

# SK Chemicals Earnings Release

'19 4Q

A decorative graphic at the bottom of the slide consists of overlapping green and red shapes. The green shape is a large, irregular polygon that tapers to the left and widens to the right. The red shape is another large, irregular polygon that overlaps the bottom and right sides of the green shape, creating a layered effect.

## **Disclaimer:**

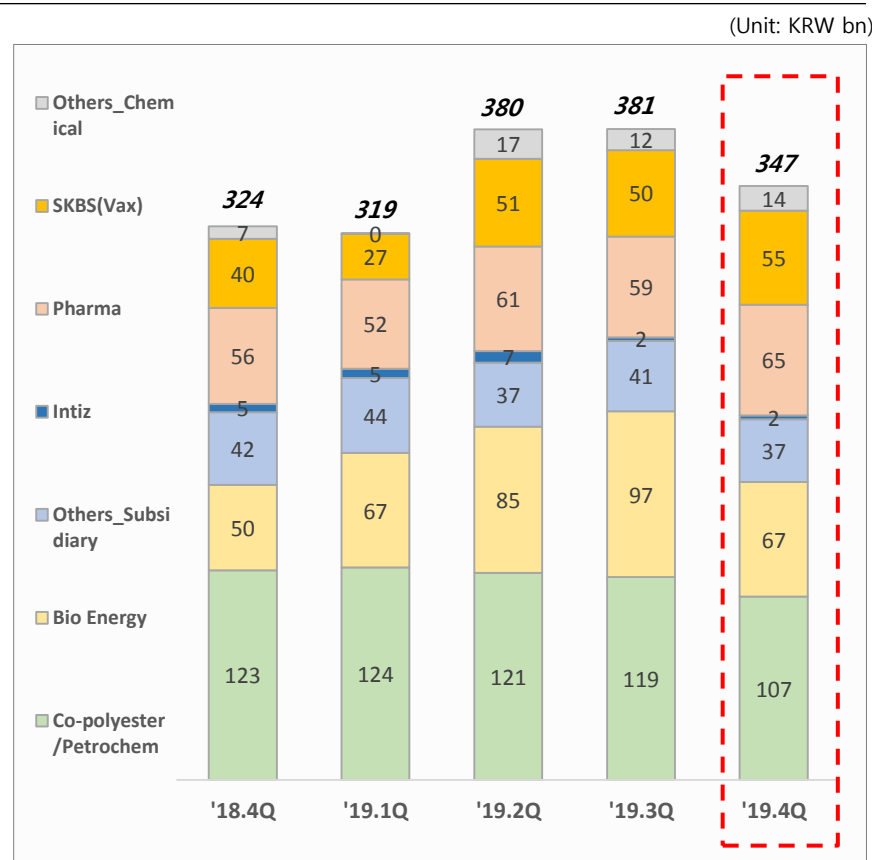
**The business results are subject to the K-IFRS(Korea International Financial Reporting Standards) and reported on a consolidated basis.**

**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.**

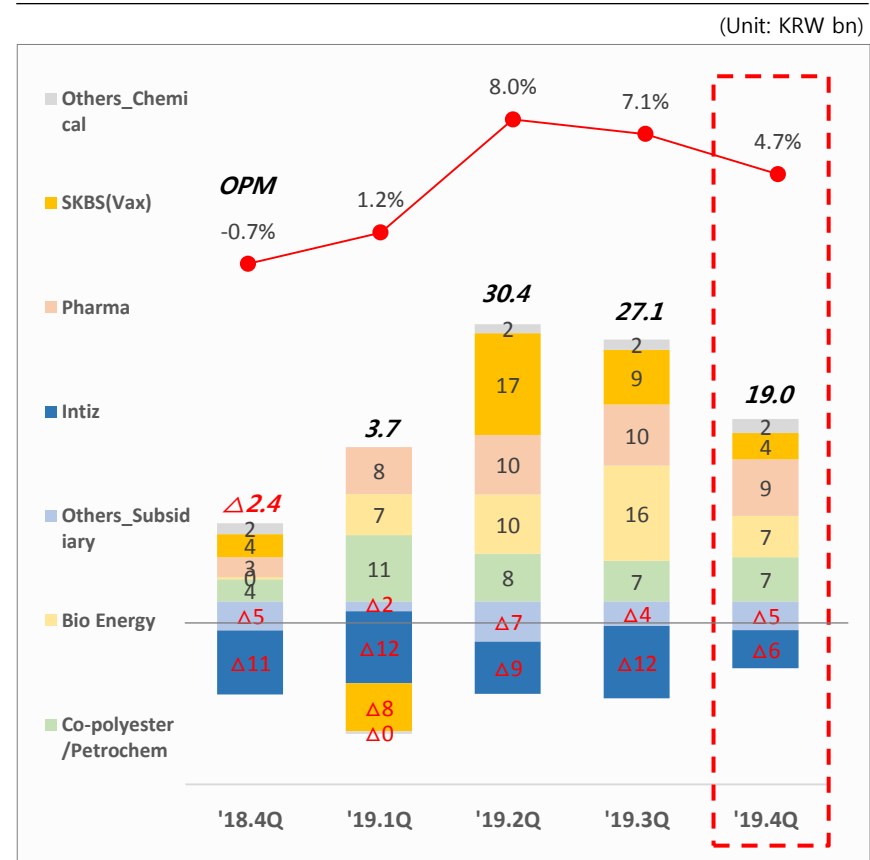
# I. Performance Review (Consolidated)

- Despite of slow season, Q4 sales totaled 347 bil KRW(+7% YoY) and operating profit recorded 19 bil KRW(turn black, YoY) due to **solid earnings from Copolyester Biz and outstanding performance of Pharma Biz.** and Bio energy Biz.
- Sales totaled 1,427 bil KRW(+4% YoY), and operating profit recorded 80.3 bil KRW(+76% YoY) in 2019.

Sales



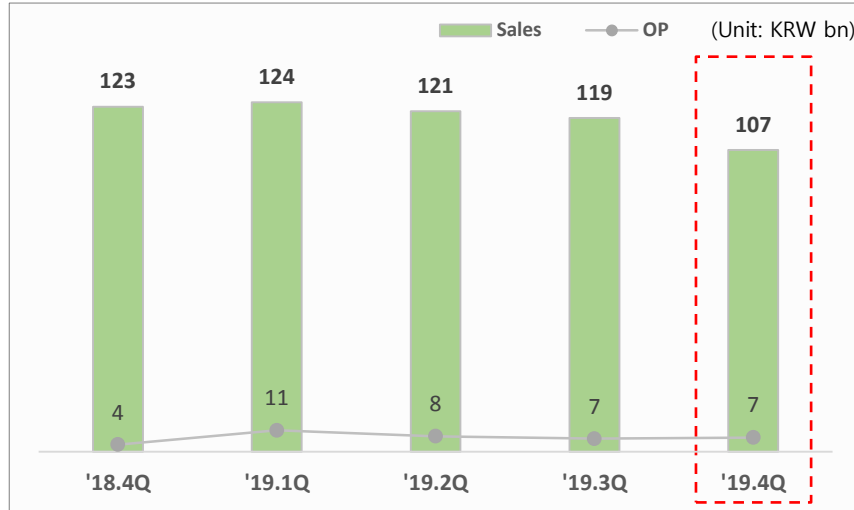
Operating Profit



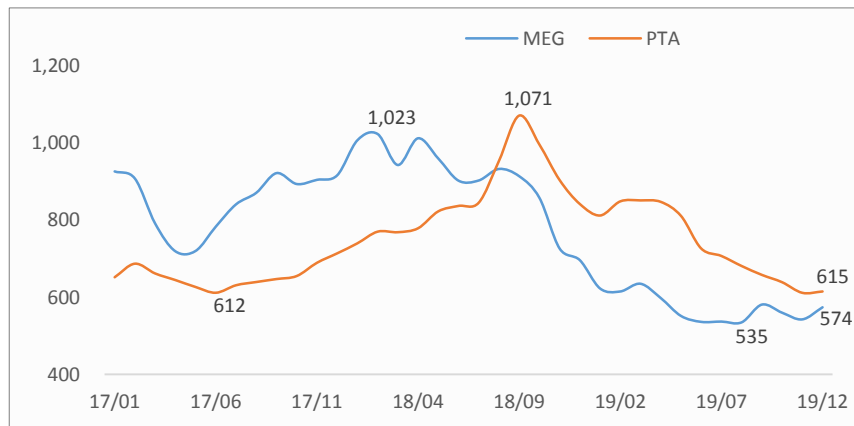
#### Performance

#### Review/Guidance

##### Quarterly Review



##### PTA/MEG price trend (US\$)



##### '19.4Q Performance Review

###### - Sales

Due to slow demand caused by US-China trade war & global economy slow down, and decrease in ASP reflecting recent raw material trend, sales decreased by 12.5% YoY

###### - OP

Operating profit rose 97.3% YoY thanks to favorable foreign exchange rate and raw material price despite of sales decrease

##### 2020 Outlook

- Global economy recovery by lessening tension of US-China relationship and major clients' re-stocking are expected

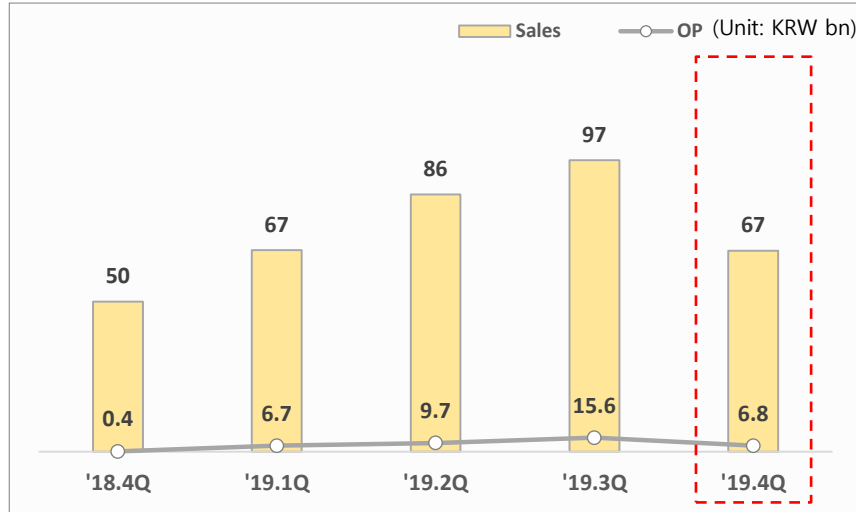
##### ※ Application

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

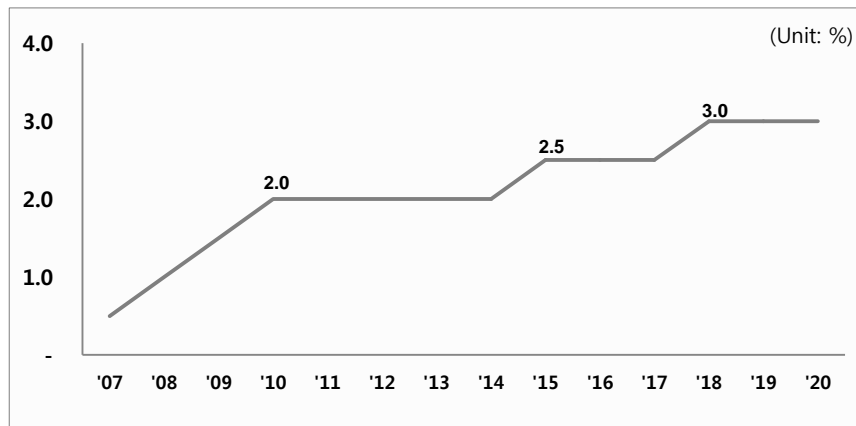
### Performance

### Review/Guidance

#### Quarterly Review



#### Mixing Ratio Trend



#### '19.4Q Performance Review

##### - Sales

Sales rose 34% YoY due to biodiesel export and increase in Bio Heavy Oil sales

##### - OP

Operating profit increased considerably YoY thanks to favorable spread and **high profitability** from biodiesel export.

#### 2020 Outlook

- **Continuance** in biodiesel export and **increase** in bio heavy oil sales **volume** vs. Unfavorable spread

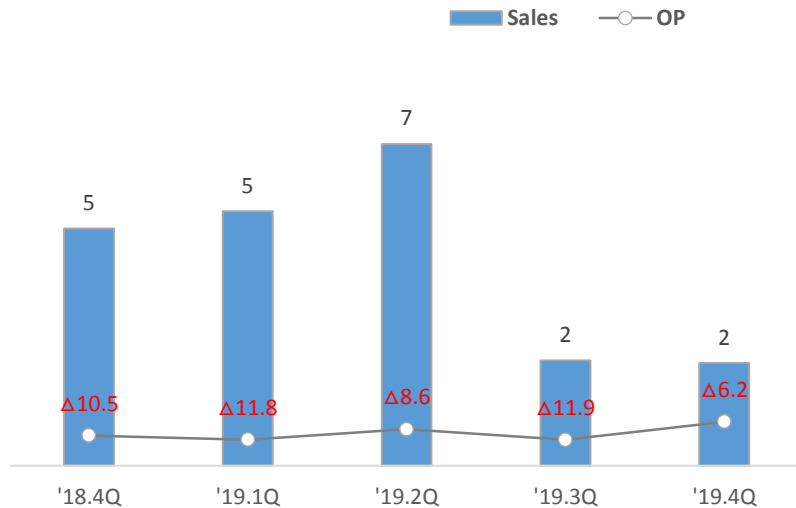
※ The mix ratio increase in 2018

- Before 2.5% → Current 3.0%

### Performance

### Review/Guidance

#### □ Quarterly Review



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

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

**DC- Converter**



**Inverter**



**Motor**



**Capacitor**



#### • '19.4Q Performance Review

##### - Sales

Sales decreased due to factory relocation of a major client specialized in fiver grade products

##### - OP

Deficit **continues** due to **low sales and high fixed cost**

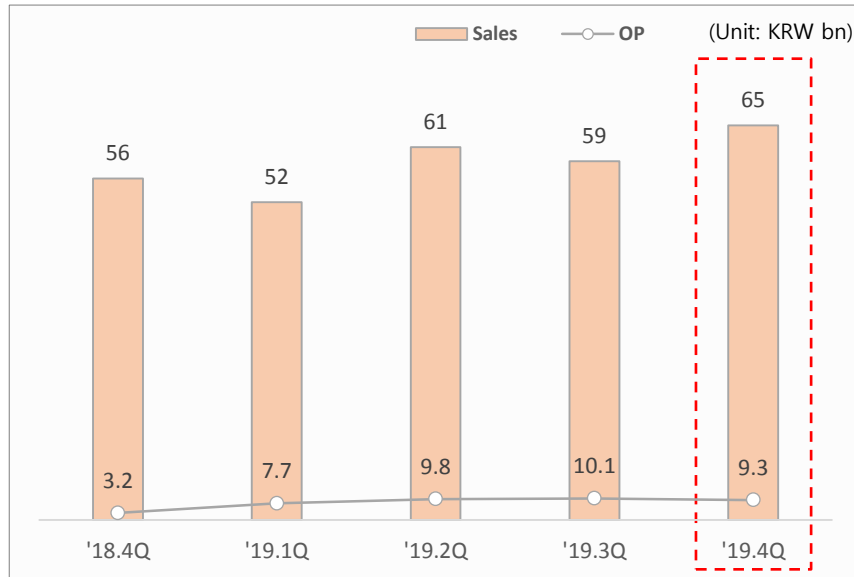
#### • 2020 Outlook

- Expecting sales recovery **as client expected to resume operation from 2H20**

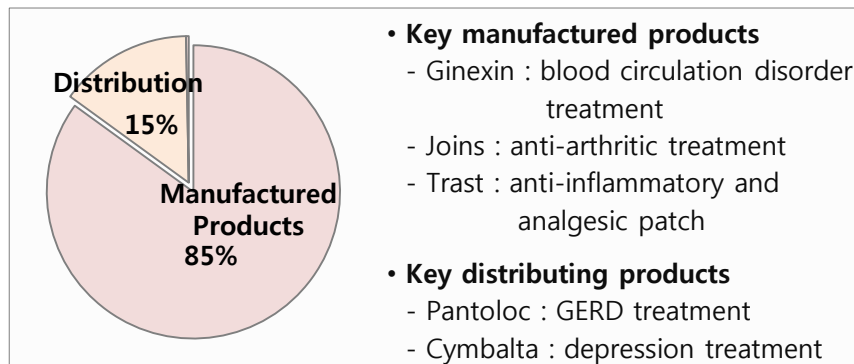
### Performance

### Review/Guidance

#### Quarterly Review



#### Sales composition (as of 2019)



#### '19.4Q Performance Review

##### - Sales

Steady sales from existing line of products(ex. Joins) + additions of distribution product sales helped 16% revenue increase YoY

##### - OP

Sales increase and effective cost execution with **low base effect** from 4Q18Y led to 189% OP increase YoY

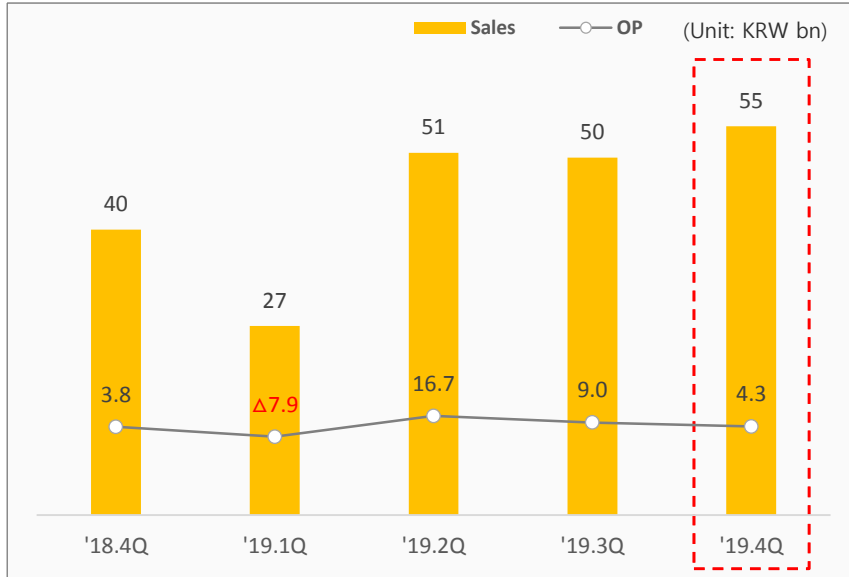
#### 2020 Outlook

- **Solid sales growth expected**

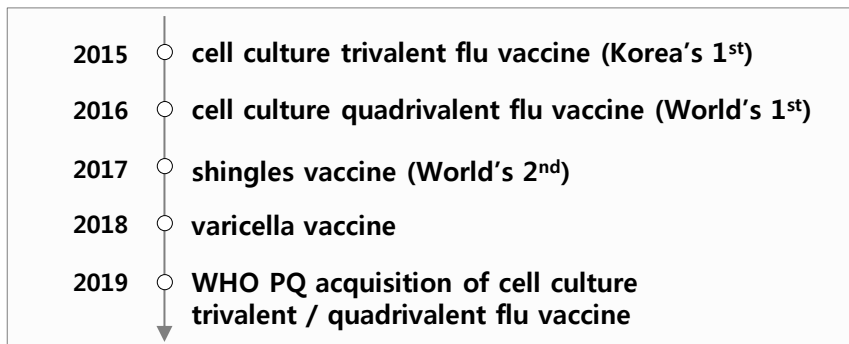
### Performance

### Review/Guidance

#### ☐ Quarterly Review



#### ☐ Key product release



#### • '19.4Q Performance Review

##### - Sales

Strong sales from SKYZOSTER and **carryover** sales of SKYCELLFLU **from 3Q19** led to 36% increase YoY

##### - OP

Sales increase from major products such as SKYZOSTER and SKYCELLFLU etc. led to 13% increase YoY.

#### • 2020 Outlook

- **Strengthening market leadership of SKYZOSTER and Robust flu vaccine sales are expected**

- **Smooth** progress in SKYPAC PJT expected



# SK Chemicals Company Introduction

'19 4Q



# Contents

## **I. Overview**

## **II. Business Divisions**

- **Green Chemicals Biz.**

- **Life Science Biz.**

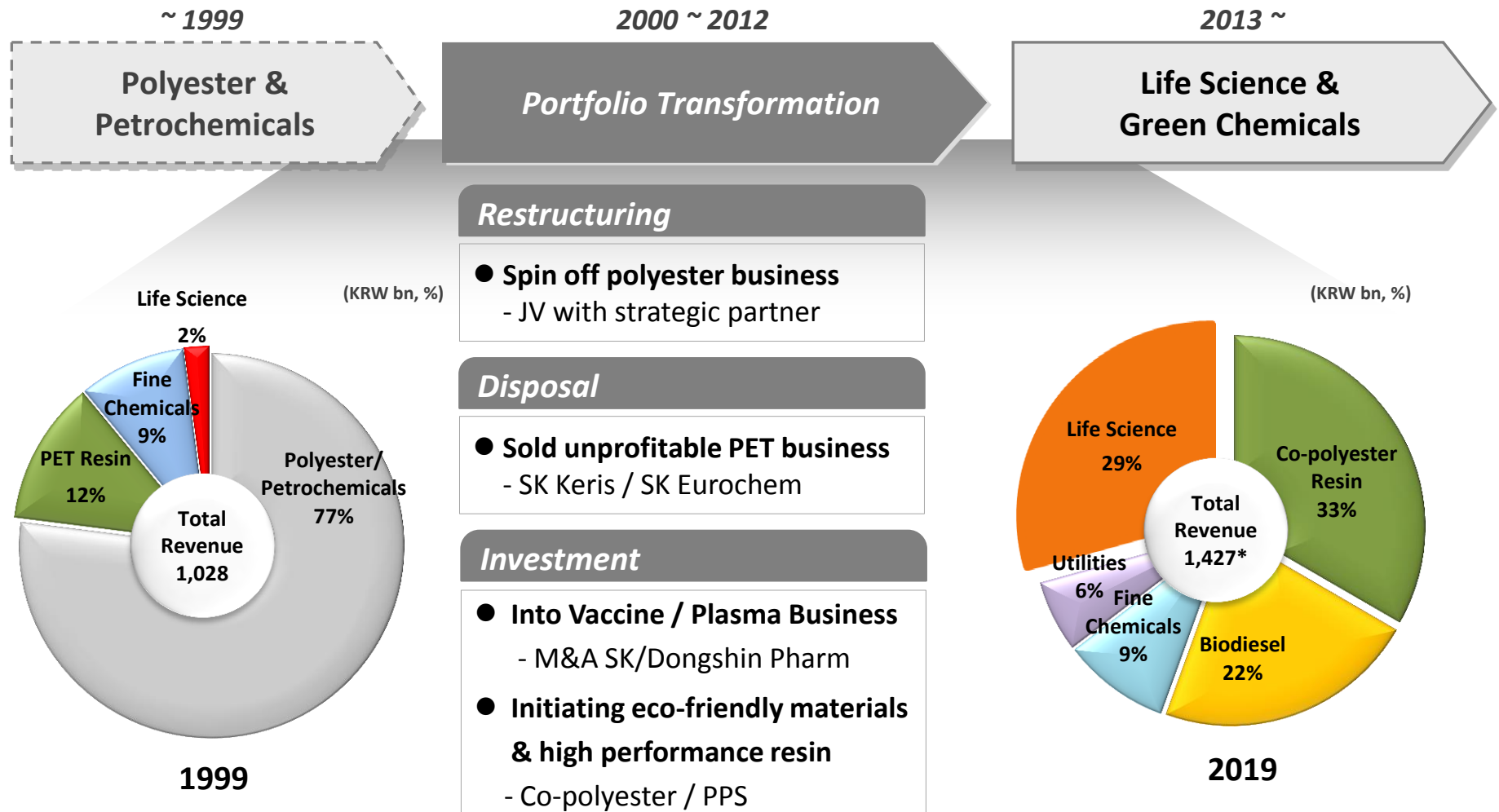
## **III. Summary**

## **IV. Appendix**

# I. Overview

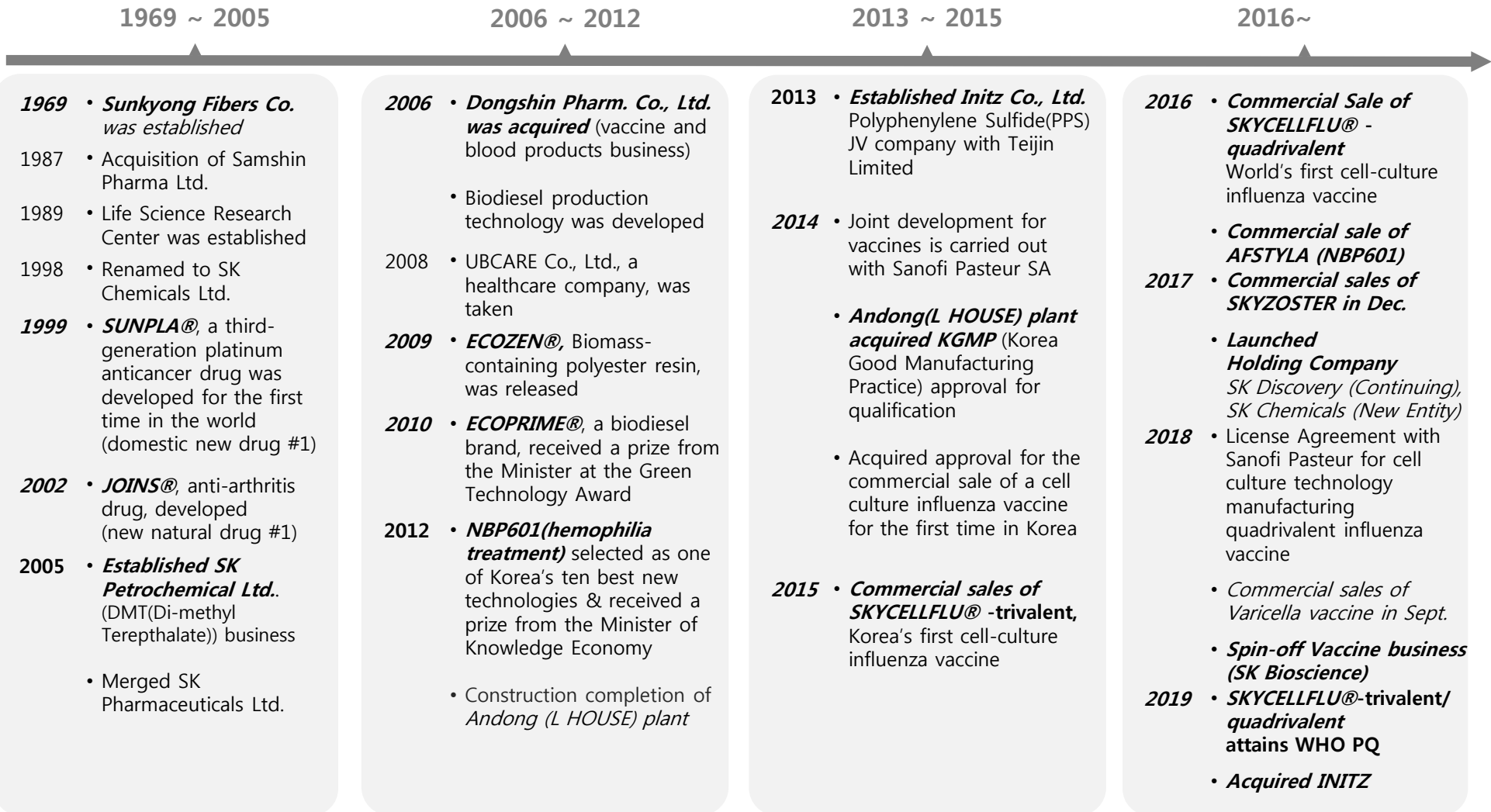


Through continuous change and innovation, SK Chemicals has grown into a Life Science and Green Chemicals company with higher and stable profitability.



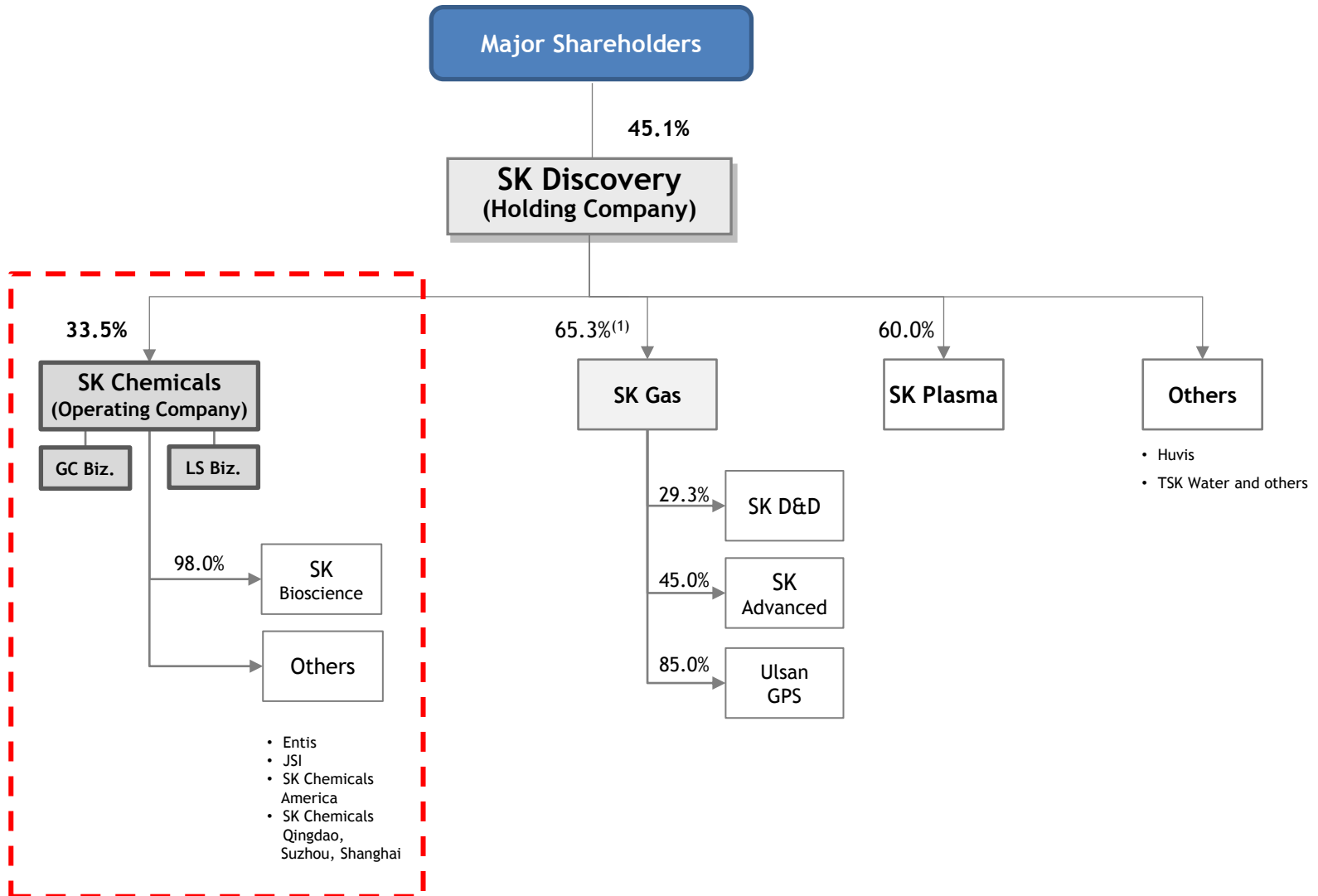
\*Non-consolidated financial results with SK Bioscience

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.



- **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 November 18, 2019) / Share of SK Gas is as of SK Discovery's completion of tender offer

## **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

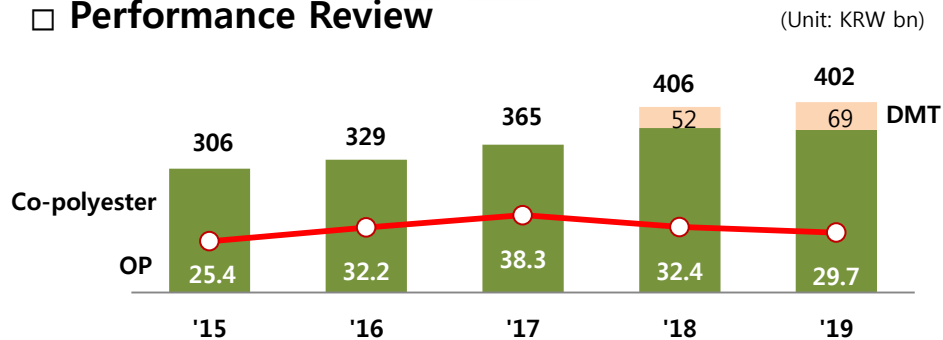
- Eco-friendly material (BPA free)
- High chemical & heat resistance
- Transparent, a glass-like appearance

### ☐ Applications

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



### ☐ Performance Review



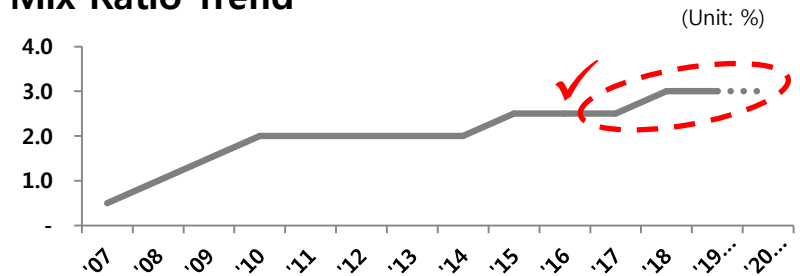
### ☐ Bio Diesel

- 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

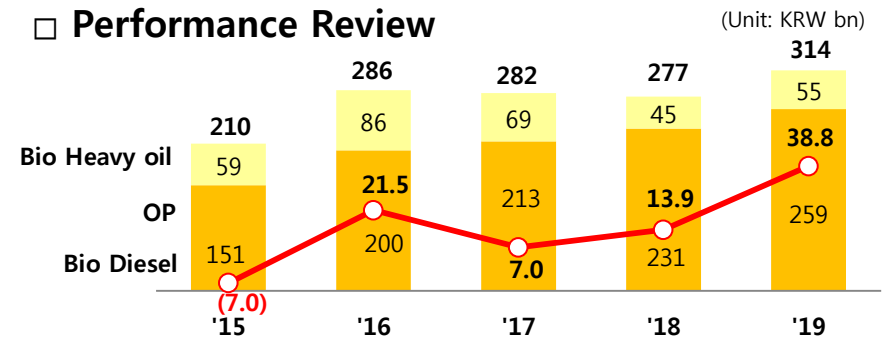
### ☐ Strength of our Bio Diesel

- **Cost competitiveness**
  - Derived from palm oil sources
  - Splitting plant
- **Stable supply**
  - SK Innovation, S-Oil (Domestic refiners)

### ☐ 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
- Eco friendly continuous polymerization process without using polar solvent
- 100% owned subsidiary

### □ Key features and application

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

**Electricity** • CD/DVD Pick up, Bobbin, Connectors

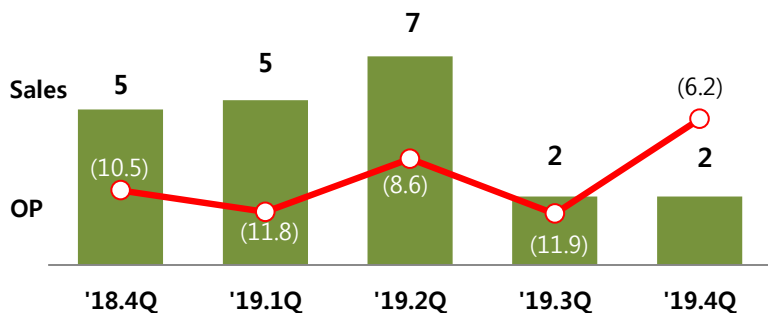
**Automotive** • Pump impeller, Generator parts, etc

• **Weight lightening trend in automotive industry**

**Film** • Bag filter, High-performance fiber

### □ Performance Review

(Unit: KRW bn)



### □ Other businesses

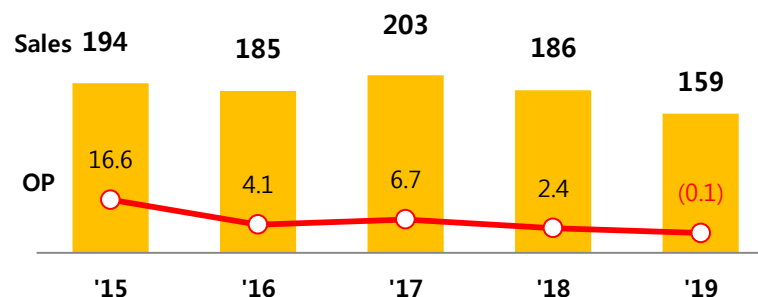
- SKYBON: thermal resin used in binders and adhesives
- Prepreg: intermediate material in sheet forms of specially formulated resin matrix with reinforcing fiber such as carbon fiber, glass fiber etc.
- EP: manufactures variety of Engineering Plastic
- Utility: provider of steam, electricity etc. to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

(Unit: KRW bn)



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

## 1) LS Overview

### ☐ Pharmaceuticals

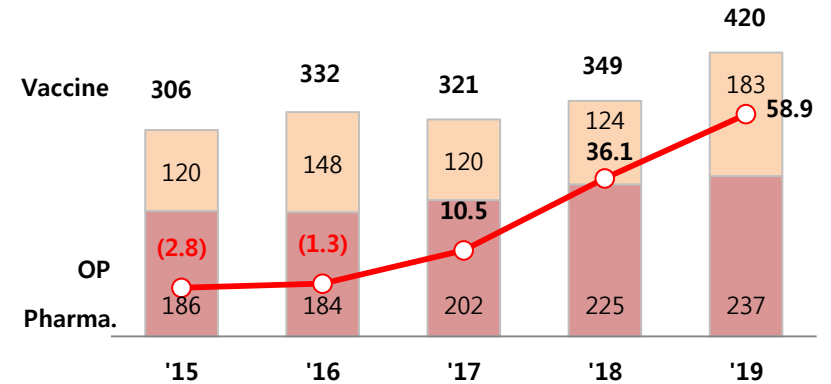
- **Manufacturing & distributing chemical drugs**
- **Focus areas:** Cardio vascular system, Musculoskeletal system, Urinary system, Nervous system
- **Major products:** JOINS, GINEXIN, TRAST, Rivastigmine Patch and others

### ☐ 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<sup>st</sup> → SK Bioscience
  - Attract SI and IPO → advance to global market & speed up the development

### ☐ Performance Review

(Unit: KRW bn)



### ☐ R&D Achievements



'SUNPLA'  
3<sup>rd</sup> generation anticancer drug, (domestic new drug #1)

1999



'JOINS'  
Anti-arthritis drug, (new natural drug #1)

2001



CSL - NBP601 (hemophilia treatment) L/O first for new biomedicine developed in Korea

2009



'SID710'  
A dementia treatment patch (generic) world's first approval in the EU

2012



Joint development for vaccines was carried out with Sanofi Pasteur SA

2014



Released SKYCellflu, Korea's first cell-culture influenza vaccine (trivalent)  
Approval for the commercial sale of the world's first quadrivalent cell-culture influenza

2015



CSL - NBP601 (hemophilia treatment) acquired approval for sale in the U.S. and Canada first for new biomedicine developed in Korea

2016



Commercial sales of 'SKYZOSTER' Developed the world's second, Korea's first Zoster vaccine

2017



License Agreement with Sanofi Pasteur for cell culture technology manufacturing quadrivalent influenza vaccine

2018



WHO PQ Acquisition of SKYCellflu, influenza vaccine (trivalent / quadrivalent)

2019

Pharmaceuticals

Bio

## 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 → stable supply, reduce maintenance costs
- Shorter production period → Faster response to influenza pandemics

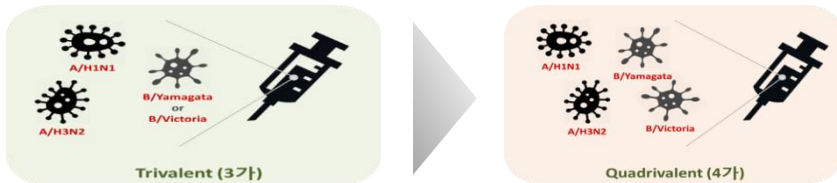
#### □ Influenza vaccine market

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

NIP market	Current	Future(e)
<b>Product</b>	<b>Trivalent</b>	<b>Quadrivalent</b>
<b>Age</b>	'17: ~ 59 Months, '18: ~ Elementary	After '19: Middle/High school students(e)
<b>Pregnant women</b>	-	To be introduced(e)
<b>Aging population (age 65↑)</b>	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 → 'broader protection against circulating flu viruses'

#### □ SK Chemical's influenza vaccine

- ✓ **'15 Released 'SKYCELLFLU® -trivalent'**, Korea's first cell-culture influenza vaccine
- ✓ **'16 Released 'SKYCELLFLU® -quadrivalent'**, 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.



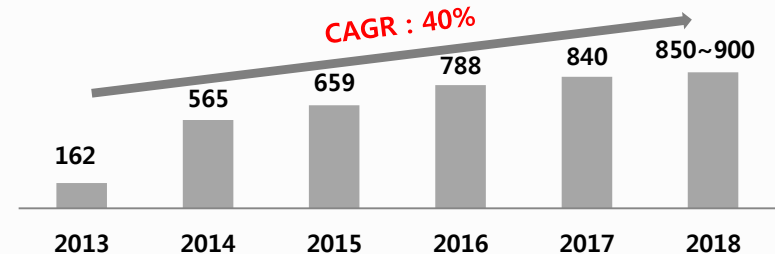
\* Picture: The blistering Shingles rash on face, body

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

- preventive vaccine : SKYZOSTER, ZOSTAVAX(Merck), Shingrix(GSK)
- No. of domestic patients in 2016: 691,339<sup>2)</sup>

#### ※ Domestic market size for Zoster Vaccine

(Unit : 100 million KRW)



#### □ 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**

1) Datamonitor 2) Health Insurance Review & Assessment Service

## II. Business Divisions\_LS Biz.

## 3) Global Project w. Sanofi

### 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)

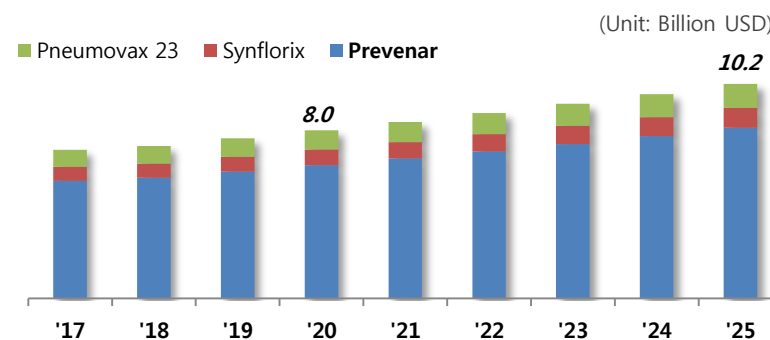
### Co-development of PCV



- **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)

### Domestic & Overseas Growth Strategy

#### □ Domestic : Marketing Leadership strengthening

##### ① SKYCELLFLU

###### • Market

- Trivalent → quadrivalent market shift
- more competition in the industry

###### • Key plan

- secure superiority of cell-culture tech., differentiate marketing Activity
- Capacity expansion (completed by 2020 and starting M/P)

##### ③ SKYVARICELLA

###### • Key plan

- secure safety by applying foreign varicella vaccine which acquired WHO PQ
- prepare for entering global market

##### ② SKYZOSTER

###### • Market

- Market size(as of 2018) : domestic(80 mil KRW), Global(800 mil KRW)

###### • Key plan

- gain more M/S with strategic alliance up to 50%
- proactive action for NIP

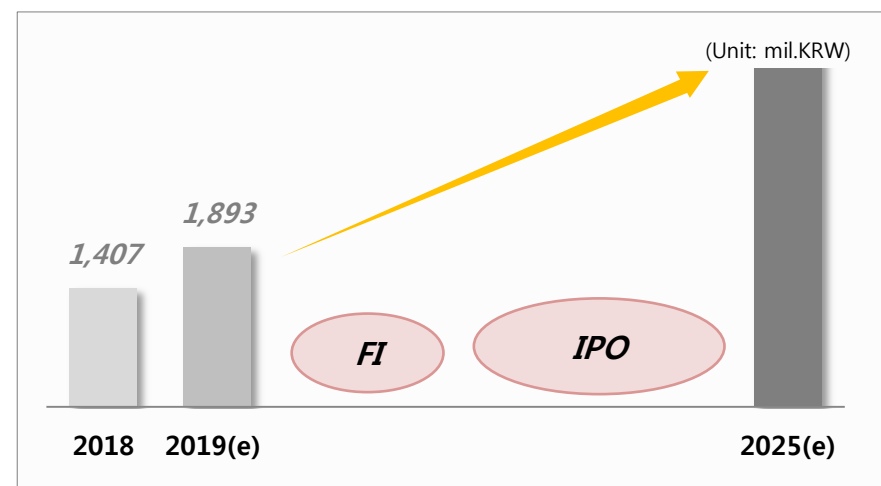
#### □ Overseas : Globalization through Strategic Alliance

##### ① Global partnership

- Target market: China, middle-east, etc.
- Overseas market expansion through License out & Joint Venture
- Strategic business alliance with Sanofi Pasteur for co-development of "Best in Class" pneumococcal vaccine

### To-be

*Leaping to become a global major vaccine company*



- SKYCELLFLU differentiation, SKYZOSTER manufacturing capacity expansion
- Globalization
  - approach public market and major countries
  - Global partnership(china, middle-east, etc.)
  - succeed in next generation PCV development
- Upgrading preventative vaccine & Diversifying Product Portfolio
- CMO business, Technology Licensing out
- Speeding-up & Expanding vaccine business by successful IPO

# III. Summary

## 1) Past Five Years

2000 ~

### Restructuring & Investment

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

2008 ~

### Accelerating Investment

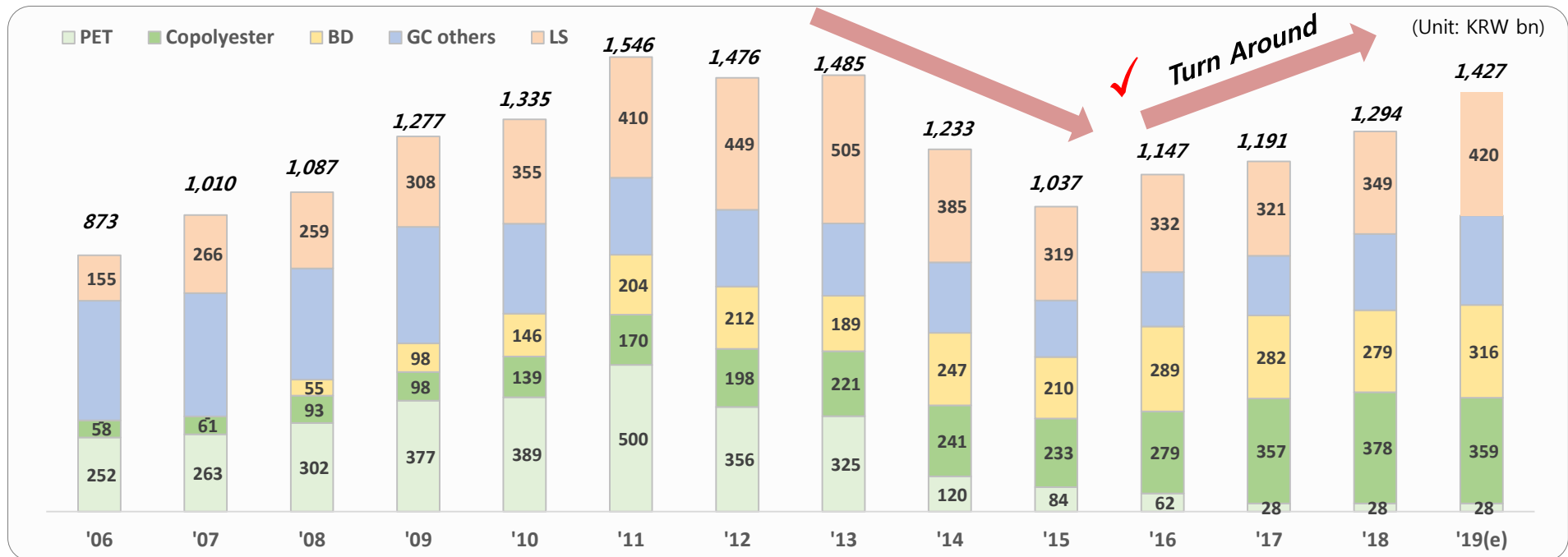
- '08 : Initiating Vaccine development/  
Bio diesel business
- '09 : NBP601 L/O (to CSL)
- '12 : Co-polyester capacity increasing
- '14 : L House acquired KGMP(Korea  
Good Manufacturing Practice)

2015~

### Realization of Investment

- '14 : Next PCV collaboration (w/ Sanofi)
- '15 : Cell flu trivalent (Korea 1<sup>st</sup>)
- '16 : Cell flu quadrivalent (World's 1<sup>st</sup>)  
The US FDA approval of NBP601
- '17 : Zoster (World's 2<sup>nd</sup>)
- '18 : Varicella vaccine

**SKYPAC (Global clinical trial 1<sup>st</sup> phase)**



## IV. Appendix

## 1) Consolidated Financial Statements

### Balance Sheet

(Unit: Mil. KRW)

	2018Y	2019Y
<b>Current assets</b>	<b>717,166</b>	<b>792,023</b>
Cash and cash equivalents	45,287	183,976
Short-term financial instruments	135,393	88,674
Trade and other receivables	195,944	171,327
Inventories	328,952	330,606
Other current assets	11,591	17,440
<b>Non-current assets</b>	<b>1,233,639</b>	<b>1,339,686</b>
Investments in associates and joint ventures	6,712	8,776
Property, plant and equipment	1,103,321	1,165,065
Intangible assets	38,341	37,429
Other non-current assets	3,509	1,950
<b>Total assets</b>	<b>1,950,805</b>	<b>2,131,709</b>
<b>Current liabilities</b>	<b>594,304</b>	<b>718,865</b>
Trade and other payables	230,195	231,782
Short-term borrowings	181,240	198,756
Other current liabilities	16,432	17,104
<b>Non-current liabilities</b>	<b>630,941</b>	<b>694,137</b>
<b>Total liabilities</b>	<b>1,225,245</b>	<b>1,413,003</b>
<b>Equity attributable to owners of the parent</b>	<b>691,831</b>	<b>715,629</b>
Capital stock	65,193	66,000
Capital surplus	668,176	264,315
Other components of equity	-35,433	-9,890
Accumulated other comprehensive Income(loss)	-3,115	-2,594
Earned surplus	-2,988	397,797
<b>Non-controlling interest</b>	<b>33,729</b>	<b>3,078</b>
<b>Total equity</b>	<b>725,560</b>	<b>718,706</b>
<b>Total liabilities and equity</b>	<b>1,950,805</b>	<b>2,131,709</b>

### Income Statement

(Unit: Mil. KRW)

	'19.1Q	'19.2Q	'19.3Q	'19.4Q	2019 accumulated
<b>Sales</b>	<b>319,408</b>	<b>380,195</b>	<b>380,452</b>	<b>347,131</b>	<b>1,427,186</b>
Cost of sales	259,156	284,482	292,647	264,890	1,101,175
Gross profit	60,252	95,713	87,805	82,241	326,011
Selling, general and administrative expenses	56,595	65,275	60,693	63,110	245,673
<b>Operating profit</b>	<b>3,657</b>	<b>30,438</b>	<b>27,112</b>	<b>19,131</b>	<b>80,338</b>
Other non-operating income	1,834	2,191	2,961	2,733	9,719
Other non-operating expense	7,505	6,957	4,275	20,247	38,984
Financial income	6,249	9,248	8,311	2,177	25,985
Financial expense	12,550	17,008	15,769	10,923	56,250
Share of profit of associates and joint ventures	427	427	642	546	2,042
<b>Earnings before interest and taxes</b>	<b>-7,888</b>	<b>18,339</b>	<b>18,981</b>	<b>-6,583</b>	<b>22,849</b>
Income tax expense	3,720	5,957	16,313	-8,163	17,827
<b>Earnings for the period</b>	<b>-11,608</b>	<b>12,382</b>	<b>2,668</b>	<b>1,580</b>	<b>5,022</b>
Earnings attributable to owners of the parent	-7,033	13,447	2,551	1,632	10,597
Earnings attributable to non-controlling interests	-4,576	-1,065	116	-51	-5,576



***End of Documents***