

# Financial Results for 1Q2017

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Investor Relations | April 26, 2017

## Disclaimer

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The following earnings statement and the financial, business and other information contained herein are current only of the date hereof and readers are advised that changes in general macroeconomic, business, financial and other conditions may have occurred since such a date and our financial state and results of operations may have been substantially impacted as a result of such occurrences. Certain information contained herein may be considered forward-looking in nature, which are based on certain conjectures and expectations of future events that are subject to risks and uncertainties, including comments on trends in the global economy and the duration of such trends, future development and investment plans including market strategies and business plans. We disclaim any responsibility or obligation to update or disseminate any revisions to any forward-looking statements contained in this document to reflect any changes in conjectures or circumstances.

The actual future results and trends and statements regarding plans or expectations may change due to various factors which the management has not anticipated, including as a result of a further slowdown in global economic growth, further weakening of customer demand for our products and the loss of major customers, pricing pressures, inability to finance certain projects and capital expenditures on appealing terms, or at all, among others.

The financial information contained herein has not been audited. Readers are advised that the actual results may differ as a result of the audit of our financial results for the quarter ended March 31<sup>st</sup>, 2017.

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## **I. 1Q2017 Financial Results & Market Status**

## **II. Mid-/Long-Term Growth Strategy**



# 1. 1Q2017 Financial Results

**Operating income decreased y-o-y (ΔKRW1.3bn)  
due to tech transition in front industry & temporary sales delay in specialty gas sector following  
longer fab ramp-up time & price cuts for M/S increase.**

## [ Consolidated Income Statement ]

(unit: KRW bn)

	'17. 1Q (E)				
	'17.1Q	'16.4Q	QOQ	'16.1Q	YOY
<b>Sales</b>	<b>116.4</b>	123.9	Δ7.5	97.3	+19.1
<b>Operating Income</b>	<b>33.1</b>	40.2	Δ7.1	34.4	Δ1.3
OP margin (%)	<b>28%</b>	32%	Δ4%p	35%	Δ7%p
<b>Income before Tax</b>	<b>29.9</b>	36.1	Δ6.2	32.9	Δ3.0
<b>EBITDA</b>	<b>51.4</b>	58.6	Δ7.2	49.3	+2.1
EBITDA(%)	<b>44%</b>	47%	Δ3%p	50%	Δ6%p
<b>Net Income</b>	<b>21.8</b>	32.2	Δ10.4	24.5	Δ2.7

Note 1) Cons. results based on K-IFRS

2) Not externally audited yet

# [Ref.] Financial Highlights

## 3-Year Income Statement

(unit: KRW bn)

	2014	2015	2016	1Q17
<b>Sales</b>	<b>211.7</b>	<b>338.0</b>	<b>461.4</b>	<b>116.4</b>
Specialty Gas	211.7	338.0	400.6	95.4
Industrial Gas	-	-	60.8	21.0
<b>Operating Income</b>	<b>26.4</b>	<b>112.8</b>	<b>154.1</b>	<b>33.1</b>
Specialty Gas	26.4	112.8	140.7	27.8
Industrial Gas	-	-	13.4	5.3
<b>Income before Tax</b>	<b>17.4</b>	<b>87.9</b>	<b>140.3</b>	<b>29.9</b>
OP margin (%)	12.5%	33.4%	33.4%	28.4%
EBITDA	76.3	168.5	220.9	51.4

## 3-Year Financial Performance

(unit: KRW bn)

	2014	2015	2016	1Q17
<b>Total Assets</b>	<b>589.8</b>	<b>665.1</b>	<b>903.1</b>	<b>904.1</b>
Cash & Cash Equivalents	18.0	41.5	61.4	39.6
Account Receivables	53.8	64.2	79.0	74.5
Inventories	45.7	58.3	74.3	79.9
Tangible Assets	449.8	480.2	661.5	677.6
<b>Liabilities</b>	<b>266.9</b>	<b>288.8</b>	<b>466.0</b>	<b>577.3</b>
Debts	220.0	192.9	317.4	400.4
Interest Coverage Ratio	2.8x	15.7x	15.4x	12.3x
<b>Shareholders' Equity</b>	<b>322.9</b>	<b>376.4</b>	<b>437.1</b>	<b>326.8</b>
ROE	4.0%	22.0%	22.0%	-

Note 1) Cons. results based on K-IFRS  
 2) Not externally audited yet

## 2. 2017 Performance Outlook

**Sales growth to continue thanks to proactively expanded production capacity & successful new biz w/ rapidly growing specialty gas market based on the spread of 3D NAND/Flexible OLED**

### NF3

- ❑ **Dramatic sales increase expected in 2H w/ the spread of 3D NAND & Mobile OLED**
  - Expected demand: 11,000ton in 1H17 → 12,500ton in 2H17(E)
- ❑ **Price to move upwards in 2H due to 3D NAND /OLED demand surge & shutdown of old facilities**

### WF6

- ❑ **Sales to further grow w/ increase in sales to 3D NAND clients & new facility\* operation**
  - \* WF6 Capacity: 600ton → 1,200ton (Sep. 2017)
  - Expected demand: 1,140ton in 1H → 1,400ton in 2H17(E)

### Silane-type

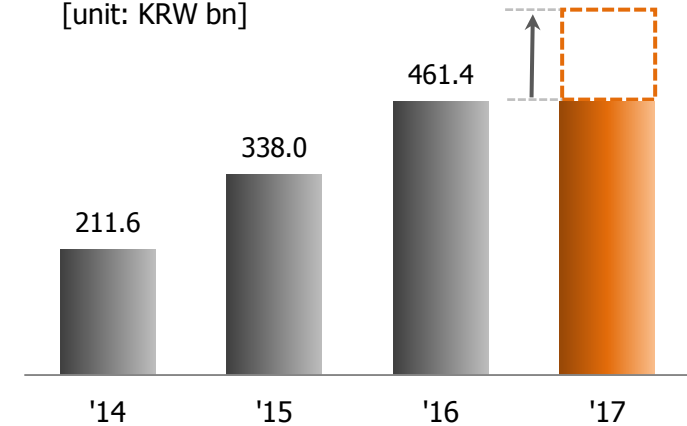
- ❑ **Following high value-added facility expansion (Si2H6, DCS\*), clear performance improvement expected in 2H**
  - \* Production Capacity: DCS 150ton → 300ton, Si2H6 8ton → 14ton

### New Biz

- ❑ **SK Airgas to maintain growth based on on-site supply to semiconductor manufacturers & N2 facility from acquisition competitor**
  - \* Cheongju APK asset acquisition contract signed (Apr. 2017)  
(2H Financial Forecast: 1.6bn in sales, 1.1bn in EBITDA)
- ❑ **SK Trichem to complete Precursor factory construction(Apr.) & begin official sales (Jun.)**
- ❑ **SK Showa Denko to complete CF-type etching gas facility construction & sales in 2H**

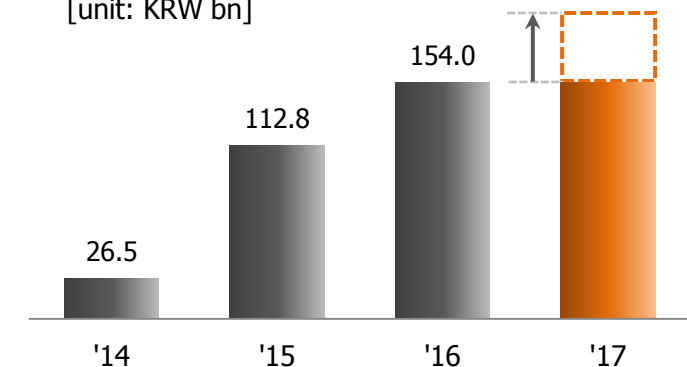
### ● Sales

[unit: KRW bn]



### ● Operating Income

[unit: KRW bn]



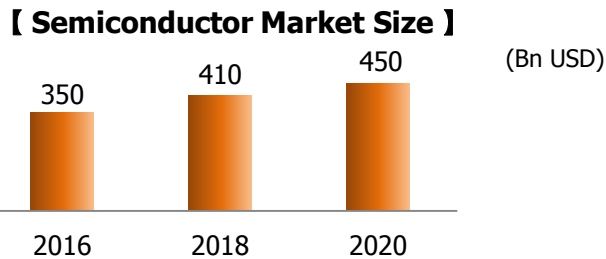
# 3. Demand Outlook by Product

## [ Demand Driver of Specialty Gas ]

### 1 Semiconductor

- ❑ Growth of IoT & Big Data and strong increase in mobile demand expected
- ❑ 3D NAND required as a HDD alternative & for additional uses in Data Server

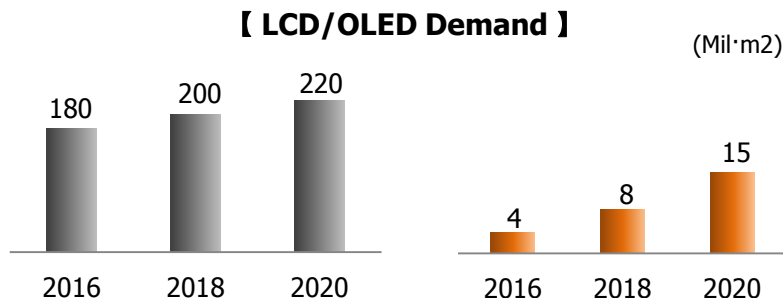
→ '16~'20 CAGR 5%



### 2 Display

- ❑ Large LCD trend led by China to continue w/ increase for OLED demand for mobile/TV

→ '16~'20 CAGR LCD 5%, OLED 40%



## Specialty Gas Demand Outlook

### NF3

- ❑ Demand on the rise w/ more chamber cleaning processes by Nano tech. & 3D lamination
- ❑ OLED usage per area to increase w/ organic material sputtering  
※ usage per area: 2D → 3D 時 >1.5 times  
 LCD → OLED > 5 times

CAGR  
( '16~ '18E)

16~18%

### WF6

- ❑ Rapid demand growth to continue w/ increase of tungsten(W) wiring due to 3D lamination  
❑ ※ usage per area: 2D → 3D 時 >5 times

Above  
30%

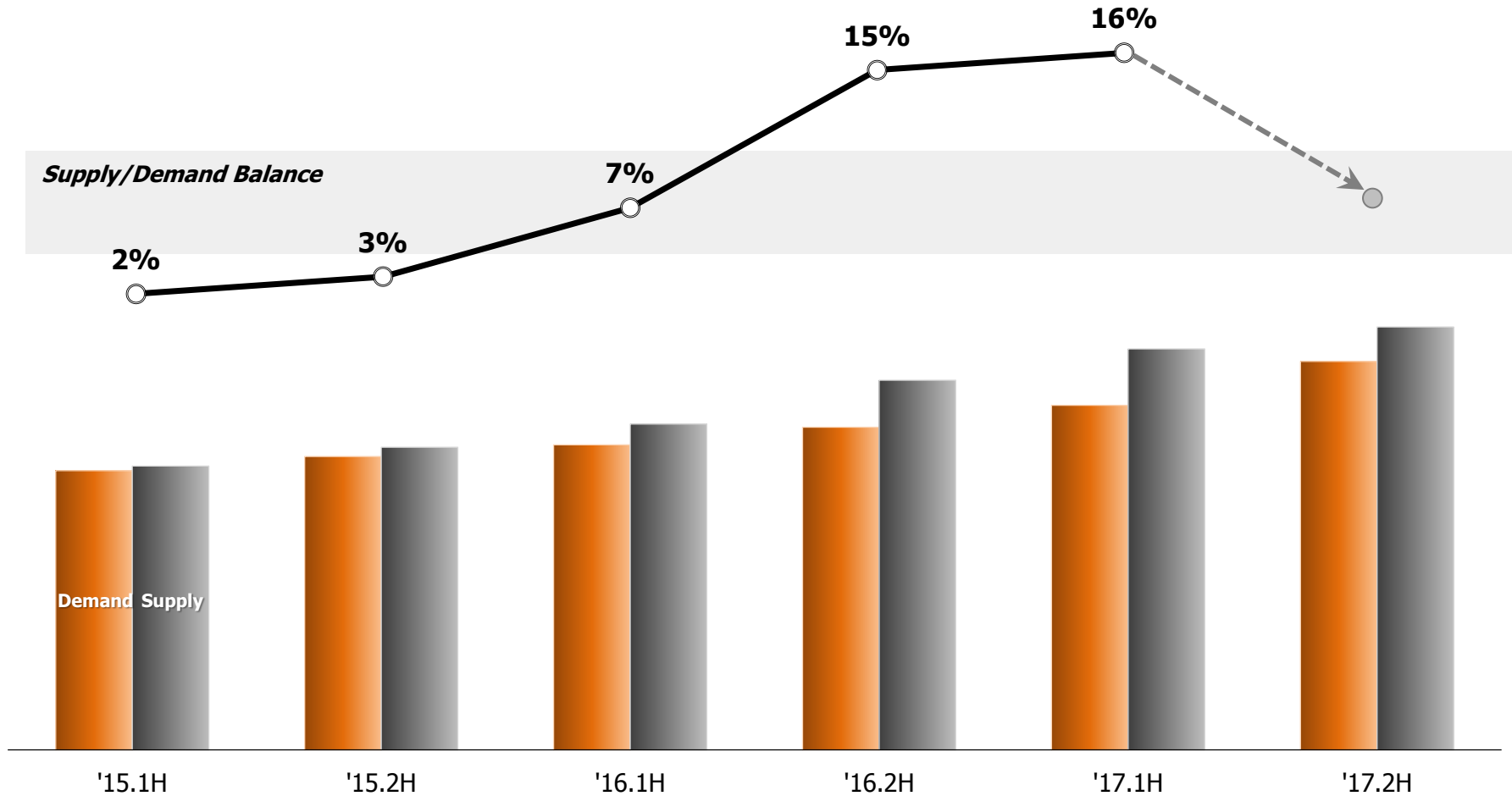
### SiH4

- ❑ Demand for continuous growth given the trend of large LCD and OLED expansion

7~10%

## 4. NF3 Supply/Demand Forecast

**NF3 supply/demand is expected to be rigid from 2H2017 given the noticeable demand increase in the front industry (3D NAND, OLED, etc.)**



# [Ref.] Key Production Facility / Project Status

	Capacity of Key Facilities (unit: MT)			Ongoing Project
	2015-end	2016-end	2017-end	
NF3	7,600	8,600	10,600	<ul style="list-style-type: none"> <li>□ Yeongju : 2,500ton expansion under way (~3Q2018)</li> <li>□ Zhenjiang, China : an additional 500ton expanded (Mar. 2017)</li> </ul>
WF6	300	600	1,200	<ul style="list-style-type: none"> <li>□ Yeongju : 600ton expansion under way (~Sep. 2017)</li> </ul>
SiH4	2,000	2,000	2,000	<ul style="list-style-type: none"> <li>□ DCS : CAPA expansion ongoing through ramp-up in customer demand</li> <li>□ Si2H6 : CAPA expansion ongoing through cost reduction &amp; process improvement</li> </ul>
SK Airgas	64,000* <small>*based on N2 (Nm3/h)</small>	64,000	134,000	<ul style="list-style-type: none"> <li>□ On-site facility for company A under preparation. (Dec.)</li> <li>□ APK facility acquired (Apr.2017)</li> <li>□ New projects with another companies in progress</li> </ul>
SK Trichem			6ton(Zr-type) 8ton(BDEAS)	<ul style="list-style-type: none"> <li>□ New Zr : Mass production of existing models (Jun.) &amp; Zr additional development for new process</li> <li>□ BDEAS : to be completed (Jun.) and launched (2H)</li> </ul>
SK Showa Denko			20ton (CH3F)	<ul style="list-style-type: none"> <li>□ CH3F factory under construction (to be completed by Nov.)</li> <li>□ C4F6 factory at design stage (to be completed by Dec.)</li> </ul>
Mixture gas			10ton (3MS)	<ul style="list-style-type: none"> <li>□ Storage, sub-division and analysis facilities under development of 3MS and 30 items (~Oct.)</li> </ul>

# Contents

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**II. Mid-/Long-Term Growth  
Strategy**



# 1. Semiconductor Material Market Outlook

Entering the big cycle of mid-/long-term semiconductor growth w/ the spread of 3D NAND/OLED & China's semiconductor industry development policy.  
 Notably, Gas-Chem-oriented growth such as NF3 will be established thanks to 3D NAND lamination & sophisticated OLED production.

Demand momentum in the front industry

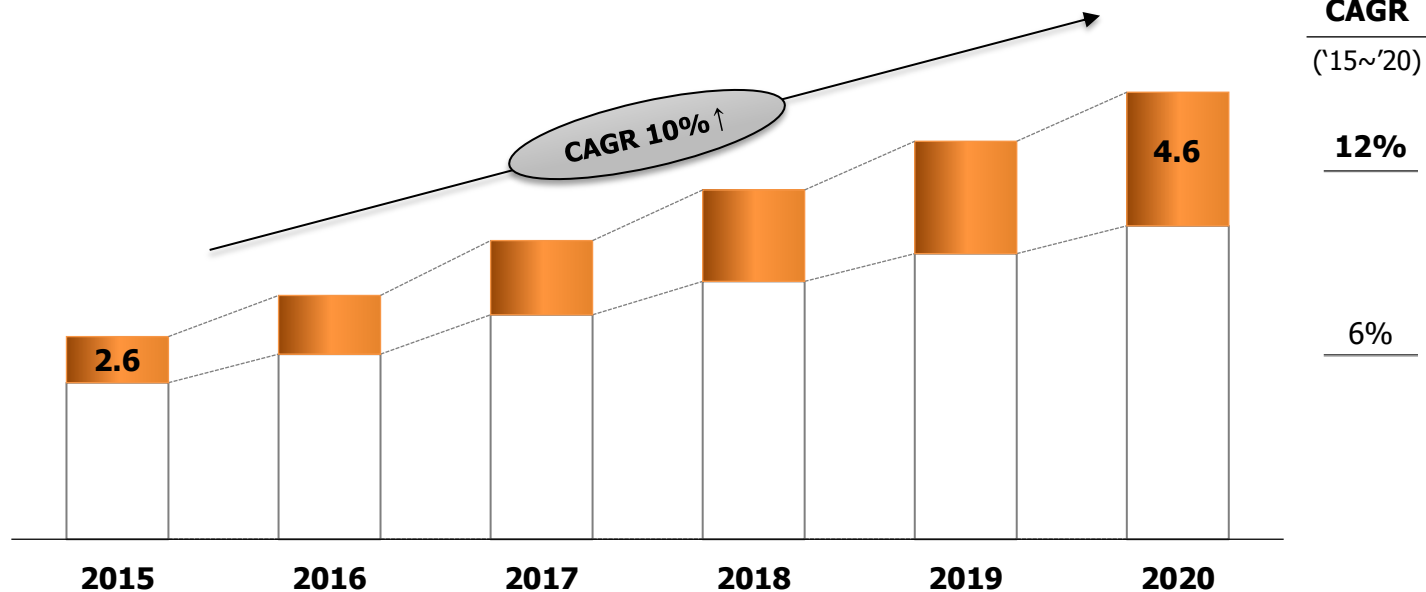


Semiconductor material market size

(\$Bn)

**Gas Chem\***

Wet Chem.  
Photo etc.



\* Gas Chem : Specialty gas and Precursor line

## 2. Mid-/Long-Term Growth Direction

High-growth, high-profit portfolio through the accelerated expansion of the existing business and the development of high value-added products

### Mid-/Long-Term Direction

#### 1 Maximizing momentum in specialty gas

- ❑ **NF3/WF6:** securing global presence for no.1 in the market by quickly grasping major clients' demand through proactive capacity increase in Korea and China
- ❑ **Si:** increasing M/S in large clients & introducing more high-value downstream products\* by taking advantage of Korea's only production facility  
\* Si2H6, DCS, MCS and more
- ❑ **Production cost:** accelerating cost reduction by leveraging SK group's chemical engineering capability → to chase away latecomers  
【Production Cost per Unit Index】  
NF3 ('16 100 → '18E < 80), WF6 ('16 100 → '18E < 70)

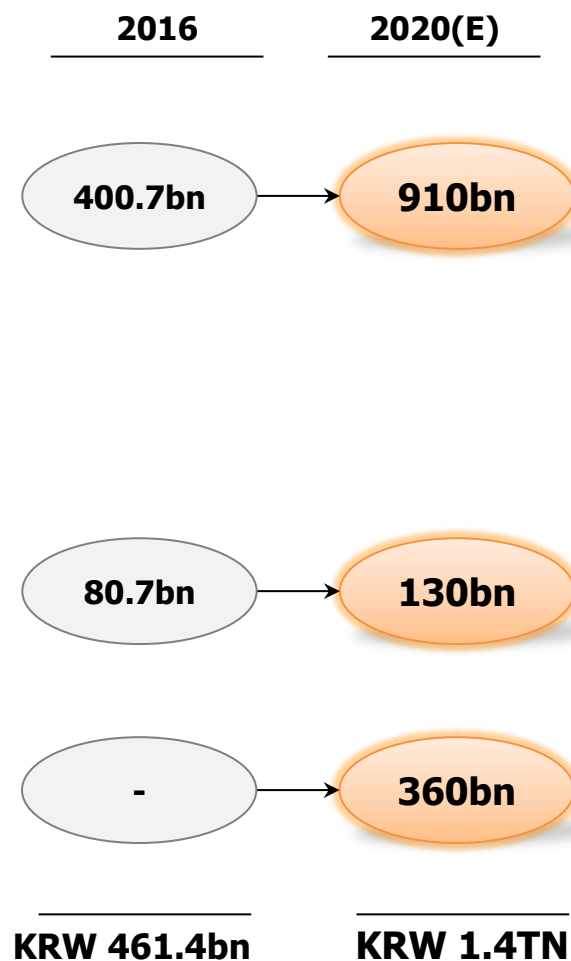
#### 2 Expansion of industrial gas

- ❑ **Building on-site capability for semiconductor & display**
- ❑ **Advancing into the global market including China**

#### 3 Diversification of high-value portfolio

- ❑ **Developing new biz. w/ high added-value through JV**  
- Precursor, CF-type etching gas
- ❑ **Expanding to customized mixture gas market based on existing quality & analysis know-how in specialty gas**  
- Products sold : '17 8 types → '20E 40 types

### Sales Target

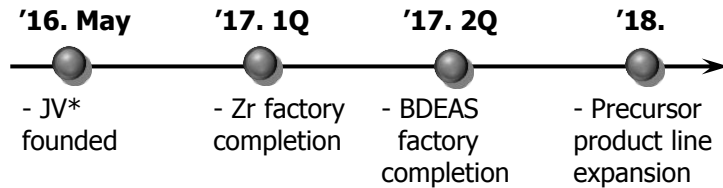


# [Ref.] JV Progress/ Direction

Attempt to enter high-value markets such as Precursor and CF-type etching gas by partnering w/ global technology leaders.

## 【 Precursor (SK Trichem JV) 】

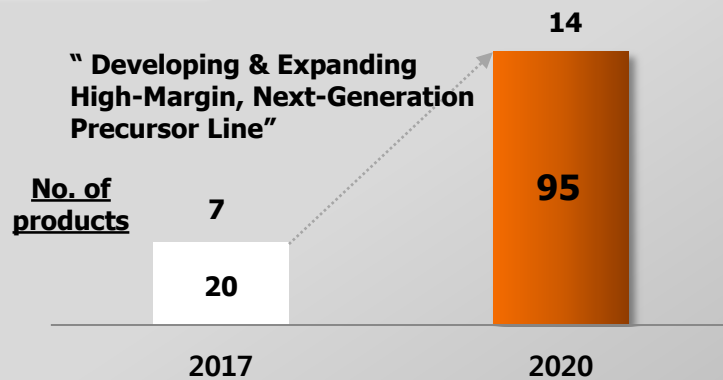
### ※ Key Timeline



\*ownership: SKMR 65%, TCLC 35%

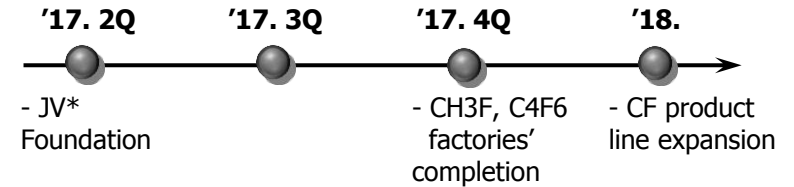
### Sales Target

(unit: KRW bn)



## 【 CF-type (SK Showa Denko JV) 】

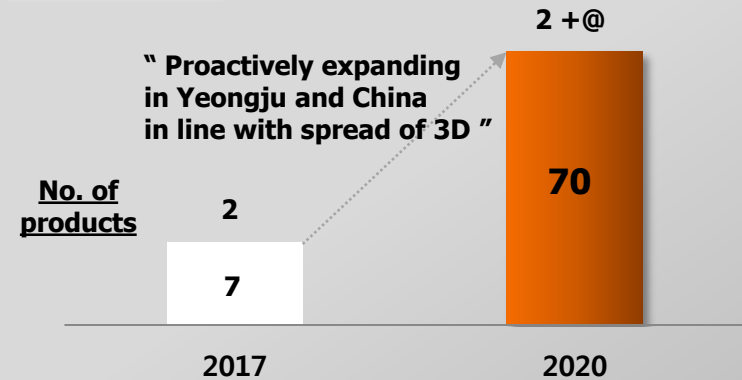
### ※ Key Timeline



\*ownership: SKMR 51%, SDK 49%

### Sales Target

(unit: KRW bn)



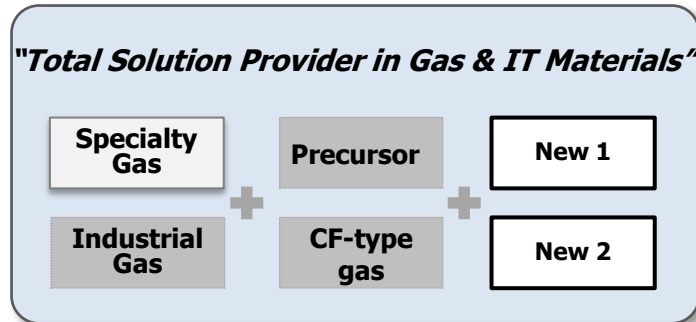
### 3. Mid-/Long-Term Growth Target

Emerging as a global top-tier "Total solution provider in Gas & IT materials" w/advanced business portfolio by expanding existing specialty gas & developing high-value items by 2020

#### As-Is



#### Biz. Model Innovation

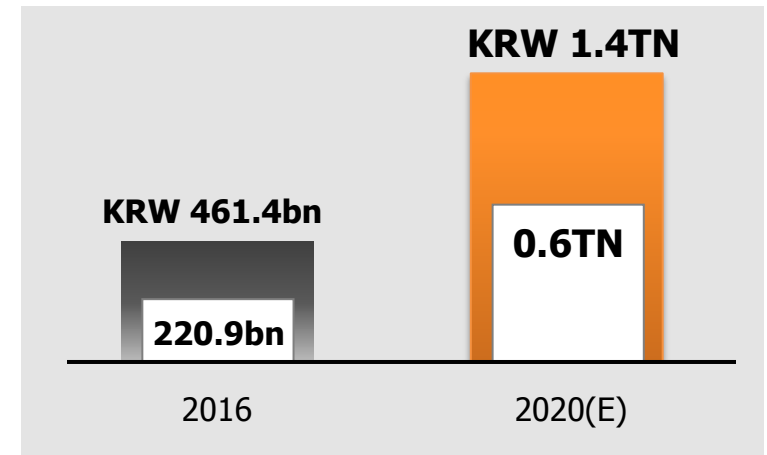


#### Financial Target

**NF3 Capa**  
(China)

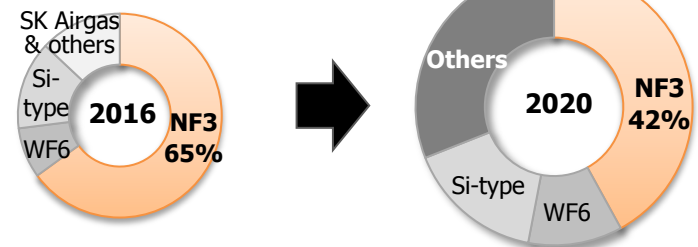
**8,600MT**  
(1,000MT) → **18,000MT**  
(7,000MT)

**Sales**  
(EBITDA)



"Product Portfolio Upgrade by Entering New High-Value Biz"

**Sales by Product**



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