# **SK Chemicals Earnings Release**

'20 2Q

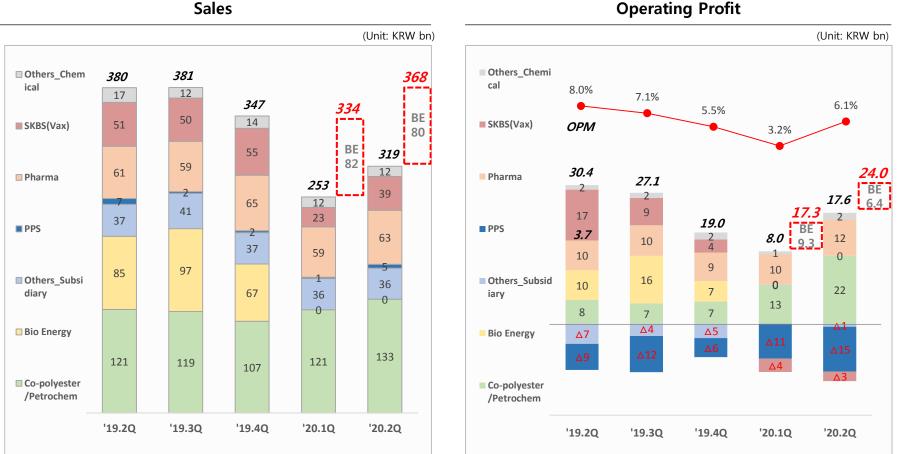
**Disclaimer:** 

The business results are subject to the K-IFRS(Korea International Financial Reporting Standards) and reported on a consolidated basis.

The forecasts contained herein are based on the Company's current business environment and strategy; and the actual results may differ from those in the forecasts as a result of certain uncertainties, such as changes in the Company's business environment and strategy in the future.

# I. Performance Review (Consolidated)

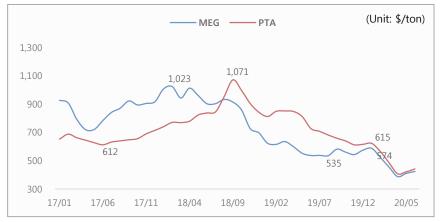
- Total sales decreased -24% and operating profit decreased -42% YoY. Bio Energy Biz. performance was excluded from sales and operating profit since the Biz was sold and reflected in net profit as income from discontinued operations.
- Despite of COVID-19, all the division's performance improved except PPS biz.



Performance

**Quarterly Review** (Unit: KRW bn) Sales ---- OP 133 121 121 119 107 22 13 8 7 7 '19.2Q '19.3Q '19.4Q '20.1Q '20.2Q

#### □ PTA/MEG price trend (US\$)



#### Review/Guidance

#### • '20.2Q Performance Review

- Sales : + 10% YoY
  - Additional demand generated by new applications and COVID19 related demand
  - ② Despite of decreased ASP, sales rose 10% yoy thanks to increase in volume
- OP: +182% YoY

Operating profit margin improved due to sales volume increase.

#### • '20.3Q Outlook

- Solid sales growth expected

#### **※** Application

- Clear Sheet & Film, Food & Cosmetic Container, Electronic devices, etc.

Performance □ Quarterly Review (Unit: KRW bn) Sales 7 5 2 2 1 Δ12 '19.2Q '19.3Q '19.4Q '20.1Q '20.2Q

#### □ PPS: Physical properties & Main applications

• Excellent in thermal and chemical resistance



- Good electrical insulating properties
- Applications: Electricity, Automotive, Film etc.

Inverter	Capacitor

**Review/Guidance** 

#### • '20.2Q Performance Review

- Sales :  $\Delta$  32% YoY

Sales decreased by weaker demand from front industry due to COVID19

- OP : deficit increase

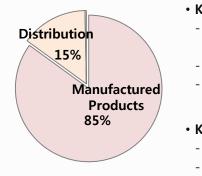
Deficit increased due to high cost product sales

- '20.3Q Outlook
  - Expecting slightly better performance as major client's utilization rate improves

Performance

□ Quarterly Review (Unit: KRW bn) Sales ----- OP 65 63 61 59 59 10 12 10 10 9 '19.2Q '19.3Q '19.4Q '20.1Q '20.2Q

#### □ Sales composition (as of 2019)



- Key manufactured products

   Ginexin : blood circulation disorder treatment
   Joins : anti-arthritic treatment
   Trast : anti-inflammatory and
  - analgesic patch
- Key distributing products
- Pantoloc : GERD treatment
- Cymbalta : depression treatment

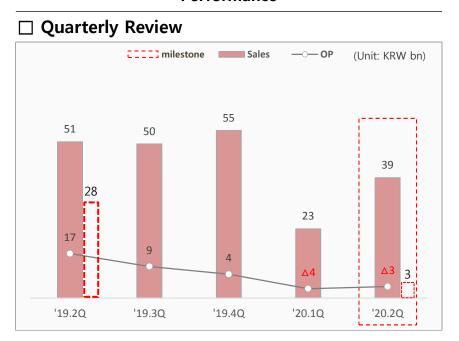
**Review/Guidance** 

- '20.2Q Performance Review
  - Sales : + 3% YoY
    - Demand recovered to normal level in Jun from negative effect of COVID19 during Mach and May
    - 2 Steady sales from existing line of products(Joins, Promac) + additions of new market alliance products(Reminyl, Fosteo etc.)
  - OP:+22% YoY

Deceased marketing expense and steady sales led to +22% OP increase YoY

- '20.3Q Outlook
  - Steady sales growth expected





#### □ Key product release

2015	cell culture trivalent flu vaccine (Korea's 1 <sup>st</sup> )
2016	cell culture quadrivalent flu vaccine (World's 1st)
2017	<sup>c</sup> shingles vaccine (World's 2 <sup>nd</sup> )
2018	varicella vaccine
2019	WHO PQ acquisition of cell culture trivalent / quadrivalent flu vaccine

#### **Review/Guidance**

#### • '20.2Q Performance Review

- Sales : Δ 29% YoY
- Solid growth considering high base in 2Q19 due to one-off item(milestone recognition, 25 KRW bn)
- 2 Sales growth from major products(SKY-Zoster, SKY-Varicella) and market alliance products
- OP : Turn red
- (1) Recorded  $\Delta$  3 bn compared to 17 bn 2Q19
- ② Cost saving by yield improvement and SG&A reduction led to lower deficit considering 2Q19 one-off milestone
- '20.3Q Outlook
  - Increase in vaccination rates expected in upcoming Flu season
  - Expecting portion of revenue recognition from CMO contracts

# **Initial Public Offering of SK-Biosience**

### ■ IPO decision

□ Under the condition that SK-Bioscience could earn proper valuation, the company decided to start IPO process in order to cope with fast changing business environment such as COVID19 crisis and high competitions

#### □ Business Expansion & Acceleration through IPO funding

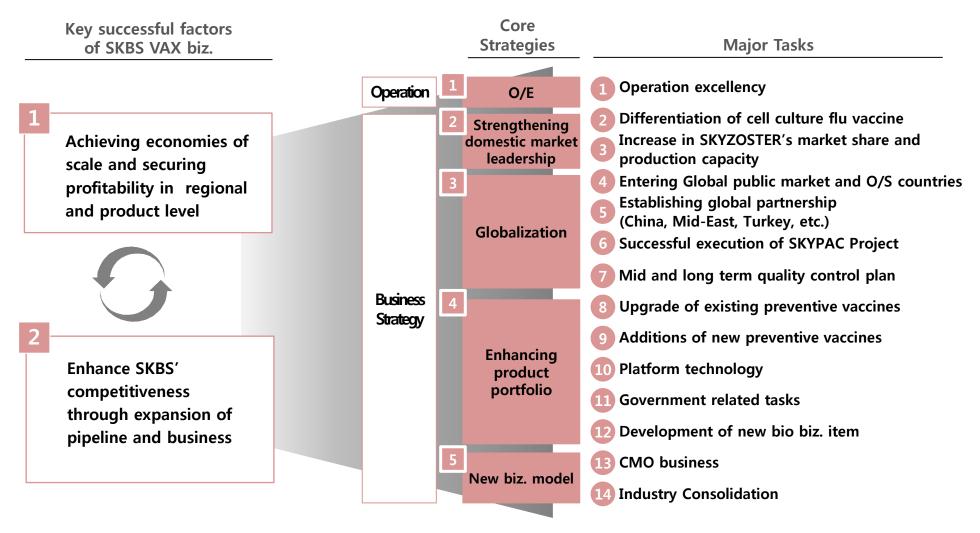
- ① SKYPAC: Successful execution of SKYPAC Project & Early commercialization in domestic market
- 2 Preventive vaccine portfolio : COVID19, RSV, CMV, Obesity, Oncolytic virus, mRNA
- ③ CMO : Seeking more CMO/CDMO business opportunities by preemptive CMO capacity expansion
- (4) **Glocalization :** Overseas business expansion through local facility investments(Turkey biz model)
- **⑤ Industry Consolidation :** Strengthening market leadership & Maximizing profits by M&A

#### □ Advantages of IPO(vs Pre-IPO)

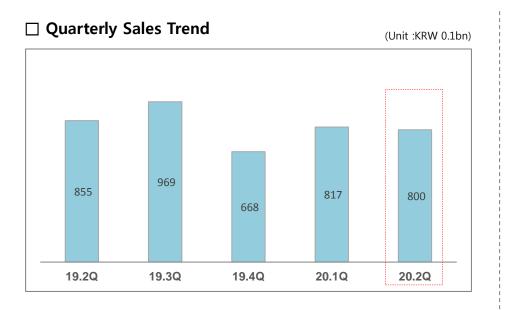
- Less uncertainties compared to FI funding and valuation negotiation
- Higher visibility of securing fund

# Appendix.

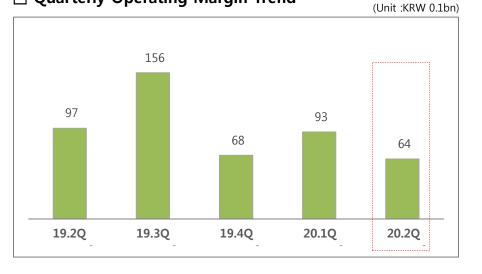
SKBS has established five core strategies and plans to successfully carry out 14 major tasks to achieve sustainable growth by 2030.



# Appendix



#### □ Quarterly Operating Margin Trend



#### □ Sell-off Biz. : Bio energy business

#### 1. Summary

- Background
- Value Maximization
- Securing fund for new business opportunities
- Decision
- Disposal of Bio energy biz. which includes bio diesel and bio heavy oil
- Total amount : 383 KRW bn (Book value: 51 KRW bn)
- Profit from disposal (319 KRW bn) recognized 2Q20
- Deal closing date : May 29th

#### 2. Accounting recognition

- Bio energy's sales excluded form Cost of sales this year.
- Bio energy's profit was reflected in discontinued operations account (1Q 6.6 KRW bn, 2Q 239.6 KRW bn)
- Bio energy's asset and debt switched into Non-current asset held for sales account

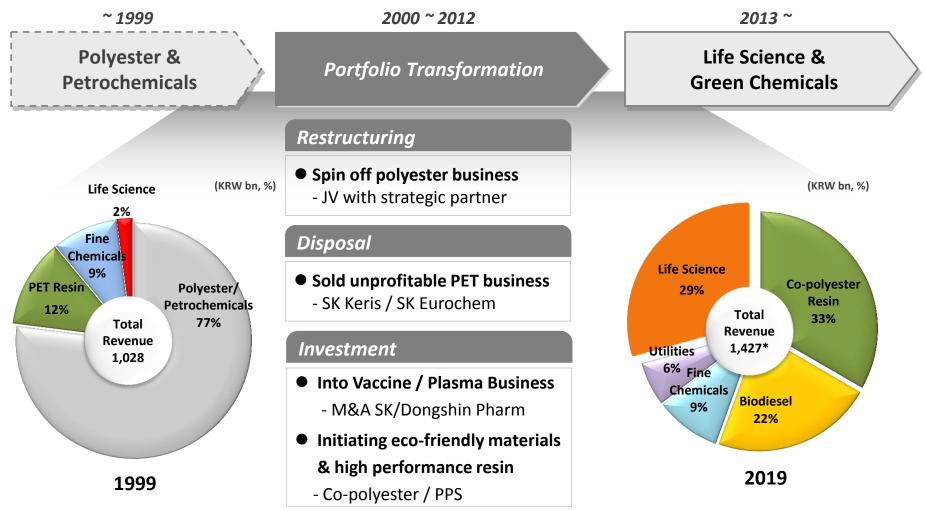
# SK Chemicals Company Introduction

'20 2Q

# Contents

- I. Overview
- **II.** Business Divisions
  - Green Chemicals Biz.
  - Life Science Biz.
- **III.** Summary
- **IV. Appendix**

Through continuous change and innovation, SK Chemicals has grown into a Life Science and Green Chemicals company with higher and stable profitability.



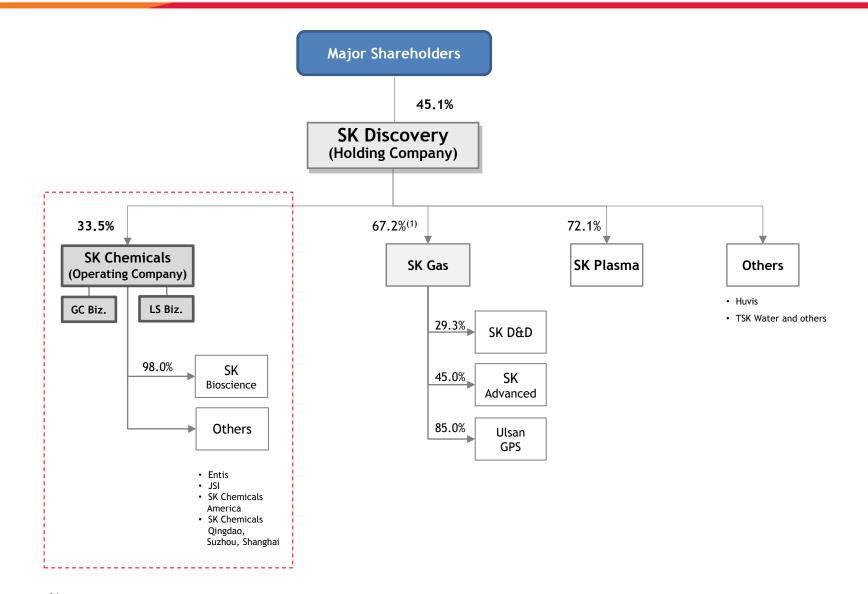
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Since the establishment of Sunkyung Textiles in 1969, SK Chemicals has grown through continuous change and innovation into a chemical and life sciences enterprise representing South Korea.

<ul> <li>1969 Sunkyong Fibers Co. was established</li> <li>1987 Acquisition of Samshin Pharma Ltd.</li> <li>1988 Life Science Research Center was established</li> <li>2009 ECOZEN®, Biomass- containing polyester resin, was released</li> <li>2010 ECOPRIME®, a biodiesel brand, received a prize from the Minister at the Green Technology Award</li> <li>2012 NBP601(hemophilia treatment) selected as one of Korea's ten best new technologies &amp; received a prize from the Minister of Knorea's ten best new technologies &amp; received a prize from the Minister of Knowledge Economy</li> <li>Construction completion of Andong (L HOUSE) plant</li> <li>2013 Established Initz Co., Ltd. Polyphenylene Sulfide(PPS) JV company with Teijin Limited</li> <li>2013 Established Initz Co., Ltd. Polyphenylene Sulfide(PPS) JV company with Teijin Limited</li> <li>2013 Commercial sale of SKYZOSTER in Dec.</li> <li>Lol with Astrazeneca &amp; Ministry of Health and Weifare for COVID19 vaccine CMO contract SKYZOSTER in Dec.</li> <li>Lol with Nastrazeneca &amp; Ministry of Health and Weifare for COVID19 vaccine CMO contract</li> <li>LOI with Novavax &amp; Ministry of Health and Weifare for COVID19</li> <li>Vaccine Company</li> </ul>	1969 ~ 2006	2007 ~ 2013	2014 ~ 2017	2016~
Biodiesel production     technology was <i>SK Chemicals (New Entity) Weifare for COVID19 vaccine CMO contract</i>	<ul> <li>1969 Sunkyong Fibers Co. was established</li> <li>1987 Acquisition of Samshin Pharma Ltd.</li> <li>1989 Life Science Research Center was established</li> <li>1998 Renamed to SK Chemicals Ltd.</li> <li>1999 SUNPLA®, a third- generation platinum anticancer drug was developed for the first time in the world (domestic new drug #1)</li> <li>2002 JOINS®, anti-arthritis drug, developed (new natural drug #1)</li> <li>2005 Established SK Petrochemical Ltd (DMT(Di-methyl Terepthalate)) business</li> <li>Merged SK Pharmaceuticals Ltd.</li> <li>2006 Dongshin Pharm. Co., Ltd. was acquired (vaccine and blood products business)</li> <li>Biodiesel production</li> </ul>	<ul> <li>2008 UBCARE Co. Ltd., a healthcare company, was taken</li> <li>2009 ECOZEN®, Biomass-containing polyester resin, was released</li> <li>2010 ECOPRIME®, a biodiesel brand, received a prize from the Minister at the Green Technology Award</li> <li>2012 NBP601(hemophilia treatment) selected as one of Korea's ten best new technologies &amp; received a prize from the Minister of Knowledge Economy</li> <li>Construction completion of Andong (L HOUSE) plant</li> <li>2013 Established Initz Co., Ltd. Polyphenylene Sulfide(PPS) JV company with Teijin</li> </ul>	<ul> <li>2014 Joint development for vaccines is carried out with Sanofi Pasteur SA</li> <li>Andong(L HOUSE) plant acquired KGMP (Korea Good Manufacturing Practice) approval for qualification</li> <li>Acquired approval for the commercial sale of a cell culture influenza vaccine for the first time in Korea</li> <li>2015 Commercial sales of SKYCELLFLU® - trivalent, Korea's first cell-culture influenza vaccine</li> <li>2016 Commercial Sale of SKYCELLFLU® - quadrivalent World's first cell-culture influenza vaccine</li> <li>Commercial sale of SKYCELLFLU® - quadrivalent World's first cell-culture influenza vaccine</li> <li>Commercial sale of SKYCELLFLU® - Louture influenza vaccine</li> <li>Launched Holding Company</li> </ul>	<ul> <li>2018 License Agreement with Sanofi Pasteur for cell culture technology transfer</li> <li>Commercial sales of Varicella vaccine in Sept.</li> <li>Spin-off Vaccine business (SK Bioscience)</li> <li>2019 SKYCELLFLU®-trivalent/ quadrivalent attains WHO PQ</li> <li>Merged with INITZ</li> <li>SKYPAC clinical trial Phase-1 completion</li> <li>2020 Disposal of Bio energy biz.</li> <li>Selected as a sole participant for COVID19 project from KCDC(Korean Centers for Disease Control &amp; Prevention)</li> <li>LOI with Astrazeneca &amp; Ministry of Health and Welfare for COVID19 vaccine CMO contract</li> <li>LOI with Novavax &amp; Ministry of Health and Welfare for COVID19</li> </ul>

- Headquarters & Domestic Plants: Pangyo (Headquarter), Ulsan, Andong, Cheongju
- Overseas Offices: Guangzhou, Tokyo
- Overseas Plants: Qingdao, Suzhou
- Overseas Corporations: Frankfurt, Singapore, Irvine, Shanghai





Note: (1) % of holdings for common stocks (As of July 16, 2020) / Share of SK Gas is as of SK Discovery's completion of OTC trading

# **II. Business Divisions**

# **II.** Business Divisions\_Green Chemical(GC) Biz.

# □ Co-polyester

- High-performance eco-friendly material that competes with PC, PVC (petroleum-based materials)
- Only two global co-polyester manufacturers

## □ Features

- BPA free material
- High chemical & heat resistance
- Transparent, a glass-like appearance

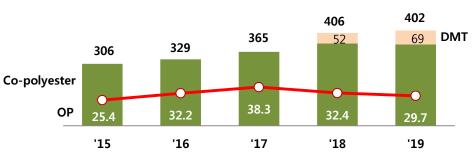
# □ Applications

• Food / Cosmetic container, Special / Shrink film, Electronics & Home Appliance, Building & Construction and others





□ Performance Review



# □ Bio Diesel

- Alternative energy manufactured by animal and vegetable oils(fats)
- Government policies(mixing ratio) to blend biodiesel with diesel fuel
- No.1 M/S in Domestic Market

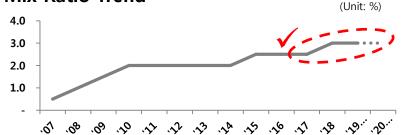
# □ Strength of our Bio Diesel

- Cost competitiveness
  - Derived from palm oil sources
- Stable supply

(Unit: KRW bn)

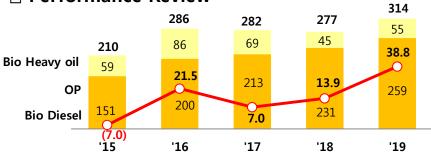
- Splitting plant

#### Mix Ratio Trend



□ Performance Review

(Unit: KRW bn)



- SK Innovation, S-Oil (Domestic refiners)

# II. Business Divisions\_Green Chemical(GC) Biz.

# □ PPS(Polyphenylene Sulfide) businesses

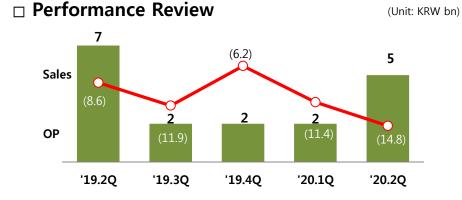
- World's first chlorine-free eco-friendly PPS manufacturer
- Continuous polymerization process without using polar solvent
- 100% owned subsidiary

# □ Key features and application

- · Excellent in thermal and chemical resistance
- Good electrical insulating properties

	Weight lightening trend in automotive industry
Automotive	• Pump impeller, Generator parts, etc
Electricity	CD/DVD Pick up, Bobbin, Connectors

Film • Bag filter, High-performance fiber



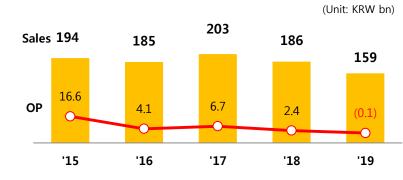
## □ Other businesses

- SKYBON: thermal resin used in binders and adhesives
- Prepreg: intermediate material in sheet forms of specially formulated resin matrix with reinforcing fiber such as carbon fiber, glass fiber etc.
- EP: manufactures variety of Engineering Plastic
- Utility: provider of steam, electricity etc. to companies in the Ulsan
   plant

# Overseas subsidiaries/sales posts

- SK Chemicals Suzhou: manufactures SKYBON products
- SK Chemicals Qingdao: manufactures Prepreg products
- SK Chemicals Shanghai: Copolyester sales office
- SK Chemicals America: Copolyester sales office
- ST Green Energy: sourcing office for biodiesel raw materials

# □ Performance Review(excl. oversea subsidiaries)



# II. Business Divisions\_Life Science(LS) Biz.

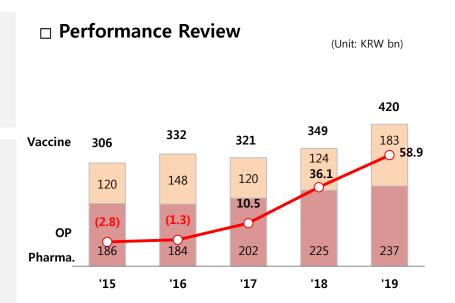
# 1) LS Overview

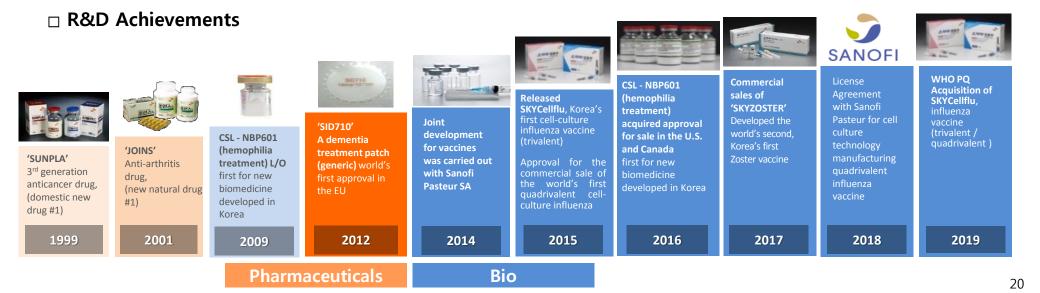
#### □ Pharmaceuticals

- Manufacturing & distributing chemical drugs
- Focus areas: Cardio vascular system, Musculoskeletal system, Urinary system, Nervous system
- Major products: JOINS, GINEXIN, TRAST, Rivastigmine Patch and others

## □ SK Bioscience

- In house R&D from 2006, leading premium vaccine market
- In house development: SKYCellflu trivalent & quadrivalent, SKYZOSTER
- · Spin-off to enhance business progress & corporate value
- Spin-off Vaccine business on July  $1^{st} \rightarrow$  SK Bioscience
- Attract SI and IPO  $\rightarrow$  advance to global market & speed up the development





# **II. Business Divisions\_LS Biz.**

# 2) Main Vaccine Products

## Cell-culture influenza vaccine

#### □ Features

- High yield 3-Dimensional Suspension Cell-culture & high purity process
- No fertilized eggs  $\rightarrow$  stable supply, reduce maintenance costs
- Shorter production period -> Faster response to influenza pandemics

#### □ Influenza vaccine market

• Domestic market : Trivalent  $\rightarrow$  quadrivalent market shift, Increasing NIP vaccination

NIP market	Current	Future(e)
Product	Trivalent	Quadrivalent
Age	'17:~59 Months, '18 :~ Elementary	After '19: Middle/High school students(e)
Pregnant women	-	To be introduced(e)
Aging population (age 65个)	7.08 mil. people	In `30: 1.296 mil. people

#### Potential global market

- Market shift to quadrivalent in developed countries
- Rise in demand for influenza vaccines in developing countries



Shifting to quadrivalent influenza vaccines  $\rightarrow$  'broader protection against circulating flu viruses'

#### □ SK Chemical's influenza vaccine

- ✓ <u>'15 Released 'SKYCELLFLU® -trivalent'</u>, Korea's first cell-culture influenza vaccine
- ✓ <u>'16 Released 'SKYCELLFLU® -quadrivalent'</u>, World's first cell-culture influenza vaccine
- ✓ <u>'19 'SKYCELLFLU®-trivalent'/quadrivalent' attains WHO PQ</u>

# Zoster Vaccine(SKYZOSTER)

#### □ What is Herpes Zoster (Shingles)?

- Herpes Zoster is a viral disease due to a reactivation of varicella zoster virus(VZV) within a person's body. Chickenpox is caused by the initial infection with the same varicella zoster virus, but once chickenpox has resolved, the virus may remain inactive in nerve cells.

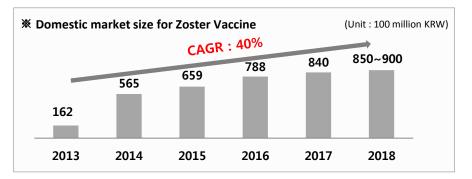




\* Picture: The blistering Shingles rash on face, body

Global Market : Global Sales \$783M in 2017<sup>1)</sup>

- preventive vaccine : SKYZOSTER, ZOSTAVAX(Merck), Shingrix(GSK)
- No. of domestic patients in 2016:  $691,339^{2}$



#### □ SK Chemicals' SKYZOSTER

- Dosage: Given as a single dose by injection under the skin
- Developed the world's second, Korea's first Zoster vaccine
- Successful commercialization of our premium vaccine in 2018

# **II. Business Divisions\_LS Biz.**

#### The cell-culture based manufacturing technology for Universal Influenza Vaccine

### □ Background

- SK Chem. has developed world best cell culture technology
- Commercially proven, the most advanced technology
- Sanofi adapts SK's cell culture technology to manufacture next generation influenza vaccine development

### Main contents

- Upfront Fee: USD 15 mil (upon signing)
- Completion of tech. transfer: USD 20mil
- Milestone at each level: USD 120mil
- · Contract Region: Global market (Exclusivity rights in US/Europe)
- Royalty : % of product sales
  - **15** years after commercialization or patent expiry (whichever is longer)

# □ Implication & Significance

- Another monumental event following '14 SKYPAC contract
- Demonstration of global competitiveness of our cell-culture technology
- Royalty potential (SP global influenza vaccine sales: about 2 trillion KRW)

# **Co-development of PCV**

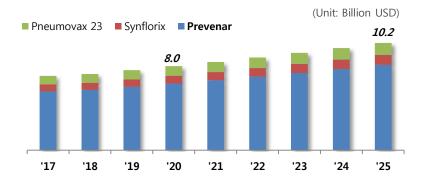




- Strategic business alliance for co-development of "Best in Class" pneumococcal vaccine
- Collaboration on R&D, Clinical, Production, Commercialization
- **Production** in An-dong vaccine facility in Korea for global distribution

# PCV Market

- Market demand is boosted by aging population and expected to grow to \$10.2B by 2025
- Considering Prevenar case, we expect meaningful market share after launching SKYPAC



(Source : Allied Market Research "Global Pneumonia Vaccine Market Opportunity Analysis and Industry Forecast 2018~2025, Primary & Secondary Research and AMR Analysis) 22

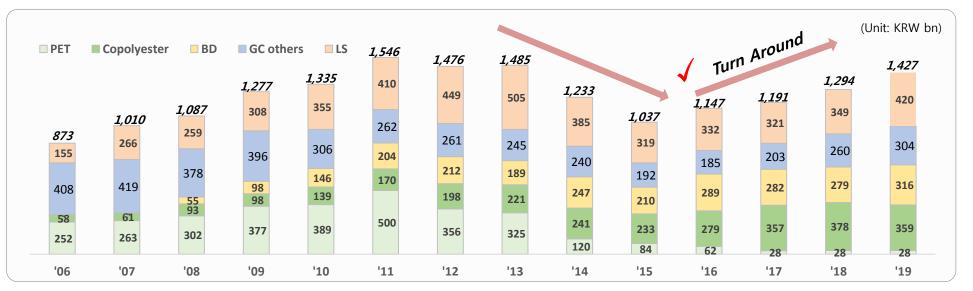
# **III.** Summary

# 1) Past Five Years

2000 ~	2008 ~	2015~
Restructuring & Investment	Accelerating Investment	Realization of Investment
<ul> <li>'00 : Established HUVIS(Spin off of polyester business)</li> </ul>	<ul> <li>'08 : Initiating Vaccine development/ Bio diesel business</li> </ul>	<ul> <li>'14 : Next PCV collaboration (w/ Sanofi)</li> <li>'15 : Cell flu trivalent (Korea 1<sup>st</sup>)</li> </ul>
<ul> <li>'05 : M&amp;A SK/Dongshin Pharm Spin off of SK Petrochemicals</li> <li>'08 : Sold off SK Petrochemicals</li> </ul>	<ul> <li>'09 : NBP601 L/O (to CSL)</li> <li>'12 : Co-polyester capacity increasing '14 : L House acquired KGMP(Korea Good Manufacturing Practice)</li> </ul>	<ul> <li>'16 : Cell flu quadrivalent (World's 1<sup>st</sup>) The US FDA approval of NBP601</li> <li>'17 : Zoster (World's 2<sup>nd</sup>)</li> <li>'18 : Varicella vaccine SKYPAC (Global clinical trial 1<sup>st</sup> phase)</li> <li>'19 : SKYPAC (1<sup>st</sup> phase competed)</li> <li>'20 : Investing in PO3G biz. Disposal of Bio energy biz. SKYPAC (2<sup>nd</sup> phase started)</li> </ul>

COVID19 vaccine CMO contract with Astrazeneca

#### COVID19 vaccine CMO contract with Novavax



# **IV. Appendix**

Balance Sheet	(1	Jnit: Mil. KRW)
	'19Y	'20Y
Current assets	792,023	988,495
Cash and cash equivalents	183,976	295,122
Short-term financial instruments	88,674	144,767
Trade and other receivables	171,327	270,244
Inventories	330,606	263,265
Other current assets	17,440	15,096
Non-current assets	1,339,686	1,268,678
Investments in associates and joint ventures	8,776	8,348
Property, plant and equipment	1,165,065	1,134,644
Intangible assets	37,429	37,590
Other non-current assets	1,950	2,975
Total assets	2,131,709	2,257,173
Current liabilities	718,865	726,484
Trade and other payables	231,782	253,533
Short-term borrowings	198,756	157,011
Other current liabilities	17,104	20,583
Non-current liabilities	694,137	569,681
Total liabilities	1,413,003	1,296,164
Equity attributable to owners of the parent	715,629	957,890
Capital stock	66,000	66,000
Capital surplus	264,315	264,315
Other components of equity	-9,890	-13,993
Accumulated other comprehensive Income(loss)	-2,594	-2,616
Earned surplus	397,797	644,185
Non-controlling interest	3,078	3,119
Total equity	718,706	961,009
Total liabilities and equity	2,131,709	2,257,173

#### **Income Statement**

Income Statement	(	Unit: Mil. KRW)
	'20.1Q	'20.2Q
Sales	252,548	288,409
Cost of sales	194,181	214,157
Gross profit	58,366	74,251
Selling, general and administrative expenses	50,349	56,603
Operating profit	8,017	17,649
Other non-operating income	1,092	1,142
Other non-operating expense	3,591	7,300
Financial income	18,346	3,571
Financial expense	20,640	10,584
Share of profit of associates and joint ventures	645	598
Earnings before interest and taxes	3,868	5,075
Income tax expense	-382	82,296
Earnings for the period	13,003	239,302
Earnings attributable to owners of the parent	13,048	239,346
Earnings attributable to non-controlling interests	-46	-44

# End of Documents