Annual Report
2017

ATGC

Our vision

HEALTHERAPY : To develop medicines and drugs for healthy life

Our vision, “**HEALTHERAPY**” is a compound word of “health” and “therapy”.

We intend to improve quality of life by developing medicines that can promote human health.
Our "**HEALTHERAPY**" is to develop medicines that can satisfy psychological and social needs as well as disease cure, thereby contributing to promotion of qualify of life ultimately.

Cover image : Doctor examining young girl(Nepal)

Contents

Chief Executive Officer's letter

To everyone who has an interest in ATGC

On November 10, 2010,
4 molecular biology researchers established a bio venture in a 16.5m^2 office with 13.2m^2 lab, dreaming of growing into a global R&D company specialized in biopharmaceuticals. Due to a very small amount of starting capital without a clear profit structure, they had a great fear for the future but were happy about having a "**dream**" and chasing for the realization thereof. Such start on a sole "**dream**" required courage. Getting together on ideas that were not fully validated looked reckless.

This is how we, ATGC began.

In no time, 8 years of time has flown by. ATGC has grown in scale by hundreds of times with pipelines developed several times despite various difficulties encountered in the past 8 years in virtue of our long-cherished "**dream**" since the foundation.

For ATGC,
realization of "**dream**" means realization by scientific technology. Hence, rather than being impatient, getting to the top at once, we chose to take slow, systematic, deliberate steps over a long period of time for through verification and plan, results of which are ATGC's strategies.
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In 2017, we intend to reflect the four core values, honesty, confidence, harmony and innovation, to the entire courses of operation for the next 10 years.

Regarding the first two values, honesty and confidence, we will perform R&D pursuant to principles transparently and disclose it internally and externally to raise a level of reliability. Harmony, listed third, implies our pursuit for free communication of all employees.
It will reduce an occurrence of errors from trials and enhance quality of decision, being a more active response to fast-changing environment.

ATGC consider “Innovation” is discover a hidden market and expand it through research, development and commercialization of a product optimized thereto based on scientific technology, thereby leading the direction of research and development.

Innovation is the ATGC’s pipeline.(page 18)

Lastly, innovation is the value we put the most emphasis on as we are growing into a global biopharmaceutical R&D company. In the past 8 years, we have succeeded in developing our own source technology, CHS_2^{TM} Technology and applying it to our all pipelines upon constant challenge and creative research in adherence to our principle for innovation. Like this, we will continue to strive for realization of innovation in research fields in the future as well.
We have already completed optimizing the entire process from R&D to commercialization by applying our philosophy of innovation to the development part, as well as the research part, in collaboration with the global alliances and are developing products optimized to the market considering a variety of opinions in the medical field from the initial stage of R&D and have laid a medium and long term scheme to launch them according to step-by-step growth.

On top of that, we will try to make "Innovation" in ATGC's culture, international cooperation and social contribution field as well.

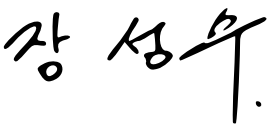
For ATGC's all employees, 2017 is the first year for the 2^{nd} takeoff as the pipelines devised upon innovation in the past 8 years will be commercialized in full-swing.

Although, we will look back again.
As to our technology, strategy, pipeline and schemes, we will agonize and demonstrate intensely once again.

All of us will continue to do our utmost to become a global biopharmaceutical R&D company without losing our first commitment.

Please continue to support us with much encouragement and sharp criticism.

Thank you.



Jang, Sung Su
Founder and Chief Executive Officer

2016 Key performance

Performance highlight

4 600 000
Investment(USD)

6 800 000
Sales- Right Agreement(USD)

2+5
Patent+Non Clinical test

x2.4
Increase in Researcher

Investment

Following the successful attraction of the 1st investment in 2015[1], we succeeded in attracting the 2nd investment (USD 4.6 million)[2] from HB investment, Dongkook Pharmaceutical Co., Ltd. and Mirae Equity-Incus the 1st new technology business investment association who accepted the differentiation of our botulinum bacteria and toxin, and top-level technology.
Considering the severe investment environment in the pharmaceutic industry and ongoing controversy over the origin of botulinum bacteria that emerged in the beginning of 2016, this achievement had a more significance. With the 2nd investment, we will accelerate consignment production and additional R&D for a CMO[3], CPL Biologicals and actively work to establish a joint venture to take over the EU market.

Sales-Right Agreement

Our development strategy for 2016 was to consign production and sales to a local pharmaceutical company to optimize the entire process from production to approval acquisition and sales.
Upon this, we made an agreement with a Chinese local pharmaceutical company, Shandong Buchang Pharmaceutical Co., Ltd.[4] for an exclusive sales right within China and an Indian local pharmaceutical company, CPL Biologicals[5] for a sales right of ATGC-100, which value USD 4.5 million and USD 2.3 million respectively.
The contract deposit for the former, USD 1.5 million was already received and the rest will be collected by phase.
The significance of these contract lies on that they were made when the subject product has not obtained an approval yet, which indicates the both companies have recognized our technology force and marketability of ATGC-100.
Along with this, we made an additional consignment production agreement with CPL Biologicals to secure a facility that fits the global standards, which will later be utilized as a manufacture base for Asia region.

Patent+Non Clinical test

We gained 2 PCTs[6] on ATGC-200 in 2016 through a consistent challenge and creative research in consideration of ways to minimize the occurrence of side affects in degenerative inflammation treatment and maximize treatment

effect, which were found in the medical field.
According to results of animal test, ATGC-200 appeared to have a higher effect in pain reduction, bone damage suppression, cartilage protection and inflammation control than the existing drugs with a statistic significance, based on which ATGC-200 will be able to enter into the global degenerative arthritis medicine market[7] that values USD 5.6 billion within 2 years.
In addition, to verify effects and toxin of other pipelines, we have been cooperating with national and international best animal testing institutes and achieved satisfactory results from 5 tests in just one year of 2016.
The 5 simultaneous animal tests were the fruit of our consistent challenge and creative research, and in a broader view, valued as practical achievement for growing into a global biopharmaceuticals R&D company.

Increase in Researcher

In 2016, we hired employees 2.4 times more than usual to enhance our constant challenge and creative research activities. While expanding the R&D manpower to account for 80% of the entire labor pool, we operated a new OI(open innovation) team to strengthen professionalism on development and quality as well.
Through this, we could focus on technology development based on innovation and create outcome such as PCT acquisition and fundamental technology development.
We are also operating a training system designed to strengthen all employee's business competencies including R&D manpower depending on their position, task and career, and encourage a voluntary and active participation.
We will keep expanding the scale of manpower, which is the key engine of high value-added biopharmaceutical development, and do our utmost to boost individual's ability with efficient education programs.

CHS_2™ Technology

CHS_2™ Technology is our own fundamental technology we developed. It satisfies a closed culture system, high purity, safety and stability. It is designed to be applicable to various cytosol for biopharmaceutical production from microorganism to animal cells and was verified by many ways. The most significant feature of CHS_2™ Technology is automation of manufacture process over 90%.
It contributed to optimization and minimization of the process, increasing yield 5 times as much and allowing a more stable raw material production.
Also, it can get an approval from every nation including Korea as its ability to produce raw materials at a high purity, over 99.9% meets the global standards.
CHS_2™ Technology has facilitated production of differentiated goods in every pipeline, which granted us price competitiveness as well as quality competitiveness, following by high demand.

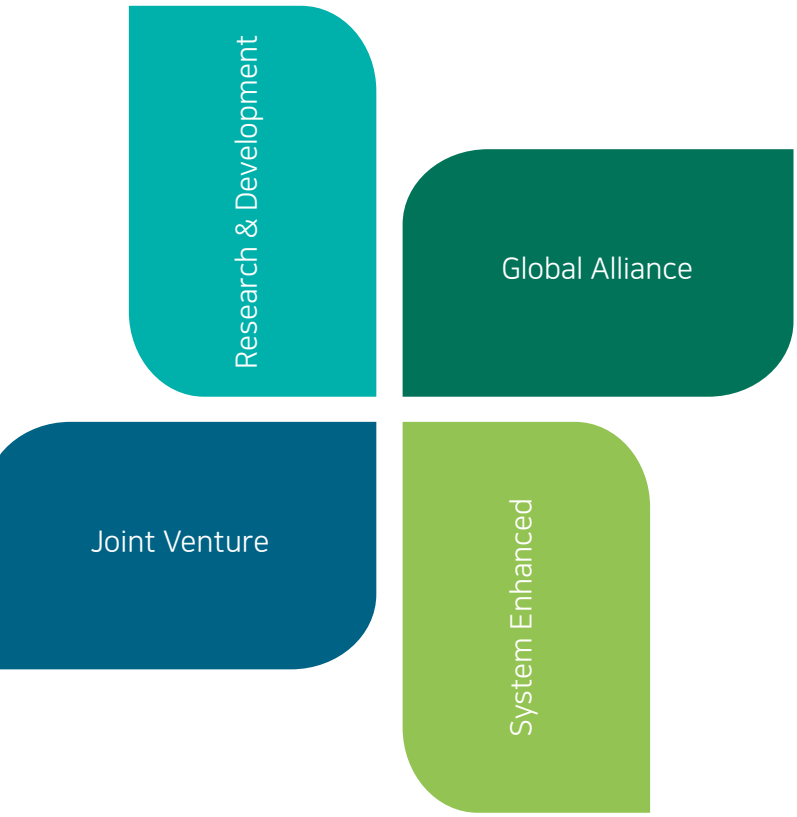
1) The 1st investment was from Korea Development Bank, HB Investment and Dongkook Pharmaceutical Co., Ltd. in 2015.
2) The 2nd investment(USD 4.6 million) : The investment contract for USD 4.6 million was concluded in October 2016, but USD 2.0 million was invested first in November 2016 and then USD 2.6 million in January 2017.
3) CMO : A contract manufacturing organization specialized in manufacturing and quality control of medical substances requested from clients.
4) Shandong Buchang Pharmaceutical Co., Ltd. : The biggest pharmaceutical company in China with sales of USD 2.6 billion in 2016, ranked in the 6th place in the Chinese pharmaceutical industry with 2,000 direct offices and 35,000 employees.
5) CPL Biologicals : A biopharmaceutical company in scale of USD 170 million that produces 25 million doses of vaccine a year. Built by a joint investment of Novavax, a biopharmaceutical company listed on Nasdaq and Cadila Pharmaceuticals Ltd. the biggest pharma in India.
6) PCT : US 62/437,070, US 62/501,455
7) Degenerative arthritis medicine market : (Reference)GlobalData Osteoarthritis Pain Therapeutics-Pipeline Assessment and Market Forecasts to 2019

2017 Future

We will do

System Enhanced

As technologies and pipelines under our R&D are of those designated as the national core technology[1] in Korea, we formed a security and computer system establishment plan in 2016. According to the plan for the 1st year, we built a paperless office environment by introducing a global-level groupware and blocked channels in advance, through which documents may leak, by applying DLP(data loss prevention) Solution that analyzes flow of files and keywords of documents. In this way, we have secured safety in terms of protecting our electronic data assets against an internal and external environment. In 2017, the 2nd year of the plan, we are going to prepare a foundation of document capitalization by supplementing the groupware in a more systematic and efficient way to create a working environment that enables a faster, more accurate task processing and enhance our organization culture, which is communication and cooperation, by building an online collaboration environment. On top of that, we will implement a flexible data control policy that allows only a licensed user to use or send electronic data assets within a limited extent considering features of organizational task environment and carry out diversified physical risk management through real-time analysis on user logs to protect important intellectual properties continuously.



Research & Development(Patent+Non-Clinical test)

To preoccupy the R&D technologies under development, we are going to apply for patents on pharmaceutical composite and use of ATGC pipelines in 2017 so as to secure the pipelines intellectual property right and strengthen product competitiveness while taking 11 non-clinical tests for the pipelines. In line with the global increase in restrictions on biopharmaceuticals and the recent demand for primate testing in animal testing devised for a clinical test approval for use on human, we plan to carry out 2 primate toxicity tests for a global clinical test approval including Korea and 4 reproduction toxicity tests for product approval, which is expected to help avoid problems that may occur in product approval and shorten the approval schedule. There are 6 additional animal testing planed for a clinical test application.

Research & Development(Clinical test)

In 2017, we will conduct a clinical test on ATGC-100 that confirms its safety and effectiveness to acquire an approval as the first of the ATGC pipelines.

As the clinical test on ATGC-100 should be for more than once race(for multinational use) including Korean, we will consign production to a FDA, EMEA[2] certified manufacture facility that meets the global standards and get a clinical approval from each nation.
In clinical tests, we will use clinical samples that meet the global standards. Such cases will remain as a unique test example conducted in Korea and this strategy could give a differentiation and competitiveness to ATGC-100 when released in Korean and other nations market after approval is granted.
The conduct of clinical tests on ATGC-100 is the first step into acquisition of product approval, growth engine to abide R&D for the next pipelines and foundation of being a global biopharmaceutical R&D company.

Joint Venture

We are in the process of founding a joint venture with a biopharmaceutical company in EU aiming at advancing into the developed markets(North America, EU), large in market breaths with a high entrance level.
In 2016, we had discussion about a simple consignment production of ATGC pipelines with an EU's company and are now planning to build a subsidiary in a local area within EU by developing the discussion toward a joint venture establishment combining our R&D capability and the EU company's manufacture know-how.
Through the foundation of a joint venture, we can secure a manufacture facility within EU region that accords with the global standards and R&D as the first in Korea and it will heighten the possibility of entering into the developed markets and creating profits by stable product supply, which would raise our enterprise value.

Global Alliance

For many years, we engaged in strategic collaboration with global leading companies in various fields such as R&D, production and sales in an effort to grow into a global biopharmaceutical R&D company. For fast entrance of our pipelines into markets and acquisition of a high market share, we intend to localize sales and production by continent including North America and EU, that is consigning manufacture to a professional consignment production company equipped with a manufacture facility that meets the global standards and selling through a pharmaceutical company that has a local sales network.
For this, we had discussions with a number of companies in North America, EU, Asia and Australia about consignment production and sales, developing into a great detail with 40 companies among them. In 2017, we are going to determine our partner companies among those with discussions for maximization of each process from the initial stage of R&D to production and sales by field and make shapes of ways to collaborate with them.
In particular, we are in conference with Chinese local pharmaceutical companies about making an additional agreement on transfer of sales right of the other pipelines than ATGC-100 and with consignment production companies in USA for a production agreement to secure stable production in detail. We will make an additional agreement for R&D, production and sales in 2017 in an attempt to harden the global alliance in a broader spectrum.

1) National core technology : An industrial technology which in case of outflow abroad the nation's security and national economic development may get a material adverse effect due to its high technological or economical value in the national and international market or high growth potential of the relevant industries.(Article 9 of Industrial Technology Outflow Prevention and Protection Law) ATGC Pipelines fall under this category.
2) FDA, EMEA : Drug regulators for the US and EU. Those who intend to sell medicines in the US and EU must obtain an approval from FDA and EMEA in advance.

ATGC OVERVIEW

A variety of experiences, and professional, dedicated talent with a sense of responsibility are the key to growth of ATGC, essential to the future growth. Based on ATGC's vision, mission and core value, ATGC will complete a unique creative culture that encourages mutual growth of its talent.

2Divison

To maximize work efficiency, ATGC structured the organization with 2 separate divisions; Management Division and R&D Division, 1 R&D center, and 4 teams

80%

R&D experts in many fields such as molecule biology, genetics, protein engineering and pharmacy account for 80% of the entire manpower, and the rest, 20% is occupied by the best professionals in various fields such as planning, finance and accounting.

+5Group

For stable growth, we are taking a professional advice from a variety of external expert groups about R&D direction, suitability of results thereof, financial and accounting soundness from various angles.

ATGC Framework

Our mission

"Realization of global biopharmaceutical company"

Upon the accumulated technology force and global alliance, we try to become a biopharmaceutical R&D company that has an innovative bio technology.

Our vision

"HEALTHERAPY"

Not to mention disease treatment for satisfaction of physical needs, we intend to develop a cure that can satisfy human's physical and social needs, ultimately improving quality of life.

Our core-value

"Honesty, Confidence, Harmony Innovation"

ATGC consider these values the most important and try to put into action in any circumstances.

Long-term value creation

Our history

2010-2011

ATGC was founded in November 2010 with an aim of becoming a global biopharmaceutical R&D company and began R&D after obtaining a certificate for neurotic pain specialized enterprise research(2010-113172) institute from Korea Industrial Technology Promotion Association in December. In April 2011, we concluded a sales right transfer agreement on our first R&D project ATGC-100 for Asian region with a large Korean enterprise who recognized our R&D results, business potential and marketability and succeeded in getting the very first individual investment in November for constant R&D since establishment.

2012

Pipelines we are developing stand on a variety of high-risk pathogenic organism marked as a biological weapon[1] by WHO, which requires a report to the health authority in case of handling an amount over a certain level by global, common rules. Pursuant to such rules, we acquired the certificate for research institute(KCDC-15-2-03) in January from Korea Centers for Disease Control and Prevention and the certificate for biological agent manufacture(biotech and nanotech division No. 15-19, 15-20) in May from the Ministry of Trade, Industry and Energy by concession of our high-risk R&D performances. Aside from this, for our very first R&D project, ATGC-100 that reached a certain level of achievement, we applied for a primate toxicity test to a global animal testing institute, SNBL in the US who has a close partnership with us in February.

2013-2014

Of our innovation-based development strategies, a consignment production plan came into action in March 2013 by an agreement we made with Biovian in EU. For this contract, we obtained an approval for high-risk pathogenic organism export[2](70081014050002068) from the Ministry of Trade, Industry and Energy of Korea. This could be taken as a construction of foundation for ATGC Pipelines market entrance. In June 2014, we entered into a sales right transfer agreement with a Korean prescription medicine specialized pharmaceutical company who wanted to sell ATGC-100 within Korea.

2015-2016

In April 2015, we finally attracted the first institutional investment since the foundation with creative research performances achieved by continuous challenge and innovation based strategies that were thoroughly assessed and acknowledged, while signing an exclusive sales right transfer agreement with Shandong Buchang Pharmaceutical Co., Ltd. for ATGC-100 in April 2016. The contract with a local pharmaceutical company in China, the largest market in the world, not only increased the likelihood of successful market entrance together with our fast execution for getting relevant approvals but also backed for our 2nd successful institutional investment gained in November 2016. In December 2016, we completed acquisition of 2 PCTs on ATGC-200 and awarded a consignment production contract for products to be sold in Asia and a sales right transfer contract for India to CPL Biologicals.

1) Biological weapon : All organisms capable of causing biological warfare or biological terror such as botulinum toxin and tetrodotoxin and microorganisms that produce the said. BWC(biological weapons convention) that prohibits biological weapon development, production and reserve entered into force globally, and Korea joined in 1987.
2) Approval of high-risk pathogenic organism export : A mandatory procedure pursuant to Industrial Technology Protection Act and Foreign Trade Act.

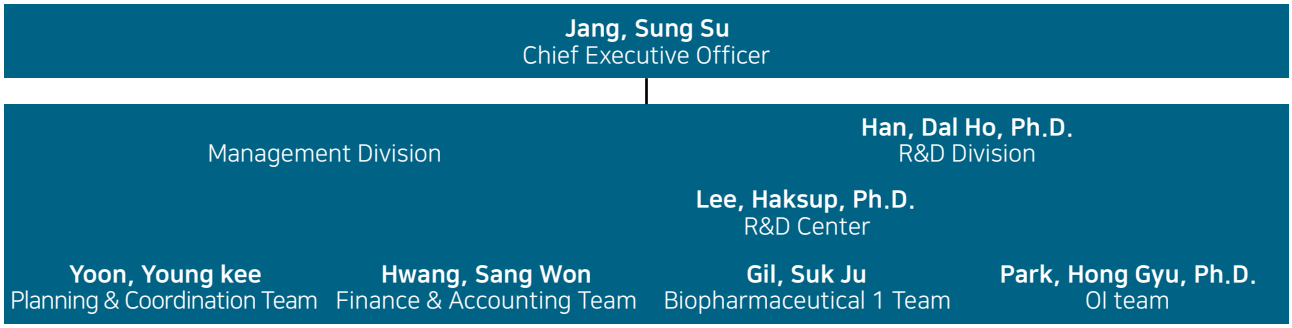
Our management

Board of directors

Name	Title	Duty
Jang, Sung Su	Chairman of the board / CEO	ATGC 's general business management
Lee, Haksup	In-house director / Chief of R&D Center	ATGC R&D Center's general business management
Choi, Mi Young	Outside director	Review of validity of R&D direction
Park, Dong Ju	Outside director	Financial and accounting transparency maintenance work
Jo, Myung Su	Auditor	Supervision over the entire management work

ATGC's board of directors is making every endeavor in performing its functions and roles to the full as the actual central operating body that can provide for maximization of shareholders values and protection of interested persons by holding back and supervising the management or dominant shareholders peremptory management in prevention of insolvency.
For professional and independent business performances, ATGC assesses professional knowledge and experiences of candidates in each field in selection of in-house and outside directors and are reinforcing its function to control and advise the management effectively. In case of conflict between interests of the management and ATGC, the board puts ATGC, shareholders and interested parties interest the first.
And if there is an interest occurred by the management or directors direct or indirect agreements with an enterprise or other businesses, the board goes into a transparent decision-making procedure following a detailed review of the contents without consideration of the contractual parties. The board avoids any misuse of confidential information obtained in relation to business performance that may create interests of directors or third parties, causing damages or loss to shareholders, interested persons and ATGC's credits.

Also, ATGC has an internal accounting management system in force to improve the management and accounting transparency. For an efficient operation of the forgoing system, ATGC has set a series of regulations and appoints a manager, makes an annual report to the board and audit about operation status and fix and improve vulnerability or weak point of operation constantly to get more reliable, and in particular, the audit provides an independent evaluation on internal accounting without relations with the management in support of appropriate implementation and improvement of the system.
In addition, ATGC assists the board in pulling its weight as the major decision making body and supervisor on the management activities by making provisions for the board's authority and responsibility and operation procedure in the board-out clause and holds a regular board meeting and establishes a professionalism-reinforced commission inside the board to fulfill its responsibility and roles entrusted from interested parties such as shareholders more dutifully. Every member of the board will do their utmost to continue on transparent and efficient operation, earning interested parties infinite trust and confidence, turning over ATGC into a more creative and forward-looking company.



Organization

To create a flexible but stable organization that provides for active communication and responsible and efficient business performances, we composed 2 divisions, 1 R&D Center and 4 teams according to the nature of tasks. And for a close cooperation between or inside the divisions in case of certain circumstances, we have a regular TF(task force) Team. Assignments of the divisions are as follows;

Management Division
- Support plan establishment in detail for efficient board operation
- Medium-long term strategy and plan establishment for effective goal achievement
- Assessment on propriety of management status and accounting information through annual budget calculation and account settlement
- Efficient human resource assignment based on individual's performance appraisal results considering his/her ability in an objective view
- Efficient operation and management of material resources and ATGC partners

R&D Division
- Basic R&D, production procedure, test standard and test method development
- Strategy establishment for acquisition of intellectual property rights and patent application
- Continuous discovery of new materials and evaluation of R&D validity for pipeline expansion
- R&D strategy establishment through analysis on the national and international market trend and regulations
- Conduct and management of nonclinical and clinical tests to verify products' effectiveness and safety
- Various test plan establishment and implementation to gain reliability in R&D results
- Preparation for and response to government conduct of a due diligence about high-risk pathogenic organism operation
- Partner company discovery, efficient operation and management

We will continue to do our best to ensure internal stability and create effectiveness using various methods based on innovation and focus on assigning manpower efficiently according to individual's ability and reinforcing business ability to increase the outcome of each team and division.

Partner

We have been keeping a steady relationship with many companies as a partner in various forms from early recognition of importance of constant and additional trust-based cooperation with those requisite for our growth.

-R&D : Aju University, Procell therapeutics

-Manufacture : Biovian, CPL Biologicals

-Selling : Shandong Buchang Pharmaceutical Co., Ltd., DongKook Pharmaceutical Co., Ltd., CPL Biologicals

-Finance : Korea Development Bank, HB Investment, Dongkook Pharmaceutical Co., Ltd., Mirae Equity-Incuse The 1st New Technology Investment Association

Based on mutual trust, we will seek an additional cooperation method with the existing partners while exploring new partners continuously to develop a new cooperation model.

Our creative culture

Endless innovation & new takeoff

With constant changes and management innovation, we have always prepared for a new takeoff despite unfavorable environmental conditions as a venture.
Internally, we have introduced an efficient business process system that combines GWP[1] and IT field step-by-step to reinforce our competitiveness. To unify all employees and give satisfactions to their families, we have hosted a variety of communication, teamwork and organizational culture improvement related campaigns, along with employees health promotion program and community activity program that aim to heighten satis-faction of employees. Outwardly, we have done a complete overhaul of organization structure to strengthen professionalism and efficiency while ensuring complete process management by project, as part of building a solid base for growth for sales and profit realization.
Considering R&D expert company properties, we try to reinforce our capability of schedule adherence in performing projects to win confidence from many partners and investors, and have built an effective PMS[2] through development process establishment, SOP[3] supplement and project management procedure standardization.
For profitability with our top priority on, PMS is connected to performance management system and we perform a strict performance evaluation every quarter, giving intense feedback to employees. All employees are actively engaged in every business with a close cooperation one another to create highest values.

The Most Reliable Biopharmaceutical R&D Company

We try to be more reliable for our internal and external interested parties such as sales partners, CMO partners, shareholders and all employees to have satisfaction in continuing a business or working with us by forming a systematic value chain through global network that links research groups composed of experts from each field.
Facing the fierce competition and fast-changing management environment, the most fundamental factor to increase and heighten mutual profits and satisfaction of each interested party is acquisition of confidence.
We deeply understand that confidence is the source of competitiveness and an invaluable, hidden asset, which is why we seek coexistence and cooperation with interested parties based on confidence. Upon such principle, we pursue best results beneficial to our partners, and try to provide a good working environment that encourages employees to stay longer by arising a confidence and self-respect and best investment values to shareholders.
All executive employees attempt to bring a communication leadership into practice through open management as an encouragement for individual's voluntary participation in group activities to achieve a goal, while the regular

employees chase for actual, matured growth in terms of quality with intense initiative and concentration, making progress in growing into a global biopharmaceutical R&D company, most reliable by partner companies, shareholders and all employees.

Reinforcement in HR Development & Management

As an active response to the national and international changes in the fast-changing management environment, we have built a personal management system devised to distinguish and develop an appropriate manpower.
With a fair, reasonable evaluation system, we made a performance based salary system, which helped find superior talent, the source of competitiveness predominance, being grown into global talent by our systematic CDP[4].
Additionally, we are planning to secure a stable growth engine to lead the future using various measures while building innovative strategies for personal management culture.

Flexible Corporate Culture with Open Communication

We pursue a horizontal organization culture that ensures participation of all employees in communication as a principal agent and exclude an authoritative organization culture where the leader controls and gives one-sided directions in the center of communication. Communication within an enterprise is a creative management activity that helps heighten occupational satisfaction and engagement level of employees by demolishing walls between individuals and organization in different forms, toward achievement of goals.
Our leaders are creating a flexible communication culture where creative business performances are encouraged by giving a specific, fundamental opinion to employees, listening to employee's various opinions thoroughly and giving a positive feedback thereon.
They also set a joint goal and cooperation structure based on individual's roles to create a creative organization culture where employees can acquire and experience new knowledge mutually. Like this, we are creating an optimum value creation structure that everyone can be comfortable with through reinforcement of confidence and cooperation system and constant communication with external interested parties, not to mention internal communication.

1) GWP : (Great Work Place)An advanced enterprise culture based on confidence.
2) SOP : (Standard Operation Procedure)A document requisite for homogenized product manufacture and quality control in the pharmaceutical industry.
3) PMS : (Project Management System)Activities for successful completion of a project, which include activity plan, schedule, progress report, etc.
4) CDP : (Career Development Program)A personal management system designed to develop professional talent who has a broader view by plan and aim.

ATGC INNOVATION

ATGC Researchers take various perspectives in development of biopharmaceuticals that can improve quality of human's life. To expedite and make R&D activities more efficient, they also go over all opinions heard from medical sites during a thorough consideration for strategy update. ATGC has always put forth utmost efforts in development of better cure and treatment methods for doctors and patients, which resulted in much progress specially in the neural transmission R&D fields from glabellar lines to degenerative arthritis.

+10

We are in R&D cooperation with over 10 universities, research institutes and companies all over the world for various fields from the basic R&D to actual manufacture process establishment and clinical test.

30%

In 2016, we spent about over 30% of budget on R&D. Such continuous investment into R&D has granted the completion of innovation-based pipeline.

4/6

Our R&D is currently on 6 specialized pipelines that have different indications about 4 diseases related to neural transmission.

Updated strategy

Aiming to be a global biopharmaceutical R&D company, we amended and integrated all of our strategies in 2016. We consolidated all strategies in each field, operation, growth and R&D, based on innovation into one strategy to increase efficiency of operation and R&D. As for R&D strategy in particular, we focused on a new technology development by broad cooperation across the scientific and organizational boundaries.

Concentration

In 2016, we expanded the R&D division to raise the R&D's efficiency and professionalism in terms of reliability of each process from R&D phase to acquisition of medicine approval and minimization of risk factors through risk evaluation. The R&D division has developed various pipelines focusing on development of source technology that allows high-quality medicine production for neural transmission diseases related to quality of life. Its businesses are deliberately departmentalized to promote R&D productivity and a more innovative application. We are pulling together our all capabilities in realizing qualitative growth in R&D field, as well as quantitative growth by composing a wide pool of professionals from each field and expanding pipelines.

Strategy

Human Resource

We respect individual's value, current ability and potential and try to develop them from a more creative perspective. From the basic R&D to after acquisition of approval, we support an immense amount of efforts for employees constant, passionate study and challenge in every process, thereby achieving innovation in the relevant field.
Following our basic principle that personal growth by education is prerequisite for our growth, we are running business competency strengthening programs by job title and the number of years of employment depending on individual's inclination and business properties, along with self-development programs for personal development. We also provide a broad range of opportunities for innovative talent cultivation as a medium-long term investment; consignment education for acquisition of an academic degree, book learning education, about 800 types of curriculums in total for both online and offline. Such investment into talent development is expected to increase individual's potential and ability, bringing a higher level of professionalism and efficiency of job performances and cooperation skills. These are part of our practical efforts for mutual growth.
We, who value communication, offer equal opportunities regardless of job title or position to encourage participation of all talent in decision making for problem solution, in an attempt to instill a sense of ownership and ensure efficiency and rationality of the final decision making.
To grow into a global biopharmaceutical R&D company, we will always keep in mind that growing in line with talent is the best strategy, and carry on exploring ways to produce talent with a more forward-thinking.

R&D Expert Company

Despite circumstances that place an emphasis on cooperation in various aspects based on technology, many pharmaceutical companies are operated with mechanism industry orientation, understanding R&D as a mere part of mechanism industry. However, what we highly regard and seek is R&D-oriented operation, that is, specialization into a R&D expert company.
This way, we will be able to provide for the 4^{th} industrial revolution and cope with fast-changing environment. We are going to pick out the fields that we can have expertise in, perform R&D for products thereof and structuralize the process into a platform to solidify our basis as a R&D expert company.
For us, being a R&D expert company is not only about a simple scientific research, it is rather a substantially extended concept to include comprehensive consideration over product features at initial R&D stage, target age, market scale, development direction, expected strength and weakness of product, development timeline, potential problems in commercial production. Like our self-developed source technology, CHS_2^{TM} Technology, we will try to continue to expand pipelines for human's health promotion through various innovation-based technology development.

Global Alliance

To commercialize the research performances of the past 8 years and bring positive changes to patient's life, we have been in collaboration with many companies.
As a R&D expert company, to maximize a profitability of R&D, we entered into collaboration with consignment manufacturers certified by FDA, EMEA and nations for sales, and local pharmaceutical companies, which contributed to efficient elimination of burdens of being a local seller,

risks to getting approvals, time and expenses for facility investment, and enabled production and sales of goods that best suited local markets by quick reflection of customers needs and market variations in the relevant countries.
The entrance into the advanced markets through collaboration with foreign companies at this time of sluggish growth in the domestic pharmaceutical industry under intensified competition and medicine price reduction policy is a good opening to leap forward into a global biopharmaceutical R&D company.
More, we are progressing a more developed-form alliance with overseas companies like founding a joint venture, in addition to the primary collaboration for production and sales, alongside cooperation with universities and research institutes for R&D field.
ATGC-oriented collaboration platforms that we serve the most important role will strengthen our technology competence and market competence in a medium and long view, working as an efficient strategy for constant growth and profit creation, increasing the company value.

Perspective Diversification

R&D for biopharmaceuticals products should be approached from various perspectives, not from just one, as they directly influence patient's life, like every biological phenomenon does.
It means it is more than just about a simple experimental approach to substances, that is, with derivation of experiment results and interpretation thereof, for example, an in-depth consideration of forecasted side effects, possibility of use of such side effects, possibility of use as metabolite after absorbed into human body, possibility of indication expansion of revealed substances should be taken from a wide variety of views. In particular, it gets much more variety of views.
In particular, it gets much more emphasis in circumstances where boundaries between medicine, chemistry, pharmacy, molecule biology, genetics and physics are blurred with a higher level of organic relations.
Therefore, such approach from various angles is our significant, precious key strategy that goes beyond the value of discovery of a new substance. Moving forward, we will continue to observe and explore everything with depth, even a subtle change, from various viewpoints in an active response to new future markets and environmental changes to become a global pharmaceutical R&D company.

Phased Growth

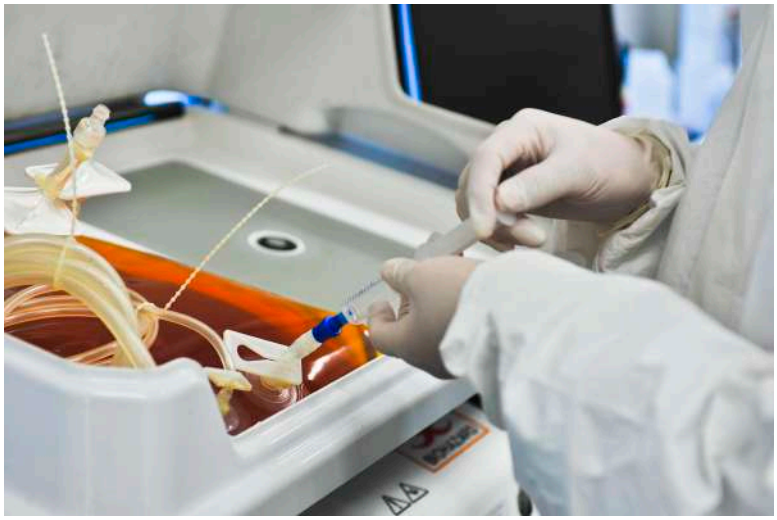
Phased growth includes not only growth of external assets in scale, but also R&D orientation matters, actually putting more weight on R&D field. Being a R&D expert company, our last goal is to develop a new cure that can enhance quality of life, but our operation and growth to date are not just for it.
With a short term, medium term and long term goal, and within the frame of generic medicine, modified drug and new drug development, we operate organizations in a way to focus on each pipeline by stage in an effort to achieve external growth step-by -step. We will also gain an approval on each pipeline by step in promotion of technological force and functional know-how, which will later be a foothold for the next stage's growth and success. Likewise, we apply a phased growth scheme to marketing fields.
As we are sensitive to each stage's market and environmental changes and customers' needs, we will utilize the said information collected for predicting the next stage's market and environment, which will be reflected to R&D field. With more efforts into R&D of pipeline that reflects a strategy of phased growth, we intend to accomplish external growth as well.

Image : Chris Gandle, a little child living in Virginia, suffers from cerebral palsy and is now doing his rehabilitation exercise at a physical therapy center. There are various causes for cerebral palsy and 1 in 250 newborns has this disorder. Cerebral palsy is caused by neurological damage and thus, no complete cure for it. However, such drug as Botulinum toxin which specifically responses to nerve cells can alleviate and improve its symptoms.

Pipeline

We strive for R&D for cure of various diseases relating to quality of human's life to be a global pharmaceutical R&D company. In 2016, we reformed our R&D division in a way to concrete our professionalism with an innovation motif to attain our goal in accordance to the recent trend of biopharmaceutical R&D toward a high-value drug with superior curative effects. We reorganize the R&D division into the R&D center and the OI team. The former conducts study for new technology, material and product development, whereas the latter conducts research planning, quality control and assurance, and business development. To reinforce this approach, additional research professionals with a master or doctorate degree in the biopharmaceutical field were employed who constitute 70% of the R&D division.

R&D center focuses on development of source technology that facilitates the entire production process for high-quality pharmaceuticals from discovery of drug candidates to efficacy and toxicity verification, production process optimization and quality control testing model development, whereas OI team is in charge of research planning for creative utilization of pipeline under development, research results and quality's reliability assurance, and medicine approval relating tasks that include clinical test, and business development work for global alliance.



The researcher is applying our self-developed source technology, CHS_2^{TM} Technology.

Left image : The researcher is extracting culture fluid after incubation is complete using a bacteriostatic filter to remove microorganism completely.
Right image : The researcher is taking a sample from culture fluid that is being incubated by specialized microorganism cultivation equipment devised for biopharmaceutical production to monitor the incubation status.

Our main businesses are carried out in an accurate, timely manner by TF(task force) consisting of professionals from each field, and the variety of our pipelines stand on new ideas brought up by our creative, horizontal organizational culture and free communication.

Research & Development

ATGC R&D Center is the key engine for attainment of our goal, a global biopharmaceutical R&D company. Hence, in 2016, we extended a pool of R&D manpower, subdivided research fields in a greater detail and attempted various approaches to already known indications in a wider extent, alongside commitment to finding a new substance.
The R&D center takes a traditional, scientific approach for innovation-based biopharmaceutical research, but also is build-ing a solid relationship with other teams for cooperation.
R&D Center researchers have successfully completed ATGC pipelines upon molecule biology, microbiology, genetics and organic chemistry and are advancing toward further success in development, with the idea of developing a new type of medicine that does not existent in the market on a background of various academic know-ledge, approaching from various angles after defining a clear objective.

For such approach, ATGC R&D Center has broken down the barriers of a wide range of academic backgrounds, consolidating various manpower with different expertise from each field into one team; for example, a team to do R&D on protein analysis methods will be made up with protein engineers and analytical chemists. Also, ATGC R&D Center evaluates suitability of R&D in various ways. We introduced RQA(research quality assurance) to raise the reliability of research and systematized our self verification on research performance.
We categorize all potential risks to be considered in establishment of production process for substances into which research has been complete by 4M(men, machine, material, management) to assess and estimate the degree of risk in advance and minimize the possibility of occurrence, and carry out validation procedure to optimize it to accord with the relevant standards. And we document all data engaged from the initial phase of research to production process establishment and standard setting about R&D equipment, reagent and such, putting them together into SOP(standard operation procedure) as part of systemization of all process.
Further, we strive to get a reliable, accurate, reproducible result from research by different type of scientific access. When research into substances is complete perfectly, we determine the conduct of a clinical test confirming effect and safety on human. Projects are run by the leaders of R&D Center and OI Team, so they are well-acquainted with the status of progress and results therefrom and act sensibly in any circumstances. Also, we closely work with CRO[1)] for a quick, scientific clinical test and aggressively discuss with hospitals that perform clinical tests and healthy authority to achieve positive results on ATGC pipelines.

1) CRO : (Clinical Research Organization)An agent that acts on behalf of an applicant for clinical test. The scope of business includes clinical test design, approval acquisition from the health authority, process monitoring, data management, statistics analysis, report of results preparation, etc.

ATGC's pipelines are completed through a wide range of approach from various angles upon scientific knowledge on treatment methods and substances as listed in the table aside. Rather than simple exploration for new substances, ATGC aims at doing R&D in a broader extent with various perspectives, shaping up and organizing it into a platform of R&D direction for both already-known and newly found substances.

Innovation

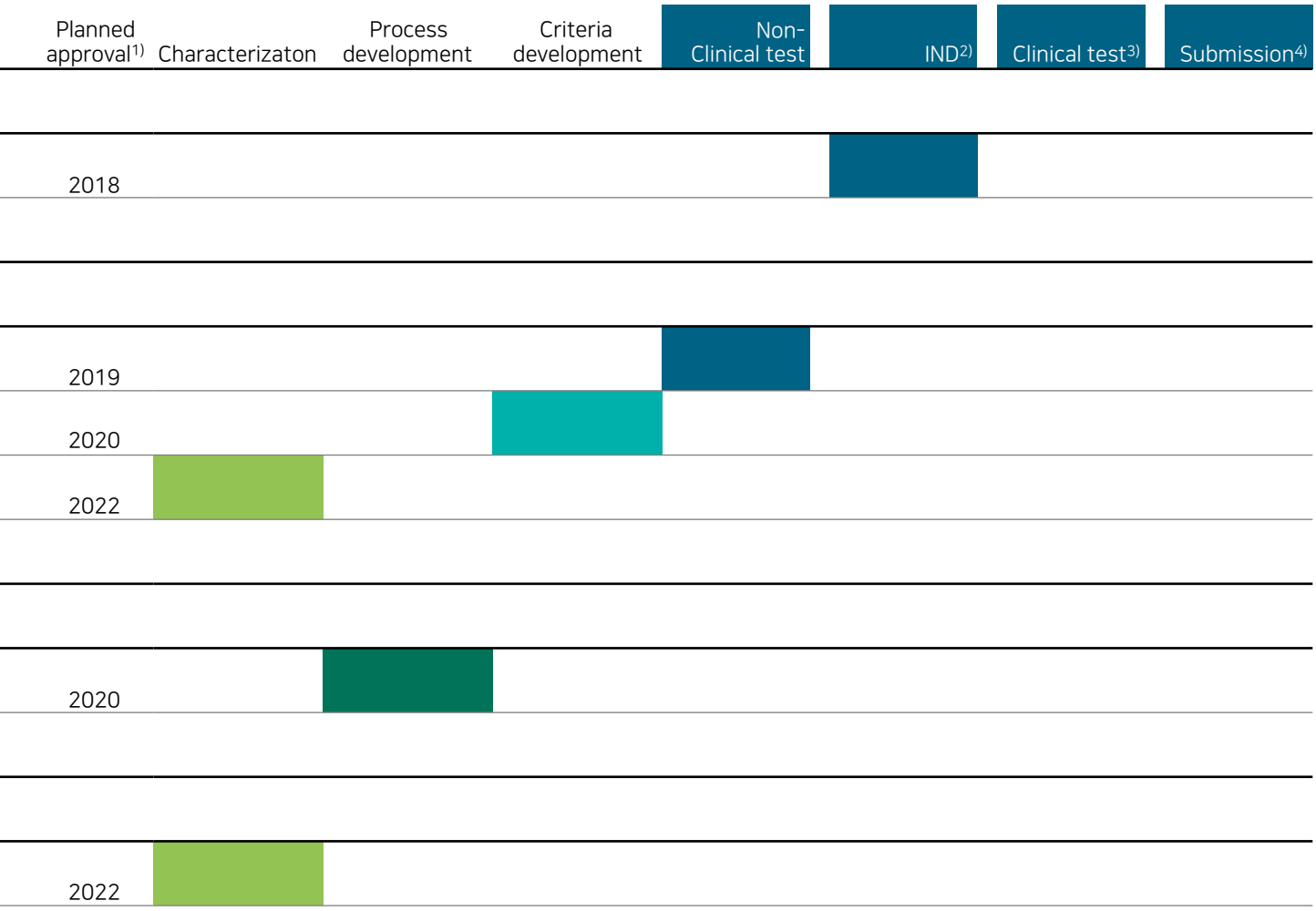
Product	Common name	Mechanism of action
Aesthetic		
ATGC-100	BoNT/A(900KDa)	SNAP-25 cleavage
Neuromuscular		
ATGC-110	BoNT/A(150KDa)	SNAP-25 cleavage
ATGC-120	BoNT(150KDa)	Acetylcholine inhibitor
ATGC-600	BoNT(300KDa)	Acetylcholine inhibitor
Osteoarthritis		
ATGC-200	Stabilized BoNT	Acetylcholine inhibitor
Neuropathic pain		
ATGC-300	Tetrodotoxin	Ion-channel blocker

Aesthetic

Botulinum toxin is a type of neurotoxin which is created by Gram(+) anaerobes called Clostridium Botulinum.
It specifically reacts at the peripheral nerve system and functions as a neuromuscular blockade. Acetylcholine, a neurotransmitter released at the neuromuscular junction, contracts the muscle when bound with receptors on the muscle cells. ATGC-100 cleaves SNAP- 25(Synaptosomal-associated protein-25) selectively involved in production of neurotransmitter, acetylcholine that causes muscle contraction, thereby reducing secretion of acetyl-choline, improving the appearance of glabellar lines. ATGC-100 is developed in accordance with the global standard with specific focus on its aesthetic use including treatment of glabellar lines. In particular, after the ATGC's source technology was applied to it, which optimized the production, its productivity has increased dramatically, allowing production of high-purity biopharmaceutical at over 99.9%.
ATGC-100 has been proved to have a low level of toxin and high efficacy by animal testing, and now has a clinical test ahead to confirm its effect on glabellar lines of human that lasts months.

Neuromuscular

Neuromuscular diseases such as equinus foot deformity accompanying muscle rigidity caused by temporary or chronic muscle contraction, crossed-eyes, blepharospasm, muscle rigidity, poliomyelitis and cerebral palsy is the main diseases debasing qualify of patient's life, but prevention of deterioration, and even improvement of such symptoms can be expected when an appropriate amount of Botulinum Toxin's unique, specific mechanism is applied.
Although ATGC-110 and ATGC-120 are in a different form of botulinum toxin, produced by Clostridium Botulinum, they both have the same drug mechanism that works to block acetylcholine release by restraining formation of SNARE(Soluble N-ethylmaleimide-sensitive fusion protein attachment protein receptor) complex, called Syntaxin, VAMP(Vesicle associated membrane protein) and SNAP-25, engaged in secretion of acetylcholine.
Also, they are structured to both synthesize into one protein chain each and decompose into two chains by linkage of disulfide bond, and have a light molecular weigh of 150KDa,



1) Planned approval : Schedule for approval acquisition from the Korean MFDS(Ministry of Food and Drug Safety). We aim to get an approval from the major countries such as North America, EU and China within 2 years.
2) IND : (Investigation New Drug)To apply for a clinical test approval to the health authority. The whole process takes about 6 months in general at most.
3) Clinical test : Human testing to confirm medicine's safety, dose and efficacy, each of which is called phase1, phase 2 and phase 3. Testing goes in the sequential order in general, but may vary depending on properties of a substance and R&D results.
4) Submission : To apply for new drug approval(NDA) when all clinical tests are complete. The whole process takes about 3 months to 12 months.

which appear to be at a less risk of developing resistance to drug, even in repeated or high-dose injection. However, as they aim at a different target in restraining production of SNARE complex, there are discrepancies in scope of clinical application and drug persistency. ATGC-110, which is under animal testing, features a persistent medicinal effect due to its properties, which fits for diseases requiring a lengthy medical attention such as poliomyelitis and muscle rigidity, whereas ATGC-120, which faces animal testing ahead, features a relatively fast action, which fits for neuromuscular diseases such as crossed-eyes and eyelid spasm that require fast treatment. Meanwhile, we have been in the middle of R&D for the 2nd botulinum toxin, ATGC-600 to bring out a faster, more effective, persistent action on secretion of acetylcholine.
Our first research for this was finding a target of the drug allowing for such medicinal results and verifying its suitability to the development purpose in various ways, followed by current, ongoing analysis on material and property of matter in molecular units, which will provide a scientific basis.

Osteoarthritis

Degenerative arthritis also lowers quality of life with pain. Nonoperative treatment for this disease is using NSAID (non-steroidal anti-inflammatory drug), steroid medication, physical therapy, intra-articular steroid injection or hyaluronic acid injection, and for operative treatment, arthroscopic surgery. Of the non-operative treatment methods, the most frequently used hyaluronic acid injection is to replenish constituent components of synovial fluid of joint through intra-articular injection. It can protect, suppress pain and improve functions of articular cartilage, provided that repeated intra-articular injection is given, 5 times at most, along with NSAID at the same time due to the weak pain suppression effect of injection, which, how-ever may cause sever side-effects such as gastrointestinal disorders, stomach ulcer, gastric bleeding and liver damage.

ATGC-200 is developed to make up for such side-effects of hyaluronic acid injection. It is stabilized to give the pain suppression effect of botulinum toxin's neuromuscular paralysis properties persistently, under R&D to eliminate the need of taking painkillers such as NSAID by a better pain control and articular cartilage protection than the existing hyaluronic acid injection in a single dose.
Its suppression effects against pain, osteoarthritis, cartilage damage, and inflammation have been proved to be better than hyaluronic acid injection by testing on animals with osteoarthritis and histopathologic analysis.
Based on scientific experimental results, we expect it to be applicable to inflammatory neuropathic pain disease treatment, and are verifying its toxicities with animals and establishing test methods for property analysis.

Neuropathic pain

The main cause of neuropathic pain is hypersensitive reaction of nerve cells prompted by nerve damage to sensory neuron. Such hypersensitive reaction of nerve cells occur by over-expression and accumulation of sodium ion-channel that promotes neuron cell's action potential and conduction. ATGC-300 that is being structured under our R&D as tetrodotoxin-based selectively blocks sodium ion-channel to reduce heightened electric signal thereby suppressing pain. Tetrodotoxin is a non-protein toxin with irreversible properties produced by microorganism parasitic in puffer fish. It is a very deadly toxin; it's lethal dose 50 on mouse is 10μg/Kg and it absorbs into blood as quickly as its highest concentration reached in just 20 minutes. ATGC-300 is currently at the phase in analysis of tetrodotoxin's properties, following the completion of separation and identification of microorganism that produces tetrodotoxin by a variety of analysis such as genetic analysis, and is expected to be applicable to additional treatment for antidepressant or anti-seizure drug, as well as pain suppression when R&D is complete.

FINANCIAL REPORT

In 2016, ATGC has successfully proved its technological capability by entering into the exclusive license agreements with Shandong Buchang Pharmaceutical Co., Ltd. in China and CPL Biologicals in India. Such partnership has significantly increased the corporate value of ATGC and triggered investments from a number of domestic and foreign investors, which, in turn, will enable us to continue investment in our R&D projects under the product development pipeline. ATGC has an internal control system in place to allocate cash inflows from such investment and reinvestment cycles in a transparent, reasonably and efficient manner. We maintain the validity and reliability of our financial statements through periodic assessments and allocate our resources only to such projects that are well planned and can be effectively validated.

1.5mm

We have received the advance payment of USD 1.5 million out of USD 4.5 million for the exclusive license agreements with Shandong Buchang Pharmaceutical Co., Ltd. in China.

x6

Capital surplus(share premium) as of December 31, 2016 is USD 8.6 million which is 6 times higher than the stock capital, a sign of recognition by the institutional investors of ATGC's technology and commercial viability of pipeline projects.

200%

ATGC highly values the cash liquidity, particularly because of its nature of R&D-oriented business. ATGC owns cash and cash equivalents equal to more than 200% of its stock capital.

Stock capital and major shareholders

(Unit : USD, USD 5/share)	2014	2015	**2016**
Stock capital	974,000	1,360,340	**1,427,010**
Capital surplus(share premium)	1,329,000	6,731,665	**8,663,234**
Jang, Sung Su	113,800shares	134,334shares	134,334shares
Korea Development Bank	-	20,000shares	20,000shares
HB Investment	-	20,000shares	30,000shares
Dongkook Pharm-aceutical Co., Ltd.	-	13,334shares	13,334shares
Others	81,000shares	84,400shares	87,734shares
Total	194,800shares	272,068shares	**285,402shares**

Operationg and financial review 2016

Statement of financial position

(Unit : USD)	2016	2015	% change
Total assets	**4,398,575**	**3,981,297**	**10.5**
Current assets	3,841,171	3,672,610	4.6
Cash & cash equivalents[1)]	2,815,435	2,881,532	-2.3
Other current assets	1,025,735	791,077	29.7
Non-current assets	557,404	308,687	80.6
Tangible assets[2)]	421,875	213,497	97.6
Others	135,528	95,190	42.4
Total liabilities	**2,882,330**	**1,028,548**	**180.2**
Total liabilities[3)]	2,359,262	794,737	196.9
Advances from customers	2,069,250	530,000	290.4
Other current liabilities	290,012	264,737	9.5
Non-current liabilities[4)]	523,067	233,811	123.7
Total equity[5)]	**1,516,245**	**2,952,748**	**-48.6**

Total assets and liabilities of ATGC as of December 31, 2016 are USD 4.3 million and USD 2.8 million respectively, up 10.5% and 180.2% from 2015 respectively. Changes in assets are attributable to increase in current assets by USD 0.2 million including acquisition of machinery and equipment, and USD 0.2 million in other asset items including advance payments. Total liabilities rose 180.2% by USD 1.8 million from 2015, mainly due to the advance payment received from the Chinese partner classified as advances from customers.

Total equity as of December 31, 2016 is USD 1.5 million, down 48.6% from a year ago, due to loss on prior period error corrections. The loss has increased because all of the R&D expenditure recognized as an intangible asset item until 2015, was reclassified as expenses in 2016.

1) Cash and cash equivalents

As of December 31, 2016, ATGC has cash & cash equivalents in the amount of USD 2.8 million, which is about the same level as the prior year. In 2016, ATGC spent approximately USD 3.4 million in cash on R&D activities including recruitment of new R&D personnel and investment in R&D equipment facilities, utilizing cash inflows from new investments and exclusive licensing agreements involving the pipeline projects. We believe that the most ideal cash flows for an entity exclusively specified in R&D activities is to procure cash inflows from license agreements, and reinvest such cash inflows in new R&D activities. As a result, ATGC maintains stable liquidity ratios with 162.8% of quick asset ratio and 119.3% of cash ratio. ATGC will continue to maintain a stable funding profile and continue our efforts to minimize unnecessary spending and maximize future value by spending cash and cash equivalents(USD 2.8 million as of December 31, 2016) on reinvestment in R&D projects and repayments of outstanding debts.

2) Tangible assets

Tangible assets as of December 31, 2016 is USD 0.4 million, up 96.7% from 2015 due to acquisition of R&D and production equipment including FPLC.

3) Current liabilities

2Current liabilities as of December 31, 2016 is USD 2.3 million, up 196.9% due to the drastic increase(290%) in advances from customers, including advance payment (USD 1.5 million) received from Shandong Buchang Pharmaceutical Co., Ltd. under the license agreement. These advances will be allocated to the appropriate accounts pursuant to the contract conditions and will be subsequently recognized as revenue over the next few years.

4) Non-current liabilities

Non-current liabilities as of December 31, 2016 is USD 0.5 million, which consists of retirement benefit liabilities (99%) and lease deposit(1%). Since ATGC does not operate a retirement pension system, it recognizes accrued retirement benefit liabilities, which rose significantly due to the increase in R&D personnel.
ATGC plans to switch the retirement benefit system to retirement pension plan, which will decrease the non-current liabilities in the future.

5) Total equity

Until 2015, R&D expenditure was recognized as an intangible asset item. With the adoption of IFRS(International Financial Reporting Standards), such R&D expenditure is recognized as an expense when it is incurred.
Consequently, USD 0.8 million out of USD 2.2 million recognized as R&D expenditure in the prior year was reclassified as ordinary R&D expenditure of the selling & general administrative expense, and the remaining USD 1.4 million is recognized as loss on prior period error corrections, which resulted in a 48.6% decrease in total equity in 2016 in spite of the increase in equity from cash inflows from investors.

Income statement

(Unit : USD)	2016	2015	% change
Sales	**-**	**-**	**-**
Selling & general administrative expenses	**3,484,914**	**1,803,334**	**93.2**
R&D expenditure[1)]	1,004,408	847,420	18.5
Employee benefit[2)]	679,052	328,474	106.7
Others[3)]	1,801,453	627,439	187.1
Operating profit[4)]	**-3,484,914**	**-1,803,334**	**93.2**
Non-operating income	**75,096**	**65,198**	**15.2**
Non-operating expenses[5)]	**24,925**	**122,917**	**-79.7**
Ordinary income	**-3,434,743**	**-1,861,053**	**84.6**

The operating loss in 2016 rose by USD 1.6 million from 2015, primarily due to no sales recorded during these period because of the nature of a biopharmaceutical R&D business that requires a long lead time to transform new ideas and discoveries into medicines that can be commercially licensed to pharmaceutical companies and generate income. The primary reason for the increase in operating loss is because of (1)sharp increase in ordinary R&D expenditure to develop source technology under ATGC's unique R&D strategies, and test-produce new medicines and drugs having the key substance developed under ATGC pipeline and validate such substances through independent testing institutes, (2)increase in employee benefits resulting from the expansion of R&D organization, intensive and extensive training programs provided to R&D personnel, (3)increase in other employee benefits for employee appreciation, engagement and benefit, and (4)significant increase in professional service fees to build global alliance, which represents 51.6% of the total operating loss.
Non-operating loss rose by 15.2% from 2015 due to the FX gain on foreign currency deposits and interest income, while the non-operating expense dropped significantly by 79.4% as a result of the prior period error corrections, and included only miscellaneous loss and FX loss.
In addition, the operating loss and ordinary loss rose by 93.2% and 84.6% respectively from a year ago as a result of adoption of IFRS from the accounting period beginning on January 1, 2016.

1) Ordinary R&D expenditure

Ordinary R&D expenditure rose 18.5% to USD 1.0 million, which consists of USD 0.3 million for external R&D projects, USD 0.1 million for external R&D projects and USD 0.4 million for wages and USD 2 thousand for R&D personnel costs and training cost respectively. Internal R&D expenditure rose 16% from 2015 for R&D production process and development of new source technology. External R&D expenditure was the service fees paid to independent testing institutes for non-clinical tests to validate the safety and qualification of pipelines developed by ATGC's R&D center. Labor costs rose significantly in 2016 as ATGC has expanded its R&D organization by 2.4 times to develop new medicines and indications to treat diseases and to counter new challenges and deliver innovations.

2) Employee benefits

In 2016, other employee benefits rose 106.7% to USD 0.6 million, which consist primarily of wages, bonuses, other fringe benefits and education/training for employees. We spent USD 0.5 million on wages, and USD 0.1 million on other benefit items as a result of expansion of R&D organization.

3) Others

Other items of selling & general administrative expenses rose 187.1% to USD 1.8 million largely due to ATGC's unique development strategies. ATGC is building a global alliance with strategic partners around the world for ATGC pipeline projects and relies on external consulting and professional services to protect our right, privileges and interest in our new products.

The increase in other expenses comes mostly from such professional services, application for intellectual property rights, valuation of ATGC pipelines, and translation cost. The increase(USD 1.1 million) comes mostly from one-time expenses that will be reduced in the future.

4) Operating profit

ATGC incurred an operating loss of USD 3.4 million in 2016, up 93.2% from 2015 as the revenue from pipelines project remain unrealized.
The increase in the operating loss comes mostly from the increase in selling and general administrative expenses. The operating loss due to unrealized revenue will be gradually reduced from 2017 as the revenue will be recognized from the license agreement for ATGC pipelines and sales of clinical proto-type products.

5) Non-operating expenses

Non-operating expenses dropped 79.3% to USD 24 thousand in 2016, due to the phenomenal increase in non-operation expenses in 2015 for the prior period error corrections to accrued retirement benefit liabilities while non-operating expenses in 2016 includes only FX loss and miscellaneous expense.

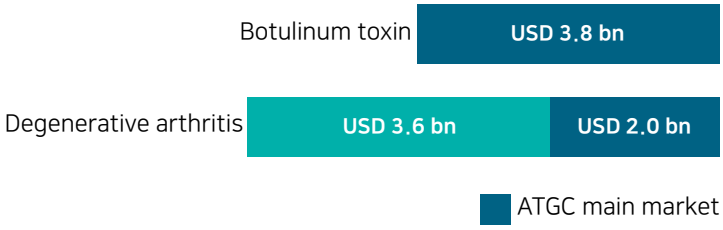
Forecast 2017-2021

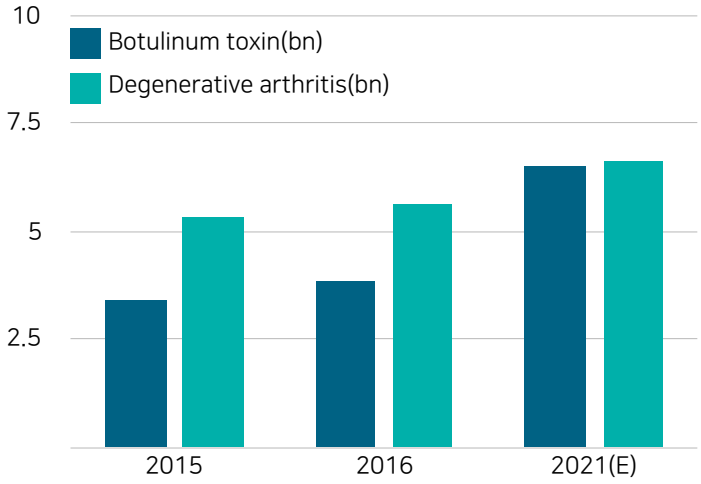
Summary

ATGC dreams to become a global biopharmaceutical R&D company. ATGC is a values-based company, deeply rooted in science and innovation to transform new ideas and discoveries into medicines for patients with serious illnesses. For the last 8 years, ATGC has concentrated its R&D capacities on the development of medicines to improve the quality of human life. As a result of our efforts, ATGC will be able to commence the clinical tests on ATGC pipelines in 2017, which means that ATGC will generate cash inflows from licensing[1] ATGC pipelines as well as sales of the finished products. To begin with, ATGC will obtain approval for manufacture and sale of ATGC pipelines and will be prepared to expand our business through global alliance, into the world's largest market in North American, EU, and China, and other markets with high barriers to entry.
The revenue to be generated from such R&D pipelines will significantly contribute to the sustainable growth and a future increase in corporate value of ATGC.

ATGC main market

With its pipelines, ATGC is focusing primarily on botulinum toxin market[2] with global market size of USD 3.8 billion in 2016, and degenerative arthritis market[3] with global market size of USD 5.6 billion. Both markets require ATGC to develop biopharmaceuticals to be used for treatment of diseases caused by nervous system abnormality.





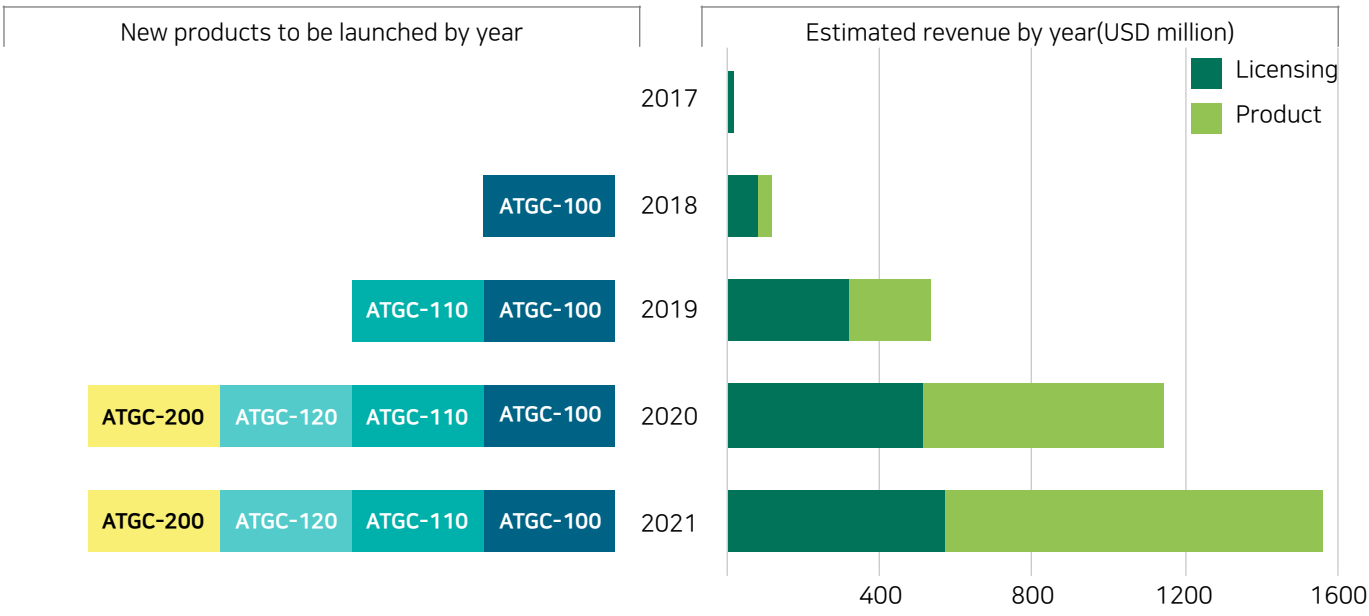
Based on its accumulated technology in production and analysis of wild-type proteins and genetic recombination proteins and small molecular substances, ATGC is developing biopharmaceuticals having the key substance of neurotoxin in various forms. We aim at use neurotoxin to develop biopharmaceuticals to be used for treatment of diseases caused by nervous system abnormality. These two market have shown compound annual growth rates of 3.7%~11.4% and will continue to enjoy a greater demand in 2016 - 2021 and many years to come due to population aging and human desire for an improved quality of life.
ATGC's accumulated technology and pipelines combined with ATGC's differentiated marketing strategy will have a great growth potential for successful entry into these market around the world.

ATGC's REVENUE GENERATIONTGC

Revenue will consist of (1)income from transfer of license to sell the products which is recognized as advances from customers(liability item), and (2)sales of finished goods.

A R&D based business like ATGC will be able to license the technology to licensees, like the license agreements ATGC has made with global partners so far. ATGC is planning to additionally enter into license agreement with many other partners in 2017. Sales of finished products will be generated by actually selling the finished goods to local partners before and after the clinical tests. We expect to sell the finished products for clinical test concurrently with execution of the license agreement in 2017 when the clinical test begins.

ATGC 2017-2021



Beginning from 2017 when the clinical test for ATGC-100 commences, ATGC will generate income from execution of the license agreements with global partners as well as from sales of finished products.

In addition, the considerations for the milestones under the license agreements made in 2016 will flow into ATGC and will be recognized as revenue. We plan to enter into license agreement with local pharms in North America, EU and China for the years 2017 to 2018 and will be able to supply the products to the market on a step by step basis, although the sales of products for clinical period remain insignificant during the period. Starting with the Korean market, ATGC will gradually expand into more advanced market including North America, EU and China, but with different marketing strategies customized to the specific market needs of each market after consultation with local sales partners in order to prevent cannibalism among our products and to generate the most optimal level of revenue.

1) Cash inflow from licensing : Initially recognized as advances from customers(a liability item) but will be recognized as revenue after approval is obtained.
2) Botulinum toxin market : (Reference)2016, Daedal Research
3) Degenerative arthritis market : HA(Hyaluronic acid) represents 36% in this market.(Reference)2015, Global Research, Korea Health Industry Development Institute

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