs) for hepatitis treatments made by global pharmaceutical companies. Baracle® has built a strong market position through strict quality control based on quality by design. In addition, the clinical trial for treatment-naïve patients proved that Baracle® is safe and non-inferior to the original product.

Lipinon® Tab.

Dyslipidemia Treatment



Lipinon® is a dyslipidemia treatment, and its main ingredient is atorvastatin. Launched in 2008, it is Dong-A ST's flagship steady seller. Product quality was demonstrated by a phase IV non-inferiority clinical trial in Korea as well as by using outstanding APIs from ST Pharm, an affiliate which supplies APIs to global pharmaceutical companies.

Plavitor® Tab

Platelet Aggregation Inhibitor



Plavitor® was the first generic product introduced to the market of platelet aggregation inhibitors. It selectively inhibits ADP(Adenosine Diphosphate)-induced platelet aggregation, and also blocks ADP-mediated amplification mechanism, resulting in strong inhibition of platelet aggregation.

Monotaxel® Inj.

Cancer Treatment



Released in 2010, Monotaxel® is a cancer treatment, the main ingredient of which is docetaxel. It has multiple indications, including breast cancer, non-small cell lung cancer, prostate cancer, ovarian cancer, head and neck cancer, gastric cancer, and esophageal cancer. In the overall docetaxel market worth around KRW 39.6 billion, it has a market share of approximately 16%, which is the highest after its original drug, Taxotere®.

Twolion® Tab

2nd Generation Anti-Histamines



Released in 2017, Twolion® is a second-generation antihistamine agent. It has indications for allergic rhinitis, the pruritus that can accompany skin diseases (eczema, dermatitis, prurigo), chronic urticaria, and others. In 2018, Twolion® ranked number one in the market for bepotastine besilate in Korea, thanks to the quick manifestation of its clinical effects (T-max 1.0hr), reduced drowsiness side-effects, and its use of the same API as in the original drug from the original drug developer.

Dong-A ST Financial Review

Separate Statements of Financial Position

As of December 31, 2018 and 2017

(In thousands of won)	2018	2017
ASSETS		
Cash and cash equivalents	₩ 217,820,185	190,772,957
Short-term financial instruments	111,810	107,140
Trade receivables	87,811,834	93,758,318
Other receivables	3,894,739	15,012,781
Other financial assets	4,180	1,010,730
Inventories	103,095,232	98,550,262
Other current assets	13,508,406	13,204,862
Total current assets	426,246,386	412,417,050
Long-term financial instruments	6,500	6,500
Other receivables	1,854,630	1,719,779
Other financial assets	82,048,390	24,405,958
Property, plant and equipment	326,034,133	335,696,774
Intangible assets	11,204,958	12,998,488
Investment property	100,963,572	103,630,509
Investments in subsidiaries	570,374	570,374
Investments in associates	9,503,945	-
Other non-current assets	6,884	8,383,393
Total non-current assets	532,193,386	487,411,775
Total assets	₩ 958,439,772	899,828,825
LIABILITIES		
Trade payables	₩ 28,917,194	30,566,638
Other payables	69,597,430	46,732,867
Short-term borrowings	140,231,311	120,435,754
Provisions for sales	6,968,336	3,662,917
Other current liabilities	15,767,214	17,018,899
Income tax payable	7,542,407	1,128,999
Current liabilities	269,023,892	219,546,074
Other payables	8,580,165	8,623,951
Long-term borrowings	69,952,904	59,869,238
Defined benefit liability	16,654,322	9,024,619
Other non-current liabilities	438,469	15,359,315
Deferred tax liabilities	4,698,797	6,072,936
Non-current liabilities	100,324,657	98,950,059
Total liabilities	369,348,549	318,496,133
EQUITY		
Share capital	42,219,340	42,219,340
Share premium	286,468,819	286,468,820
Capital adjustment	(735,580)	(735,580)
Other equity components	149,878,264	160,421,306
Retained earnings	111,260,379	92,958,806
Total equity	589,091,222	581,332,692
Total liabilities and equity	₩ 958,439,772	899,828,825

Separate Statements of Comprehensive Income (Loss)

For the years ended December 31, 2018 and 2017

(In thousands of won, except per share information)	2018	2017
Revenue	₩ 567,246,558	554,767,229
Cost of sales	274,101,825	275,059,531
Gross profit	293,144,733	279,707,698
Selling and administrative expense	179,714,021	176,942,054
Research and development expense	74,014,068	78,697,757
Operating profit	39,416,644	24,067,887
Other income	5,939,018	5,082,363
Other expense	25,664,641	4,374,099
Finance income	15,701,420	8,226,232
Finance costs	9,767,155	41,189,229
Profit (Loss) before income tax	25,625,286	(8,186,846)
Income tax expense (benefit)	8,064,638	(2,952,087)
Profit (Loss)	17,560,648	(5,234,759)
Other comprehensive income (loss)		
Items that will not be reclassified subsequently to profit or loss		
Defined benefit plan remeasurement	(5,383,471)	2,012,651
Net changes in fair value of available-for-sale financial assets	(2,012,777)	-
Items that are or may be reclassified to profit or loss		
Net changes in fair value of available-for-sale financial assets	-	(256,373)
Other comprehensive income (loss)	(7,396,248)	1,756,278
Total comprehensive income (loss)	₩ 10,164,400	(3,478,481)
Earning (Loss) per share (in won)		
Basic earning (loss) per share	₩ 2,081	(620)

Separate Statements of Changes in Equity

For the years ended December 31, 2018 and 2017

(In thousands of won)	Share capital	Share premium	Treasury shares	Other equity components	Retained earnings	Total equity
Balance as of January 1, 2017	₩ 42,219,340	286,468,820	(640,880)	161,309,335	99,768,954	589,125,569
Total comprehensive income (loss):						
Profit (Loss)	-	-	-	-	(5,234,759)	(5,234,759)
Other comprehensive income (loss):						
Changes in fair value of available-for-sale financial assets	-	-	-	(256,373)	-	(256,373)
Defined benefit plan remeasurement	-	-	-	-	2,012,651	2,012,651
Effective portion of unrealized changes in fair value of cash flow hedges	-	-	-	(631,655)	631,655	-
Total other comprehensive income (loss)	-	-	-	(888,028)	2,644,306	1,756,278
Total comprehensive income (loss)	-	-	-	(888,028)	(2,590,453)	(3,478,481)
Transactions with owners of the Company, recognized directly in equity:						
Cash dividends	-	-	-	-	(4,219,695)	(4,219,695)
Exercise of stock warrants	-	-	(94,700)	-	-	(94,700)
Total transactions with owners of the Company	-	-	(94,700)	-	(4,219,695)	(4,314,395)
Balance as of December 31, 2017	₩ 42,219,340	286,468,820	(735,580)	160,421,307	92,958,806	581,332,693
Balance as of January 1, 2018	₩ 42,219,340	286,468,820	(735,580)	160,421,306	92,958,806	581,332,692
Effect of adoption of new accounting standards	-	-	-	(7,059,884)	8,873,210	1,813,326
Balance as of January 1, 2018 (Restatement)	42,219,340	286,468,820	(735,580)	153,361,422	101,832,016	583,146,018
Total comprehensive income (loss):						
Profit (Loss)	-	-	-	-	17,560,648	17,560,648
Other comprehensive income (loss):						
Changes in fair value of available-for-sale financial assets	-	-	-	(3,483,158)	1,470,381	(2,012,777)
Defined benefit plan remeasurement	-	-	-	-	(5,383,471)	(5,383,471)
Total other comprehensive income (loss)	-	-	-	-	(5,383,471)	(5,383,471)
Total comprehensive income (loss)	-	-	-	(3,483,158)	13,647,558	10,164,400
Transactions with owners of the Company, recognized directly in equity:						
Cash dividends	-	-	-	-	(4,219,195)	(4,219,195)
Total transactions with owners of the Company	-	-	-	-	(4,219,195)	(4,219,195)
Balance as of December 31, 2018	₩ 42,219,340	286,468,820	(735,580)	149,878,264	111,260,379	589,091,222

Separate Statements of Cash Flows

For the years ended December 31, 2018 and 2017

(In thousands of won)	2018	2017
Cash flows from operating activities		
Profit (Loss)	₩ 17,560,648	(5,234,759)
Adjustments	54,333,848	56,641,191
Changes in assets and liabilities	(20,212,187)	2,252,890
Income taxes paid	(1,538,511)	(2,304,039)
Net cash from operating activities	50,143,798	51,355,283
Cash flows from investing activities		
Cash inflows from investing activities	27,404,636	18,719,816
Interest received	3,798,138	2,225,891
Dividends received	36,612	2,000
Decrease of short-term financial instruments	5,000,000	-
Decrease in short-term loans to employees	585,000	-
Disposal of available-for-sale financial assets	2,306,488	-
Decrease of held-to-maturity financial assets	1,010,730	-
Disposal of property, plant and equipment	461,149	2,463,875
Disposal of intangible assets	25,000	425,000
Decrease in deposits	268,500	560,650
Decrease in other receivables	13,042,080	13,042,400
Increase in accounts payable	870,940	-
Cash outflows for investing activities	(71,557,795)	(20,762,136)
Increase in short-term financial instruments	5,004,670	107,140
Acquisition of available-for-sale financial assets	3,694,183	8,960,100
Acquisition of held-to-maturity financial assets	53,773,513	-
Acquisition of investments in subsidiaries	-	10,000
Acquisition of property, plant and equipment	7,702,890	10,662,984
Acquisition of intangible assets	967,539	863,912
Increase in deposits	415,000	158,000
Net cash from (used in) investing activities	₩ (44,153,159)	(2,042,320)
Cash flows from financing activities		
Cash inflows from financing activities	60,000,000	50,375,534
Proceeds from short-term borrowings	10,000,000	30,435,754
Proceeds from issuing bonds	-	19,939,780
Proceeds from long-term borrowings	50,000,000	-
Cash outflows for financing activities	(40,726,634)	(175,746,766)
Interest paid	6,507,439	7,026,123
Dividends paid	4,219,195	4,219,695
Repayment of short-term borrowings	30,000,000	66,468
Repayment of current portion of bonds	-	110,000,000
Repayment of current portion of bonds with warrants	-	54,434,480
Net cash used in financing activities	19,273,366	(125,371,232)
Net increase in cash and cash equivalents	25,264,004	(76,058,269)
Effect of exchange rate fluctuations on cash held	1,783,223	(18,448,455)
Cash and cash equivalents at January 1	190,772,957	285,279,681
Cash and cash equivalents at December 31	₩ 217,820,184	190,772,957

Corporate & IR Information

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Date of Establishment

Dong-A Socio Holdings
December 1932

Dong-A ST

March 2013

Dong-A Pharmaceutical

March 2013

Securities Listing

Dong-A Socio Holdings
Korea Stock Exchange A000640

Dong-A ST

Korea Stock Exchange A170900

ST Pharm

Korea Securities Dealers Automated Quotation
237690

Annual General Meeting

March 29, 2019

Information Availability

Dong-A Socio Holdings



Korean



English

Dong-A ST



Korean



English

Dong-A Pharmaceutical



Korean



English

ST Pharm



Korean



English

DM Bio



English



Korean



Japanese



DONG-A SOCIO GROUP