

NIPPON SHOKUBAI CO., LTD.

The 2nd Medium-term Business Plan
“Reborn Nippon Shokubai 2020 NEXT”

and

The Financial Results for The 2nd Quarter of The Fiscal Year
Ending March 31, 2018 (FY2017)

November 9, 2017

President

Yujiro Goto



1. The 2nd Mid-term Business Plan (FY2017-2020) “Reborn Nippon Shokubai 2020 NEXT”
2. Financial results for the 2nd quarter of the fiscal year ending march 31, 2018 (FY2017)
3. Strategies and trend by business area
4. New business
5. The progress of The 2nd Mid-term Business Plan
6. Financial Forecasts for the Fiscal Year Ending March 31,2018 (FY 2017)
7. Return Policy

Explanation of acronyms

AA : Acrylic Acid

SAP : Superabsorbent Polymers

EO : Ethylene Oxide

DDS : Drug Delivery System

1. The 2nd Mid-term Business Plan (FY2017-2020) “Reborn Nippon Shokubai 2020 NEXT”

Vision for 2025

An innovative chemical company that provides new value for people’s lives

Business Policies

- ◇ Focusing on profitability over sales
- ◇ Safe, reliable production activities

Priority challenge

- ◇ Survival of SAP business
- ◇ Launch of new businesses in high-growth potential markets for our future key driver

Basic Posture

Create products and services which market needs, and provide the products and the services when market needs.



Policies to priority challenge

- Strengthen competitiveness of SAP business
 - Improve profitability (Survival project)
 - Strengthen R&D

Accelerate creation of new businesses and products

Target to continuous growth

- Develop an active corporate team and organization
- Enhance the confidence of stakeholders
- Strengthen Group management

1. The 2nd Mid-term Business Plan (FY2017-2020) “Reborn Nippon Shokubai 2020 NEXT”

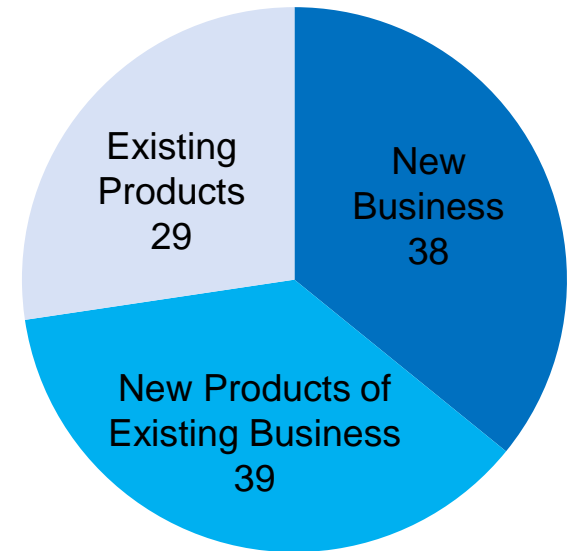
Management indexes and numerical targets

Sales **400 billion yen**

Increase of sales during the period : 106 billion yen
(sales of FY2016 : 294 billion yen → sales of FY2020 : 400 billion yen)

Ordinary income **40 billion yen**
(profit margin of sales : 10%)

ROA **7.5%**



Breakdown of 106 billion yen, the amount of increase of sales
(Unit: billions of yen)

【Assumptions】

| | <u>Domestic naphtha price</u> | <u>Exchange rate(US\$)</u> | <u>Exchange rate(EUR)</u> |
|--|-------------------------------|----------------------------|---------------------------|
| LTP (FY2014-2020) (established in 2014) | 65,000yen/kl | 100 yen | 130 yen |
| 2nd MTP (FY2017-2020) | 42,000yen/kl | 110 yen | 115 yen |

2. Financial results for the 2nd quarter of the fiscal year ending march 31, 2018 (FY2017)

| (Unit : Billion Yen) | The 2nd quarter of FY2017 | |
|--|-------------------------------------|---------|
| | The forecasts announced on May 9 | Results |
| Net sales | 150.0 | 159.0 |
| Operating profit | 10.0 | 14.0 |
| Ordinary profit | 12.0 | 16.7 |
| Profit attributable to owners of parent | 9.0 | 12.0 |
| ROA | 5.4% | 7.5% |
| ROE | 6.2% | 8.1% |

Exchange rate :

110.00 yen / US \$,
115.00 yen / EUR
42,000 yen /kL

110.05 yen / US \$,
126.32 yen / EUR
37,600 yen /kL

Domestic naphtha price

Increase in sales and profits (compared to the forecast announced on May 9)

Factors of increase :

- Increase in **sales volume**
- Increase in **market prices** of some products
- Decrease of **raw materials prices**
(assumption on April 1: 42,000 yen/kL → Result: 37,600 yen/kL)
- **The euro's rising** (assumption on April 1 : 115.00yen/EUR → Result: 126.32yen/EUR)

3. Strategies and trend by business area : AA/SAP

AA: Business strategy

We aim to be a leading global player in the acrylic monomer business by active sales and marketing.

Supply and demand trend

Demand Global demand approx. 6,100 kilo tons per year (“KT/y”) (2017 estimate)
Assuming mid-term annual growth rate around 5%

Supply Expansion plan for 2018 : 30KT/y (global total)
Expansion plan for 2019 : 30KT/y (global total)

- Supply capability in China is shrinking because of withdrawal of operations and tightening of environmental regulations
- The balance of supply and demand is getting tight

The progress and the policies in the future

1) Maintaining high operating rate and safe and stable operations

Stable procurement of raw materials

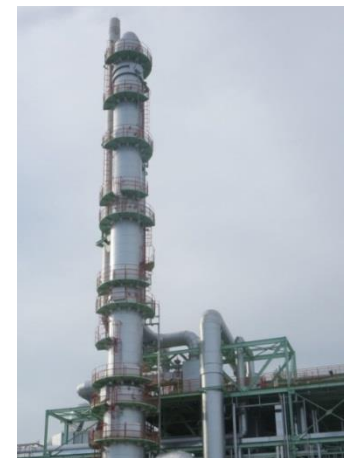
- Aiming stable procurement of propylene with locally-produced and locally-consumed principle globally

Production technology

- Developing and introducing new technologies to keep top-level of production technology

2) Mid-term measures: Strengthening of global supply system

- Considering strengthening our global supply system including expansion of production capabilities in the medium term



3. Strategies and trend by business area : AA/SAP

SAP : Business strategy

We supply products with a high quality and competitive price to strategic-partner customers.

Supply and demand trend

Demand Global demand approx. 2,700 KT/y (2017 estimate)

Assuming mid-term annual growth rate from 5 to 7 %

Supply 2018 expansion plan: 250KT/Y (global total)

2019 expansion plan: None

- The supply and the demand will be balanced gradually towards 2020

The progress and the policies in the future

1) Strengthening our customer base

Customizing quality and functions of SAP for each customer furthermore to differentiate ourselves from other SAP manufacturers

2) Improving profitability

Utilizing strengths of AA/SAP vertical integration

SAP Survival Project : narrowing cost reduction items and implementing measures

Announcement of price increase (for contracts from July 1, 2017) : continuing negotiations for further penetration

2) Mid-term measures: Strengthening of global supply system

- Considering strengthening our global supply system including expansion of production capabilities in the mid-term

AA/SAP : Progress of the investment plan

Annual production capacity <for decided plans>

Unit : kT/y

| | Current | Planned newly established in 2018 (Belgium) | Total |
|-----|---------|--|-------|
| AA | 780 | 100 | 880 |
| SAP | 610 | 100 | 710 |

Further expansion is considered with vigilant watch on the market trends



SAP Plant

3. Strategies and trend by business area : EO, Performance chemicals, and New energy materials/catalyst

EO : Business strategy

We strengthen our competitiveness by structural reform of our EO plant such as partnership with other company.

Featured products

Secondary alcohol ethoxylates ("SOFTANOL") <Surfactant>

- 1) Expansion in Kawasaki, Japan is completed
- 2) Considering construction of new facilities outside of Japan



Performance chemicals: Business strategy

We expand sales of unique and functional products made from our specialty monomers and the derivatives with our particular technologies.

Featured products

Acrylic resin for optical materials (" ACRYVIEWA") <Material for FPD>

The Dispersion of Zirconia Nanoparticles ("ZIRCOSTAR") < Refractive index adjuster>

VEEA <Performance monomer>

EPOCROS <Performance polymer>



New energy materials/catalyst : Business strategy

We expand sales of various battery materials manufactured at competitive large-scale facility.

Featured products

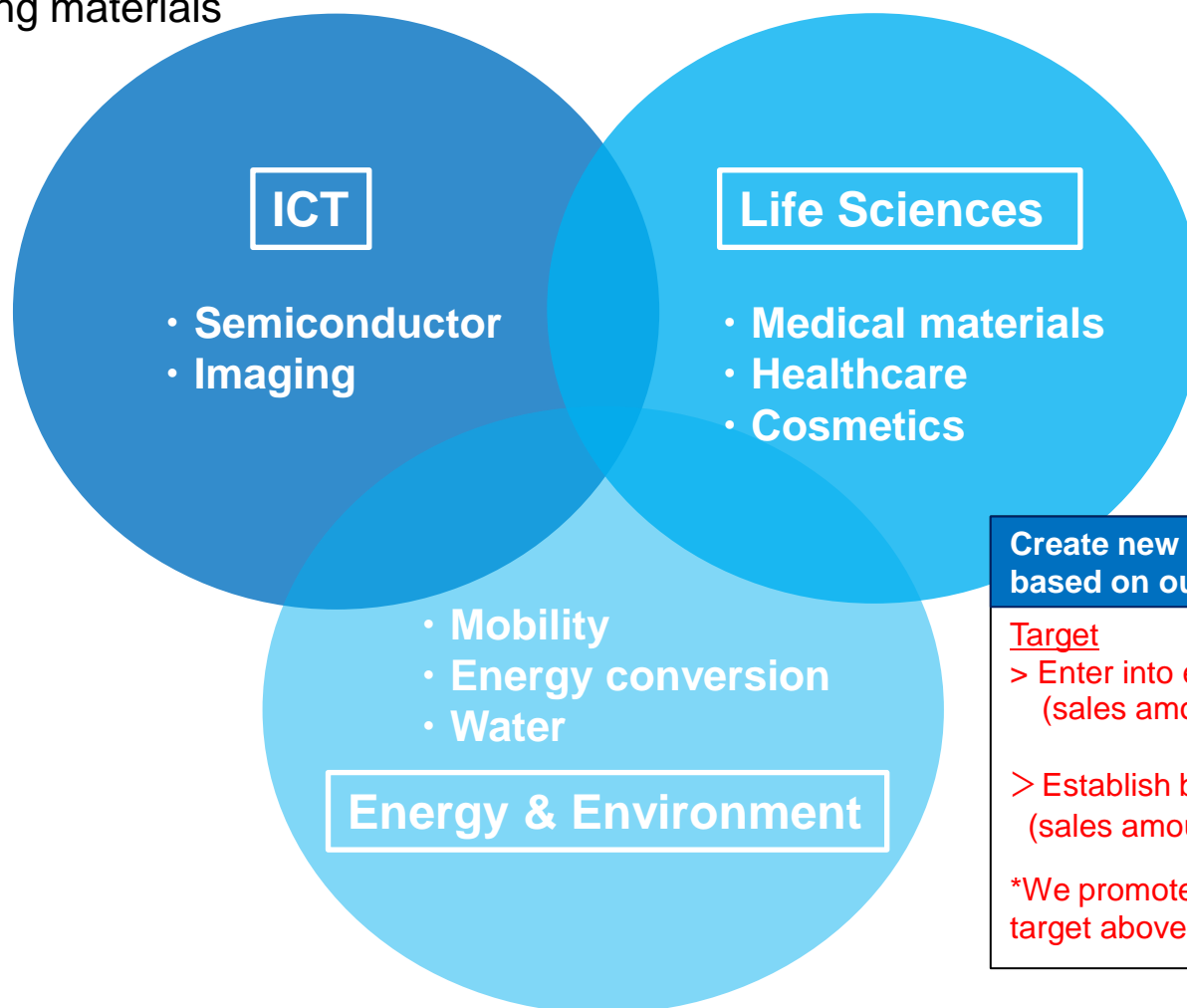
Lithium bis (fluorosulfonyl) imide : LiFSI ("IONEL") <Electrolytes for lithium-ion batteries>

4. New business : Target sectors

New business : Business strategy

Focusing on growing markets/fields

Creating new businesses which business models take advantage of our strengths not limited to selling materials



Create new businesses with new technologies based on our core technologies

Target

> Enter into each sector with core product by 2020
(sales amount by 1 billion yen each)

> Establish business in each sector by 2025
(sales amount by 10 billion yen each)

*We promote O/I and M&A in order to achieve the target above.

4. New business : <Life Sciences>

(Medical materials) : Business strategy

We support drug development in peptide drugs, DDS and nucleic acid drug categories.

The progress and the policies in the future

Capital tie-up and business partnership with GlyTech, Inc.

Joint development of Glycosylated Somatostatin Analog(G-SRIF) (peptide drugs)

Capital tie-up with TAK-Circulator, Inc.

Promotion of developing the seeds of nucleic acid drug

Capital tie-up with Rena Therapeutics Inc.

Promotion of developing DDS for nucleic acid drug



• Established **the laboratory of API synthesis** (operation started at Suita, Osaka in Nov. 2016)

• Decided to establish **the production facility of API synthesis** (operation estimated to start at Suita, Osaka in Apr. 2019)

◆Outline of the production facility of API synthesis

Regulation : GMP(JP,US,EU),PIC/S GMP

Floor Area : Around 3,000 square meters

Main equipment : Solid and liquid phase synthesizer of peptide and nucleic acid drugs, Large scale separation and purification apparatus, Freeze dryer, Analysis equipments for QC etc.

※In terms of manufacturing these kinds of APIs, this is one of the biggest facilities in Japan.



We will be able to manufacture API and IMP (from milligram scale to kilogram scale)

(Cosmetics) : Business strategy

Established Cosmetics Business Planning Office (Jul. 2017) aiming to early commercialization

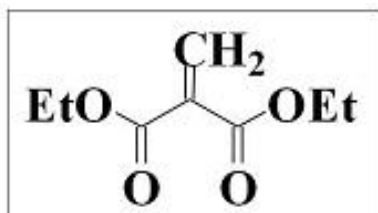
4. New business : <Energy & Environment> <ICT>

(Mobility) promising key materials

Malonates

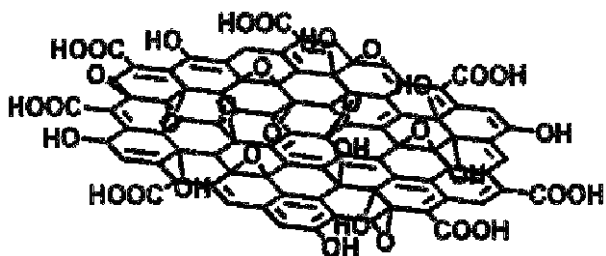
Functional monomer

Acquired SIRRUS, Inc., a technology venture in America



(Energy conversion) promising key materials

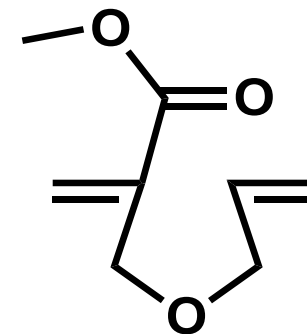
Graphene oxide based materials



(Imaging) promising key materials

AOMA

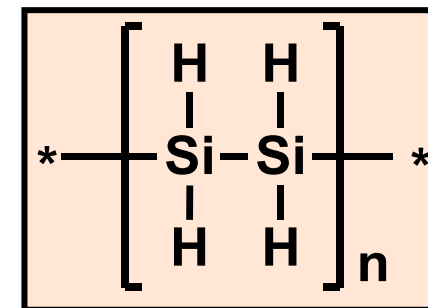
Cyclopolymerization monomer



(Semiconductor) promising key materials

Higher order silane material

Monomer for semiconductor process



5. The progress of The 2nd Mid-term Business Plan : Outline of the plan “Reborn Nippon Shokubai 2020 NEXT”

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5. The progress of The 2nd Mid-term Business Plan : Topics

Target to continuous growth

Develop an active corporate team and organization

- Message video from the president
- Workstyle Innovation Committee

Jul. 2017

Established Workstyle innovation Committee

- Business Process Re-engineering team
- Workstyle Reforming team
- IT Solution team

Strengthen Group management

- Established the team to consider establishing "Group common value"
- Profit and loss management across the group by each business division
- Visits to each offices, production sites and affiliated companies (in and outside Japan) by the president and other executive officers
- Held group CEO meetings
- Pilot facility to promote commercialization

Aug. 2017

Distributed message video from the president

Distributed the video to all the group companies (language: Japanese, English and Chinese)

The president told about **what he thought when planning the 2nd mid-term business plan and his determination to achieve the targets**



Apr. to Sep. 2017

Visits to each offices, production sites and group companies (in and outside Japan) by the president and other executive officers

- Called on entire group to coordinate to achieve the targets of the plan

Jun 2017

Decided to establish pilot facility to promote commercialization

Facility to promote commercialization of new developments

Located in group company (NISSHOKU TECHNO FINE CHEMICAL CO., LTD.)

- Leverage group companies and cooperate with them
- Retain specific technologies inside the group
- Planned to start operation in 2019

6. Financial Forecasts for The Fiscal Year Ending March 31, 2018 (FY 2017)

| (Unit : Billion Yen) | FY2016 Results | FY2017 Forecasts |
|--|----------------|------------------|
| Net sales | 294.0 | 320.0 |
| Operating profit | 21.2 | 26.0 |
| Ordinary profit | 24.7 | 30.0 |
| Profit attributable to owners of parent | 19.4 | 22.0 |
| ROA | 5.9% | 6.7% |
| ROE | 6.8% | 7.4% |

Exchange rate :

108.36 yen / US \$,
118.76 yen / EUR
34,700 yen /kL

110.00 yen / US \$,
130.00 yen / EUR
43,000 yen /kL

Domestic naphtha price

For the achievement of the plan

- **Safe**, reliable production activities
- Securing **sales volumes**
- Securing appropriate **margins**
- Continuing activities to **improve profitability**
- **Accelerating the development of new business and products** by coordination of entire group
- Procuring raw materials inexpensively, and reducing logistics costs and expenditures

7. Return Policy

Taking overall account of business expansion and strengthening of corporate structure, and based on forecasts of the trend in consolidated earnings, we are aiming to improve levels of dividends in the medium term

FY2016 dividend

Profit attributable to owners of parent **19.4** billion yen
 130(Original forecast) → 150 yen per share

The same as the previous year when we reached the record high profit (26.0 billion yen)

Unit: yen

| (Yen / share) | Interim | End of period | Total |
|---------------------|---------|---------------|-------|
| Dividends per share | 75 | 75 | 150 |

FY2017 dividend, Forecast

Profit attributable to owners of parent **22.0** billion yen
 150 yen per share

The same as the previous year

Unit: yen

| (Yen / share) | Interim | End of period | Total |
|---------------------|---------|---------------|-------|
| Dividends per share | 75 | 75 | 150 |

| | Average FY 2008- FY 2017 | FY 2016 | FY 2017 (Forecast) |
|--------------|-----------------------------|---------|--------------------|
| Payout ratio | 28.5% | 31.4% | 27.2% |

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