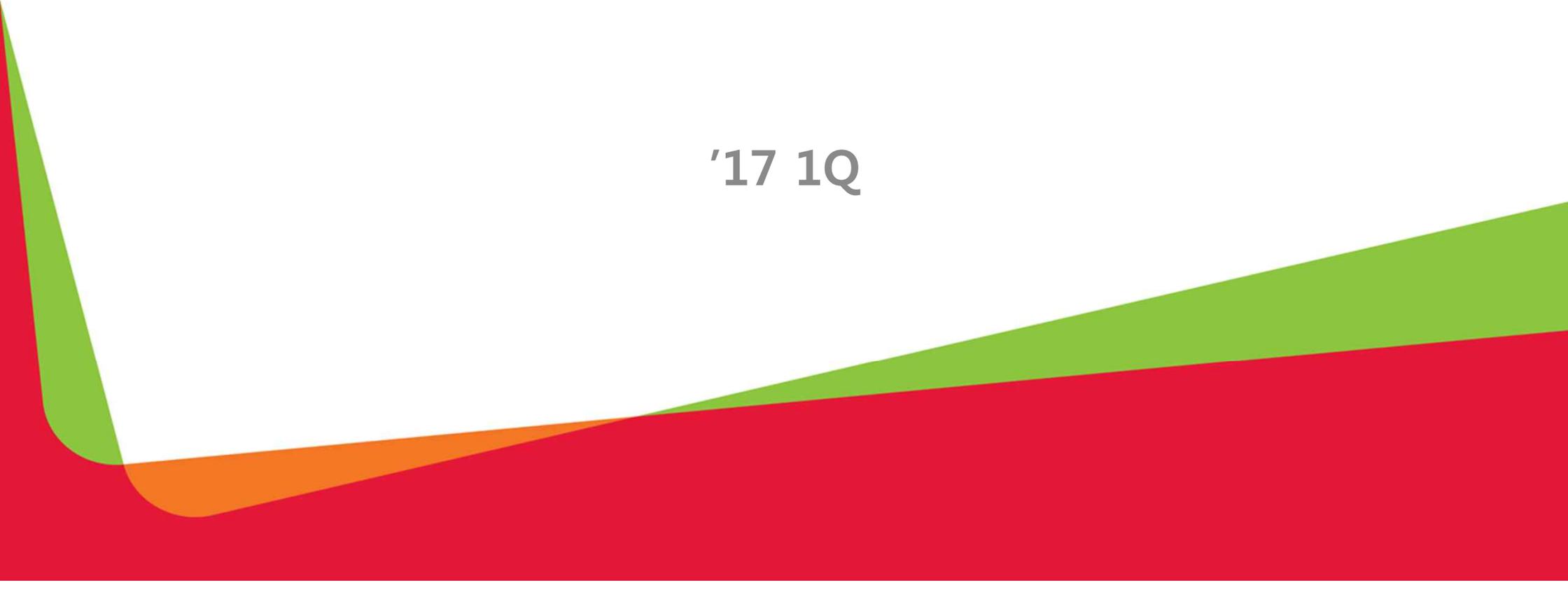


# SK Chemicals Investor Relations

'17 1Q



## **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.**

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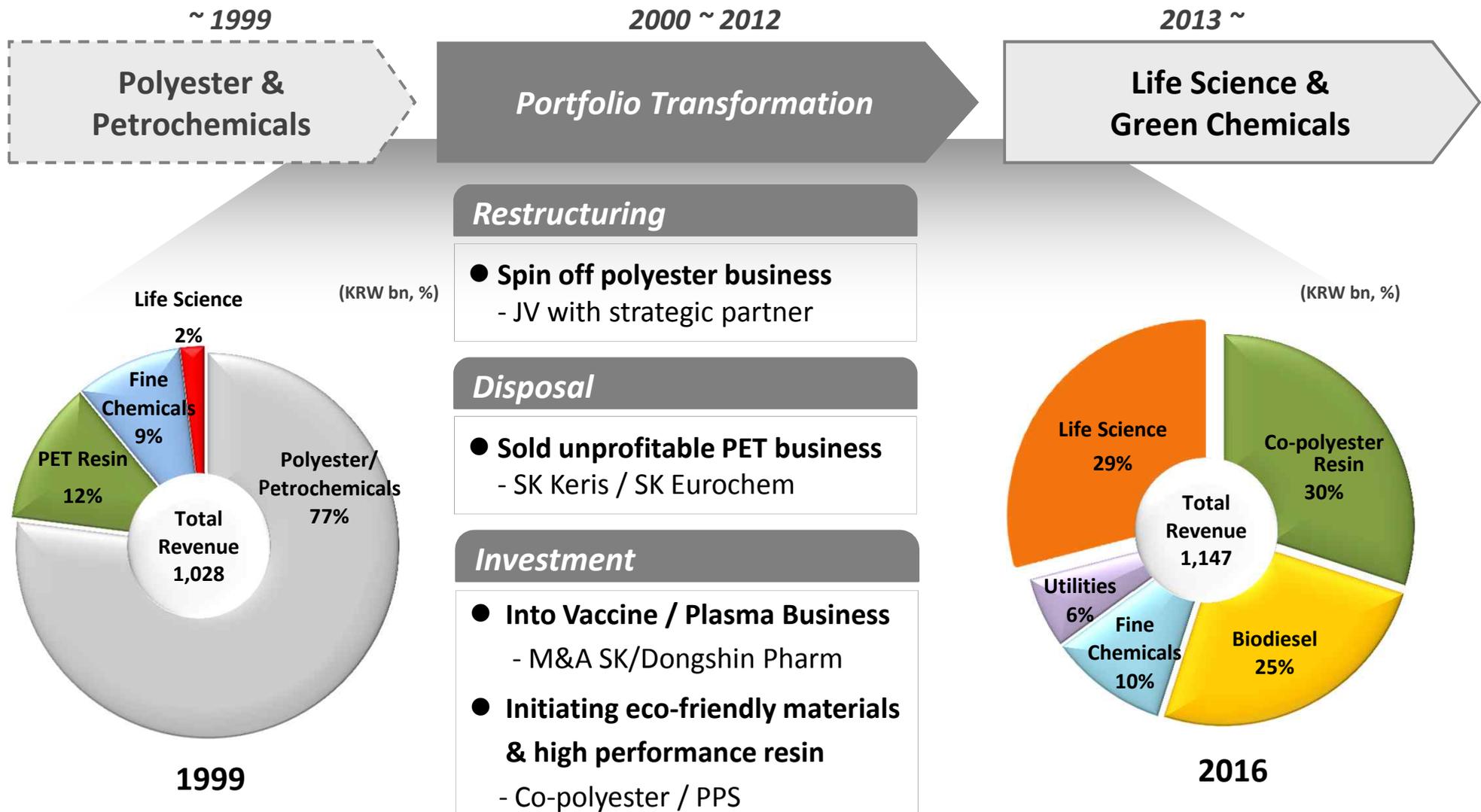
# I. Overview



# I. Overview

## 1) Portfolio Transformation

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



# 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.

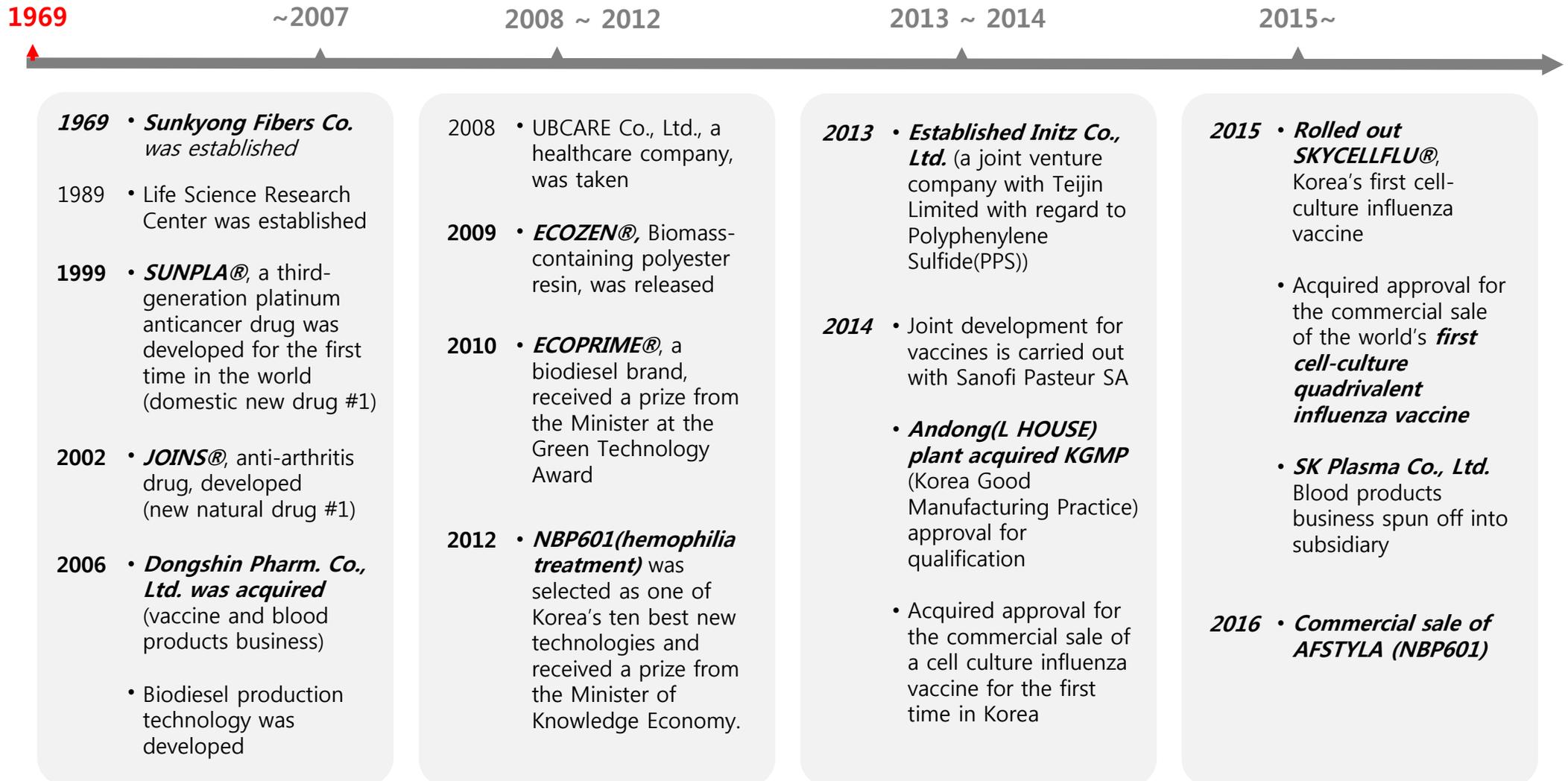
Restructuring		
(Unit: KRW bn)		
Biz.	Product	Sales
• Yarn/Cotton('00)	-	337
• Textile('03)	-	62
• Fiber('07)	IDY	16
• Petrochemicals('08)	PTA/DMT	528
• Acetate ('09)	Tow, PU	164
• Keris / Eurochem('10)	PET chip	601
• Utis('10)	Polyurethane	15
<b>Total Sales</b>		<b>1,722</b>

Investment		
(Unit: KRW bn)		
Biz.	Amount	Sales('16)
• Co-polyester	154 <sup>1)</sup>	279
- Expansion of Co-polyester		
• Initiate Bio diesel business	31	289
• Accelerate Pharma Business	400	332
- M&A SK / Dongshin Pharm.		
- In-house Vaccine development		
• Initiate PPS business	69 <sup>2)</sup>	-
<b>Total Amount</b>		<b>654</b>
		<b>900</b>

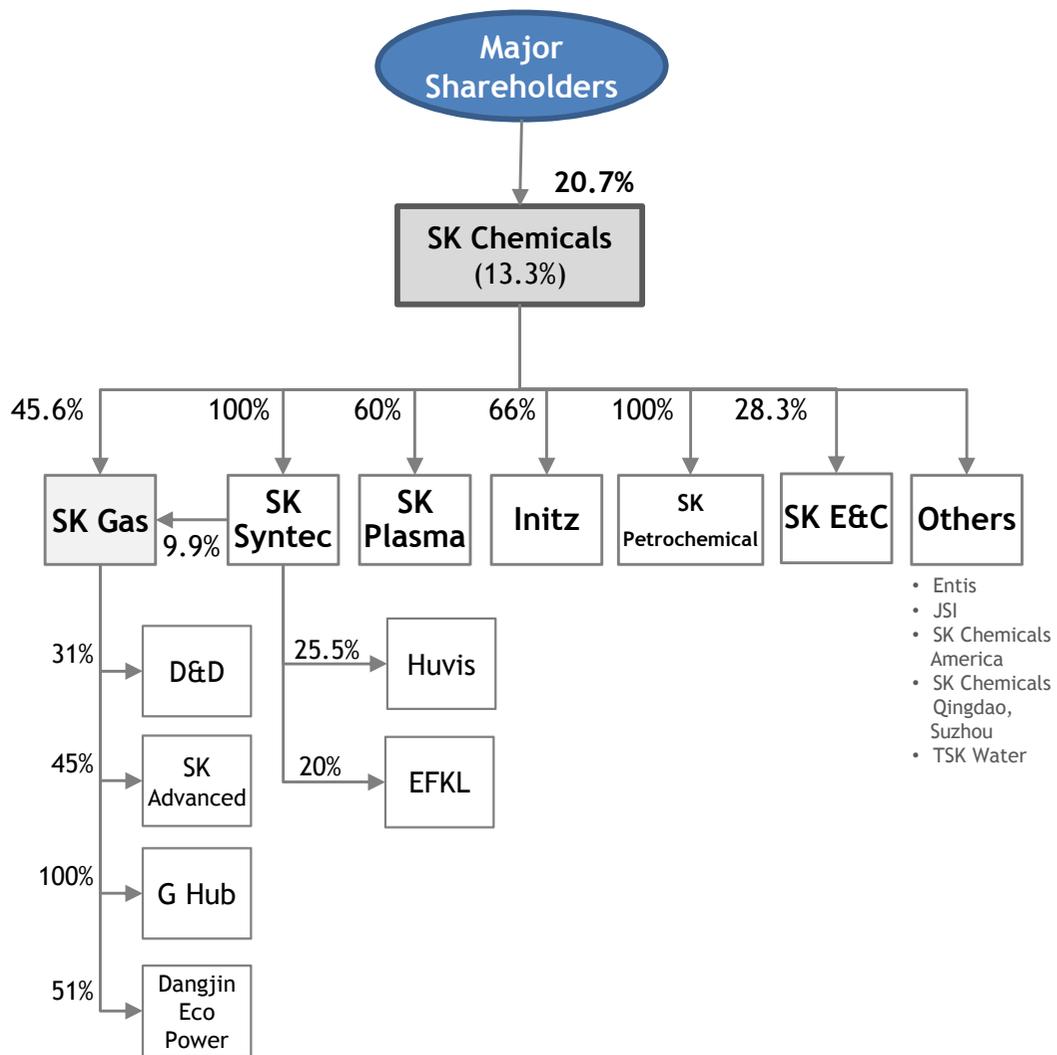
1) Total amount including latest expansion

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

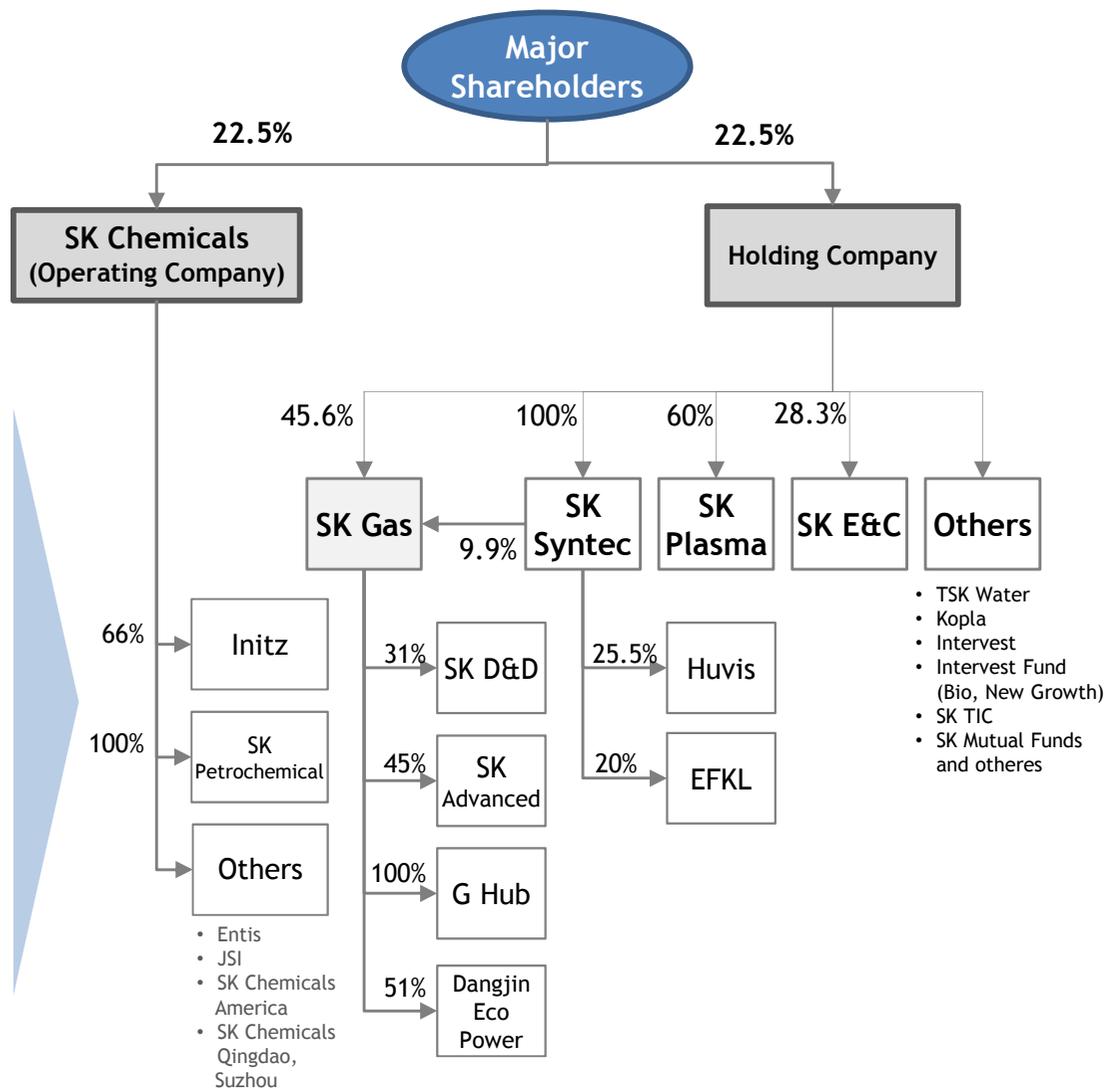
Since the establishment of Sunkyung Textiles in 1969, SK Chemicals has grown through continuous change and innovation into a chemical and life sciences enterprise representing South Korea.



Before spin-off



After spin-off



※ Based on financial results for '17. 1Q

## **II. Business Divisions**

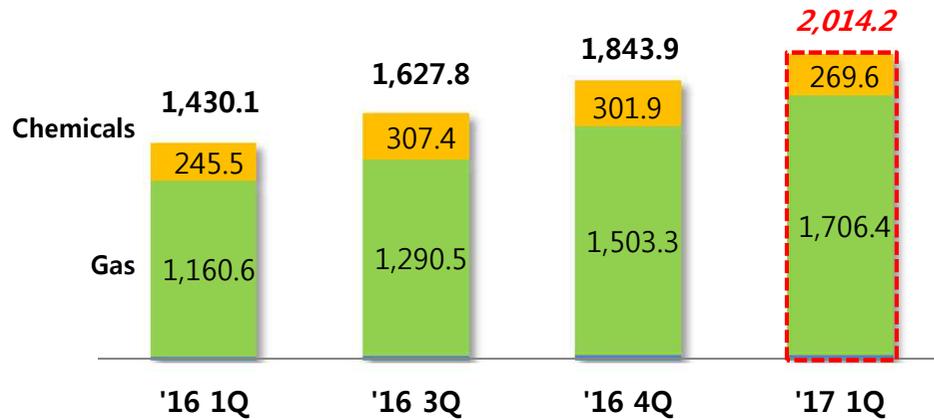


## II. Business Divisions

### 1) Performance Review (Consolidated)

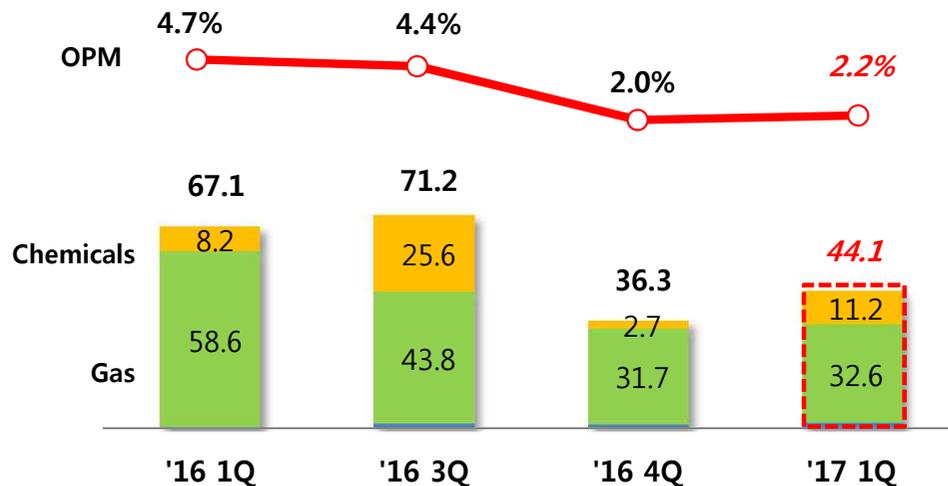
#### Sales

(Unit: KRW bn)



#### Operating Profit

(Unit: KRW bn)



#### □ Sales

- SK Chemical : Sales growth YoY, driven by sales growth across all business divisions.
- SK Gas : Strong sales growth YoY, primarily due to increase in LPG sales.

#### □ Operating Profit

- SK Chemical : Operating Profit increased YoY, due to a positive impact from cost reduction efforts and a one-time gain.
- SK Gas : Operating Profit decreased YoY, mainly due to a rise in LPG contract prices(CP) which narrowed the margin spread.

#### □ Net Profit

- Maintained Net Profit at the '16.1Q level, supported by profit gains in associates

(Unit: KRW bn, %)	'16 1Q	'16 4Q	'17 1Q	YoY	QoQ
<b>Sales</b>	1,430.1	1,843.9	2,014.2	+40.8%	+9.2%
<b>OP</b>	67.1	36.3	44.1	△34.3%	+21.5%
<b>OPM</b>	4.7%	2.0%	2.2%	△2.5%p	+0.2%p
<b>NP</b>	41.4	18.8	41.3	△0.2%	+119.7%

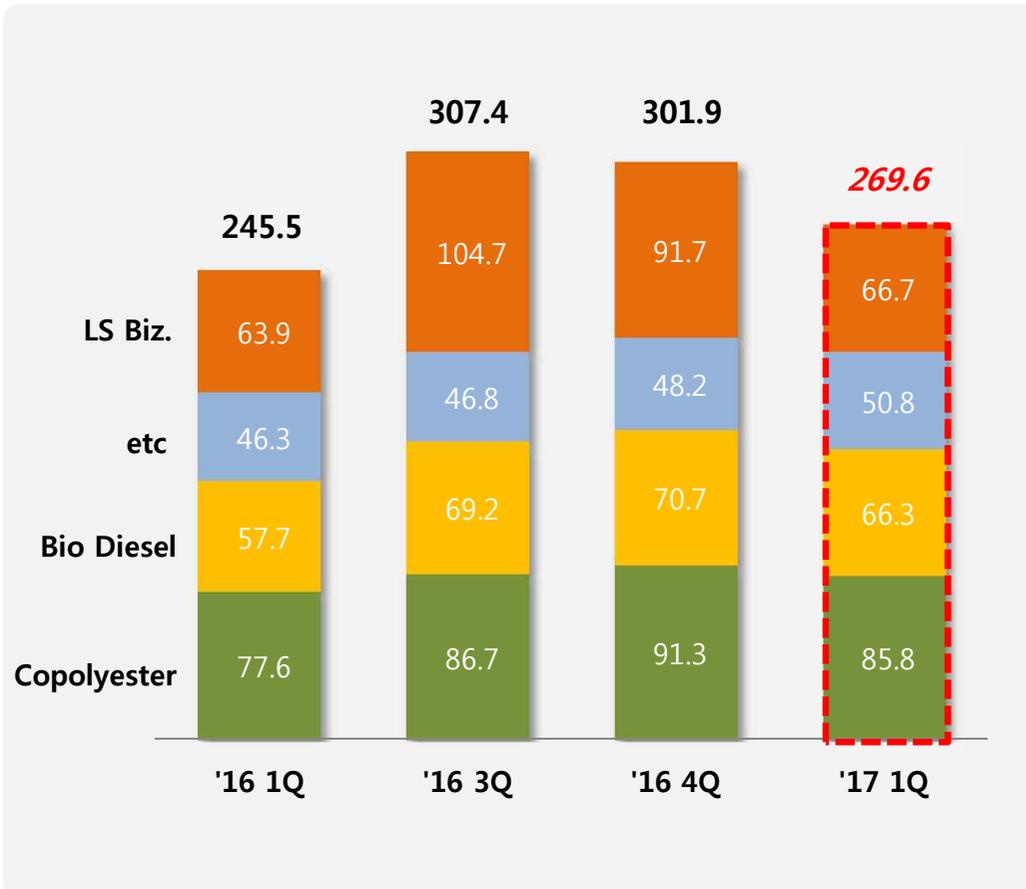
## II. Business Divisions

## 2) Performance Review (Non-consolidated)

- Sales increased by 10% YoY, driven by sales growth across all business divisions.
- Operating profit increased by 37% YoY, due to a positive impact from cost reduction efforts and a one-time gain from the carbon reduction credits.

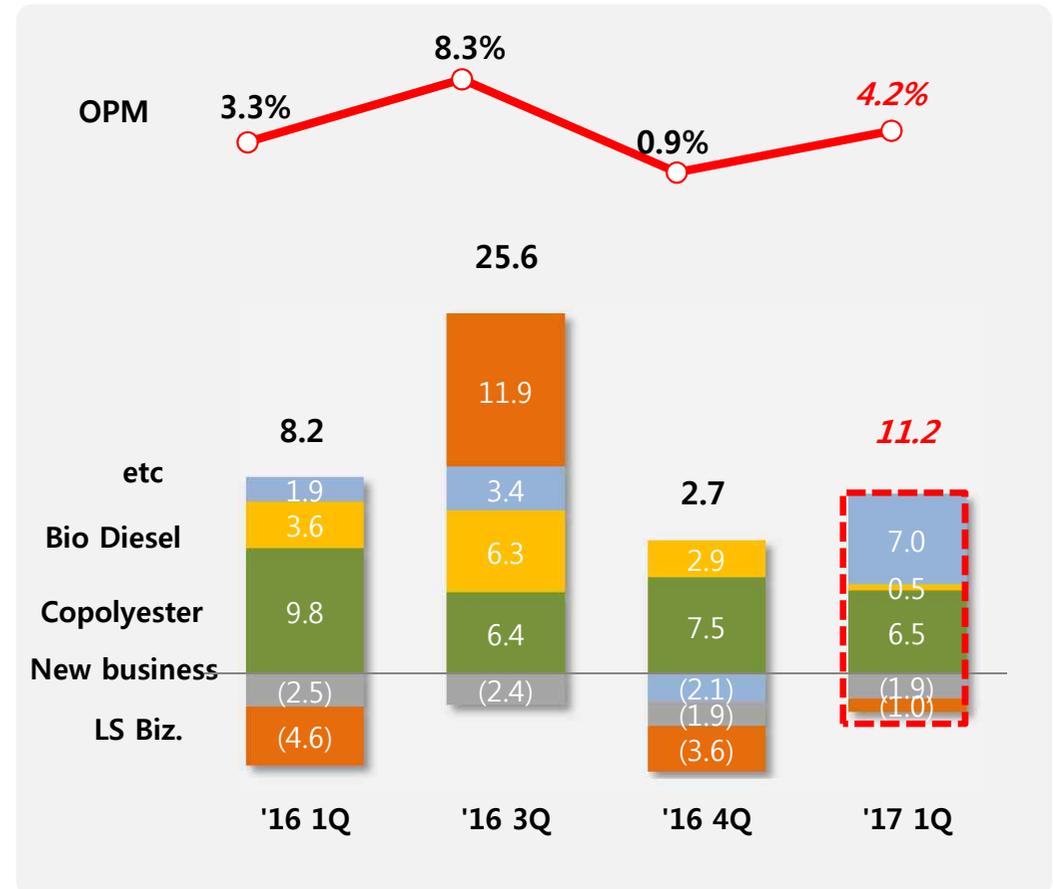
### □ Sales

(Unit: KRW bn)

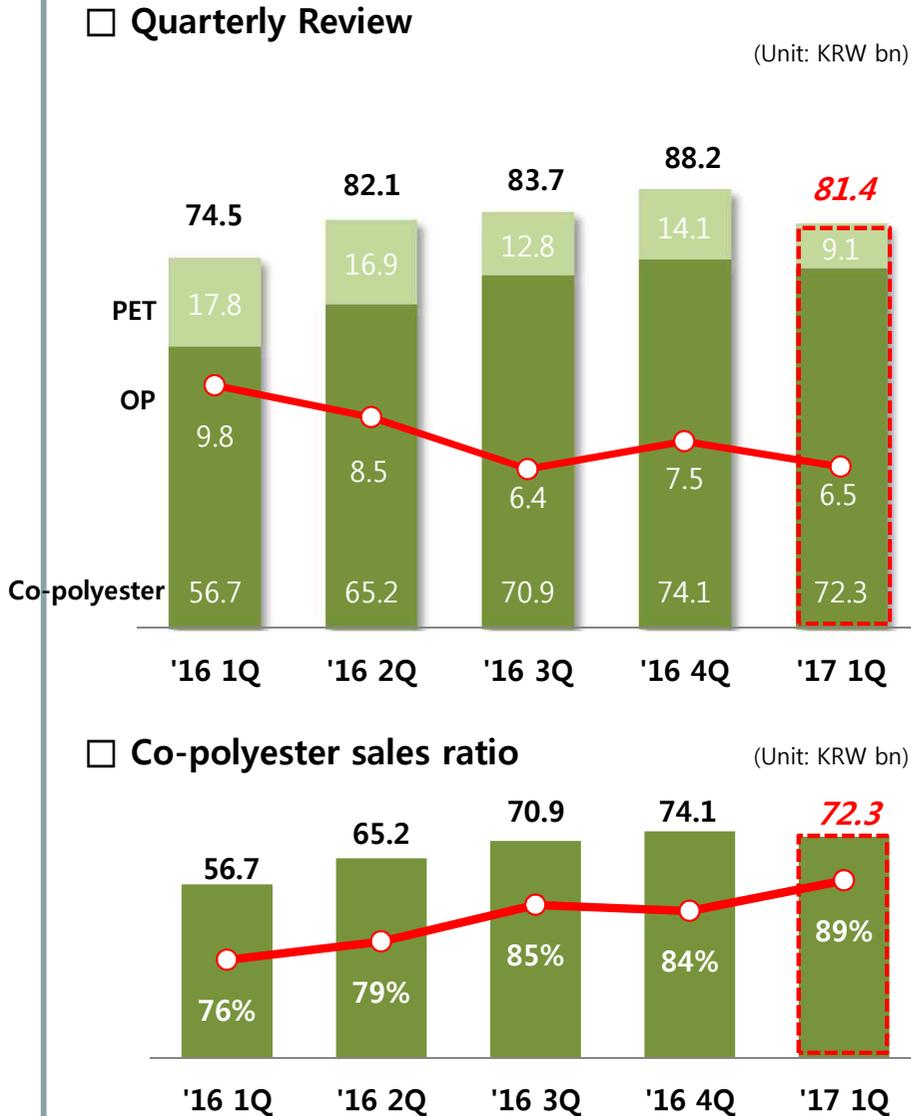


### □ Operating Profit

(Unit: KRW bn)



#### Performance



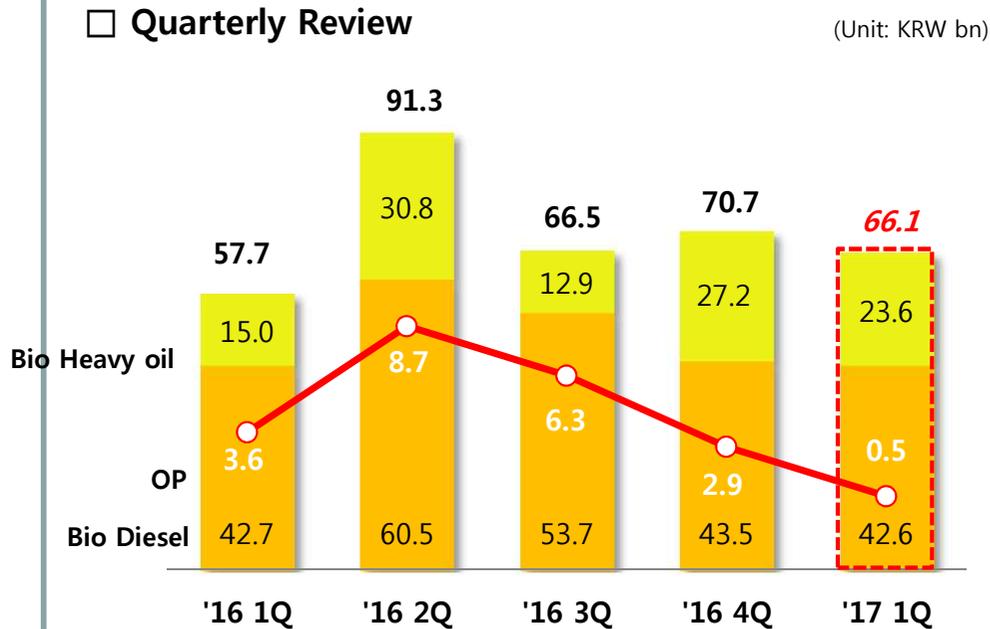
#### Review/Guidance

- **'17 1Q**
  - Co-polyester sales increased by 28% YoY (P:  $\Delta$ 3%, Q: +31%)
  - Continued to run at full capacity (over 10k ton/month)
  - Solid demand from China(Cosmetic containers) and Europe(Special film)
  - OP decreased due to higher raw material prices, unfavorable exchange rates, selling of low-margin inventories
- **'17 2Q Outlook**
  - Co-polyester sales growth is expected, driven by solid demand growth and commercial operation of additional capacity(April 2017)
  - Less raw material price volatility expected
  - Raise in products price should improve profitability in 2Q
  - Continued restructuring on PET business  
(Annual sales: KRW 20~30 bil.)

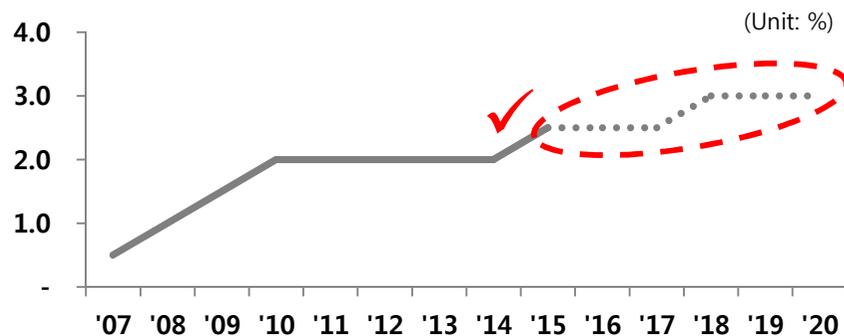
#### ※ Application

- Food / Cosmetic Container, Electronic devices, etc.

### Performance



### Mixing Ratio Trend



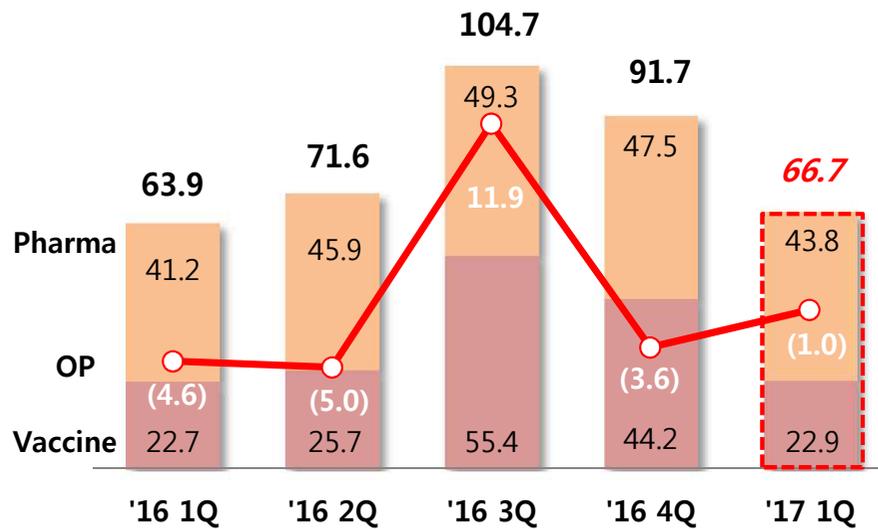
### Review/Guidance

- **'17 1Q**
  - Biodiesel sales remained flat YoY (P: +21%, Q:  $\Delta$ 17%)
  - Bio heavy oil sales increased YoY, due to an increase in power plants supply
  - Operating profit decreased as a result of reduced sales, higher raw material costs.
- **'17 2Q Outlook**
  - Entering into high season in 2<sup>nd</sup> quarter.
  - Pressure from higher raw material prices persists.
  - Decrease in bio heavy oil sales due to maintenance shutdowns of power plants.
  - Continuous effort to improve cost competitiveness by developing lower raw materials

#### Performance

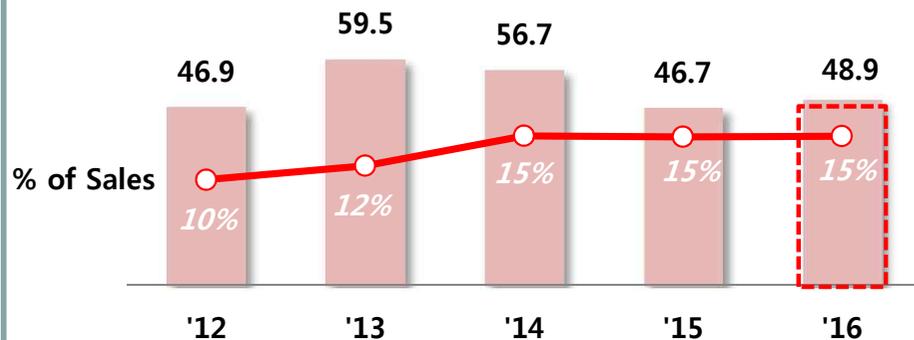
##### Quarterly Review

(Unit: KRW bn)



##### R&D cost

(Unit: KRW bn)



#### Review/Guidance

- **'17 1Q**
  - Sales increased slightly YoY, due to the commercial launch of new products and solid sales from major products (+4%)
  - Operating loss narrowed YoY, supported by an increase in sales and cost reduction efforts
- **'17 2Q Outlook**
  - Approval of Zoster vaccine is currently in process, expected to be commercialized in '17.2H
  - Reduce cost through continuous cost reduction efforts
  - R&D expenses will remain around our target level (15% of sales)

## II. Business Divisions\_LS Biz.

## 2) Hemophilia Therapy(NBP601)

### ☐ NBP601

#### • Overview

- The First and Only Recombinant Factor VIII Single Chain Therapy for Hemophilia A
- Long-lasting protection (twice weekly prophylaxis)

#### • License Out

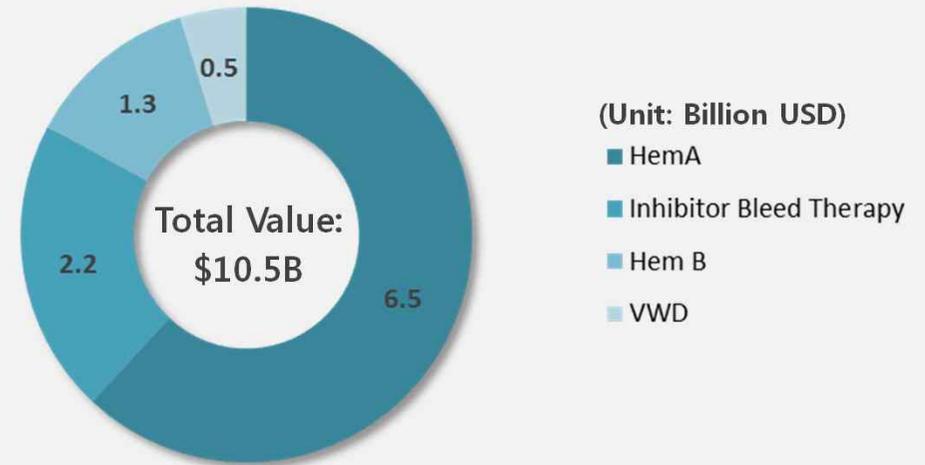
- Licensed out to CSL in 2009 at preclinical stage and accomplished global clinical test
- Adult and pediatric indications approved in the US in May 2016, approved by the EU EMA in Jan. 2017, being reviewed by regulatory agencies in other markets around the world, including Switzerland and Australia
- Running Royalty expected in 2017

#### • About CSL



(Ref : CSL Annual Report)

### ☐ Hemophilia Global Market



#### ※ Market shifting to 4<sup>th</sup> generation product

Product name	Stage	Maker
<b>AFSTYLA(NBP601)</b>	<b>Approved</b>	<b>CSL Behring</b>
Eloctate	Approved	Biogen Idec
N8-GP	Clinical II/III	Novo Nordisk
BAX 855	Approved	Baxter
BAY 94-9027	Clinical I	Bayer

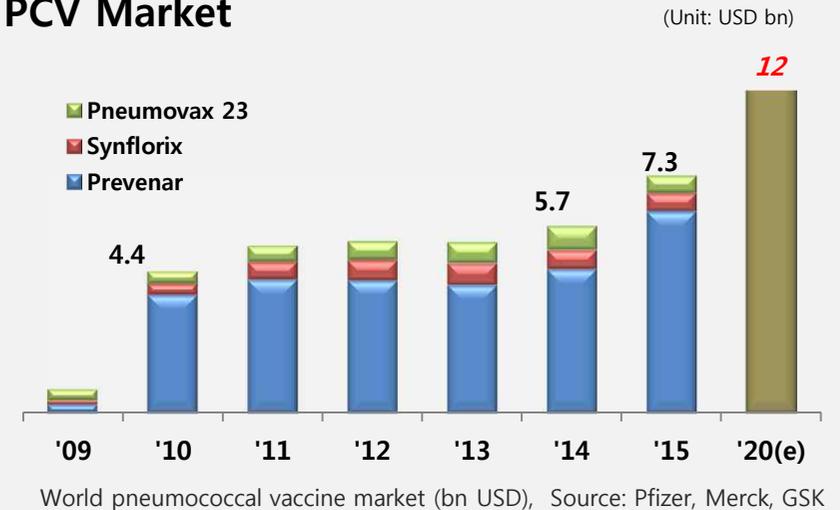
### □ Collaboration with Sanofi Pasteur



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

*Monumental event which reflects the global competitiveness of the technology & Infrastructure of SK Chemicals*

### □ PCV Market



### □ A constantly growing market

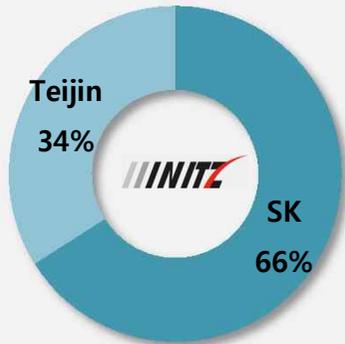
- Market demand is boosted by aging population and expected to grow to \$12.1B by 2020
- Considering the Prevenar case, we expect meaningful market share after launching SKYPAC

*A Quantum jump & Opportunity to become a global vaccine company*

## **III. Subsidiaries**



## □ Governance Structure



- JV for PPS production
- Capacity: 12,000 ton/year
- Stock Capitalization
  - SK : 62 bn KRW
  - Teijin : 45bn KRW
- Commercial production started in '17.1Q.

## □ Polyphenylene Sulfide (PPS)

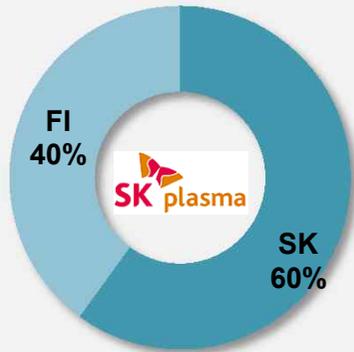
- Excellence in thermal and chemical resistance
- Good electrical insulating properties
- Dimensional stability to 260°C
- Automotive lightweight materials
- Competitiveness cost + Eco-friendly process
  - **Cost 25% ↓, Non-Chlorine process**
- Securing stable sales market through "Pre-marketing"

## □ Applications

- Electricity**
  - CD/DVD Pick up, Bobbin, Connectors
- Automotive**
  - Pump impeller, Generator parts, etc
- Film**
  - Bag filter, High-performance fiber



### □ Governance Structure



- Spin-off from SK Chemicals in '15 and attracted financial investment(KRW 100 bn)
- Plasma derived products
- SK 60% : FI 40%

### □ Business Outline

- New plant is under construction (600kl/year)
  - Value engineering applied to maximize cost efficiency and bio-safety
  - Located in Andong city, Korea
  - Commercial operation from third quarter of 2018
- Strict government regulation (KFDA, GMP) as a high barrier to entry
- Duopoly market in Korea
- Emerging market is continuously growing

### □ Guidance

- Expanding product line to construct solid product portfolio
- Focus and expand into overseas markets, especially emerging markets

### □ Product Portfolio

Product	Ingredient	Indication
<b>Albumin</b>	Albumin	▪ Neutralize of poison
<b>AT-III</b>	AT-III	▪ Anti thrombosis
<b>Liv-Gamma</b>	IVIG	▪ Immunoglobulin
<b>Tetabulin</b>	TIG	▪ Tetanus Therapy
<b>Factor VIII</b>	Factor VIII	▪ Hemophilia A Therapy
<b>Hep.B IG</b>	Hep.B IG (HBIG)	▪ Hepatitis B Therapy

## **IV. Mission & Vision**



## IV. Mission & Vision

### □ Mission

*“We care for the future  
Healthcare, Earthcare”*

We enhance human health  
and protect the environment

### □ Vision

**“To become a global leader in the industry  
of *eco-friendly materials*  
and *total healthcare solutions*”**

#### *Life Science*

**“Global Total Healthcare  
Solution Provider”**

- Premium Vaccines
- Plasma Derivatives
- Pharmaceuticals

#### *Green Chemicals*

**“Eco-friendly Material  
Solution Provider”**

- Co-polyester
- Bio Fuel
- PPS Resins

## V. Summary



# V. 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 ~

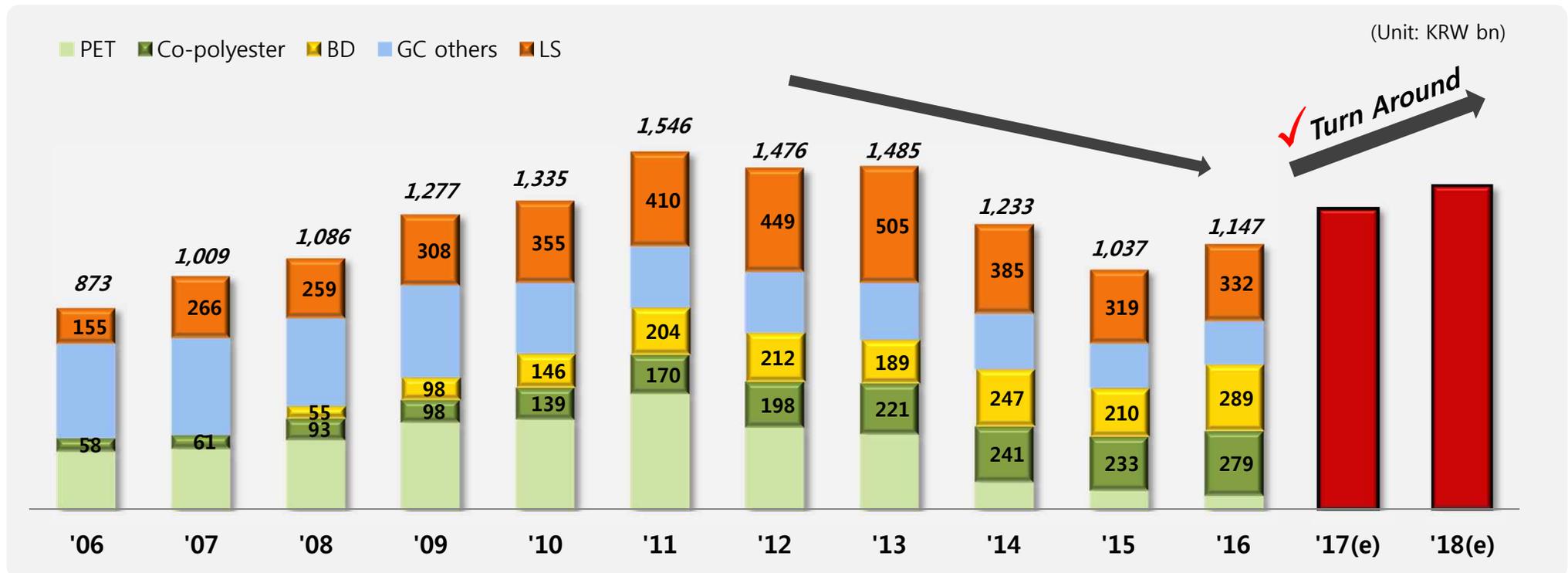
### Accelerating Investment

- '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



***End of Documents***