# **SK chemicals Earnings Release**

'20 3Q

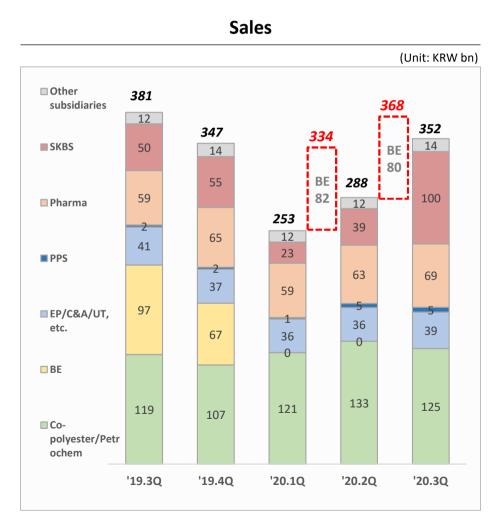
### **Disclaimer**

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

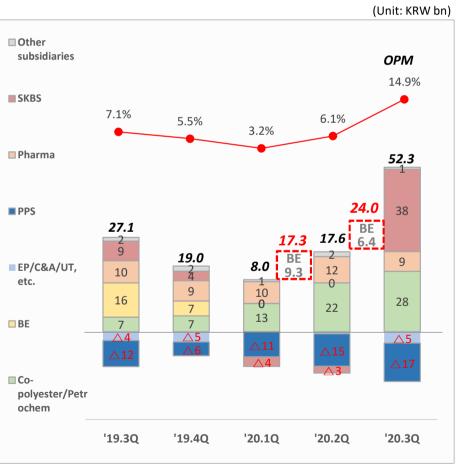
The forecasts contained herein are based on the Company's current business environment and strategy; and the actual results may differ from those in the forecasts as a result of certain uncertainties, such as changes in the Company's business environment and strategy in the future.

# I. Performance Review (Consolidated)

- Total sales decreased △7% and operating profit increased +93% YoY. Exclusion of Bio Energy Biz\* played major part in decreased sales.
- Operating profit jumped thanks to historic high profit margin on both Co-polyester Biz. and SK bioscience.



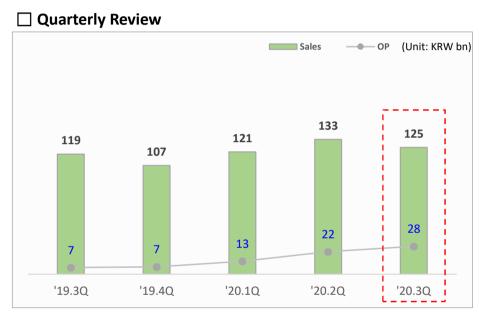
# **Operating Profit**



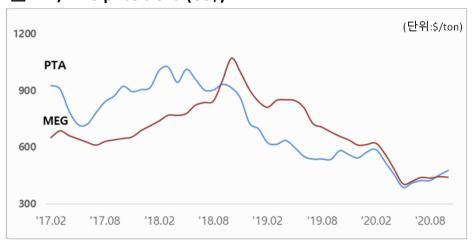
<sup>\*</sup> Note: SK chemicals sold off Bio Energy division in May, 2020.

Total amount of deal was 385 KRW bn and the profit from disposal recognized in 2Q20 was 334 KRW bn.

### **Performance**



### ☐ PTA/MEG price trend (US\$)



### **Review / Guidance**

### • '20.3Q Performance Review

- Sales : + 6% YoY
  - ① Solid demand growth from existing applications + additional demand from COVID19 related items.
  - ② Despite of decreased ASP, sales rose 6% YoY thanks to increase in volume.
- OP: +311% YoY

Recorded historic high profit margin thanks to raw material price & operating leverage effect.

### '20.4Q Outlook

- Solid sales growth expected compared to last year.

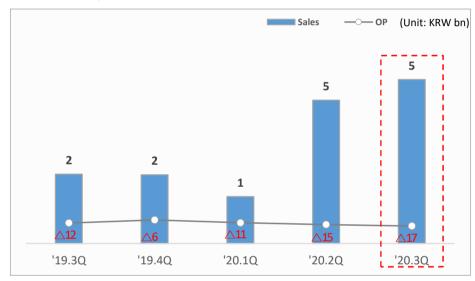
### **X** Main application of Co-polyester

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

### II. Green Chemical Biz. Performance Review

### **Performance**

### ☐ Quarterly Review



### ☐ PPS: Physical properties & Main applications

• Excellent in thermal and chemical resistance
• Good electrical insulating properties
• Applications: Electricity, Automotive, Film etc.

DC- Converter Motor

Inverter Capacitor

### **Review / Guidance**

### • '20.3Q Performance Review

- Sales: +137% YoY

Sales volume increased due to completion of relocating manufacturing site of major client.

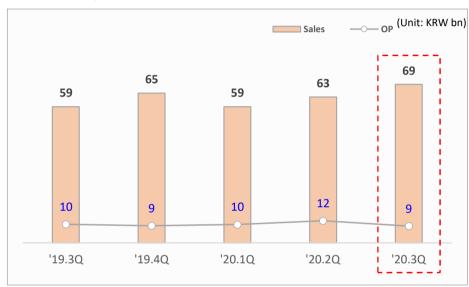
OP: deficit increased
 Deficit increased due to sales of high-cost-products and off-grade products.

### • '20.4Q Outlook

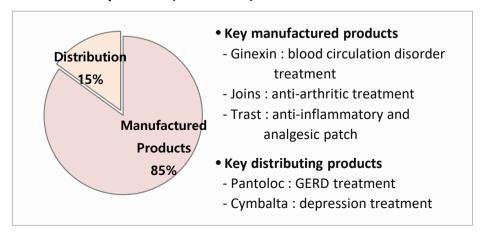
- Expecting slightly better performance as sales of off-grade products decrease.

### **Performance**

### ☐ Quarterly Review



### ☐ Sales composition (as of 2019)



### **Review / Guidance**

### • '20.3Q Performance Review

- Sales: + 16% YoY

Steady sales from existing line of products(Joins, Promac)

+ additions of new market alliance products(Reminyl, Fosteo etc.)

- OP :  $\triangle$  10% YoY OP down by 10% due to increase in marketing event expense such as symposium.

### • '20.4Q Outlook

- Steady sales growth expected vs increase in marketing expense.

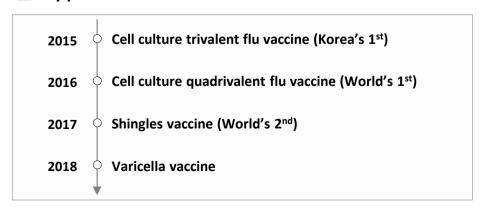
# (2) SK bioscience

### **Performance**

### ☐ Quarterly Review



### ☐ Key product release



### **Review / Guidance**

### • '20.3Q Performance Review

- Sales: + 98% YoY

- 1) Flu sales jumped thanks to National Immunization Program.
- ② Other major products(SKY-Zoster, SKY-Varicella) recorded robust growth as well.

- OP: +322% YoY

Operating leverage + Yield improvement.

### • '20.4Q Outlook

- Revenue from CMO Biz vs Flu sales decrease in QoQ.

# SK chemicals Company Introduction

'20 3Q

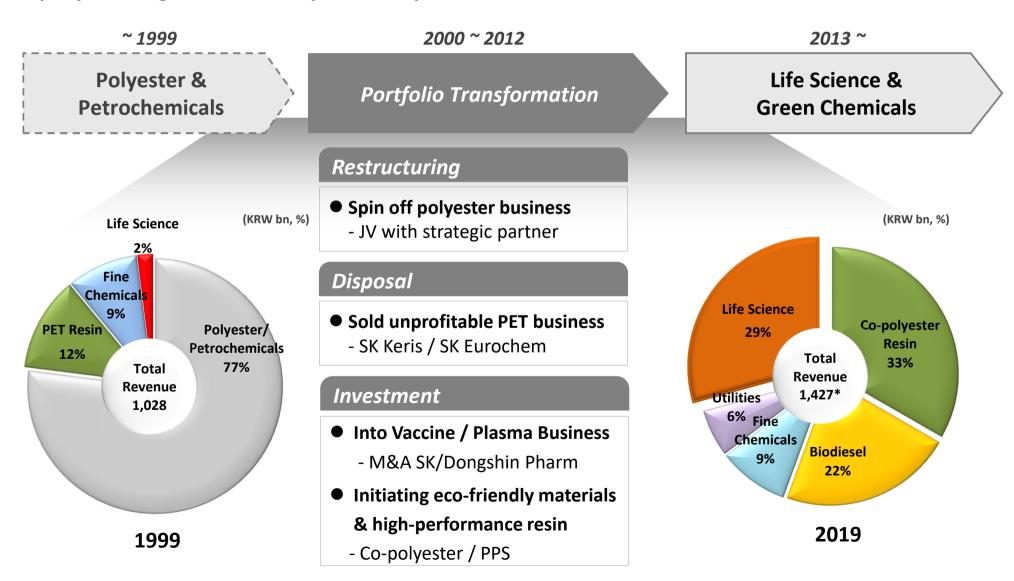
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  - Life Science Biz.
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I. Overview

### I. Overview

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



### I. Overview

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.

1969 ~ 2006 2007 ~ 2013 2014 ~ 2017 2018~

- **1969** Sunkyong Fibers Co. was established
- Acquisition of Samshin Pharma Ltd.
- 1989 Life Science Research
   Center was established
- 1998 Renamed to SK Chemicals Ltd.
- 1999 SUNPLA®, a thirdgeneration platinum anticancer drug was developed for the first time in the world (domestic new drug #1)
- JOINS®, anti-arthritis drug, developed (new natural drug #1)
- Established SK
  Petrochemical Ltd..
  (DMT(Di-methyl
  Terepthalate)) business
  - Merged SK Pharmaceuticals Ltd.
- Dongshin Pharm. Co., Ltd. was acquired (vaccine and blood products business)
  - Biodiesel production technology was developed

- 2008 UBCARE Co. Ltd., a healthcare company, was taken
- **2009 ECOZEN®**, Biomass-containing polyester resin, was released
- 2010 ECOPRIME®, a biodiesel brand, received a prize from the Minister at the Green Technology Award
- 2012 NBP601(hemophilia treatment) selected as one of Korea's ten best new technologies & received a prize from the Minister of Knowledge Economy
  - Construction completion of Andong (L HOUSE) plant
- Established Initz Co., Ltd.
  Polyphenylene Sulfide(PPS)
  JV company with Teijin
  Limited

- 2014 Joint development for vaccines is carried out with Sanofi Pasteur SA
  - Andong(L HOUSE) plant acquired KGMP (Korea Good Manufacturing Practice) approval for qualification
  - Acquired approval for the commercial sale of a cell culture influenza vaccine for the first time in Korea
- 2015 Commercial sales of SKYCELLFLU® -trivalent, Korea's first cell-culture influenza vaccine
- Commercial Sale of

  SKYCELLFLU® -quadrivalent

  World's first cell-culture

  influenza vaccine
  - Commercial sale of AFSTYLA (NBP601)
- 2017 Commercial sales of SKYZOSTER in Dec.
  - Launched
     Holding Company
     SK Discovery (Continuing), SK
     Chemicals (New Entity)

- 2018 License Agreement with Sanofi Pasteur for cell culture technology transfer
  - Commercial sales of Varicella vaccine in Sept.
  - Spin-off Vaccine business (SK bioscience)
- 2019 SKYCELLFLU®-trivalent/ quadrivalent attains WHO PQ
  - Merged with INITZ
  - SKYPAC clinical trial Phase-1 completion
- **2020** Disposal of Bio energy biz.
  - Selected as a sole participant for COVID19 project from KCDC(Korean Centers for Disease Control & Prevention,
  - LOI with Astrazeneca & Ministry of Health and Welfare for COVID19 vaccine CMO contract
  - LOI with Novavax & Ministry of Health and Welfare for COVID19 vaccine CMO contract

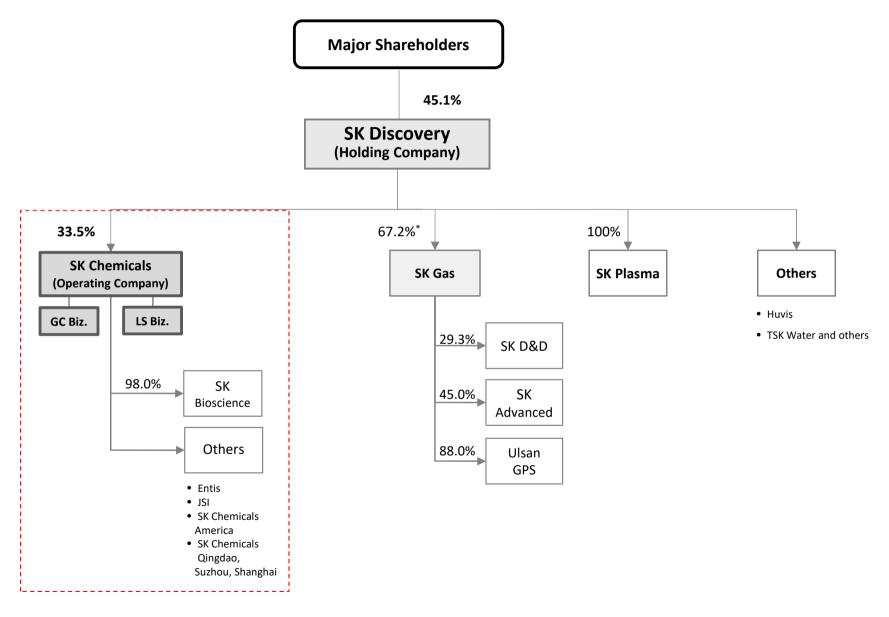
I. Overview Global Network

• Headquarter & Domestic Plants: Pangyo (Headquarter), Ulsan, Andong, Cheongju

• Overseas Offices: Guangzhou, Tokyo

• Overseas Plants: Qingdao, Suzhou





The above share rate is based on common stock as of 3Q20.

Note: \* % 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

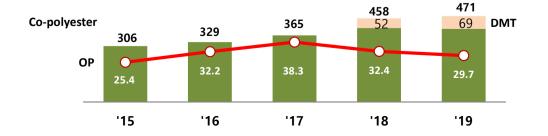






Performance Review

(Unit: KRW bn)



### ☐ Bio Diesel

- Alternative energy manufactured by animal and vegetable oils(fats)
- Government policies(mixing ratio) to blend biodiesel with diesel fuel
- Sales of business units reflect on company's performance up to 2Q20

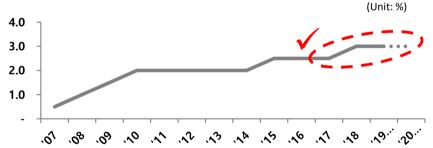
### ☐ Strength of our Bio Diesel

- Cost competitiveness
  - Derived from palm oil sources
  - Splitting plant

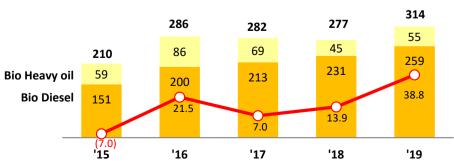
- Stable supply
  - SK Innovation, S-Oil (Domestic refiners)

(Unit: KRW bn)

### ☐ Mix Ratio Trend



### ☐ Performance Review



# 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

### ☐ Key features and application

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

### **Electricity**

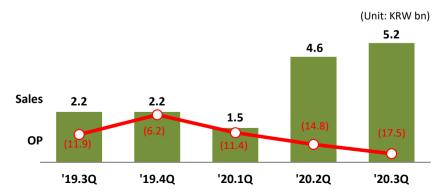
• CD/DVD Pick up, Bobbin, Connectors

- **Automotive** Pump impeller, Generator parts, etc
  - Weight lightening trend in automotive industry

Film

• Bag filter, High-performance fiber

### **Performance Review**



### **☐** Other businesses

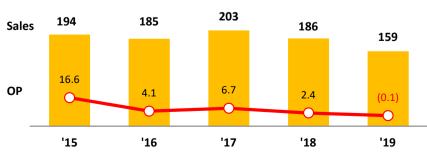
- SKYBON: thermal resin used in binders and adhesives
- Prepreg: intermediate material in sheet forms of specially formulated resin matrix with reinforcing fiber such as carbon fiber, glass fiber etc.
- EP: manufactures variety of Engineering Plastic
- Utility: provider of steam, electricity etc. to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

### ☐ Pharmaceuticals

- Manufacturing & distributing chemical drugs
- Focus areas: Cardio-vascular system, Musculoskeletal system, Urinary system, Nervous system

### ☐ Key Products

JOINS: Korea's first herbal medicinal product for arthritis,

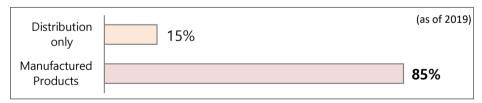
**GINEXIN**: No.1 drug in domestic market for improving blood circulation

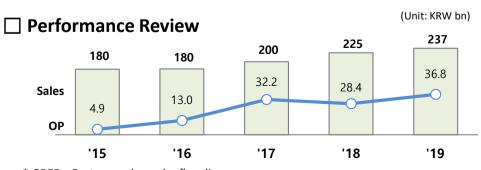
**TRAST**: The first patch formulation in the world for the treatment of arthritis

### ☐ Main Distribution Products

- Pantoloc : Treatment for GERD\* Cymbalta : treatment for depressive disorder

### ☐ Proportion of Manufacturing and Distribution





\* GRED: Gastroesophageal reflux disease

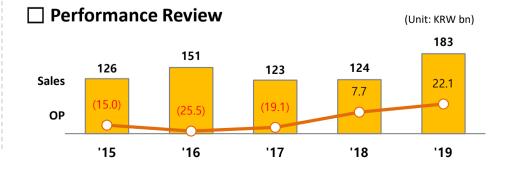
### ☐ SK bioscience

- In house R&D from 2006, leading premium vaccine market
- Enhancing corporate value to advance to the global VAX market leader
- Spin-off Vaccine business on July, 2018 → SK bioscience

### 

### □ Primary Achievements

- 2014 : Entered a joint development of a next-gen pneumococcal vaccine(SKYPAC)
   w/ Sanofi Pasteur
- 2015: Korea's first cell-culture trivalent influenza vaccine released
- 2016: Released world's first quadrivalent cell culture-derived influenza vaccine
- 2017: Released world's second herpes zoster vaccine
- 2018: Licensed out the technology of manufacturing cell-culture based influenza vaccine production to Sanofi Pasteur
- 2019: Completed global clinical trial phase 1 on SKYPAC
- 2020 : Signed CMO(w/AstraZeneca) and CDMO(w/Novavax) Contracts on COVID19 Vaccines



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

## 2) Main Vaccine Products

### Cell-culture influenza vaccine

### ☐ Features

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

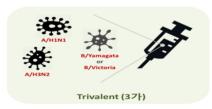
### ☐ Influenza vaccine market

• **Domestic market**: Trivalent → quadrivalent market shift, Increasing NIP vaccination

NIP market	Current	Future(e)		
Product	Trivalent	Quadrivalent		
Age	'17: ~ 59 Months, '18 : ~ Elementary	After '20: 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
- ✓ '19 'SKYCELLFLU®-trivalent'/quadrivalent' attains WHO PQ

### **Zoster Vaccine(SKYZOSTER)**

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

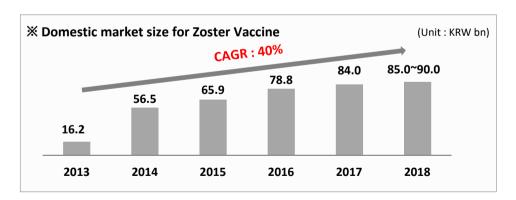
Herpes Zoster is a viral disease due to a reactivation of varicella zoster virus(VZV) within a person's body. Chickenpox is caused by the initial infection with the same varicella zoster virus, but once chickenpox has resolved, the virus may remain inactive in nerve cells.







- \* 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: 691,3392)



### ☐ 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

# 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**

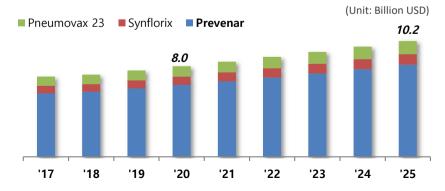




- Strategic business alliance for co-development of "Best in Class" pneumococcal vaccine
- Collaboration on R&D, Clinical, Production, Commercialization
- **Production** in An-dong vaccine facility in Korea for global distribution

### ☐ 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)

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

# 4) Two-track strategies for COVID19 Vaccine

Considering the high uncertainty of successful development of COVID19 vaccine, SK bioscience is managing two track strategy to increase the chances of success.

### **Track 1 Vaccine Development**

# Project A (In-house research)

### Recombinant protein

- Preclinical completed
- IND for phase 1 submitted (6<sup>th</sup> Oct.) Expect to enter phase 1 in late Nov.
- Proceed in phase 3 in the 2<sup>nd</sup> quarter, 2021



### Recombinant protein

- Funded by Bill & Melinda Gates Foundation
- Preclinical stage is on process with provided pipeline drugs
- Expected to enter clinical stage within year.

### Track ② C(D)MO of Global Pharma's vaccines



### Viral vector

- DS/DP consignment contract
- Signed the LOI for Cooperation between the Ministry of Health and Welfare, AstraZeneca and SK Bioscience (21st, Jul)



### Recombinant protein

- Process development/DS consignment contract
- Signed the LOI for Cooperation between the Ministry of Health and Welfare, Novavax and SK Bioscience (13<sup>th</sup>, Aug)

# **III. Summary**

2000 ~

### **Restructuring & Investment**

- '00 : Established HUVIS(Spin off of polyester business)
- '05 : M&A SK Pharm
  Spin off of SK Petrochemicals
- '06: M&A Dongshin Pharm
- '08: Sold off SK Petrochemicals

2008 ~

### **Accelerating Investment**

- '08 : Initiating Vaccine development/
   Bio diesel business
- '09 : NBP601 L/O (to CSL)
- '12: Co-polyester capacity increasing
- '14: L House acquired KGMP(Korea Good Manufacturing Practice)

2015~

### **Realization of Investment**

- '14 : Next PCV collaboration (w/ Sanofi)
- '15 : Cell flu trivalent (Korea 1st)
- '16 : Cell flu quadrivalent (World's 1st) The US FDA approval of NBP601
- '17 : Zoster (World's 2<sup>nd</sup>)
- '18 : Varicella vaccine
  SKYPAC (Global clinical trial 1st phase)
- '19 : SKYPAC (1st phase completed)
- '20: Investing in PO3G biz.
   Disposal of Bio energy biz.
   SKYPAC (2<sup>nd</sup> phase started)
   COVID19 vaccine CMO contract with Astrazeneca

COVID19 vaccine CDMO contract with Novavax

(Unit: KRW bn) Turn Around PET Copolyester BD ■ GC others LS 1,546 1,476 1,485 1,427 1,335 1,294 410 1,277 1,233 449 505 1,191 420 1,147 355 1,087 308 349 1,037 1,010 385 321 262 332 259 873 261 319 266 245 304 306 260 155 396 204 203 240 185 212 378 189 192 146 170 279 316 419 98 282 408 247 289 139 198 55 93 221 98 210 61 58 500 241 378 389 233 279 357 359 377 356 302 325 252 263 120 84 62 28 28 28 '06 '07 '08 '09 110 '11 **'12 '13** '14 15 **'16** '17 '18 **'19** 

### IV. Shareholder return

SK chemicals has been gradually expanding dividends since its split-up in 2017 and will race to return profits from corporate growth to shareholders based on its improved profitability in a long term.

### Dividend history for past 3 years

### (Unit: KRW bn)

		'1	.7	110	'19	
		SKEM	SKD	'18		
Operating Profit		58.4	12.1	55.7	91.6	
Net P	Net Profit		-27.6	16.6	27.1	
EPS	common stock	0	750	400	450	
(unit: KRW)	preferred stock	0	800	450	500	
No. of stocks for	common stock	11,579	10,784	11,568	11,730	
dividends (unit : 1,000 stocks)	preferred stock	1,458	1,358	1,457	1,457	
Total amount of cash dividends		0	9.2	5.3	6.01	
Dividend propensity		0.00%	-	31.83%	22.18%	
Dividend yield		-	0.9% <sup>1)</sup> (0.5%) <sup>2)</sup>	0.56%	0.73%	

### **Dividend Policy for shareholders**

- In 2017, dividend funds were transferred to SK discovery, an existing corporation, and SK chemicals, a new corporation, did not pay dividends.
- ❖ SK chemical has been expanding dividends following the increase of net profit in 2018 and 2019 and aims to pay dividends above the market average rate of return in the long term.
- ❖ The basic policy of shareholder return of SK chemicals is to expand dividends in line with the increase in corporate profits and share the fruits of growth with shareholders.

<sup>1)</sup> Net profit and dividend propensity of fiscal year 2017 was 26.1 billion won and 32% considering appropriation of 19 billion won.

<sup>2)</sup> Based on the closing price of 84,200 won before the split

# V. Appendix

### **Balance Sheet**

(Unit: KRW Mil.)

	'19Y	′20.3Q
Current assets	792,023	950,164
Cash and cash equivalents	183,976	113,701
Short-term financial instruments	88,674	263,945
Trade and other receivables	171,327	306,488
Inventories	330,606	251,591
Other current assets	17,440	14,440
Non-current assets	1,339,686	1,244,202
Property, plant and equipment	1,165,065	1,118,255
Intangible assets	37,429	37,129
Investments in associates and joint ventures	8,776	8,938
Other non-current assets	128,416	79,880
Total assets	2,131,709	2,194,367
Current liabilities	718,865	664,828
Trade and other payables	231,782	228,025
Short-term borrowings	198,756	150,690
Current long term liabilities	241,572	86,435
Other current liabilities	46,756	199,677
Non-current liabilities	694,137	532,153
Bond	558,680	472,909
Long-term borrowings	72,909	33,496
Other non-current liabilities	62,548	25,747
Total liabilities	1,413,003	1,196,980
Equity attributable to the parent company	715,629	991,744
Capital stock	66,000	66,000
Capital surplus	264,315	264,315
Other components of equity	△9,890	△13,878
Accumulated other comprehensive Income(loss)	△2,594	△2,001
Earned surplus	397,797	677,308
Non-controlling interest	3,078	5,643
Total equity	718,706	997,387
Total liabilities and equity	2,131,709	2,194,367

### **Income Statement**

(Unit: KRW Mil.)

(Offic. KKW Will.)			
	'20.1Q	'20.2Q	'20.3Q
Sales	252,548	288,409	352,133
Cost of sales	194,181	214,157	232,565
Gross profit	58,366	74,251	119,568
Selling, general and administrative expenses	50,349	56,603	67,259
Operating profit	8,017	17,649	52,309
Other non-operating income	1,092	1,142	4,321
Other non-operating expense	3,591	7,300	6,410
Financial income	18,346	3,571	6,174
Financial expense	20,640	10,584	11,363
Share of profit of associates and joint ventures	645	598	620
Earnings before interest and taxes	3,868	5,075	45,650
Income tax expense	△2,500	5,325	9,782
Net profit (loss) for the continuing operating quarter	6,368	△250	35,868
Net income for discontinued operating quarter	6,635	239,552	0
Consolidated quarterly net income	13,003	239,302	35,868
Equity attributable to the parent company	13,048	239,346	35,261
Non-controlling interest	△46	△44	607

# V. Appendix

### **Balance Sheet**

(Unit: KRW Mil.)

	'19Y	'20.3Q
Current assets	583,836	618,910
Cash and cash equivalents	154,483	76,995
Short-term financial instruments	-	140,146
Trade and other receivables	160,588	234,346
Inventories	259,448	152,235
Other current assets	9,317	15,188
Non-current assets	1,318,635	1,232,126
Property, plant and equipment	969,586	928,476
Intangible assets	17,609	18,315
Investments in associates and joint ventures	229,371	229,879
Other non-current assets	102,069	55,456
Total assets	1,902,472	1,851,036
Current liabilities	654,993	507,072
Trade and other payables	195,547	185,036
Short-term borrowings	190,139	150,554
Current long term liabilities	241,572	75,443
Other current liabilities	27,735	96,040
Non-current liabilities	563,035	405,795
Bond	464,408	389,891
Long-term borrowings	49,753	10,026
Other non-current liabilities	48,874	5,878
Total liabilities	1,218,028	912,867
Equity attributable to the parent company	66,000	66,000
Capital stock	188,347	188,347
Capital surplus	△889	<b>∆4,877</b>
Accumulated other comprehensive Income(loss)	430,985	688,699
Total equity	684,444	938,169
Total liabilities and equity	1,902,472	1,851,036

### **Income Statement**

(Unit: KRW Mil.)

	'20.1Q	'20.2Q	'20.3Q
Sales	217,556	236,905	238,293
Cost of sales	171,939	179,181	177,346
Gross profit	45,617	57,723	60,947
Selling, general and administrative expenses	35,588	39,205	47,023
Operating profit	10,030	18,518	13,924
Other non-operating income	1,458	793	199
Other non-operating expense	2,552	7,724	2,225
Financial income	18,981	4,275	6,222
Financial expense	16,249	10,289	10,670
Earnings before interest and taxes	11,668	5,572	7,450
Income tax expense	△1,028	5,486	2,699
Net profit (loss) for the continuing operating quarter	12,696	87	4,751
Net income for discontinued operating quarter	6,635	239,552	
Quarterly net income	19,331	239,638	4,751

# End of Documents