

**GLOBAL  
INNOVATIVE PARTNER OF  
VACCINE AND BIOTECH**



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## GLOBAL INNOVATIVE PARTNER OF VACCINE AND BIOTECH

## MESSAGE FROM THE CEO



“Global Innovative Partner of Vaccine and Biotech: From prevention to cure, SK bioscience is creating a healthier and happier tomorrow for everyone.”

Greetings!

SK bioscience's commitment to 'Promoting Human Health' has been steadfast throughout the unprecedented global crisis of the COVID-19 pandemic. We have thus grown into a leading innovative partner in the global biopharmaceutical industry as the world prepares not only for the endemic phase of COVID, but also for the next pandemic.

Nearly 20 years of consistent improvement have provided the basis for remarkable growth in the present. We set the foundation for growth by establishing a vaccine R&D center in 2005 and building L HOUSE, our vaccine manufacturing plant in 2012. Based on our own capabilities, the company's process spans the entire value chain across research, manufacturing, licensing, and commercialization. During that journey, we demonstrated our advanced technology by successfully establishing a portfolio of self-developed vaccines, including: SKYCellflu®, the world's first cell culture-based quadrivalent influenza vaccine; SKYZoster® Inj., the world's second Shingles vaccine; and SKYVaricella® Inj., chickenpox vaccine to receive the World Health Organization Prequalification certification.

Our vaccine R&D technologies and manufacturing systems are also recognized around the world. In 2014, we signed an agreement with Sanofi Pasteur, a global pharmaceutical company, to co-develop and commercialize a next-generation pneumococcal conjugate vaccine. We also launched joint vaccine development with international organizations such as the Bill & Melinda Gates Foundation, Program for Appropriate Technology in Health (PATH) and the International Vaccine Institute (IVI).

Our years of effort and experience have identified opportunities for a great leap in development when faced with the COVID-19 pandemic. We quickly began to pursue a two-track business strategy. One track included engaging with international companies as CDMO partners for their COVID-19 vaccines, and the other was to develop our own COVID-19 vaccine. In both cases, we fully leveraged our manufacturing facilities, R&D technology, and global network which have positioned us as a global vaccine hub.

Continuous upgrades to our manufacturing plant have led to obtaining the European Union's Good Manufacturing Practice (EU-GMP) certification for the first time as a vaccine manufacturing facility in South Korea. We have established collaborative relationships with global companies such as AstraZeneca, Novavax and GSK. Our partnerships with the Bill & Melinda Gates Foundation and CEPI (The Coalition for Epidemic Preparedness Innovations) expanded into a close network for the joint development of a range of vaccines.

Looking back, we put faith in our own possibilities based on accumulated experience and expertise to undertake various projects for public health. As a result, we were able to achieve both a successful IPO and historic jump in revenue in 2021 amid the pandemic. In addition, we successfully developed our own and South Korea's first COVID-19 vaccine - SKYCovione™ Multi Inj. - with robust global collaboration.

We now seek to take our next leap toward to the SKBS 3.0. We will continue to grow to achieve our mission to Promote Human Health under our new vision to become the Global Innovative Partner of Vaccine and Biotech.

We will enter the SKBS 3.0 with an innovative and systematic strategy. By (1) expanding our COVID-19 vaccine portfolio for the endemic phase, (2) diversifying our vaccine portfolio, including basic and premium vaccines, (3) establishing a glocalization model to build a regional manufacturing based, (4) entering the cell/gene therapy (CGT) area, and (5) developing a response strategy for the next pandemic, we will secure our competitive edge to become a Global Innovative Partner of Vaccine and Biotech.

To implement SKBS 3.0, we will first continue to secure advanced infrastructures by building the Global Research and Process Development (R&PD) Center in Songdo and expanding L HOUSE in Andong, as well as strengthening our portfolio by ensuring new platform technologies like mRNA. In response to the global vaccine inequity issue that arose during the pandemic, we will further continue to build a world-class business infrastructure through the implementation of ESG activities DT (Digital Transformation).

I am thoroughly grateful for all the attention and support for SK bioscience. The company will grow into an innovative partner in the global vaccine and biotech industry that is committed to a better tomorrow for all.

Sincerely,

Jaeyong Ahn  
President and Chief Executive Officer

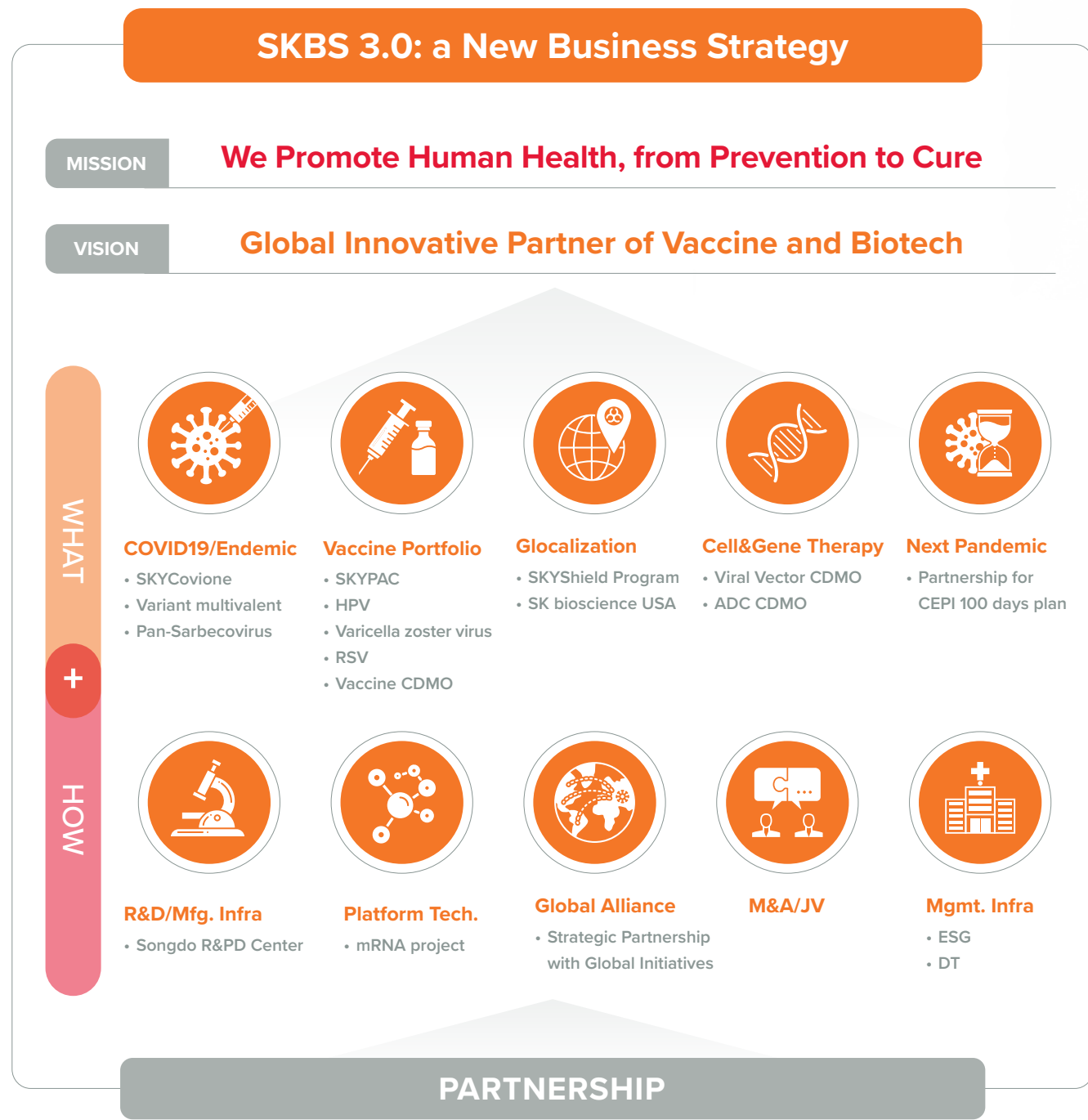


**From prevention to cure,  
SK bioscience continues  
to make every effort to  
promote life and health.**

At SK bioscience, we continue investments to secure innovative technologies and advanced manufacturing systems. We have successfully created commercial vaccines and have become a trusted global partner based on our achievements. Given our innovative achievements in the vaccine markets, and our preparations to respond to endemic outbreaks and the next pandemic, we are attracting interest from governments, institutions and companies around the world.

Now, we are embracing the next-level challenges that will accelerate another leap in our development.

# GLOBAL INNOVATIVE PARTNER OF VACCINE AND BIOTECH



## VISION Global Innovative Partner of Vaccine and Biotech

### Global Innovative Partner of Vaccine and Biotech

SK bioscience has continued investing in vaccine R&D and manufacturing as the medical paradigm shifted from treatment to prevention. We achieved innovation in all business areas, from basic research to manufacturing and commercialization, which led to successful development of our premium vaccines. In the early stage of the pandemic, with faith in our extraordinary technology, we entered an unprecedented business. Our intrepid decision of the two-track strategy of vaccine CMO and original vaccine development resulted in the company's highest-ever performance. Constant innovation has allowed us to discover more possibilities and accumulated capabilities have offered us a blueprint for the future to create new values.

### New Strategy for SKBS 3.0

SK bioscience is becoming a global innovation partner in the vaccine and bio-industry. To achieve our vision, we have designed a new strategy to strengthen new future growth and implement action plans. With robust investments in R&D and manufacturing facilities, we are strengthening our vaccine portfolio to prepare for the COVID-19 endemic. We will further prepare to fight against a new pandemic by securing new technologies such as mRNA. We will diversify the vaccine pipeline and strengthen our core competitiveness by initiating a range of projects. Our proven competitiveness will attract synergistic global partners, further solidifying our commercial relationships. Taken together, these strategies will create a hub for global vaccine manufacturing and supply.

# GLOBAL INNOVATIVE PARTNER OF VACCINE AND BIOTECH

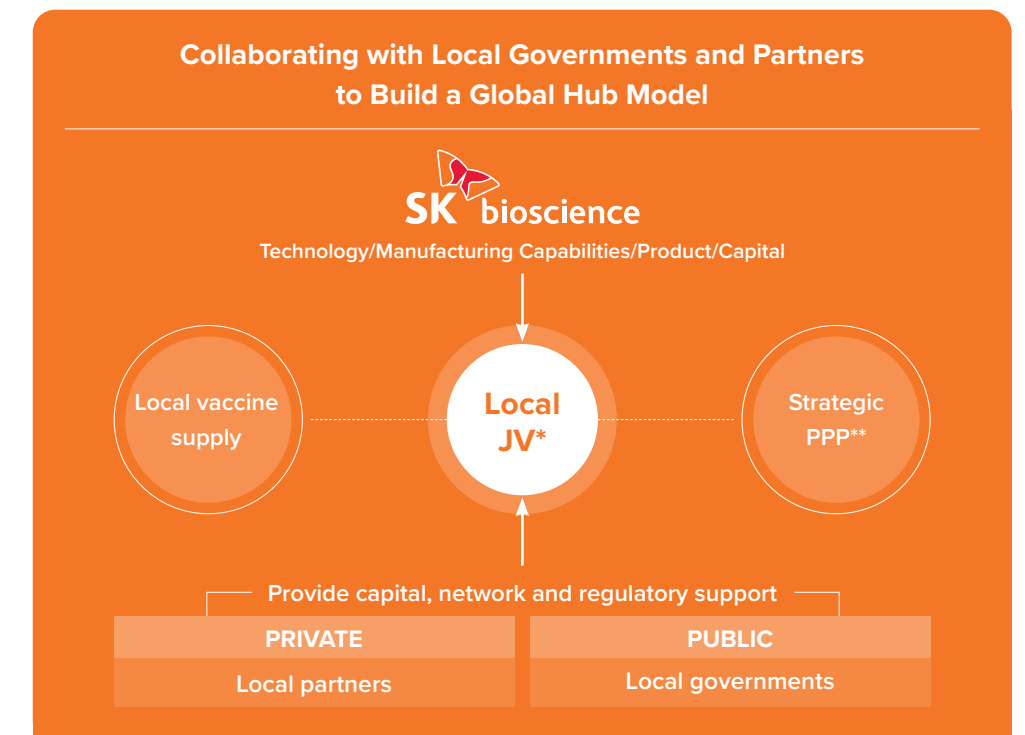


By expanding our manufacturing base around the world, we are becoming a global hub for vaccine distribution.

As demand for vaccines rises, we will become a hub for vaccine distribution while harnessing innovative capabilities to further empower our global partnerships.

We have created a global vaccine network through co-development and collaboration with global partners, international organizations and research institutions. As we deepen international partnerships forged during the pandemic, we will improve our R&D capabilities and expand our worldwide vaccine CMO/CDMO businesses to lead the global market. In parallel, we will transfer our certified vaccine manufacturing, development capabilities and CMO business know-how to global markets. That transferred globalization\* expertise will help local governments and partners in emerging markets to build manufacturing infrastructures tailored to their regional needs. Such efforts will fortify our standing in global vaccine distribution and expand access to pharmaceuticals around the world.

\*Global + Localization



\* Joint Venture \*\* Public-Private Partnership

# GLOBAL INNOVATIVE PARTNER OF VACCINE AND BIOTECH

**We create new opportunities with constant innovation.**

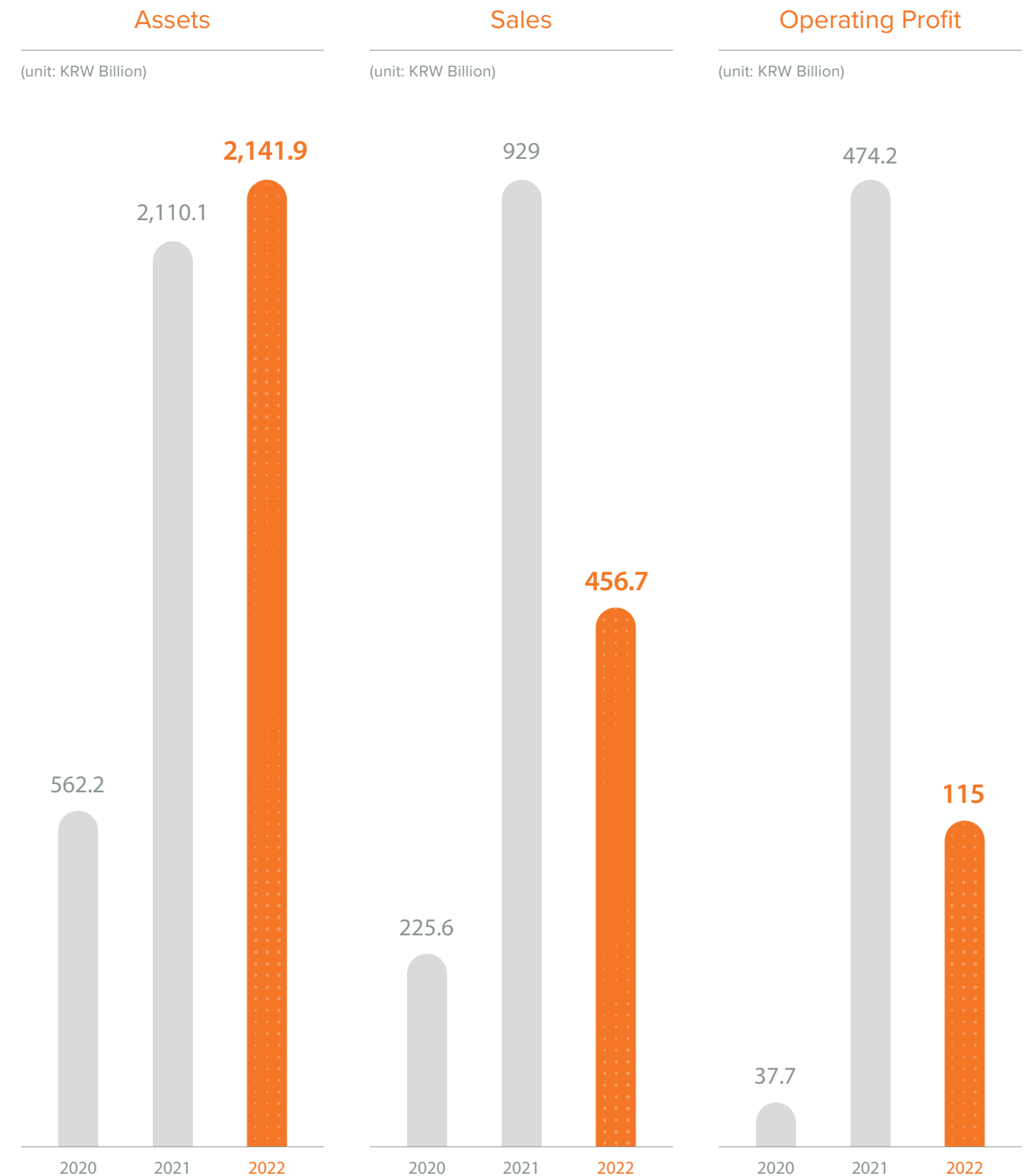
As a global vaccine hub, SK bioscience continues to promote human health and sustainable growth with CMO/CDMO businesses. We are advancing various business directions with global partners including global biotech companies, institutions and governments, building on the trust we have established in the global market over the past 20 years.

As an innovative partner in the global vaccine market, we continue sustainable growth through CMO/CDMO businesses. Our collaboration with AstraZeneca's COVID-19 vaccine CMO business during the pandemic led to remarkable sales growth and the first supply of a COVID-19 vaccine in South Korea.

In addition, the Novavax COVID-19 vaccine CDMO business added vaccine choices for South Koreans.

With our advanced R&D technology and manufacturing facilities that adhere to strict global standards, we emerged as a global vaccine hub during the COVID-19 pandemic. In close relationships with global organizations such as the Bill & Melinda Gates Foundation, CEPI and IVI, as well as with international governments and biotech companies, we are determined to address the global vaccine supply inequality and take the lead in building a new portfolio to tackle the next pandemic.

## Performance Highlights



# GLOBAL INNOVATIVE PARTNER OF **VACCINE** AND BIOTECH

**We strengthen core competitiveness by expanding the vaccine portfolio.**

SK bioscience is actively responding to the COVID-19 endemic phase and the next pandemic by pursuing continuous growth fueled by our proprietary vaccine development capabilities. With bold and sustained investments in R&D and manufacturing infrastructure, we are preparing for the future by upgrading our vaccine pipelines from basic to premium.

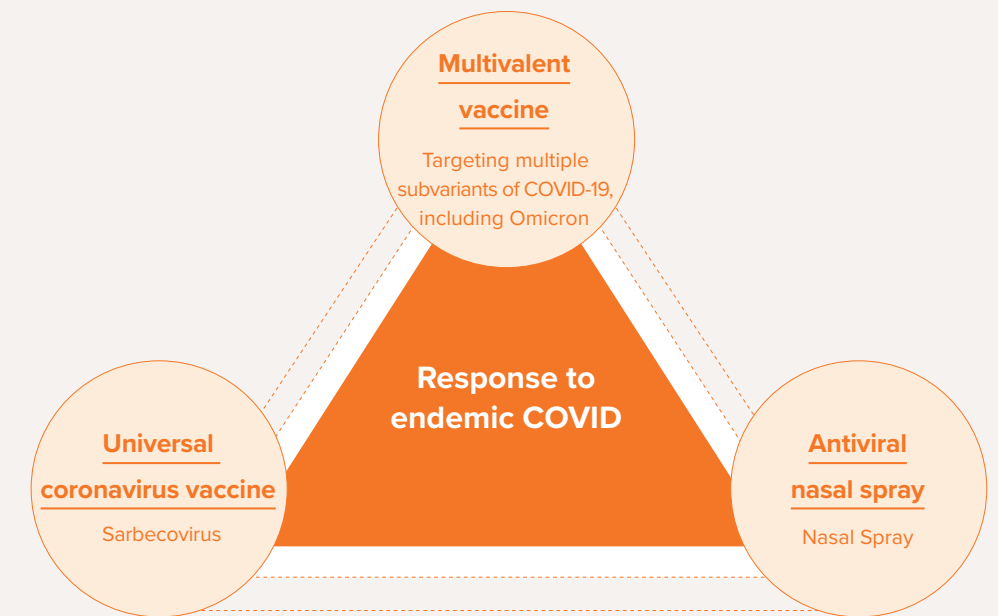
SK bioscience is seeking to develop vaccines to secure vaccine sovereignty and promote public health, as an annual vaccination is being considered in the transition to the COVID-19 endemic phase. With our proven vaccine platform, we are developing next-generation vaccines in a variety of new forms and concepts, including a universal vaccine to replace the broadly protective vaccine against sarbecovirus as well as its larger viral family; a multivalent vaccine to address multiple variants of COVID-19; and an antiviral nasal spray to prevent COVID-19. We are also investing in advanced infrastructures to address endemic COVID.

By serving as a development base for next-generation vaccines and biotechnology, and as an open innovation center to nurture top biotechnology talent our new Global R&PD Center in Songdo is designed as a global hub for the bio-industrial ecosystem. We are also expanding and improving our manufacturing facility, L HOUSE in Andong.

As we manufacture the next-generation of innovative vaccines at L HOUSE, we are further venturing toward becoming a hub for global vaccines and bioproducts.



**Expanding product portfolio to address endemic COVID**



**Securing new formulations**

- Developing new vaccine formulation technologies, such as nasal sprays

**Merger & Acquisition**

- Acquiring products and businesses from international vaccine companies
- Acquiring companies with a basic vaccine portfolio



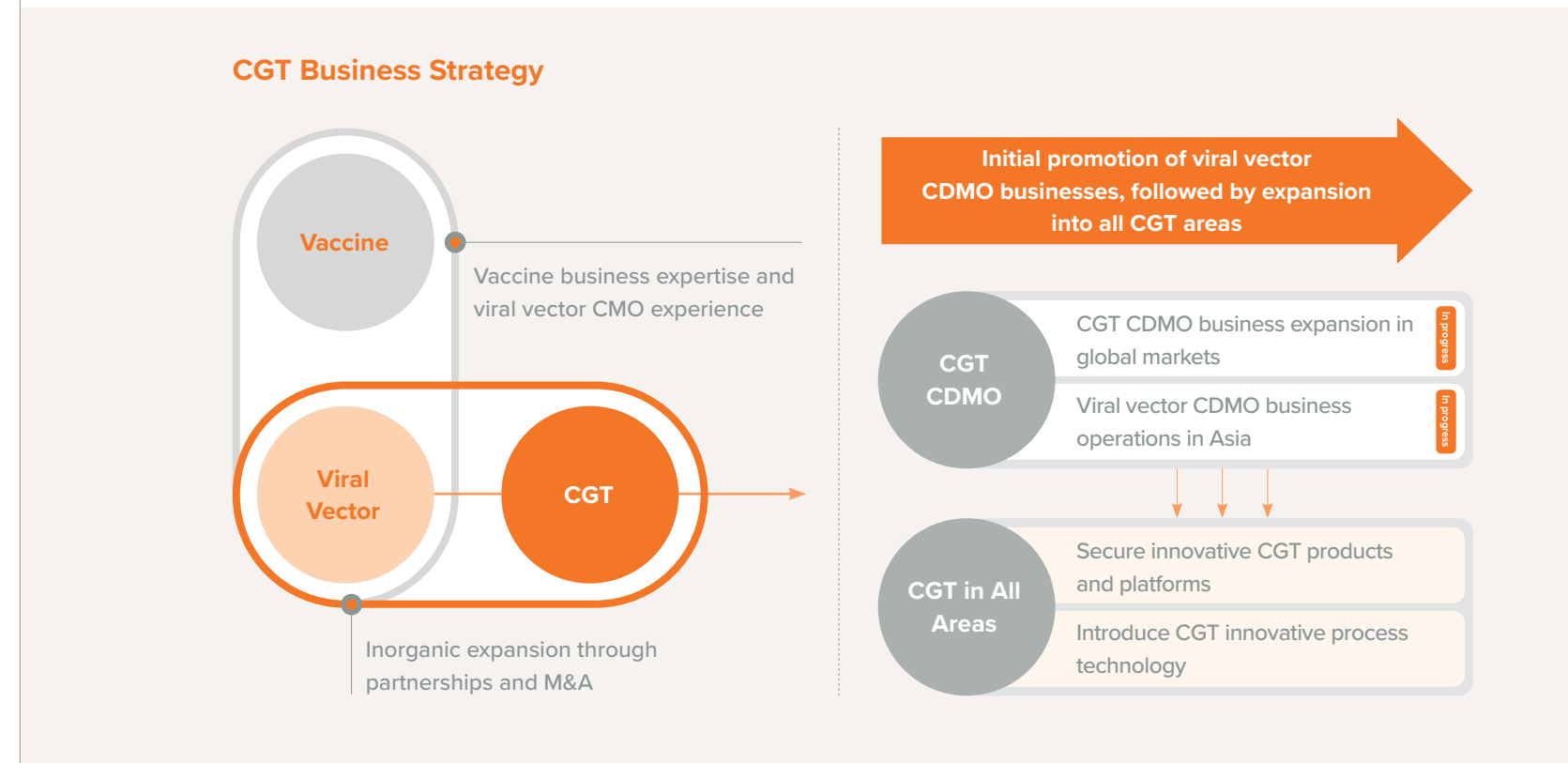
# GLOBAL INNOVATIVE PARTNER OF VACCINE AND BIOTECH

**We invest in future value to secure growth.**

SK bioscience is securing innovative capabilities to respond to the next pandemic. These preemptive measures and the ability to overcome challenges are creating new opportunities and improving the fundamentals of our business and management.

We focus on business innovations to become more competitive in response to the next pandemic. These innovations include digital transformations to improve business efficiency and ESG management with sustainability at every stage of business. In this rapidly changing environment, such innovations will raise awareness and increase the value of our business.

We also focus on technological innovation. To acquire cell and gene therapy (CGT) technology, and advanced biotechnology with high-growth potential, we will make strategic investments and focus on M&A of international vaccine and biotech companies. Those initiatives will set the foundation for sustainable growth and new opportunities. We will keep growing as an expert in the vaccines and biotech industry to meet the needs of our current and future stakeholders.

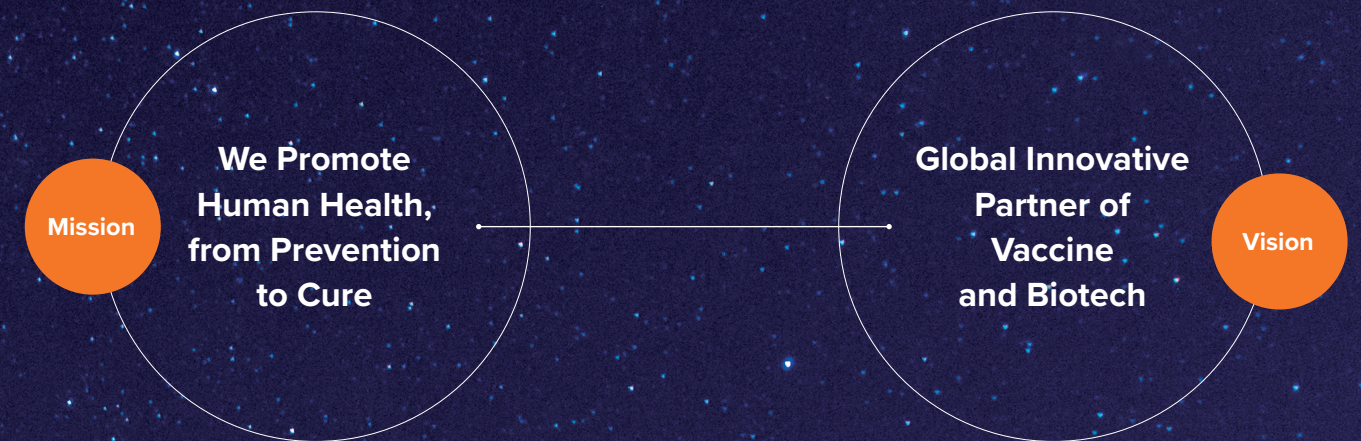


# AT A GLANCE



## Vision & Mission

We are committed to Promoting Human Health from Prevention to Cure as we develop and distribute vaccines and biopharmaceutical products that include vaccines. We are harnessing our proprietary technology and global network to grow as a Global Innovative Partner of Vaccine and Biotech.



## Business Areas

We operate domestic and international businesses in advanced technology vaccines, the driving force for the future of life sciences. Collaborating with domestic and international companies and institutions, we strive to find solutions that will save lives.

<b>In-house vaccine development and manufacturing</b>	<ul style="list-style-type: none"> <li>• Research and develop in-house vaccines such as COVID-19 vaccines in cooperation with global organizations and companies</li> <li>• Immediate mass manufacturing of vaccines through L HOUSE in Andong, a world-class vaccine plant</li> </ul>
<b>Global joint development and technology transfer</b>	<ul style="list-style-type: none"> <li>• Joint development and technology transfer during the full vaccine development process, from candidate discovery to clinical trials, licensing and sales</li> <li>- Offering fast product development solutions</li> <li>- Open innovation with global partners</li> </ul>
<b>Global CMO/CDMO business</b>	<ul style="list-style-type: none"> <li>• Joint research into vaccine development with global companies and institutions while operating CMO/CDMO businesses using our experience, technology and flexible manufacturing system for the development of various platforms</li> </ul>
<b>Domestic business</b>	<ul style="list-style-type: none"> <li>• Joint sales and CMO/CDMO businesses with domestic and international companies for greater convenience in administering vaccines and expanding the domestic vaccine market by using our sales and marketing infrastructure</li> </ul>

# MILESTONES

**SKBS 1.0 / Scaling Up**

**Entering the South Korean vaccine market**

- 2001**
  - Acquired Dongshin Pharm (vaccines, blood products)
- 2005**
  - Established the vaccine R&D center

**Key points of the of original technology**

- 2015**
  - Launched SKYCellflu®, South Korea's first cell culture-based trivalent influenza vaccine
- 2016**
  - Launched SKYCellflu® Quadrivalent prefilled syringe, the world's first cell culture-based quadrivalent influenza vaccine
- 2017**
  - Launched SKYZoster® Inj., the world's second shingles vaccine
  - Signed an agreement with the international organization PATH to develop and manufacture a rotavirus vaccine for developing countries

2001

2001 - 2005

2012 - 2014

2015 - 2017

2018

2018 - 2019

**Planning for growth**

- 2012**
  - Established L HOUSE, a vaccine manufacturing plant in Andong
- 2013**
  - Earned LEED Gold certification for L HOUSE, a global green building certification program run by the US Green Building Council
  - Signed a contract with the International Vaccine Institute (IVI) to develop and supply a typhoid conjugate vaccine
- 2014**
  - Established a strategic partnership with Sanofi Pasteur to co-develop a next-generation pneumococcal conjugate vaccine
  - Received the KGMP Sustainability certification for L HOUSE

**Advancing into the global healthcare market**

- 2018**
  - Established SK bioscience, a subsidiary spinoff of SK chemicals' VAX business unit
  - Launched SKYVaricella® Inj., South Korea's second chickenpox vaccine
- 2019**
  - Received WHO Prequalification (PQ) certification for SKYCellflu® Trivalent/Quadrivalent cell culture-based influenza vaccines
  - Received WHO PQ certification for SKYVaricella® Inj. chickenpox vaccine
  - Began exporting SKYCellflu® to Asian markets

**SKBS 2.0 / Making the Quantum Jump**

**Taking off as a global innovative partner of vaccine and biotechnology**

- 2020**
  - Began COVID-19 vaccine candidate development, GBP510
  - Signed COVID-19 vaccine CDMO agreement with Novavax
  - Signed COVID-19 vaccine CMO agreement with AstraZeneca
  - Secured funding from the Bill & Melinda Gates Foundation to develop a COVID-19 vaccine
  - Initiated phase 2 clinical trial for next-generation pneumococcal conjugate vaccine co-developed with Sanofi Pasteur
  - GBP510, COVID-19 vaccine candidate selected for Wave 2 vaccine (CEPI)
  - Exported SKYVaricella® Inj. chickenpox vaccine to Turkiye
- 2021**
  - Signed licensing and purchase agreement for NVX-CoV2373 (Novavax, KDCA [Korea Disease Control and Prevention Agency])
  - Listed on KOSPI (Korea Composite Stock Price Index) market
  - Obtained EU-GMP certification for COVID-19 vaccine manufacturing facility
  - Signed MOU to expand L HOUSE and purchase additional sites in Andong
  - Established the Park MahnHoon Award, with the International Vaccine Institute (IVI)
  - Secured funding to develop sarbecovirus vaccine candidate GBP511 from CEPI
  - Achieved the largest-ever sales and operating profit
- 2022**
  - Obtained additional EU-GMP certification for a COVID-19 vaccine manufacturing facility
  - Received Turkiye-GMP certification for influenza, chickenpox, and shingles vaccine manufacturing facility
  - Signed advance purchase agreement for SKYCovione™ with the KDCA
  - Obtained license with Novavax for COVID-19 vaccine Nuvaxovid from the MFDS
  - Began to develop nasal spray-type antiviral drug (International AIDS Vaccine Initiative, the Bill & Melinda Gates Foundation)
  - Hosted the first ceremony of the Park MahnHoon Award
  - Obtained an export license by MFDS for typhoid conjugate vaccine
  - Exported SKYVaricella® Inj. chickenpox vaccine to the Latin American market through the European Commission's international public procurement market
  - Published the first ESG report
  - Obtained license for SKYCovione™ Multi Inj. from the MFDS, South Korea's first COVID-19 vaccine
  - Agreed on mRNA vaccine development with CEPI
  - Agreed on joint development of new platform with Hilleman Laboratory
- 2023**
  - Obtained license for SKYZoster® Inj. in Malaysia
  - Obtained license for SKYCellflu® Quadrivalent in Chile
  - Established SK bioscience USA Inc.
  - Signed a contract manufacturing agreement with MSD for next-generation ebola zaire vaccine candidate

2020

2021

2022

2023

2023

**SKBS 3.0 Next Generation**

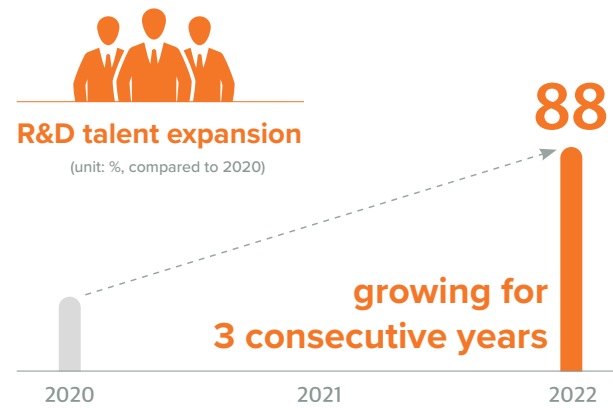
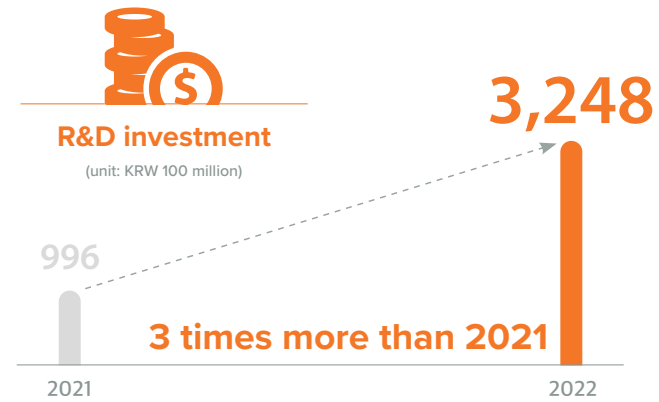
## KEY COMPETENCIES

# LEADING THE WAY

SK bioscience is prepared for the next challenges based on the competitiveness it has achieved over the years. Building on our proud history of being the first and the best to develop proprietary vaccines, we will continue to pioneer breakthroughs with innovative technology and a world-class manufacturing infrastructure.

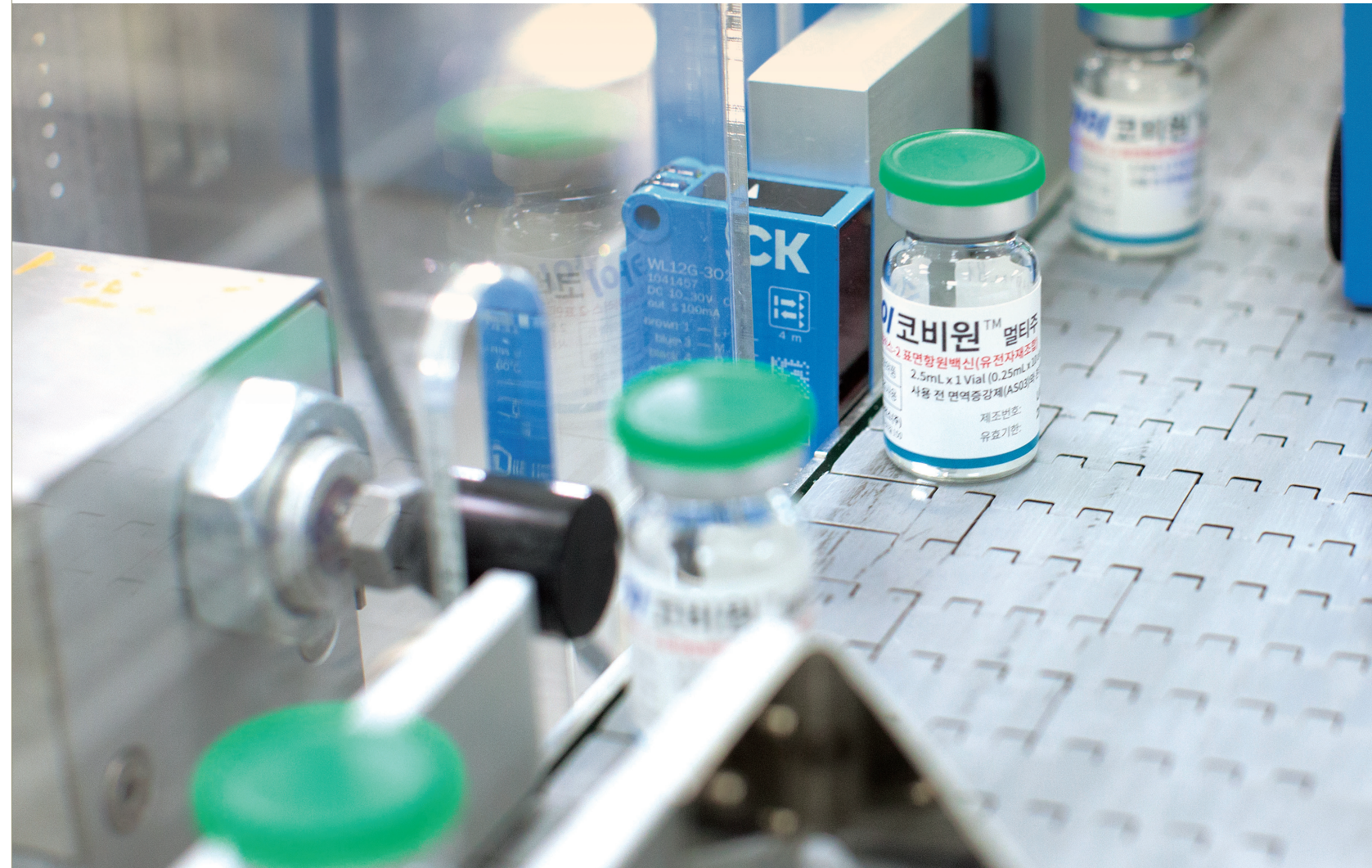


# LEADERSHIP IN TECHNOLOGY



## Innovative R&D Drives Unlimited Possibilities for the Bio-Industry

Continuous investment in R&D has allowed us to develop advanced technology and recruit excellent researchers. We have developed a cell culture-based quadrivalent influenza vaccine, a shingles vaccine, a chickenpox vaccine, a COVID-19 vaccine and more. Such achievements also led us to the joint development of a next-generation pneumococcal vaccine with Sanofi Pasteur, a leading international vaccine company. In 2022, we developed South Korea's first COVID-19 vaccine, which not only proved our innovative technological capabilities but also secured the nation's vaccine sovereignty. Looking ahead, we are focusing on vaccine pipelines for endemic COVID as well as for the next pandemic. We are also working to diversify our business areas, such as adding an mRNA platform and CGT technology.



## The first South Korean COVID-19 vaccine SKYcovione™ Multi Inj. (Brand name in EU/UL: SKYcovion™)

Funded by the Bill & Melinda Gates Foundation and CEPI (The Coalition for Epidemic Preparedness Innovations) and supported by the South Korean government, SKYcovione was co-developed by the Institute for Protein Design (IPD) at the University of Washington School of Medicine and SK bioscience while applying GlaxoSmithKline's AS03 adjuvant. It is a recombinant protein-based vaccine with proven immunogenicity and safety through phase 3 clinical trials. Available for refrigerated distribution and long-term storage, SKYcovione offers a good option for developing countries that cannot meet requirements for expensive ultracold storage.



# PIPELINE

SK bioscience is creating a diverse vaccine pipeline by developing innovative technologies based on its our firm commitment to in-house vaccines.

Capitalizing on development capabilities and experiences, we are developing next-generation vaccines that will accelerate entry into the global market.

					Basic Research / Preclinical	Phase I Clinical Trial	Phase II Clinical Trial	Phase III Clinical Trial	Commercialization
ENDEMIC NEXT PANDEMIC	COVID-19 Vaccine	CEPI	BMGF <sup>1)</sup>	GSK IIVI IPD South Korean government					✓ Obtained license from the MFDS
	Universal Coronavirus Vaccine (Sarbecovirus)	CEPI	IPD <sup>2)</sup>		✓				
	Nasal Spray*	IAVI <sup>3)</sup>	BMGF	IPD	✓				
PREMIUM	Next-Gen Pneumococcal Vaccine		Sanofi				✓ U.S		
	RSV Vaccine				✓				
	Cancer Immunotherapies, Obesity Vaccines, etc				✓				
	mRNA Vaccine(Lassa virus, JEV)	CEPI	BMGF		✓				
	Recombinant Varicella Zoster Vaccine				✓				
BASIC	Cervical Cancer Vaccine (4-/10-valent)		Sunflower		✓ 10-valent		✓ 4-valent		
	Typhoid Conjugate Vaccine	IVI <sup>4)</sup>	BMGF						✓ Obtained a biologics license for export
	Rotavirus Vaccine					✓			
	iNTS <sup>5)</sup> Vaccine* (Non-Typhoidal Salmonella)					✓			
	Hepatitis A, etc.				✓				
	Others				✓	In-house development and acquisition from home and abroad are in progress			

1) Bill & Melinda Gates Foundation  
2) Institute for Protein Design  
3) International AIDS Vaccine Initiative

4) International Vaccine Institute  
5) Invasive Non-Typhoidal Salmonella  
\* Collaboration Project

# OPERATION EXCELLENCE



## Advanced Manufacturing Capabilities with Efficiency and Expertise

With the help of our specialized system and cutting-edge facilities with technology integration, we operate manufacturing with exceptional efficiency. Our L HOUSE, a vaccine manufacturing facility, provides outstanding manufacturing solutions and operational standards that satisfy various customer needs. Collaborations with a variety of international businesses demonstrate the high caliber of our manufacturing, and they allowed us to distribute COVID-19 vaccines all over the world. We are enhancing our manufacturing capabilities to diversify our product line through ongoing infrastructure expansion and manufacturing technology upgrades.

## MANUFACTURING INFRASTRUCTURE & QUALITY CONTROL

As the largest vaccine plant in South Korea, L HOUSE is capable of mass production. The advanced capacity of L HOUSE enables business expansion with global companies, including COVID-19 vaccine CMO, CDMO and more. SK bioscience also manufactures high-quality products that comply with global standards throughout the entire manufacturing process, from raw material purchases to manufacturing, quality control, shipment and distribution.

### L HOUSE

L HOUSE is a manufacturing base optimized for the mass production and distribution of vaccines. We are currently expanding a new site of more than 1 million square meters as we pursue CDMO and CMO projects with worldwide partners. This will not only increase our manufacturing capacity but also secure the core infrastructure to manufacture next-generation vaccine products, including new platforms such as mRNA. L HOUSE is on track to become a global vaccine manufacturing hub.

### EU-GMP Certification

L HOUSE earned EU-GMP with WHO prequalification (PQ). We earned EU-GMP certification for our COVID-19 vaccine manufacturing facility, the first EU-GMP certified vaccine facility in South Korea, thus proving our high-quality international management expertise. In addition, L HOUSE is preparing for cGMP certification from the US FDA (Food and Drug Administration), which will pave the way for entry into such advanced markets as North America.



## MANUFACTURING SYSTEM

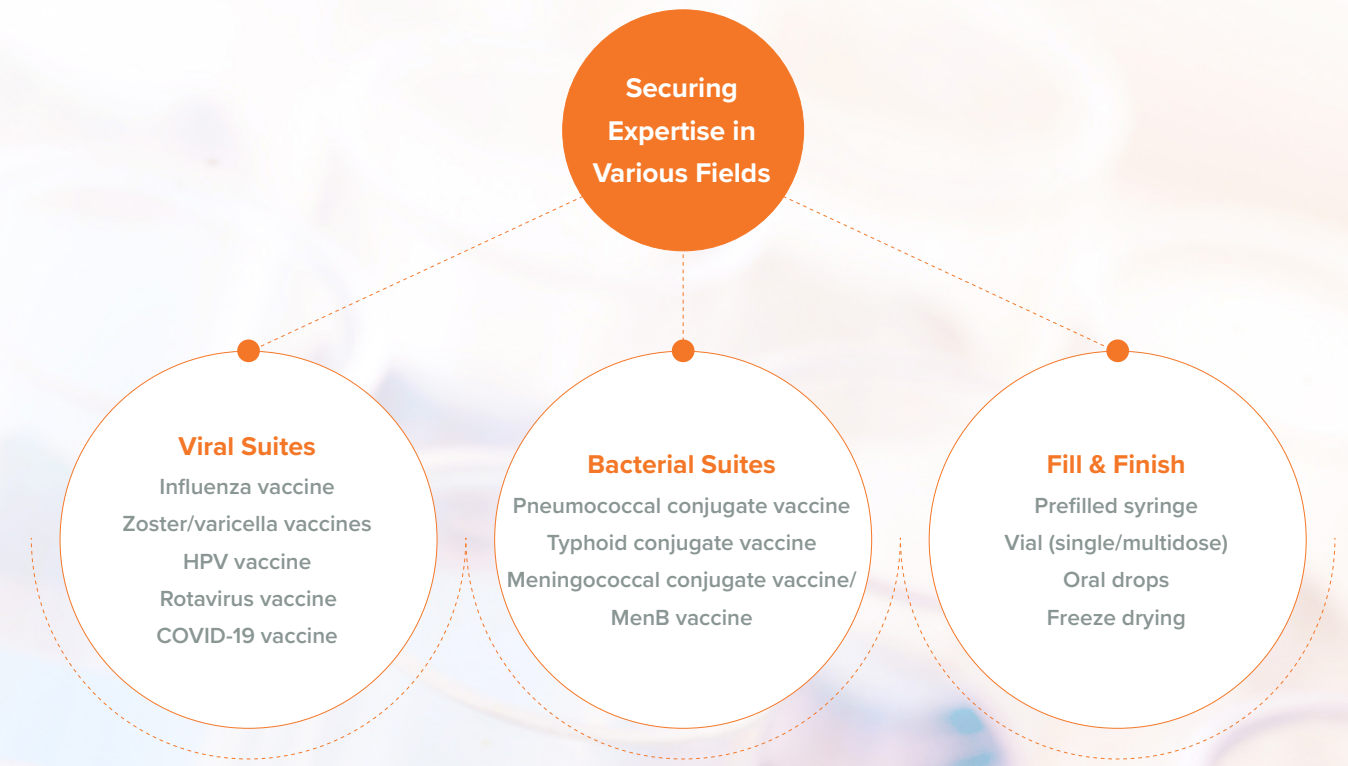
The core of our differentiated manufacturing capabilities is an efficient and high-level vaccine manufacturing system. Our rapid processing abilities speed productivity while maintaining a stable quality during mass manufacturing.

### Pioneering a Single-Use System for Commercial-Scale Vaccines

We introduced the single-use system for the first time in South Korea, which uses a disposable incubator without any washing process to enable a complete aseptic technique on a commercial scale. The single-use system shortens the time for facility replacement and process development, allowing for flexible and rapid response to customer needs.

### Adopting a Multi-Modular System for Diverse Vaccine Types

Equipped with 9 suites (8 culture suites, 1 cell bank) and a comprehensive facility for vaccine manufacturing, including cell culture, bacterial culture, and gene recombination, L HOUSE has an excellent manufacturing capacity for a wide range of vaccines. We offer optimized manufacturing systems for each vaccine type to achieve the best cost-effectiveness.



### The Single-Use System

- More efficient for speedy process development and scaling up
- Higher cost-effectiveness with quick process replacement, easy validation and fewer cleaning requirements

### Diverse Platforms

- Various vaccine manufacturing systems depending on the product
- Flexible and rapid response to the supply of clinical materials and commercial manufacturing changes

### Future Expansion

- Flexible expansion for capacity increase

### Multi-Modular System for Diverse Vaccine Types

	Commercial
<b>Fermentation</b> E coli/Yeast Polysaccharide	• SKYCellflu® • SKYZoster® Inj. • SKYTyphoid™ Inj. • SKYCovione™
<b>Protein conjugate</b> DT/CRM197/TT	<b>In-house R&amp;D</b> • Next generation PCV • Sarbecovirus • Rotavirus
<b>Cell culture</b> Suspension adherent microcarrier	<b>Partnership R&amp;D</b> • Typhoid • HPV • Lassa • Sarbecovirus • COVID-19 • JEV
<b>Recombination</b>	
<b>mRNA</b>	



# TRUSTED PARTNERSHIPS

SK bioscience is embracing global collaborations to promote health and lead the global vaccine and biotech market. Harnessing partnerships built on globally recognized technology and manufacturing capacities, we are expanding our CMO and CDMO businesses. In joint research and development, we are working closely with a range of partners within the bio-ecosystem, including global initiatives, companies, and governments. We will consolidate our collaboration as we grow into a global vaccine hub through joint development, commissioning projects, technology transfer, strategic M&A, and open innovation.

## Partnerships in response to COVID-19

Our commitment to developing vaccines and biopharmaceuticals to prevent and treat viruses that pose a threat to humanity led to a range of international collaborations.

### Expanding CMO/CDMO Partnerships

- AstraZeneca COVID-19 vaccine CMO (2020~2021)
- Novavax COVID-19 vaccine CDMO, licensing and commercial manufacturing (2020~2022)
- MSD next-generation Ebola Zaire vaccine candidate CMO(2023)

### All-around Cooperation for COVID-19 Vaccine Development

- Funding from the Bill and Melinda Gates Foundation and CEPI
- Joint development with the Institute for Protein Design at the University of Washington School of Medicine
- Applying adjuvant AS03 of GSK
- Supporting South Korea's Pan-Government Support Committee for COVID-19 treatment and vaccine development
- Advance purchase agreement to provide 10 million doses to the Korea Disease Control and Prevention Agency
- Building a global supply hub through strong collaborations with local governments and companies around the world to provide vaccines

Bolstered by our proven technology and expertise, we are actively engaging partnerships with a range of global pharmaceutical companies and institutions for technological cooperation and joint development.



# PRODUCT PORTFOLIO



## SKYCovione™ Multi Inj. (Recombinant protein vaccine for COVID-19)

South Korea's first developed COVID-19 vaccine, SKYCovione is a recombinant protein-based vaccine, which has proven immunogenicity and safety. Unlike mRNA vaccines that require ultra-cold chain logistics and have very short stability, SKYCovione can be refrigerated at 2–8°C for transport and can be stored for a longer period. We expect long-term demand to rise as SKYCovione can play a key role in increasing vaccination rates in developing countries where the imbalance in vaccine supply and demand continues.



## SKYTyphoid™ Multi Inj. (Typhoid conjugate vaccine)

Jointly developed with the International Vaccine Institute, SKYTyphoid Multi Inj., is a typhoid conjugate vaccine. It is a polysaccharide-protein conjugate vaccine developed by conjugating the polysaccharide of typhoid bacteria, which acts as the antigen, to the diphtheria toxin protein (diphtheria toxoid), which acts as a carrier. Compared to existing live oral vaccines or polysaccharide vaccines, it offers higher immunogenicity with a single dose and provides longer-term prevention. Children aged 6 months to 2 years can receive the vaccine.



## SKYCellflu® Quadrivalent (Cell-culture-derived influenza vaccine)

As South Korea's only cell culture-derived influenza vaccine and the world's first launch, SKYCellflu Quadrivalent is the world's first cell culture-based quadrivalent influenza vaccine. Unlike the conventional technique of using fertile chicken eggs, it is manufactured in bioreactors without any antibiotics or preservatives. This offers a significant benefit for patients with egg allergies or hypersensitivity to antibiotics. Manufacturing time is also cut nearly in half, allowing for rapid manufacturing. Its innovation and reliability have garnered high market shares.

SK bioscience has a broad range of a product portfolio.

Our self-developed vaccines are manufactured under rigorous quality controls and recognized for their high market shares. In addition, we are expanding our vaccine portfolio to provide more customer choices and secure new growth.

## SKYCellflu® Trivalent (Cell-culture-derived influenza vaccine)

In 2015, SKYCellflu Trivalent was the first cell culture-based influenza vaccine developed in South Korea. It is manufactured in bioreactors without any antibiotics or preservatives, unlike fertile chicken eggs which can be dangerous for people with allergies. As a cell culture-based vaccine, it acquired the first World Health Organization Pre-Qualification(PQ) certification.



## SKYZoster® Inj. (Herpes zoster live attenuated vaccine)

The world's second and South Korea's first shingles vaccine (herpes zoster), SKYZoster Inj. is a premium vaccine. The vaccine is a live attenuated varicella-zoster virus, which has been rigorously proven safe by specialized non-clinical trial institutes. After its launch, the vaccine has become a leading product in meeting the rising demand for herpes zoster treatments.



## SKYVaricella® Inj. (Live Varicella virus vaccine)

A chickenpox vaccine, SKYVaricella Inj. was developed with our own bioprocess technology. Its immunogenicity and safety have been confirmed in a global phase 3 clinical trial conducted in children between 12 months and 12 years at 19 clinical institutions both domestic and abroad. It received the world's second WHO PQ certification by WHO PQ, and won the bid for export to Latin America from the Pan American Health Organization (PAHO), an international United Nations organization.





#### ESG MANAGEMENT

# HEALTHIER LIFE, SUSTAINABLE FUTURE

SK bioscience is creating social and business values to build better lives for everyone.

Our responsible practices help us to grow ourselves and reward stakeholders. We strive to address today's worldwide environmental and social challenges. Therefore, we established an ESG management strategy with a dedicated team to implement sustainability in every business area. We emphasize environmental management as we respond to climate change and nurture a bio-industrial ecosystem that protects health. SK bioscience is pursuing sustainable growth that can be shared with future generations.

# ENVIRONMENT

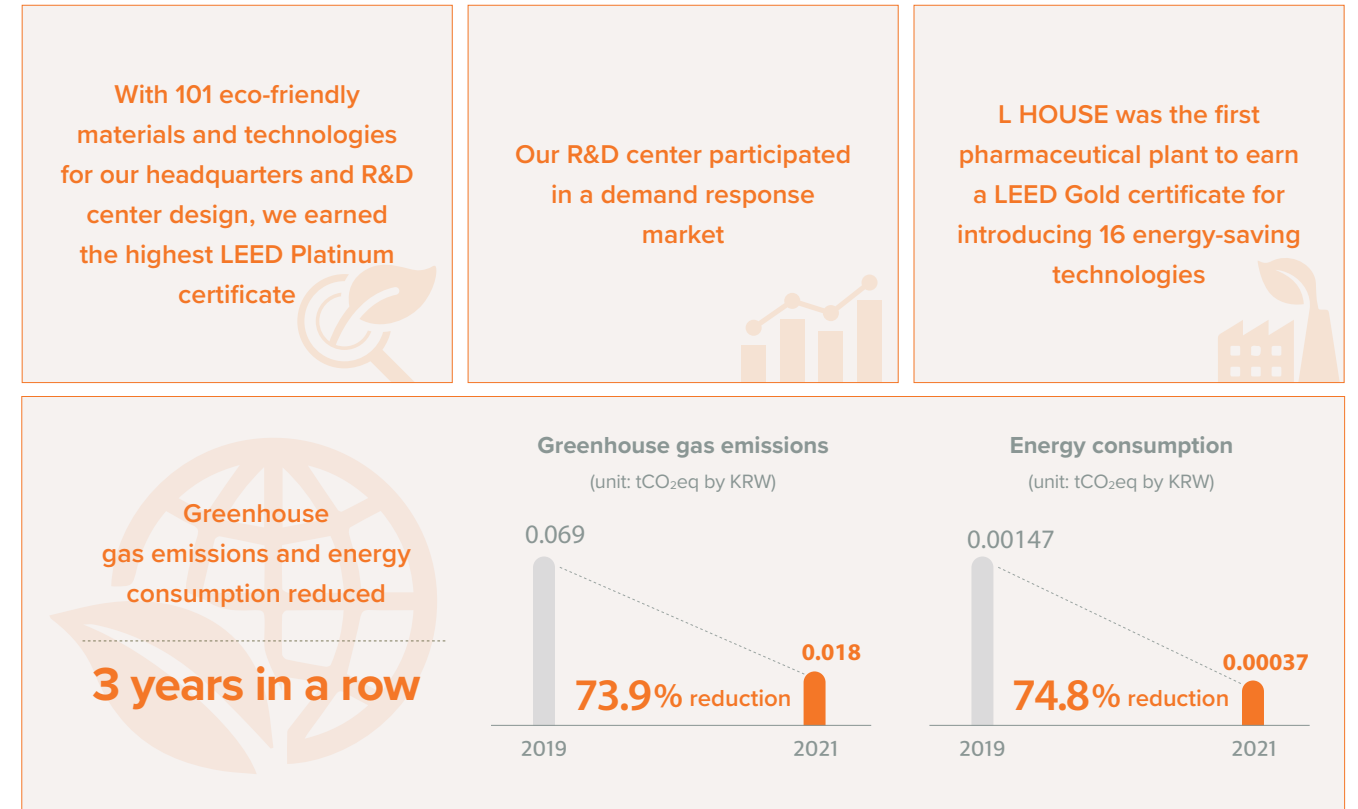
By adopting SHE (Safety, Health and Environment) policies as our business foundations, SK bioscience seeks to coexist with nature and people as it minimizes environmental impact throughout operations, from R&D to manufacturing and from distribution to disposal. We established an environmental management system and built a specific carbon neutrality roadmap to help overcome the challenges of climate change we face today.

## Energy Consumption Management and Reduction

We are considering eco-friendly designs, constructions and technologies at every business site to reduce energy consumption. In designing our headquarters and the R&D center in Pangyo, we incorporated 101 eco-friendly materials and technologies. Our L HOUSE introduced a range of energy-saving equipment for the manufacturing process. Our energy consumption is systematically managed and constantly monitored.

## Waste and Pollutant Management

We are committed to the eco-management of wastewater and hazardous substances generated during manufacturing processes. We strictly monitor and manage the level of waste generated that may harm the environment. To reduce air pollutants caused by burning fossil fuels, we have replaced boilers in the manufacturing process with LNG, an eco-friendly fuel. Additionally, we introduced a Biokill System to eliminate biological hazards that may arise during manufacturing, and we make sure to reduce water contamination before disposing.



## Hazardous Chemicals Management

SK bioscience has built its inventories to protect employees, surrounding ecosystems and nearby communities from exposure to hazardous chemicals. Our system monitors through a Material Safety Data Sheet(MSDS) when any new chemicals are introduced. We also provide continuous safety education for employees to prevent accidents and raise awareness of the potential dangers of hazardous chemicals.

## Greenhouse Gas Emissions Management and Reduction

By 2030, we expect to reduce L HOUSE's direct and indirect emissions by 50% through new implementation measures and we are already making progress. Our strengthened efforts reduced greenhouse gas emissions in 2021 by 73.9% compared to that of 2019. To help against increased emissions, we will continue to invest in green energy facilities. We will disclose our greenhouse gas reduction goal and strategy to the International Financial Stability Board's Task Force on Climate Related Disclosures. We further expect to participate in joint global initiatives starting with our declaration of support for the TCFD in August 2022.

# SOCIAL

We envision a world in which we can grow together with the society. By building workplaces that offer diverse growth opportunities in safe environments, creating a virtuous circle of ecosystems that connect people and technologies and revolutionize the bio-industry, as well as growing together with our partners, we share our social values. We promise a sustainable world for tomorrow.

### Caring Professionals

We operate a variety of programs to attract top talent and inspire innovation. Our ideal candidate is an individual who exemplifies a “caring professional”. We strengthened the recruitment network to identify such individuals and we operate internship programs at universities around the world to foster global competencies. We also ensure equitable opportunities in recruiting and nurturing talented women.

### Safe and Healthy Workplaces

We are committed to creating workplaces where employees can work in safe environments. With our firm belief in SHE (Safety, Health and Environment), the basis of our management principles, we are identifying and reducing workplace risks in advance. We conduct routine joint inspections and provide SHE education for all employees and visitors as part of our commitment to “safety first”. We aim to prevent even the smallest hazards that may threaten safety.



### Sustainable Win-Win Growth with Partners

Relying on win-win cooperation with our partners, we build trust and improve productivity and competitiveness. We operate a win-win growth support program based on fair trade that protects the rights of our partners. SK Win-Win Academy assists our partners with various education and training programs that help strengthen their competitiveness.

We also identify and support biotech startups that may achieve technology development and manufacturing innovation in the bio-ecosystem to expand the bio-industry.

### Building a Global Bio-Ecosystem

With the ESG mission of “Protecting People’s Health by Building a Global Bio-Ecosystem,” we support social contribution programs in three major areas: nurturing global biotech talent; building win-win community relationships; and promoting healthy lives. We strive to solve the inequalities in vaccine supply by nurturing global bio talent as we face the threat of the next pandemic. We are further creating a hub to develop a global bio-ecosystem workforce as we support basic research that includes investing in the RIGHT Fund (Research Investment for Global Health Technology), a nonprofit private-public partnership that funds R&D into infectious diseases in developing countries; sponsorships for the International Vaccine Institute (IVI); and support for industry-academic research programs. At the same time, we are strive to build a bio-ecosystem in which we can grow alongside stakeholders.

Female employee ratio



38

(unit: %, as of 2022)

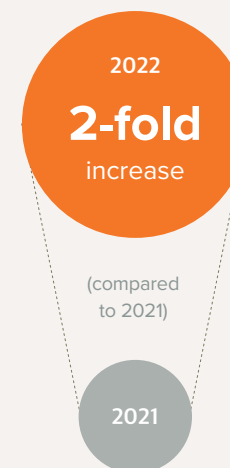
Female team leader ratio



22

(unit: %, as of 2022)

Social donations in 2022



Sponsor the Park MahnHoon Scholarship since 2021



Support for the Department of Bio-Vaccine Engineering, Andong National University

# GORVERNANCE

As global ESG management standards become increasingly critical, SK bioscience is building an innovation in governance. By establishing an ESG Committee that reports to the board of directors, we ensure that ESG management is embedded throughout our whole business process, from management strategy to implementation, to achieve sustainable growth. Through transparent governance, we are gaining the trust of the world.

## ESG Vision and Strategy

<b>ESG VISION</b>	<b>HEALTHIER LIFE, SUSTAINABLE FUTURE</b>			
<b>ESG STRATEGY</b>	Building an eco-friendly management	Being a reliable partner for society	Creating social values through business	Implementing sustainable governance
<b>ESG GOAL</b>	Enhancing the environmental management system	Expanding talent/human rights management	Creating a social values through business	Internalizing ESG management
	Addressing climate change by moving toward net zero	Creating a social value for the community	Building a global bio-ecosystem	Strengthening Board-centered management

## Transparent Board Composition and Operation

We established a transparent governance structure by appointing informed outside directors who exemplify diversity and independence, gender parity and specific areas of desirable expertise. By separating the CEO position from the Chairman of the Board, we ensured the board's independence, enhanced the roles of outside directors, and strengthened board functions. With that in mind, we recently established specific guidelines for the board of director diversity and outside director independence. As we consider the global trend toward ESG, we are emphasizing Board-centered responsibility management with the revised Corporate Governance Charter.

## Operations of the ESG Committee, under the Board of Directors

In 2021, we established the ESG Committee and the Nomination and Compensation Committee. The ESG Committee reviews and shares the direction and performance of ESG strategy in regular meetings. When necessary, the committee places issues on the board agenda to gain assistance in decision-making for ESG management. Additionally, we are actively internalizing ESG management by incorporating ESG elements into the company's KPIs.

## Ethics and Compliance Management

We established a code of ethics that considers various stakeholders. By codifying the principles and guidelines of ethical management, we provide clear and consistent standards for all employees. We regularly conduct ethics education for employees. In addition, new hires must undergo compliance education.



**Published by**  
**SK bioscience Co., Ltd.**

[www.skbioscience.co.kr](http://www.skbioscience.co.kr)

82-2-2008-2200

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SKB-PO01-202308-01



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