

# SK Chemicals Earnings Release

'19 3Q

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## **Disclaimer:**

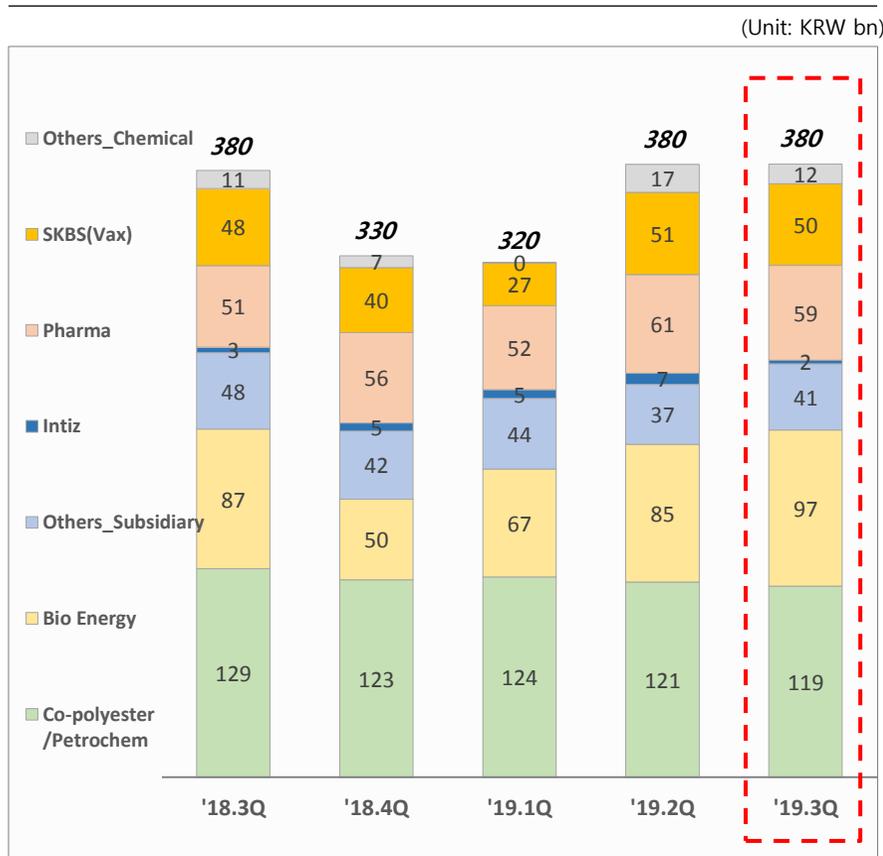
**The business results are subject to the K-IFRS(Korea International Financial Reporting Standards) and reported on a consolidated basis.**

**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.**

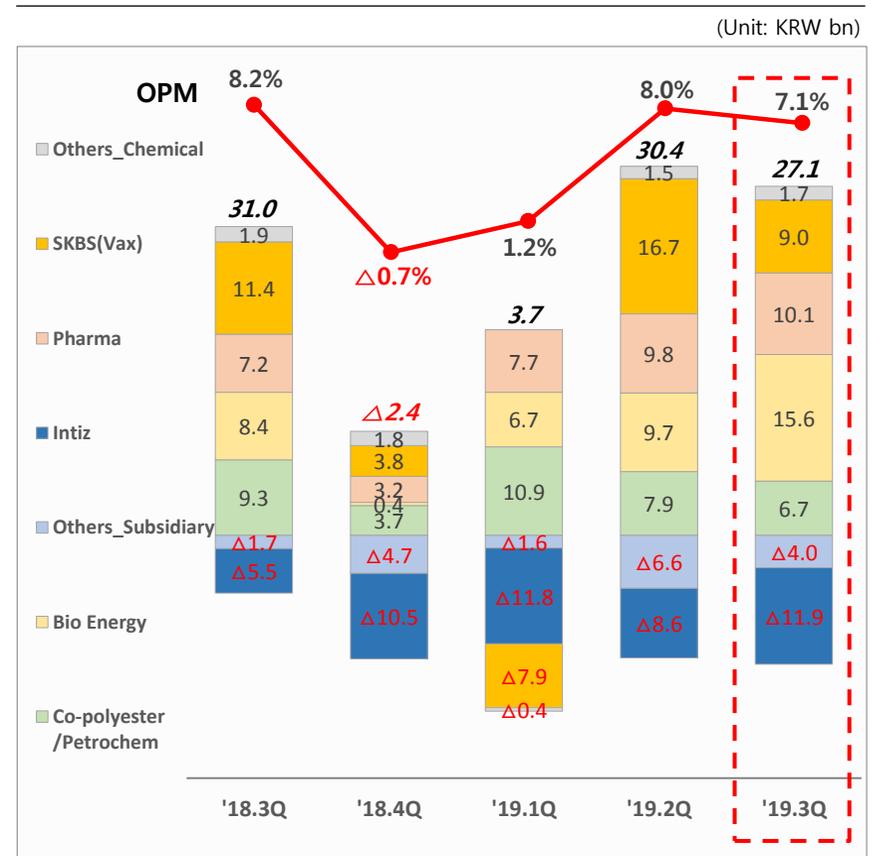
# I. Performance Review (Consolidated)

- Sales totaled 380 bil KRW(1% YoY), and operating profit recorded 27.1 bil KRW( $\Delta$ 12% YoY).
- Despite of the record quarterly OP from Bio Energy biz. & outstanding performance from Pharma. biz., slow performance from Copolyester biz and Others Subsidiary led to slight decrease in operating profit.

Sales



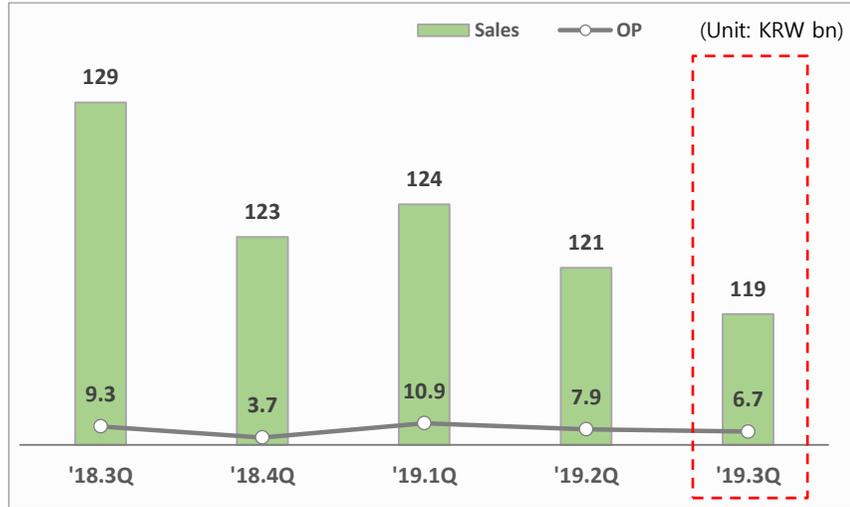
Operating Profit



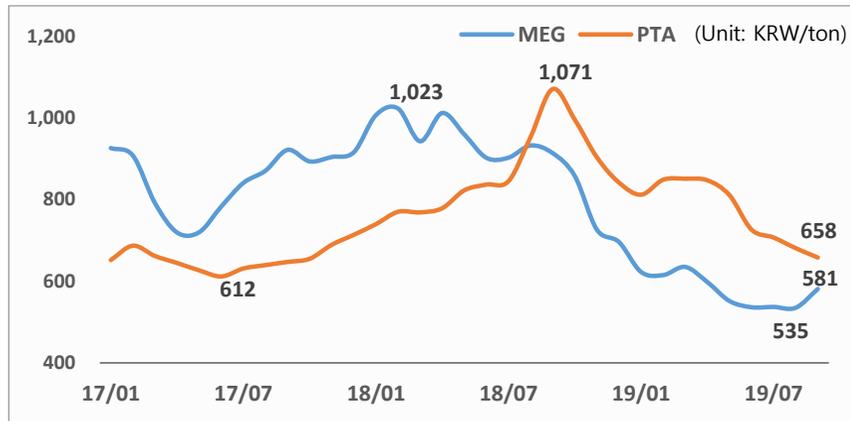
### Performance

### Review/Guidance

#### Quarterly Review



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



#### '19.3Q Performance Review

- Sales

Due to slow demand caused by US-China trade war & global economy slow down, sales decreased by 8.3% YoY

- OP

Favorable exchange rate and raw material price trend were mostly offset by scheduled maintenance expense and unfavorable product mix.

#### '19.4Q Outlook

- Challenging global economy outlook to continue

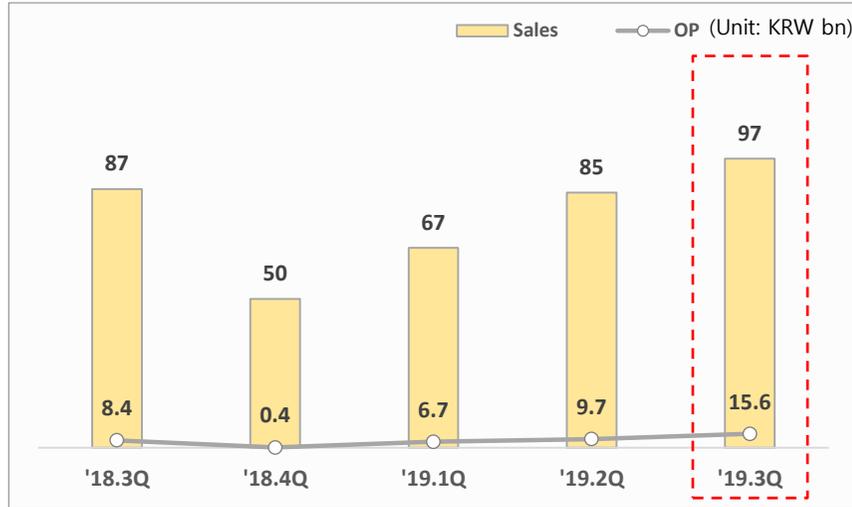
#### ※ Application

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

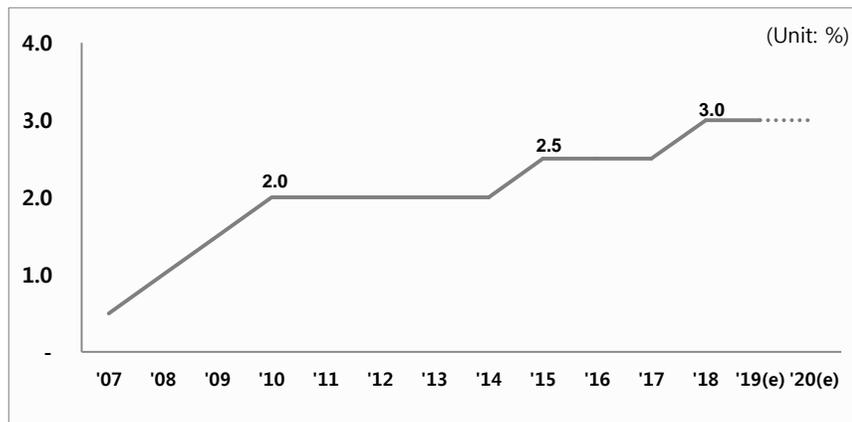
### Performance

### Review/Guidance

#### Quarterly Review



#### Mixing Ratio Trend



#### '19.3Q Performance Review

##### - Sales

Sales rose 14% YoY due to biodiesel export and increase in Bio Heavy Oil sales

##### - OP

Quarterly operating profit reached record high, thanks to favorable spread, biodiesel export and margin improvement in Bio Heavy Oil business

#### '19.4Q Outlook

- Favorable spread margin vs. Low-demand season

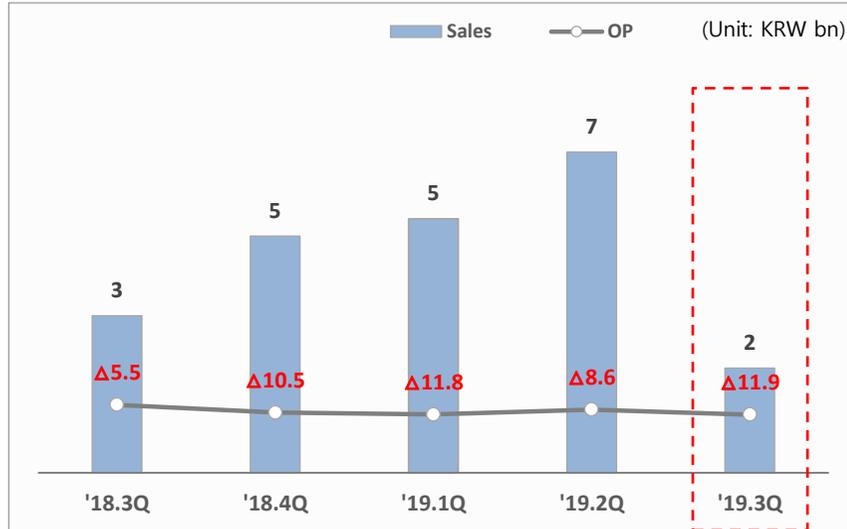
※ The mix ratio increase in 2018

- 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*



#### '19.3Q Performance Review

- Sales

Sluggish sales due to US-China Trade war & Slow global economy

- OP

Deficit widened due to sales volume decrease and fixed cost increase

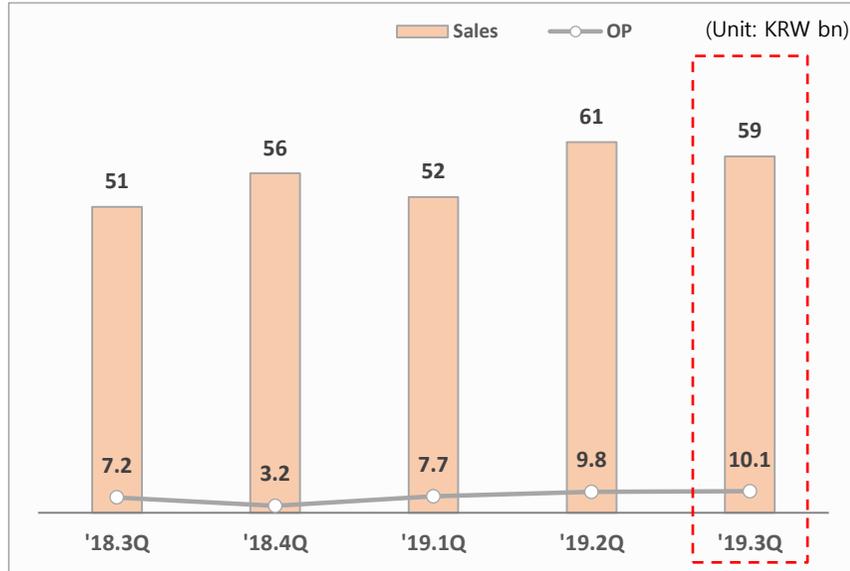
#### '19.4Q Outlook

- Due to unfavorable macroeconomic situation, similar performance to past quarters expected

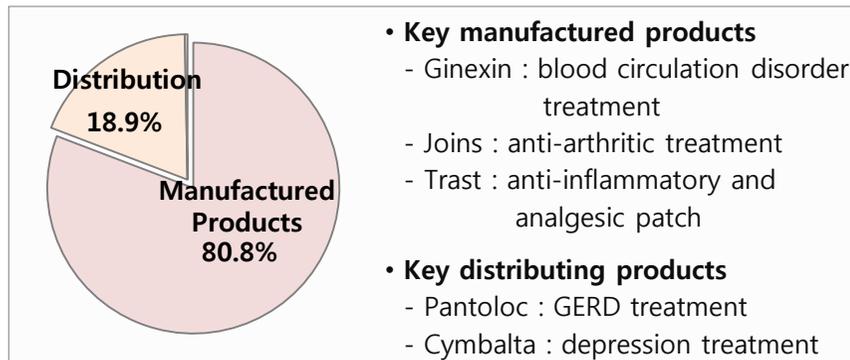
### Performance

### Review/Guidance

#### Quarterly Review



#### Sales composition (as of 2018)



#### '19.3Q Performance Review

##### - Sales

Steady sales from existing line of products(ex. Joins) + additions of co-marketing & distribution product sales helped +16.4% revenue increase YoY

##### - OP

Sales increase and effective cost execution led to to 40% increase YoY

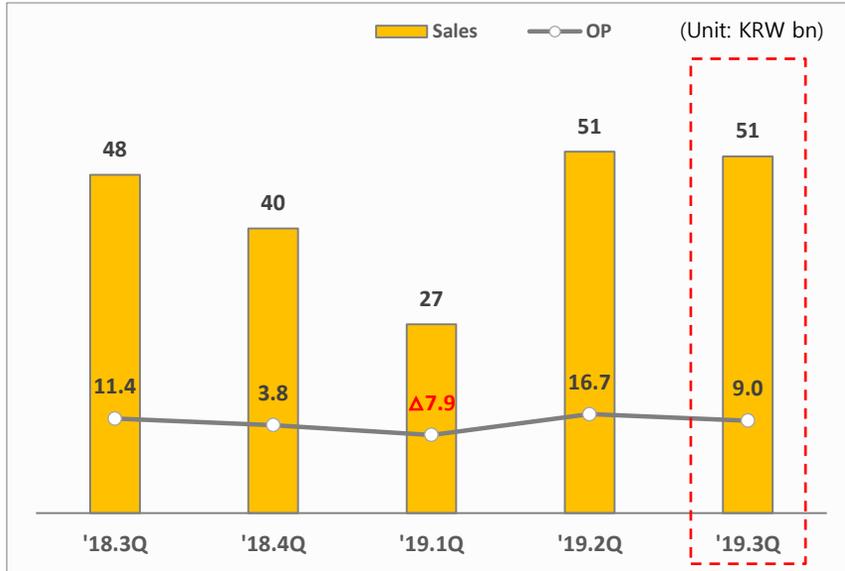
#### '19.4Q Outlook

- Solid sales and profits are expected.

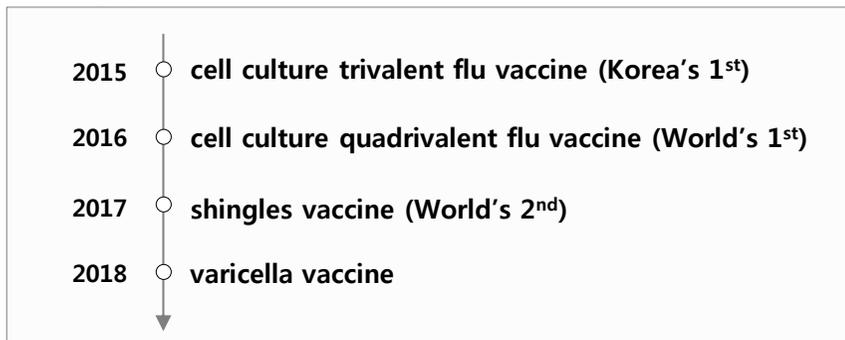
### Performance

### Review/Guidance

#### □ Quarterly Review



#### □ Key product release



#### • '19.3Q Performance Review

##### - Sales

Strong sales from SKYZOSTER and export of SKYCELLFLU led to +5.4% increase YoY

##### - OP

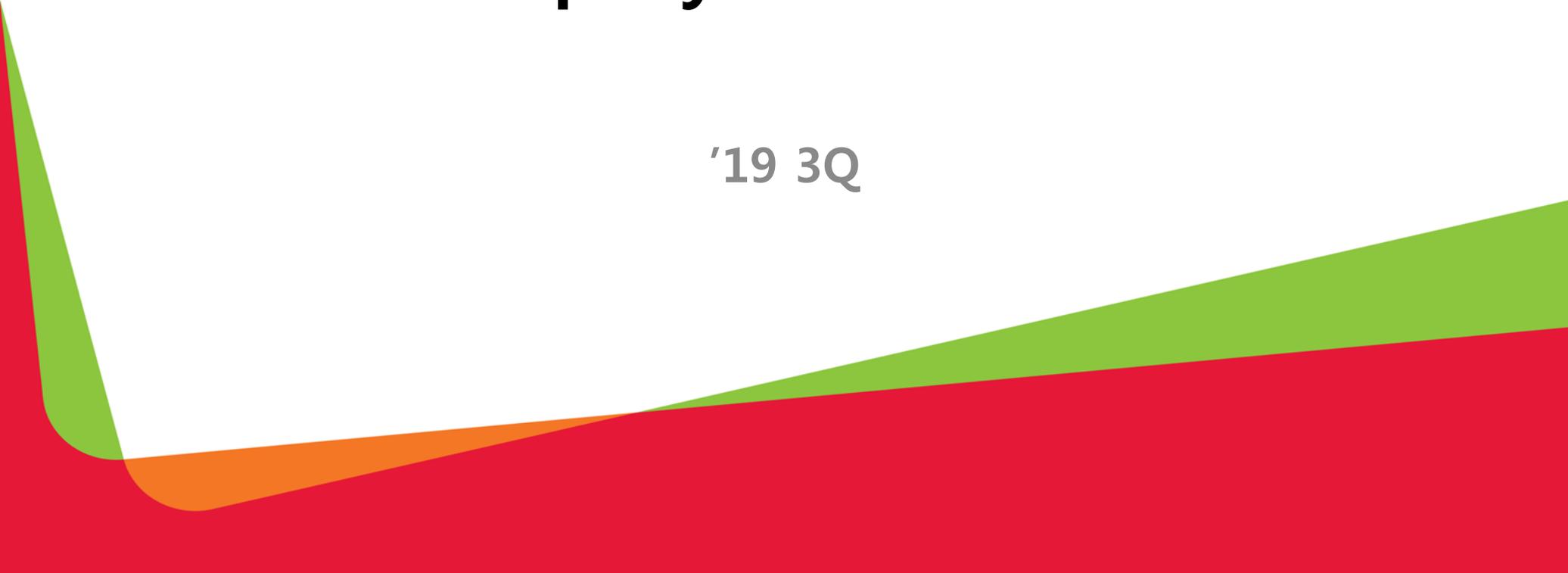
Operating profit was down by  $\Delta 21\%$  YoY due to increase in R&D expense and salary expense as major clinical trials are progressing

#### • '19.4Q Outlook

- Strengthening market leadership of SKYZOSTER
- Robust flu vaccine sales expected

# SK Chemicals Company Introduction

'19 3Q



# Contents

## **I. Overview**

## **II. Business Divisions**

- **Green Chemicals Biz.**

- **Life Science Biz.**

## **III. Summary**

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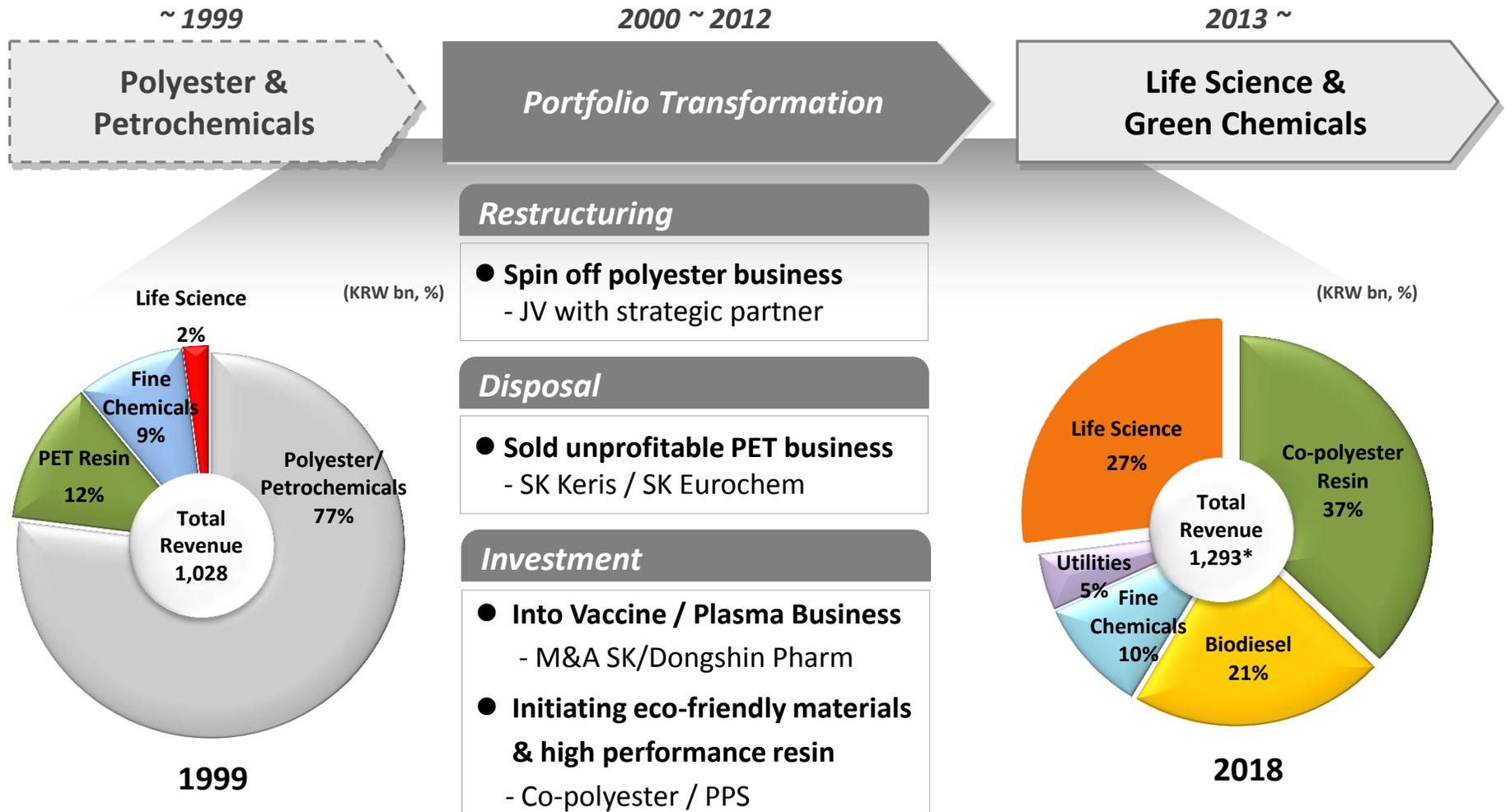
# I. Overview



# I. Overview

## 1) Portfolio Transformation

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

# I. Overview

## 2) Restructuring and Investment

Since 2000, SK Chemicals has restructured its business portfolio by selling/spinning off businesses with total sales of 1.7 trillion KRW, and developing new ones with higher growth potential.

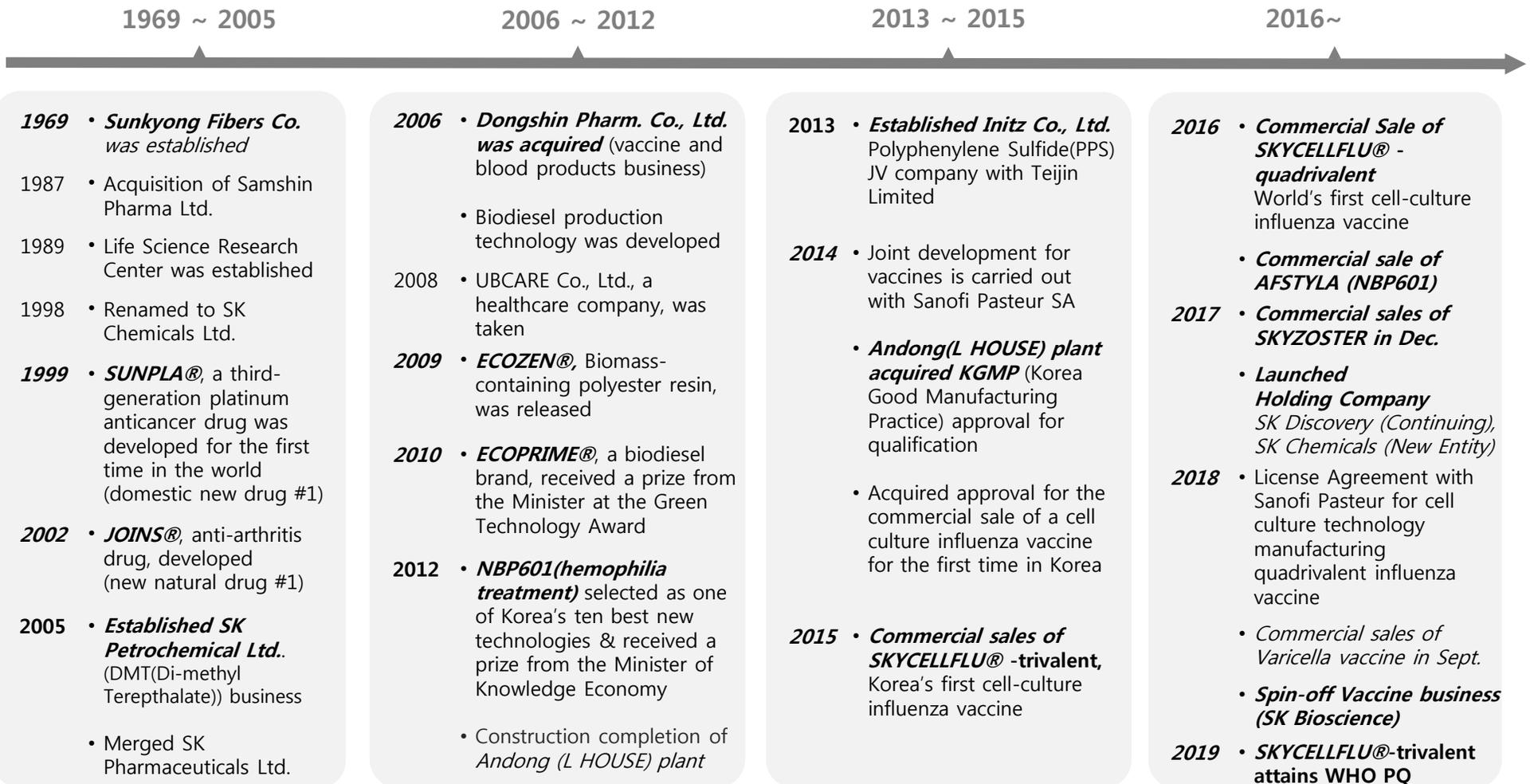
Restructuring		
(Unit: KRW bn)		
Biz.	Product	Sales
• Yarn/Cotton('00)	-	337
• Textile('03)	-	62
• Fiber('07)	IDY	16
• Petrochemicals('08)	PTA/DMT	528
• Acetate ('09)	Tow, PU	164
• Keris / Eurochem('10)	PET chip	601
• Utis('10)	Polyurethane	15
<b>Total Sales</b>		<b>1,722</b>

Investment		
(Unit: KRW bn)		
Biz.	Amount	Sales('18)
• Co-polyester	154 <sup>1)</sup>	378
- Expansion of Co-polyester		
• Initiate Bio diesel business	31	279
• Accelerate Pharma Business	400	349
- M&A SK / Dongshin Pharm.		
- In-house Vaccine development		
• Initiate PPS business	142 <sup>2)</sup>	19
<b>Total Amount</b>		<b>727</b>
		<b>1,024</b>

1) Total amount including latest expansion

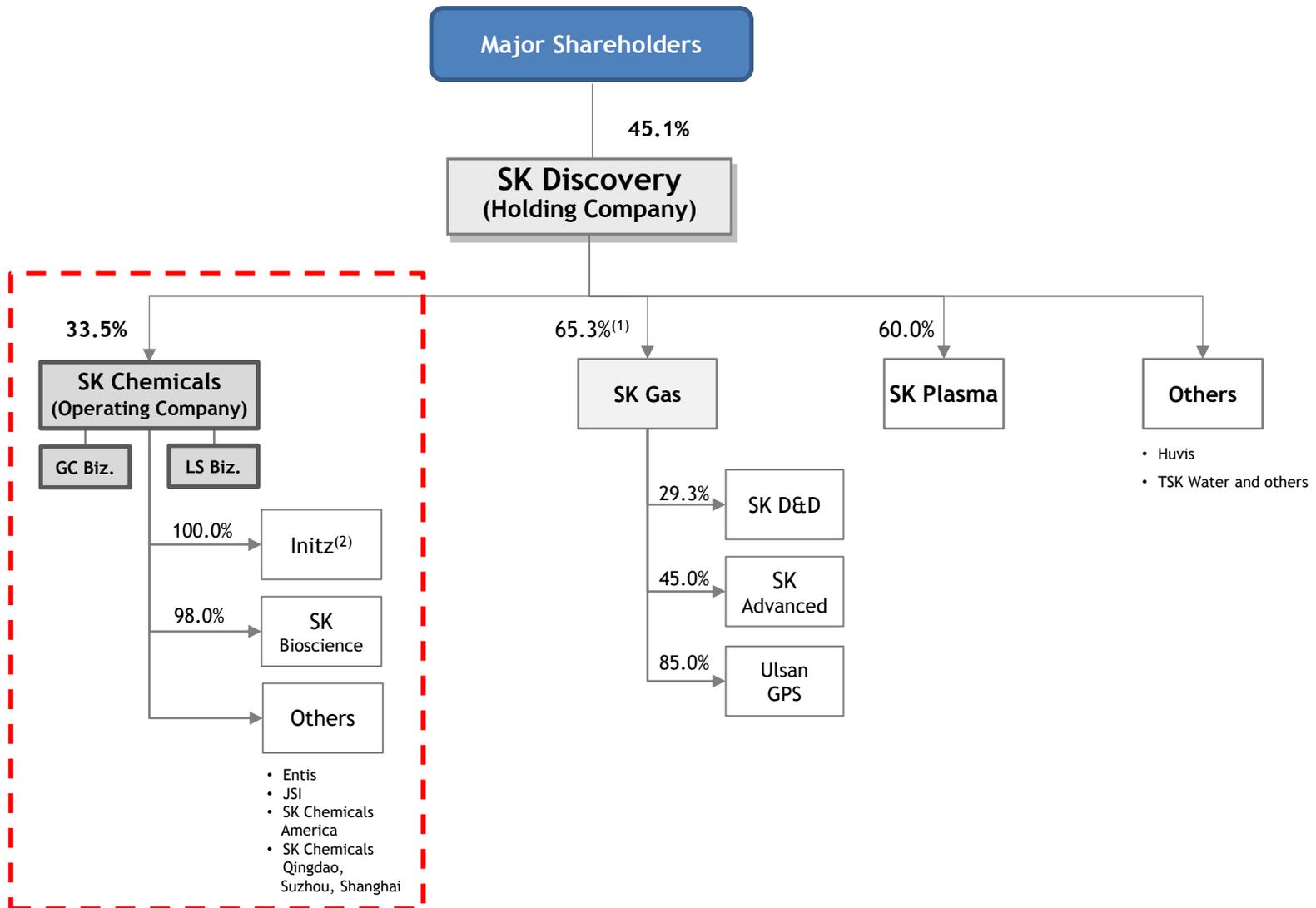
2) SK Chemicals' share (Total investment ; KRW 230 bn)

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  
 (2) Initz will be merged with SK Chemicals as of December 1<sup>st</sup>, 2019

## **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

(Unit: KRW bn)



### □ Bio Diesel

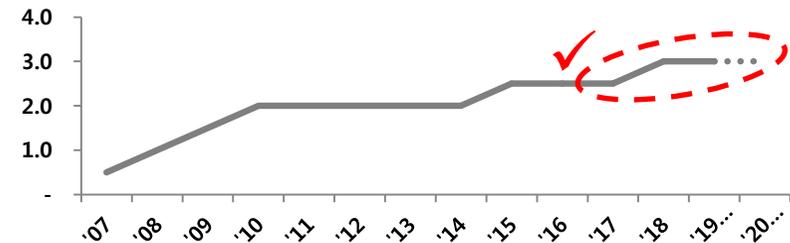
- Alternative energy manufactured by animal and vegetable oils(fats)
- Government policies(mixing ratio) to blend biodiesel with diesel fuel
- No.1 M/S in Domestic Market

### □ Strength of our Bio Diesel

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

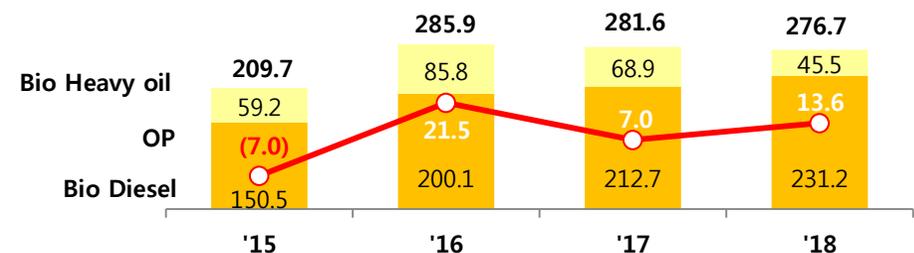
### □ Mix Ratio Trend

(Unit: %)



### □ Performance Review

(Unit: KRW bn)



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

### □ Initz (Polyphenylene Sulfide, PPS)

- 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

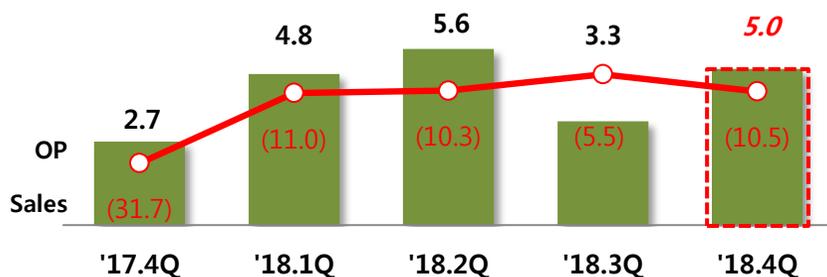
**Automotive** • Pump impeller, Generator parts, etc

• **Weight lightening trend in automotive industry**

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

### □ Performance Review

(Unit: KRW bn)



### □ Other businesses

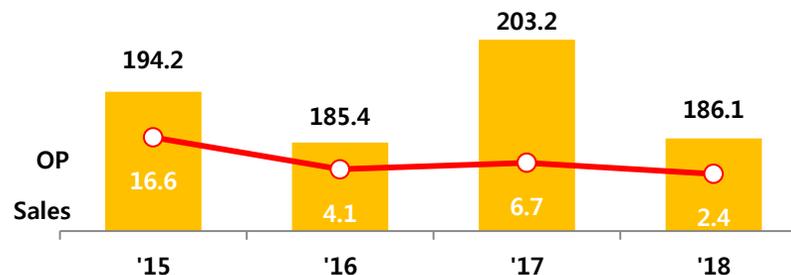
- SKYBON: thermal resin used in binders and adhesives
- Prepreg: intermediate material in sheet forms of specially formulated resin matrix with reinforcing fiber such as carbon fiber, glass fiber etc.
- EP: manufactures variety of Engineering Plastic
- Utility: provider of steam, electricity etc. to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

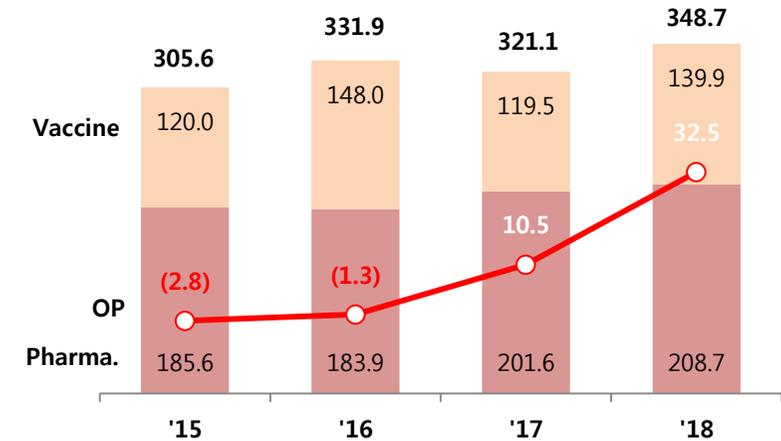
- **Manufacturing & distributing chemical drugs**
- **Focus areas:** Cardio vascular system, Musculoskeletal system, Urinary system, Nervous system
- **Major products:** JOINS, GINEXIN, TRAST, Rivastigmine Patch and others

### ☐ 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

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'

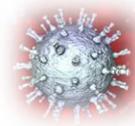
#### □ SK Chemical's influenza vaccine

- ✓ **'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' 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.



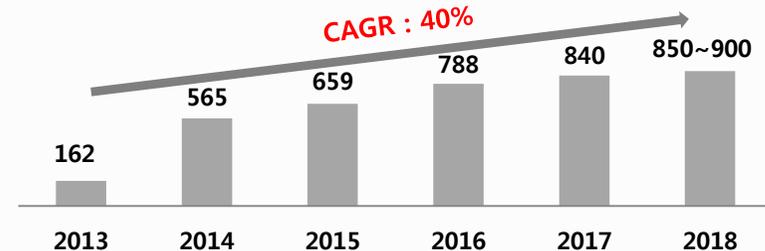
\* Picture: The blistering Shingles rash on face, body

#### □ 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 year 2018**

## 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)

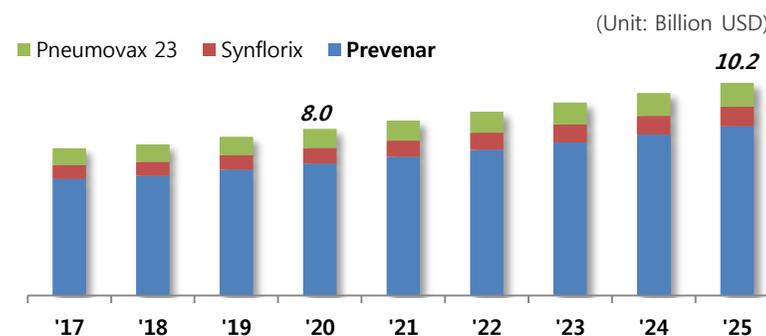
### Co-development of PCV



- **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

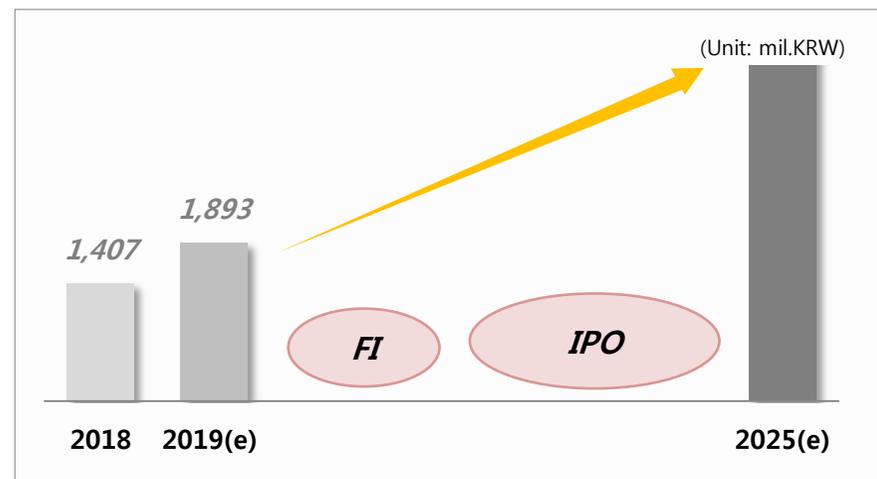
#### □ Overseas : Globalization through Strategic Alliance

##### 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

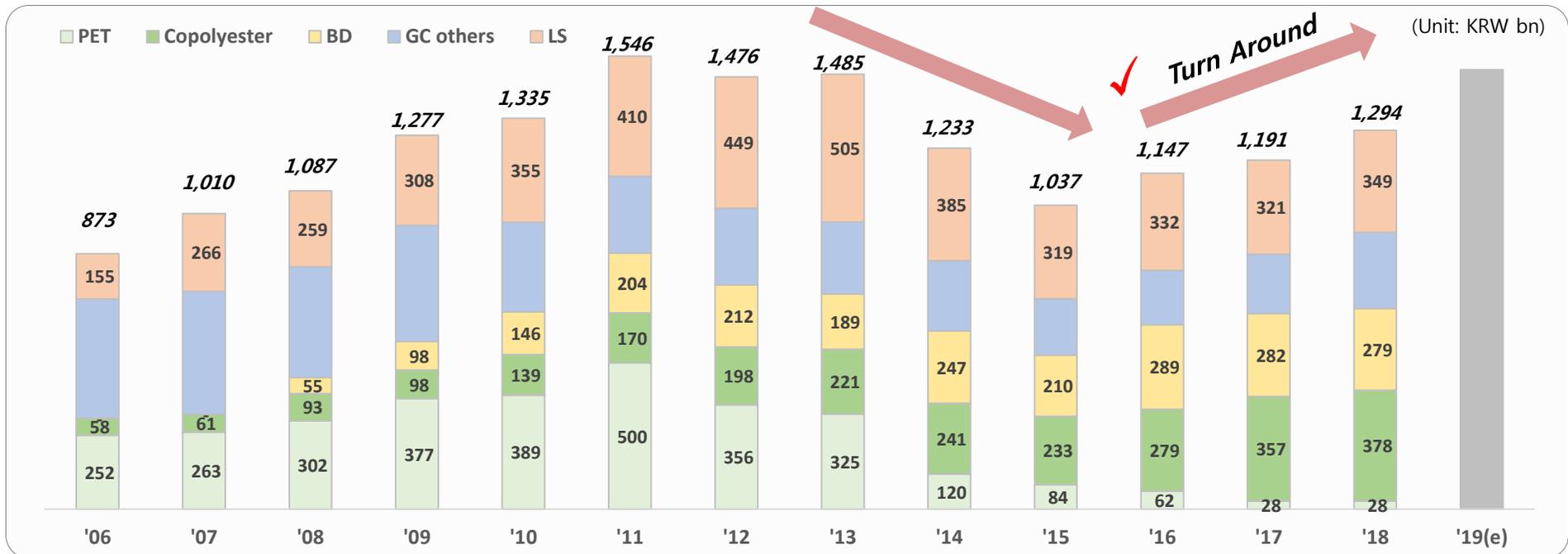
- '08 : Initiating Vaccine development/  
Bio diesel business
- '09 : NBP601 L/O (to CSL)
- '12 : Co-polyester capacity increasing
- '14 : L House acquired KGMP(Korea  
Good Manufacturing Practice)

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 3Q
<b>Current assets</b>	<b>717,166</b>	<b>713,156</b>
Cash and cash equivalents	45,287	100,168
Short-term financial instruments	135,393	68,143
Trade and other receivables	195,942	204,542
Inventories	328,952	324,427
Other current assets	11,592	15,876
<b>Non-current assets</b>	<b>1,233,639</b>	<b>1,318,839</b>
Investments in associates and joint ventures	6,712	8,275
Property, plant and equipment	1,103,321	1,162,020
Intangible assets	38,341	38,981
Other non-current assets	1,638	3,414
<b>Total assets</b>	<b>1,950,805</b>	<b>2,031,995</b>
<b>Current liabilities</b>	<b>594,304</b>	<b>739,171</b>
Trade and other payables	230,195	207,418
Short-term borrowings	181,240	205,494
Other current liabilities	16,432	19,105
<b>Non-current liabilities</b>	<b>630,941</b>	<b>571,471</b>
<b>Total liabilities</b>	<b>1,225,245</b>	<b>1,310,642</b>
<b>Equity attributable to owners of the parent</b>	<b>691,831</b>	<b>718,283</b>
Capital stock	65,193	66,000
Capital surplus	668,176	264,315
Other components of equity	-35,433	-10,155
Accumulated other comprehensive Income(loss)	-3,115	-2,571
Earned surplus	-2,988	400,695
<b>Non-controlling interest</b>	<b>33,729</b>	<b>3,070</b>
<b>Total equity</b>	<b>725,560</b>	<b>721,353</b>
<b>Total liabilities and equity</b>	<b>1,950,805</b>	<b>2,031,995</b>

### Income Statement

(Unit: Mil. KRW)

	'19.1Q	'19.2Q	'19.3Q	'19.3Q accumulated
<b>Sales</b>	<b>319,408</b>	<b>380,195</b>	<b>380,452</b>	<b>1,080,055</b>
Cost of sales	259,156	284,482	292,647	836,284
Gross profit	60,252	95,713	87,805	243,771
Selling, general and administrative expenses	56,595	65,275	60,693	182,564
<b>Operating profit</b>	<b>3,657</b>	<b>30,438</b>	<b>27,112</b>	<b>61,207</b>
Other non-operating income	1,834	2,191	2,961	6,985
Other non-operating expense	7,505	6,957	4,275	18,737
Financial income	6,249	9,248	8,311	23,808
Financial expense	12,550	17,008	15,769	45,327
Share of profit of associates and joint ventures	427	427	642	1,496
<b>Earnings before interest and taxes</b>	<b>-7,888</b>	<b>18,339</b>	<b>18,981</b>	<b>29,431</b>
Income tax expense	3,720	5,957	16,313	25,990
<b>Earnings for the period</b>	<b>-11,608</b>	<b>12,382</b>	<b>2,668</b>	<b>3,441</b>
Earnings attributable to owners of the parent	-7,033	13,447	2,551	8,966
Earnings attributable to non-controlling interests	-4,576	-1,065	116	-5,524

***End of Documents***