

# New Mid-term Management Plan

***SZ-20***

Phase II

**ZEON**  
ZEON CORPORATION

Kimiaki Tanaka  
President

May 8, 2014

1. **Results of Mid-term Management Plan *SZ-20* for FY2011 through FY2013**
2. **New Mid-term Management Plan *SZ-20* Phase II for FY2014 through FY2016**

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## **Further Strengthen our Elastomer Materials and Specialty Materials Businesses for Globally Expanding Operations**

### **Strategy by Business Segment**

#### **Elastomer Materials Business**

**Further strengthen competitive  
businesses by responding  
globally to growth markets**

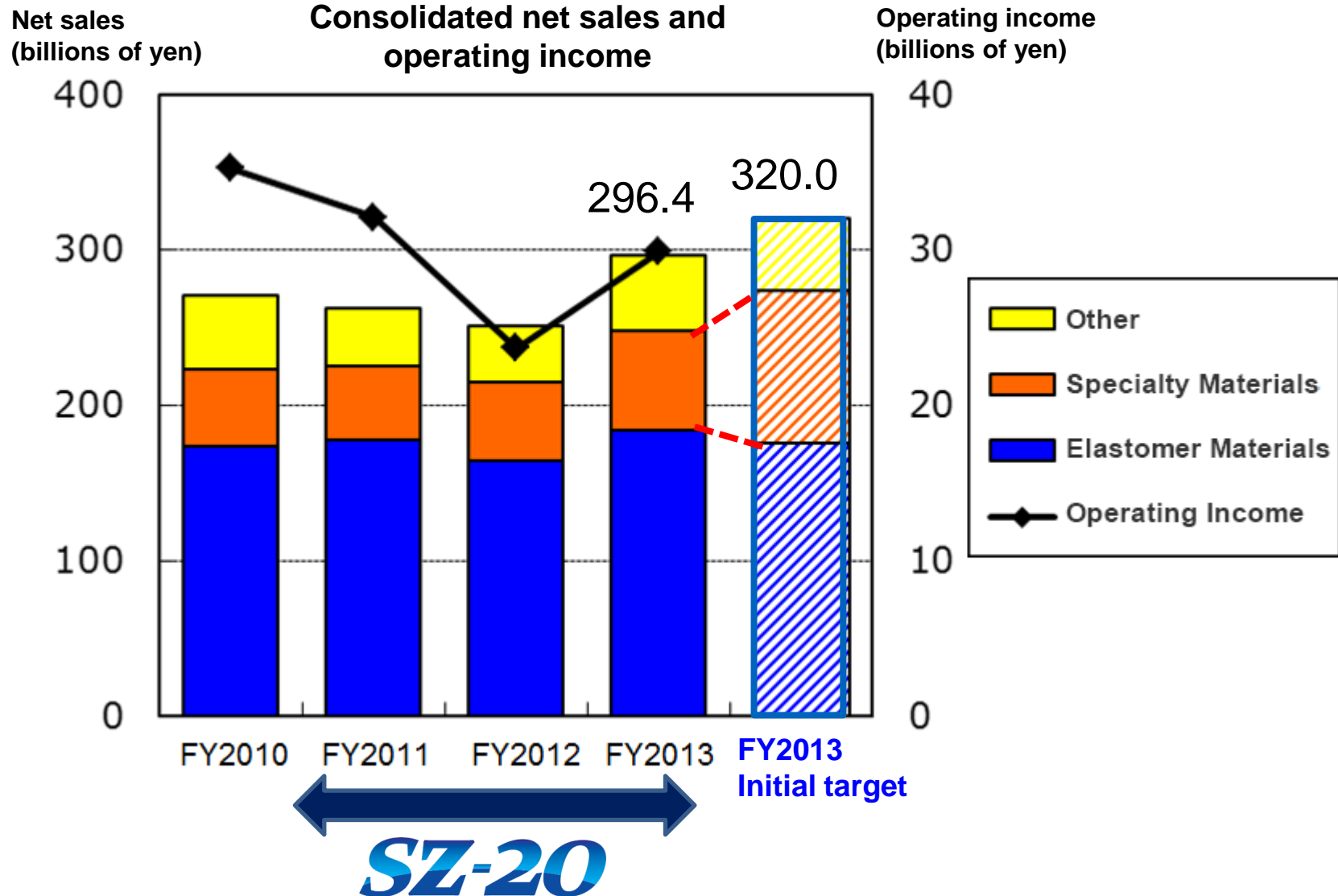
#### **Specialty Materials Business**

**Expand operations by  
accelerating R&D in  
three key fields**

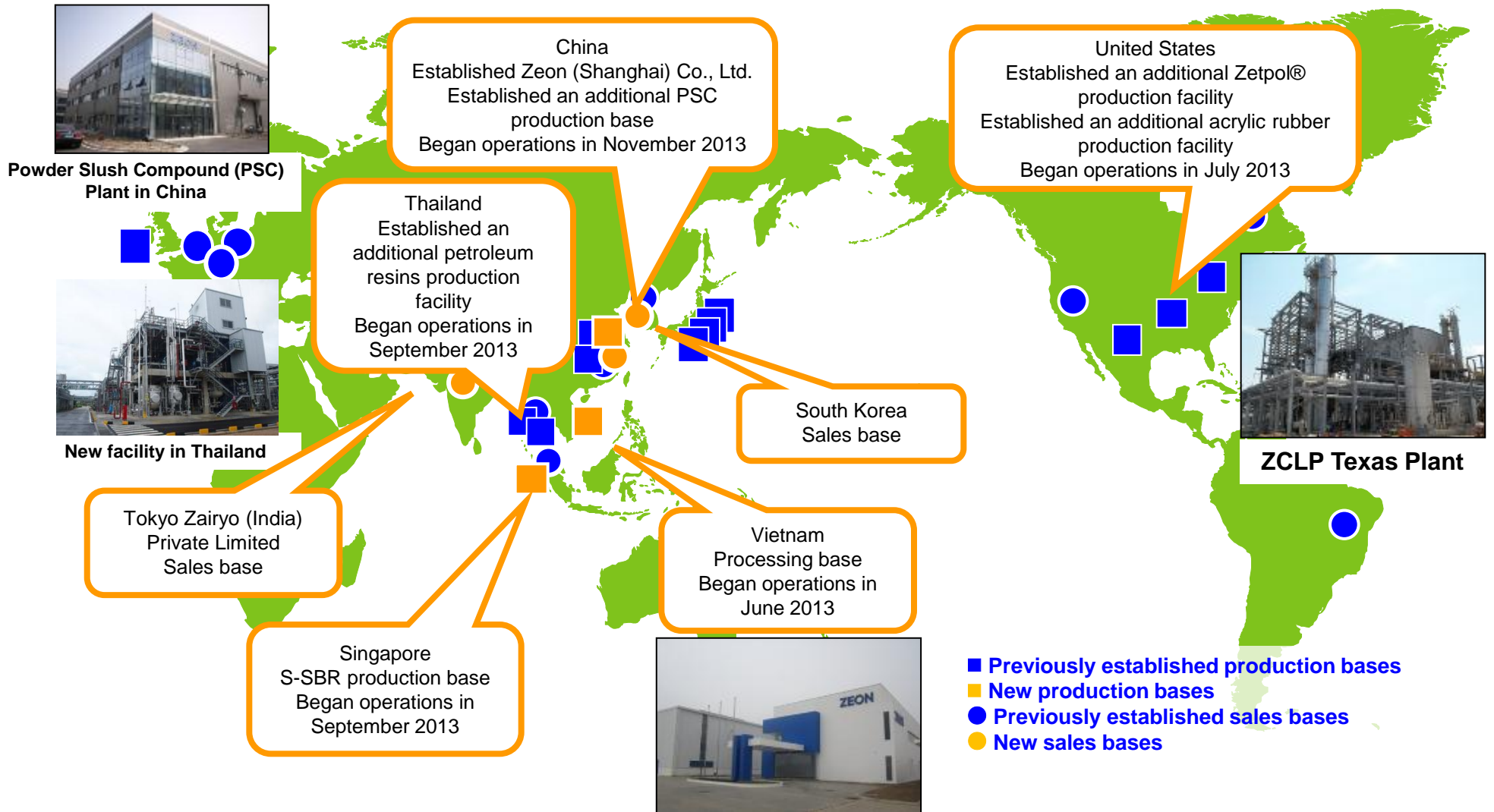
	FY2010 Results	FY2011 Results	FY2012 Results	FY2013 Results	FY2013 Initial Target
<b>Net sales</b>	270.4 billion yen	262.8 billion yen	250.8 billion yen	<b>296.4 billion yen</b>	<b>320.0 billion yen</b>
<b>Capital investment</b>	10.3 billion yen	<b>73.6 billion yen</b> (Total for three years)			<b>100.0 billion yen</b> (Total for three years)
<b>Overseas production ratio</b>	18%	19%	21%	<b>22% Forecast</b>	—

- Initial target for net sales not attained
- Target for capital investment not attained due to revisions in the plan and delays

Results in the Specialty Materials Business fell far short of the target, so the net sales target was not attained.



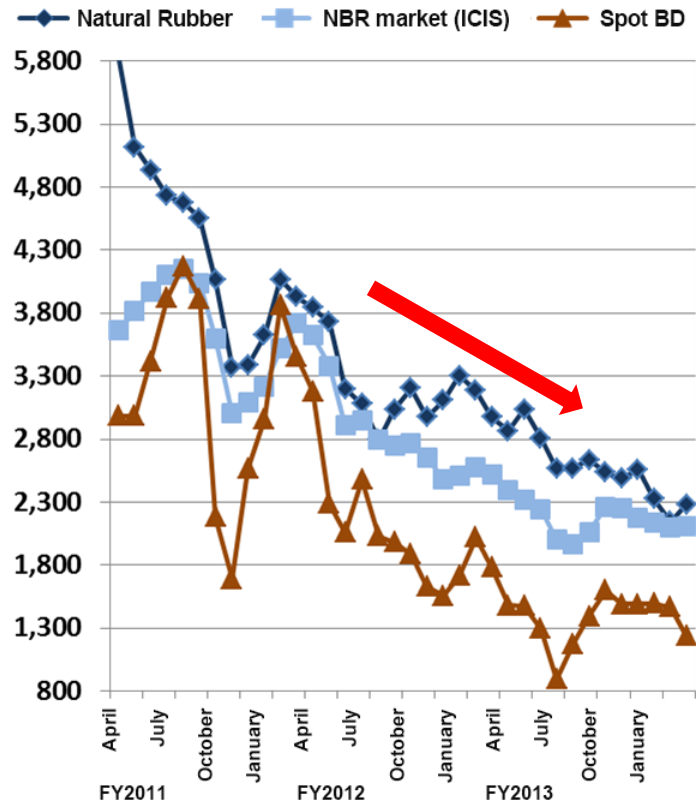
## Overseas production bases commenced operations more or less as planned



## Exchange rates took a favorable turn but the synthetic rubber market remained stagnant

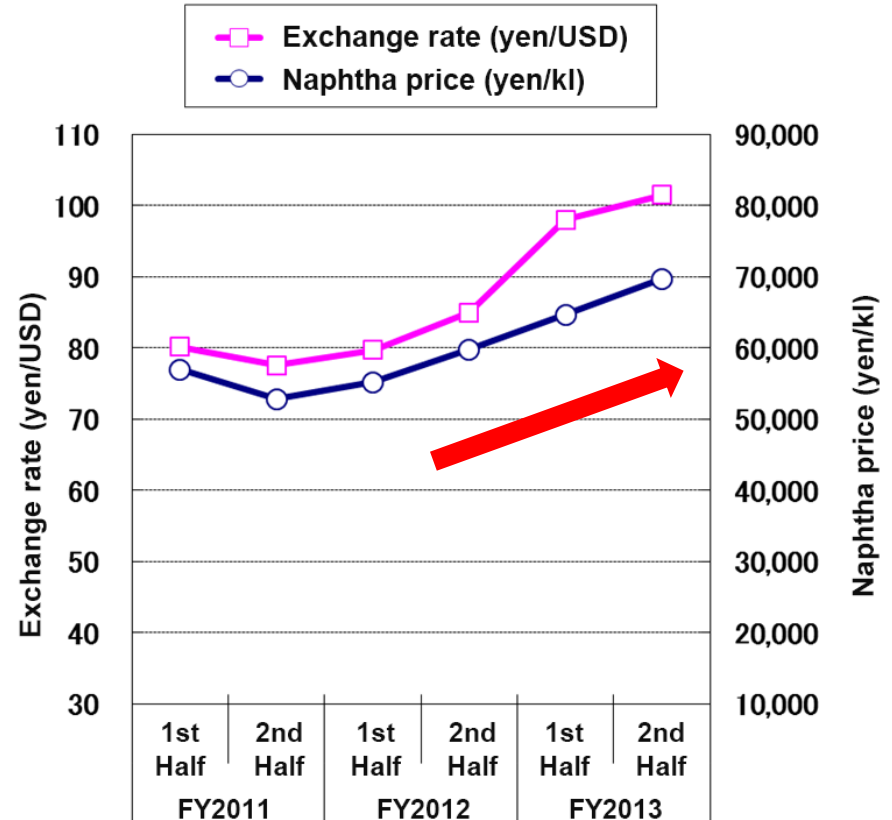
### Natural rubber, synthetic rubber and BD markets

(US\$/mt)



Natural rubber market – Singapore Commodity Exchange nearby contract price for RSS #3 grade rubber (Source: Monthly Statistics Report for Synthetic Rubber)  
 NBR Market – CFR Southeast Asia (Source: ICIS)  
 Spot BD – CFR Taiwan (Source: PLATTS)

### Exchange rate and domestic naphtha price



Exchange rates (Source: Mizuho Bank, Ltd.)  
 Domestic naphtha price (Source: calculation by ZEON based on trade statistics)



- Initial target for net sales not attained
- Results for the Specialty Materials Business fell far short of the target
- Target for capital investment not attained due to revisions in the plan and delays
- Operations at overseas production bases commenced more or less as planned
- Product markets remain stagnant and we have not yet developed a system that can fully respond to the changing market environment

1. Results of Mid-term Management Plan **SZ-20** for FY2011 through FY2013
2. **New Mid-term Management Plan**  
**SZ-20** Phase II for FY2014 through FY2016

## Globalization

Growth in emerging nations

Explosive population growth in China, India and Africa  
Economic growth rate: Emerging nations > Developed nations  
Flattening of the economy (instant ripple effect)

## IT Trends

Evolution and expansion of the information society

Broadband will serve as the premise of future systems  
Increase in cloud computing  
Big Data (exponential growth in data volume)  
Change in communication styles (mobility)

## Environment and Energy

Emphasis on sustainability

Expansion in renewable energy and natural energy  
Greater use of shale gas and reduced supplies of some raw materials  
Improvements in electricity storage and generation technologies

**Decline in Japan's international competitiveness (falling population, low-growth economy, persistently high electricity costs)**

## “Changing” the company to realize the Enterprise Blueprint for 2020

### Corporate Philosophy

ZEON is contributing to the preservation of the Earth and the prosperity of the human race.

### ZEON CSR Policy

- We will ensure compliance and meet society’s needs for safety and security.
- We will contribute to sustainably developing society and protecting the global environment through our corporate activities.
- We will ensure that each and every ZEON person is aware of CSR and acts accordingly.

Key sense of value

Speed

Dialogue

Social contribution

Treasured ZEON characteristics

Mutual trust and fellowship

Enterprise Blueprint for 2020

ZEON makes the future today through the power of chemistry

During the three-year period, we will “change” the company through a fundamental revision of past practices and approaches to attain our goals.

New Mid-Term Management Plan

**SZ-20**

Phase II

## Taking on challenges as a second step toward realizing the Enterprise Blueprint for 2020

- Commence operations at overseas plants
- Stabilize processes
- Expand sales in Specialty Materials Business



- Promote reform and improvement
- Change management structure
- Nurture business culture

Enterprise Blueprint for 2020

**ZEON makes the future today through the power of chemistry**

Consolidated net sales:  
500 billion yen

FY2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

Phase II

**SZ-20**

**SZ-20**

## Further Strengthen our Elastomer Materials and Specialty Materials Businesses for Globally Expanding Operations

### Strategy by Business Segment

#### Elastomer Materials Business

Further strengthen competitive businesses by responding globally to growth markets

#### Specialty Materials Business

Expand operations by accelerating R&D in three key fields

## Strategy by Business Segment

### Elastomer Materials Business

Further strengthen competitive businesses by responding globally to growth markets

### Specialty Materials Business

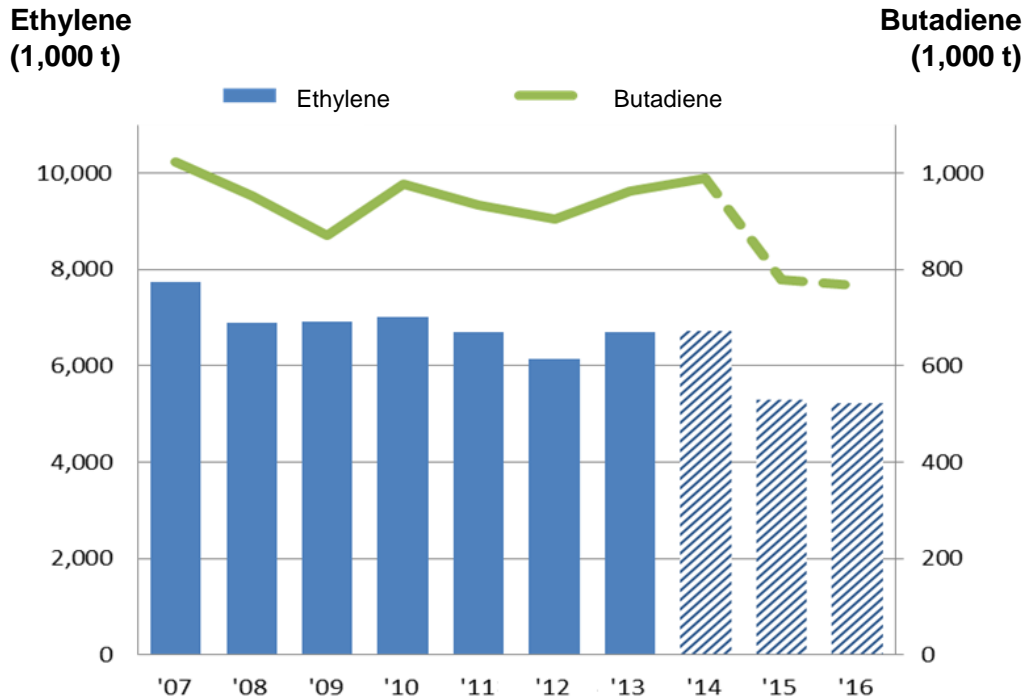
Expand operations by accelerating R&D in three key fields

Optimize product lineup by responding to the material procurement environment, revising the production system, etc.

Production of ethylene and butadiene in Japan

ZEON's production capacity for synthetic rubber

(t/year)

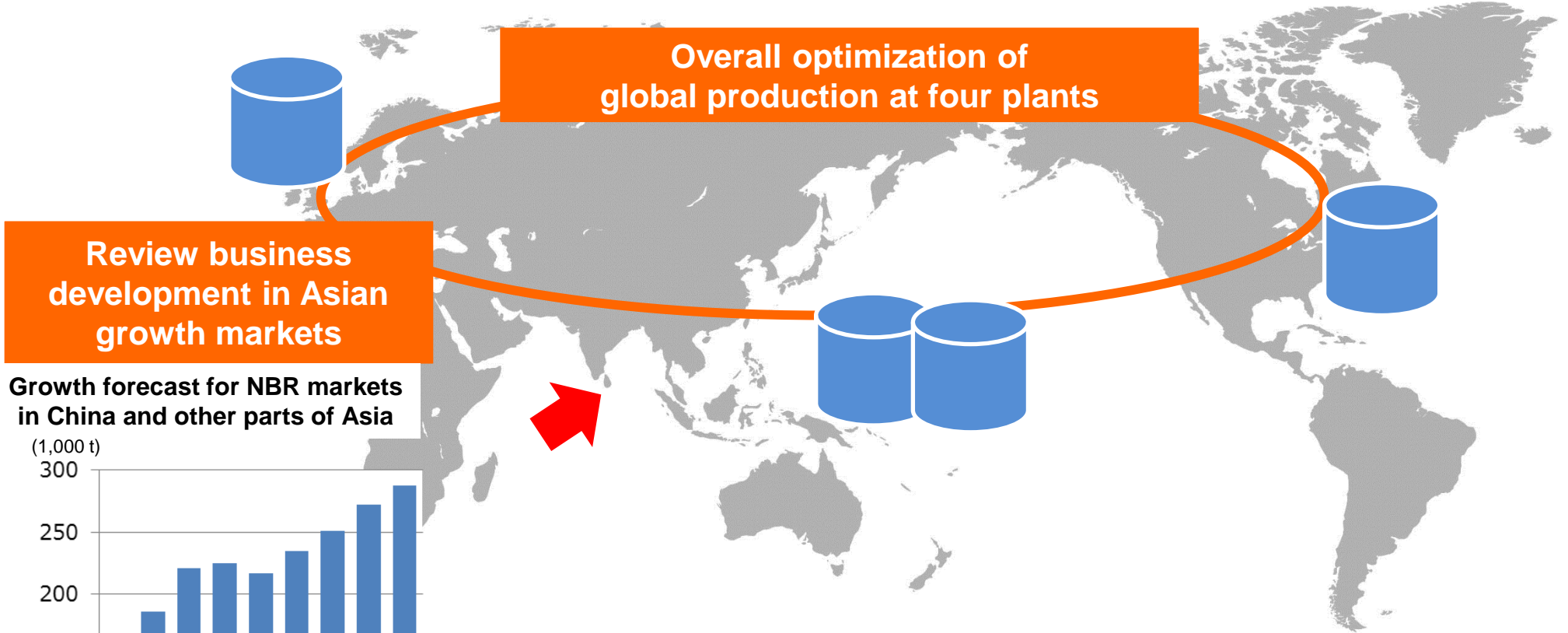


ZEON estimates for 2014 and beyond  
(Source: Ministry of Economy, Trade and Industry statistics)

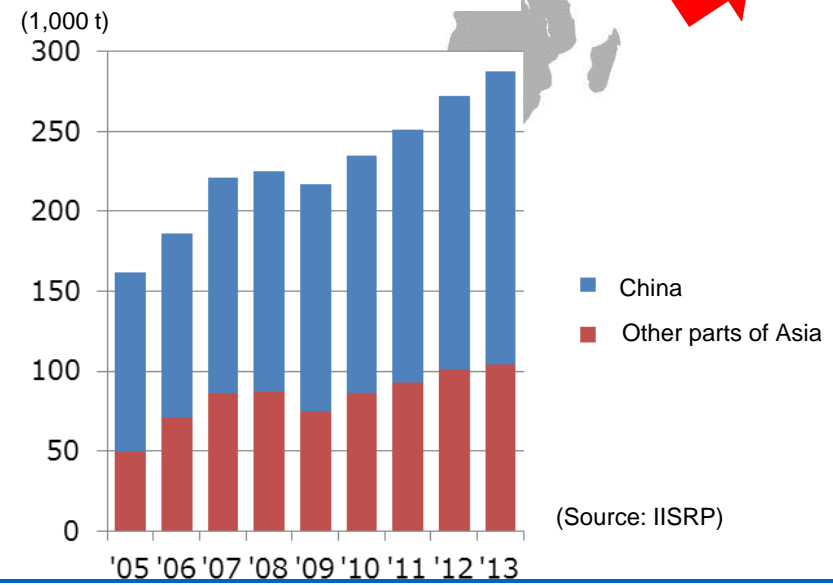
	Japan	United States	Others
E-SBR	80,000		
S-SBR	55,000		35,000
BR	65,000		
NBR	60,000	15,000	15,000
HNBR	4,500	5,000	
IR	40,000		
ACM	8,500	8,500	
Others		10,000	



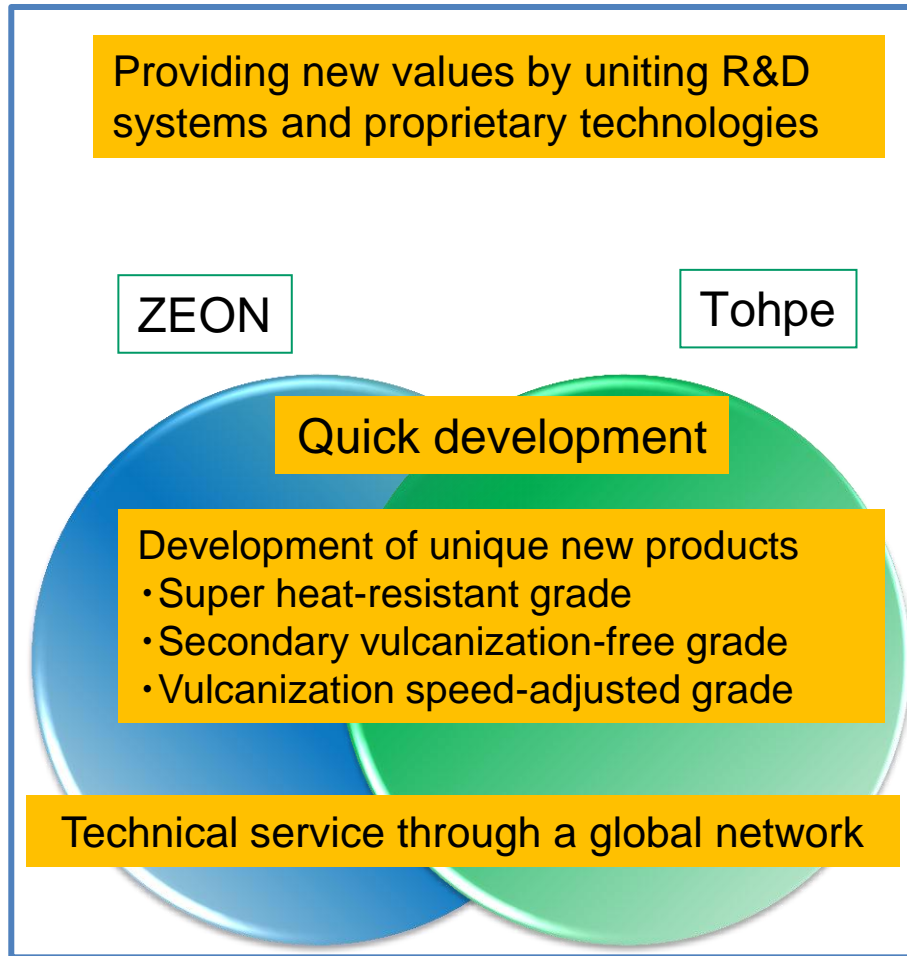
## Strengthening the Nitrile Butadiene Rubber (NBR) Business



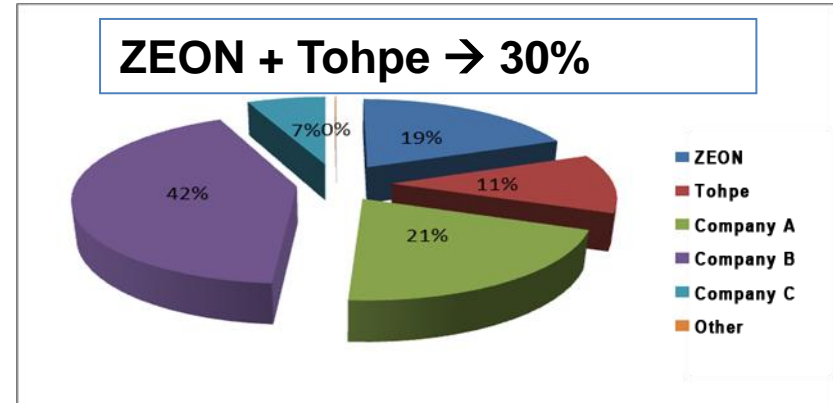
**Growth forecast for NBR markets in China and other parts of Asia**



Following business integration with Tohpe, consider expanding production capacity in response to the expanding acrylic rubber market

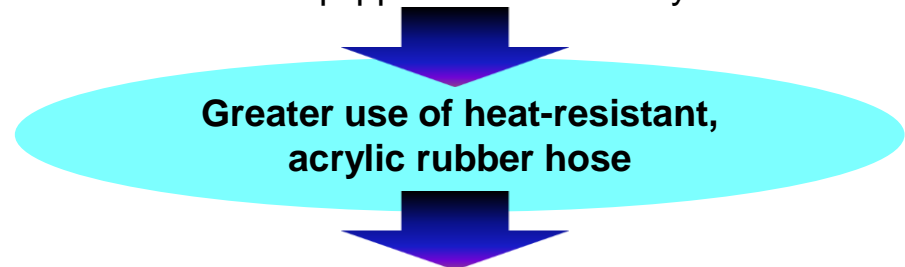


## Global Share of Acrylic Rubber



## Expanding acrylic rubber market

Trend for fuel efficiency leads to increase in vehicles equipped with a turbo system

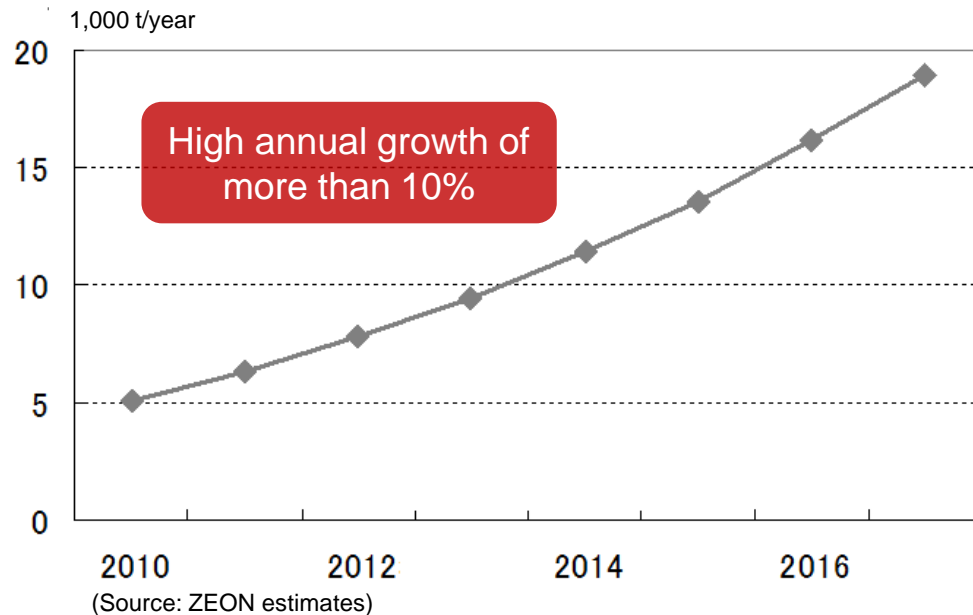


Consider boosting production capacity in line with market expansion

## Expand business for surgical glove material (E-IR)



**Estimated growth in market size for surgical gloves (E-IR quantity equivalent)**



Advantage of E-IR: Solution for allergy to protein contained in natural rubber



## Developing ZEON's unique isoprene extraction technology for overseas businesses



### Making maximum use of C5 fractions

**Isoprene**

SIS Block Copolymers  
(thermoplastic elastomers)

**Piperylene**

Hydrocarbon resin  
(tackifier, binder)

### Applications

Elastic film



Adhesive tape

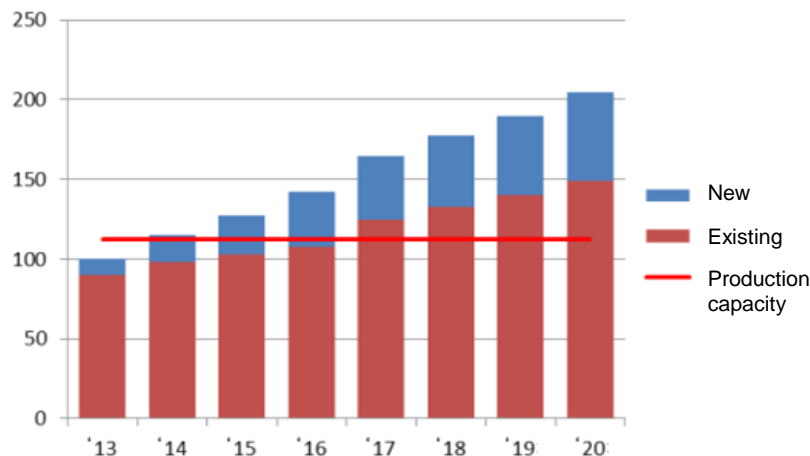


Traffic paint



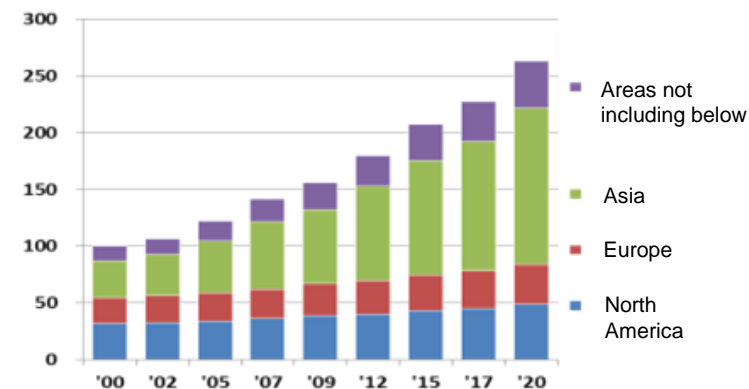
### ZEON's SIS sales plan and production capacity

Index based on a scale where FY2013 sales volume is 100



### Global market for adhesive tape

Index based on a scale where FY2000 is 100



(Source: ZEON estimates based on data provided by The Freedonia Group)

## S-SBR Singapore Plant – Completed in April 2014, expansion planned for 2016



S-SBR Singapore Plant

S-SBR (Solution-polymerized Styrene-Butadiene Rubber)

**Singapore Plant  
Second Line**  
(Scheduled to begin operations  
in 2016)

**Singapore Plant**  
Mass production of four core products  
Transfer production from  
the Tokuyama Plant

**Tokuyama Plant**  
Mass production of special grade products  
Test production of new products → Launch →  
Mass production (pilot plant)

**Laboratory**  
Development of new products



## Strategy by Business Segment

### Elastomer Materials Business

Further strengthen competitive businesses by responding globally to growth markets

### Specialty Materials Business

Expand operations by accelerating R&D in three key fields

Realizing an Advanced  
Information Society

Saving, Storing and  
Creating Energy

Enhancing QOL  
(Quality of Life)

## Three Key Specialty Material Fields

**IT components**  
Optical, packaging,  
electronic applications

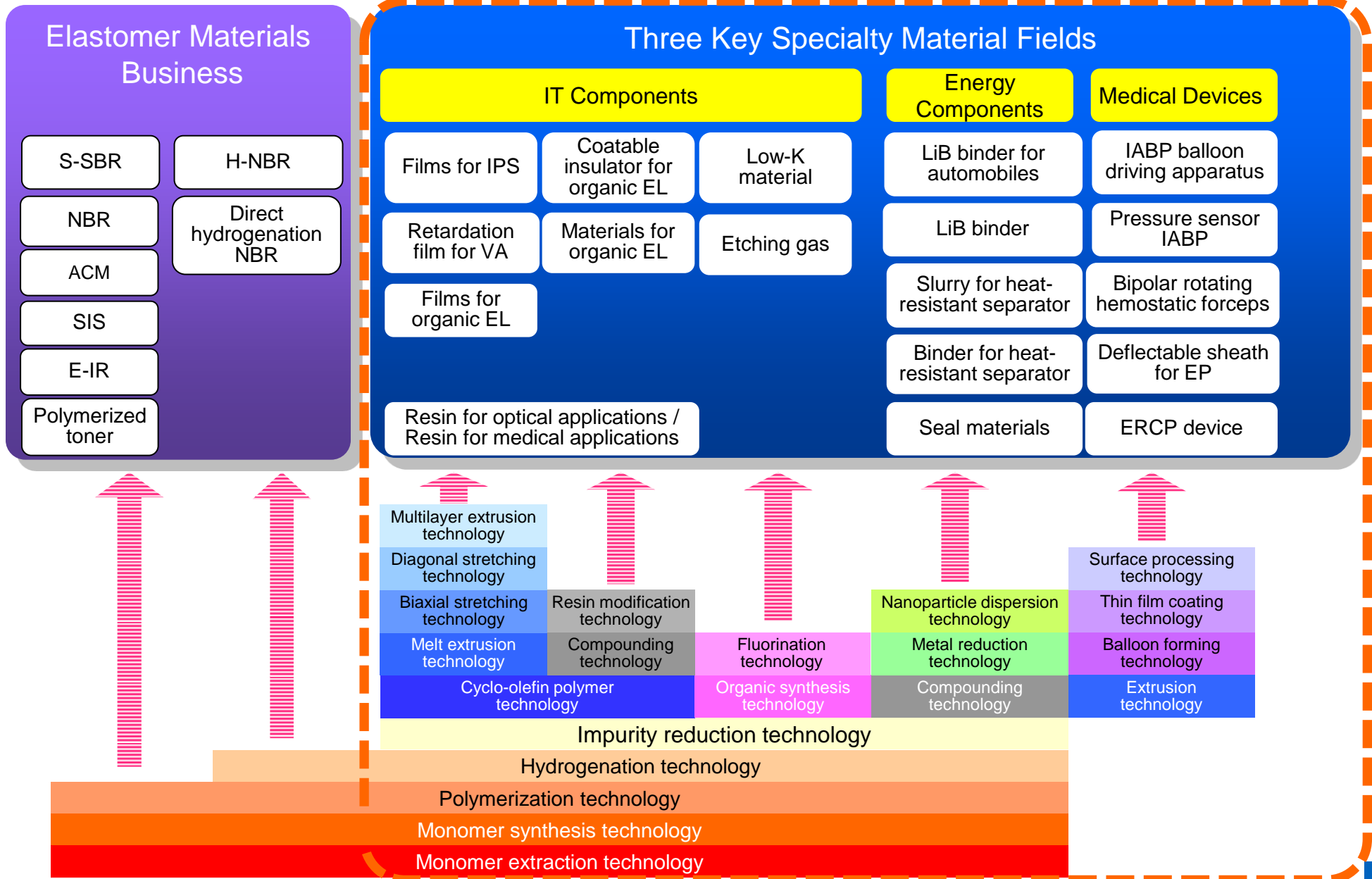
**Energy components**

**Medical devices**

**Specialty Materials (proprietary materials developed based on  
the comprehensive use of the C5 fraction)**

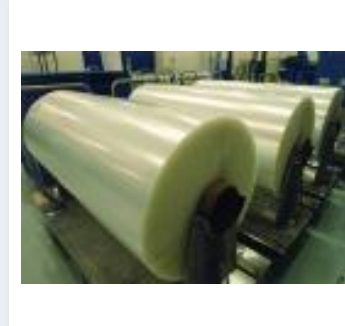
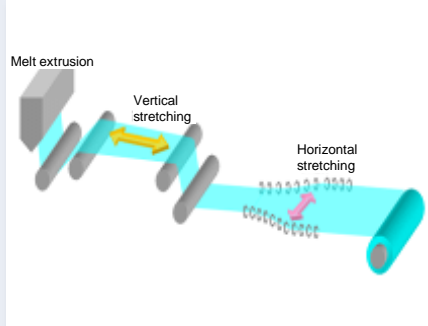
### Basic Policy

- Promote R&D in three key fields through the establishment of marketing and R&D bases on a global scale
- Create high value-added products that can withstand economic fluctuations  
Do not imitate: Apply the “Only One” concept for products based on technological strengths  
Be inimitable: Protect facilities and processes as “black boxes,” an exclusive patent portfolio, and vertical integration of technological strengths





ZEON's outstanding technology maintained as "black boxes"  
Vertical integration of resin technology and processing technology



Resin Design  
R&D Center

Resin  
Manufacturing  
Mizushima Plant

Processing  
Optes

Optical film

Integrated production from resin development to processed products

Product  
applications

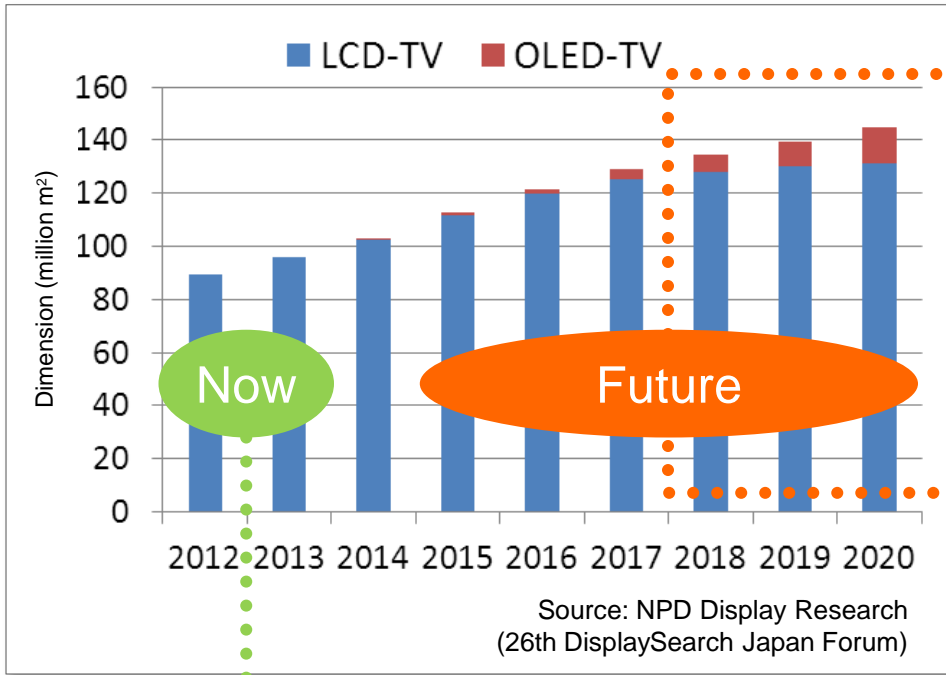
Mobile phones  
Mobile market



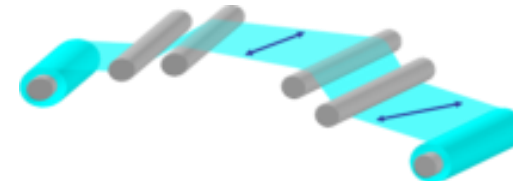
LCD TV market



Reflecting market demand in  
resin design with speed

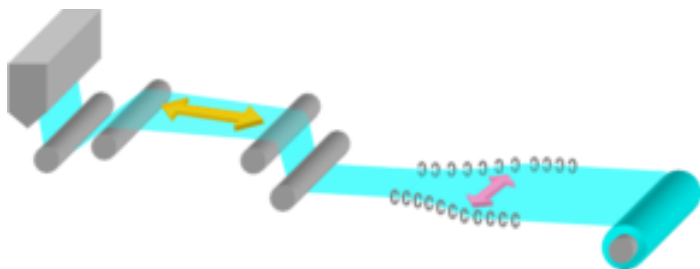


Anti-reflection for OLED TVs  
→ Diagonally stretched film



Expansion of production capacity for optical film used in LCD TVs  
→ Operations to begin in April 2015  
Taking advantage of robust demand

Improved viewing angle for LCD TVs  
→ Successive biaxial stretched film

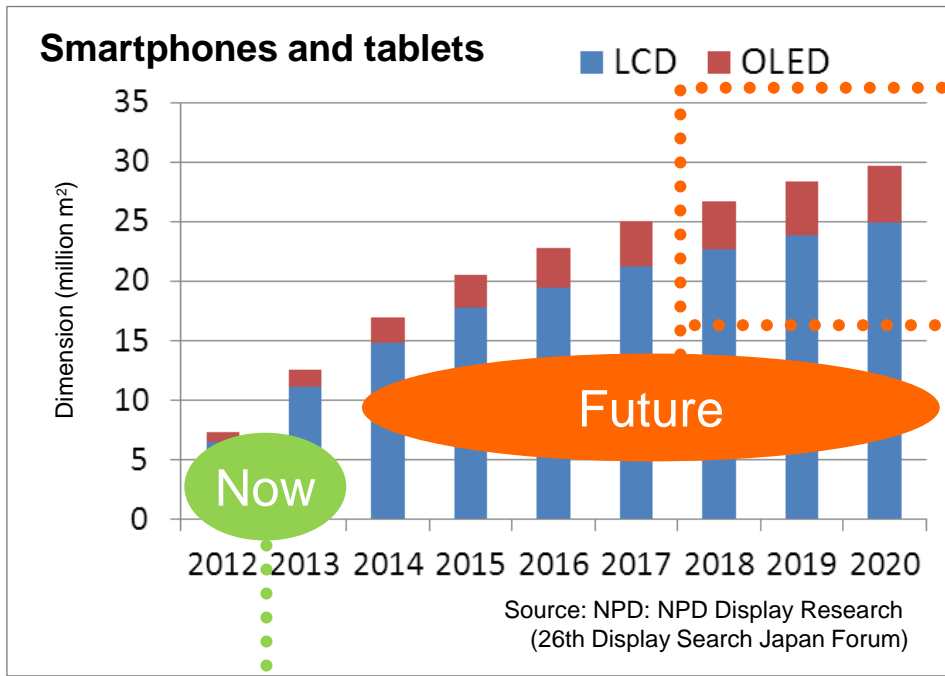


**液晶フィルム工場増強**  
氷見 テレビ大型化で需要増

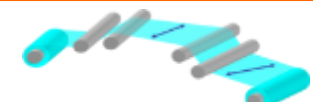
日本ゼオン  
約100人  
同日、日本ゼオンの田中公章社長が富山県庁を訪ね、石井隆一知事に設備増強を説明した。同社は液晶フィルム需要は20年に13年と比べて約1.5倍に拡大するとのみている。田中社長は「北陸新幹線の開業で富山の利便性が高まる」とも投資決定の理由だ」と話した。

日本ゼオンは15日、富山県氷見市の液晶向けフィルム工場を増強すると発表し、新たな製造棟を建設し、テレビ向け製品の生産能力を40%増の年間900万平方メートルに引き上げる。2015年4月の稼働を目指す。テレビの大型化で、フィルム需要が高まっていることに対応する。液晶テレビは斜めからでも映像を鮮明に見ることができ、光学フィルムを生産する。従業員数は約100人。同日、日本ゼオンの田中公章社長が富山県庁を訪ね、石井隆一知事に設備増強を説明した。同社は液晶フィルム需要は20年に13年と比べて約1.5倍に拡大するとのみている。田中社長は「北陸新幹線の開業で富山の利便性が高まる」とも投資決定の理由だ」と話した。

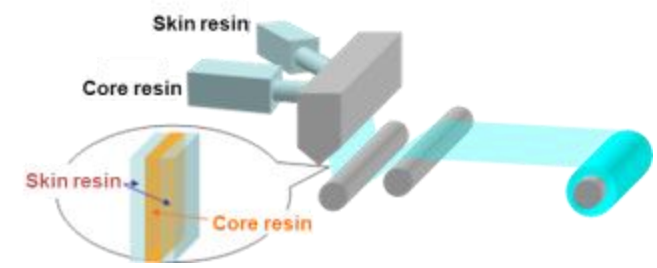
Source: Nihon Keizai Shimbun newspaper, "Hokuriku Regional Economy" section (January 16, 2014)



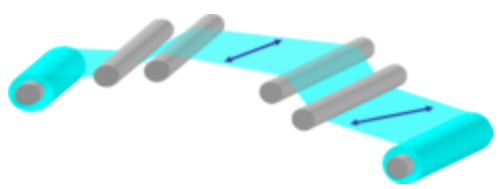
**Expand production capacity for diagonally stretched film**  
 → Completed October 2013  
 Taking advantage of robust demand



**Multilayer Extrusion Film**  
 → Improve viewing angle for small to mid-sized IPS LCDs



**Diagonally stretched film**  
 → Improved viewing angle for small and medium VA LCDs  
 Anti-reflection for OLEDs



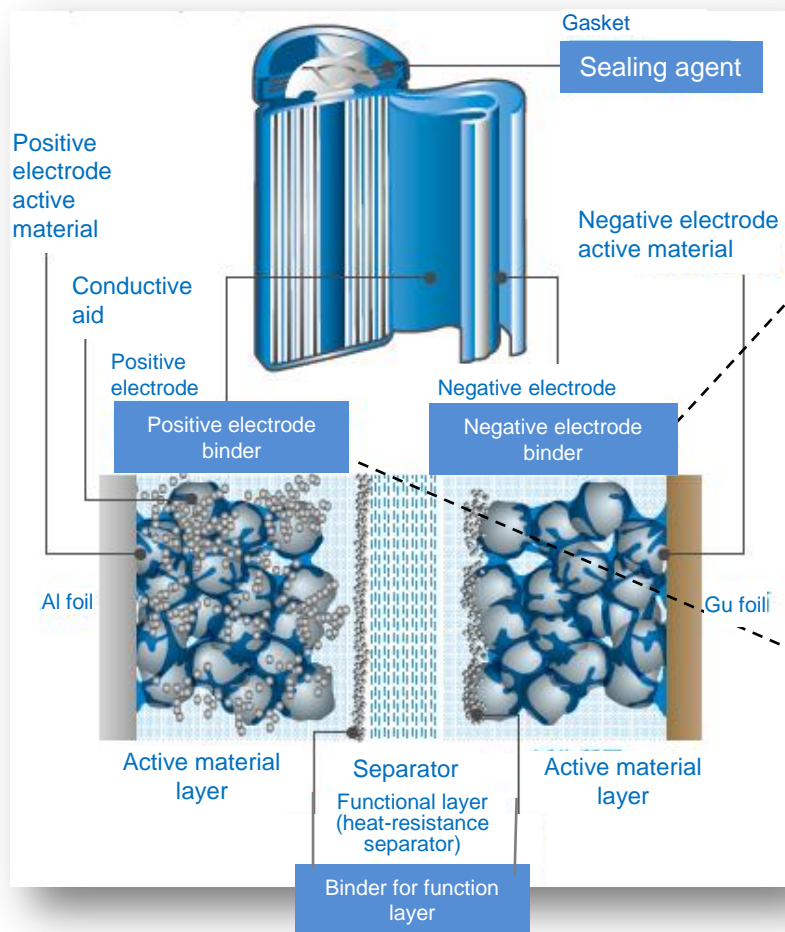
**Extrusion film**  
 → Base film for touch-panel applications



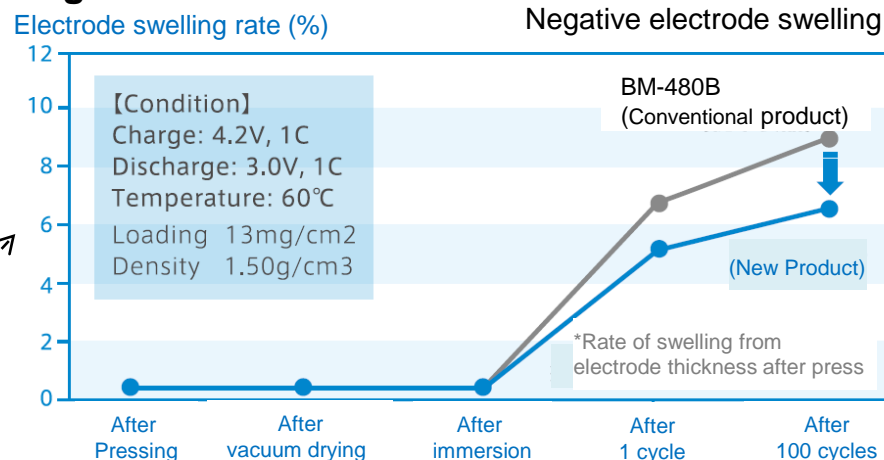


Aiming for greater battery capacity while applying the knowledge we have gained through our pioneering technology in the binder business

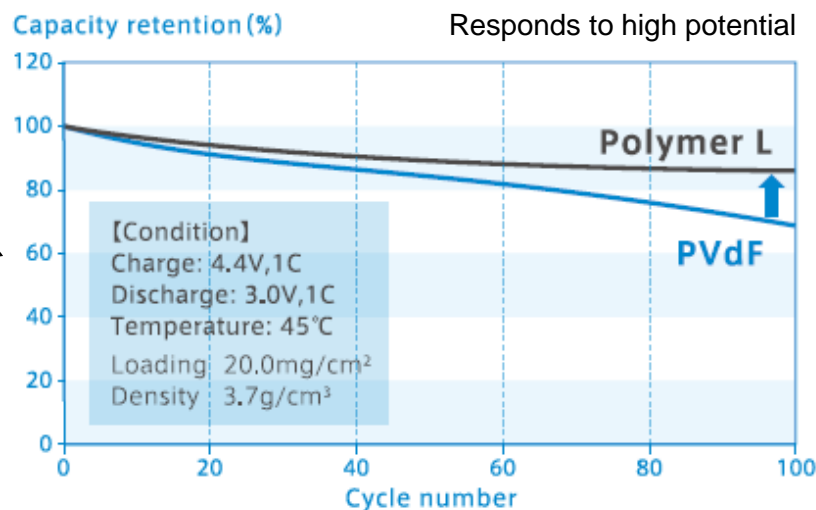
## ZEON products for lithium-ion batteries



## Negative electrode binder

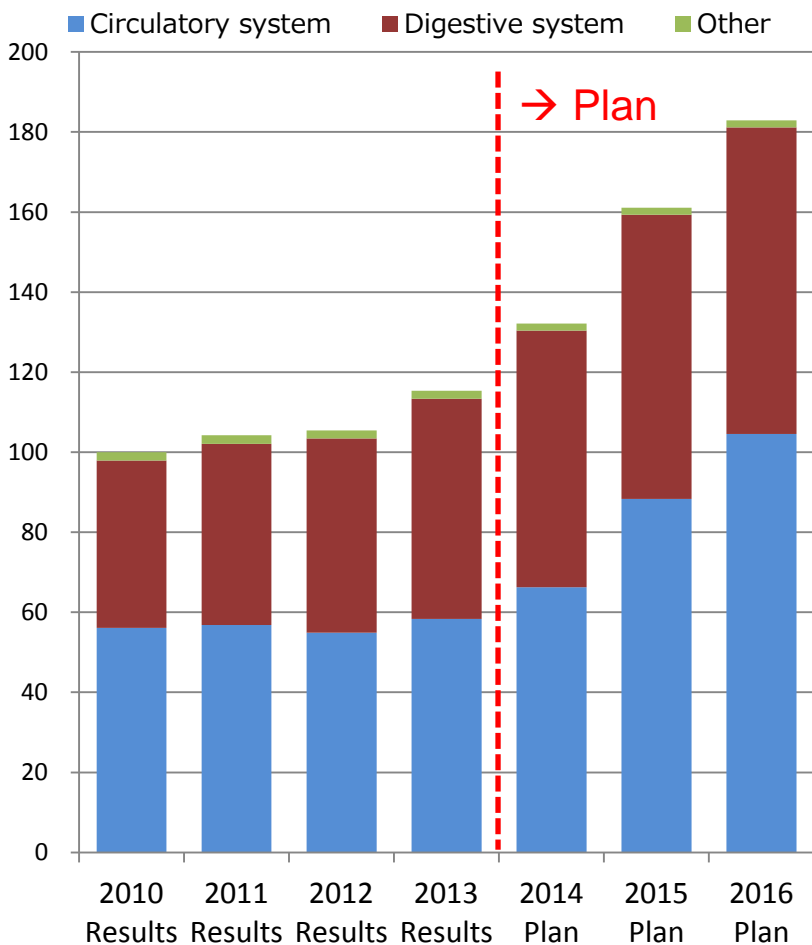


## Water soluble positive electrode binder



## Sales of ZEON medical devices

Index based on scale where sales for FY2010 is 100



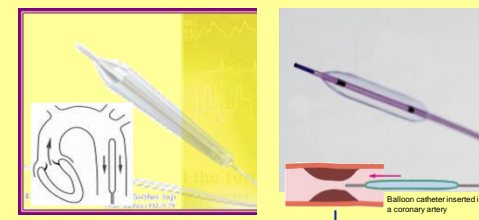
**SZ-20 Phase II**

### Priority Issues

- (1) Launch new products and improved products
- (2) Enhance quality
- (3) Overseas development

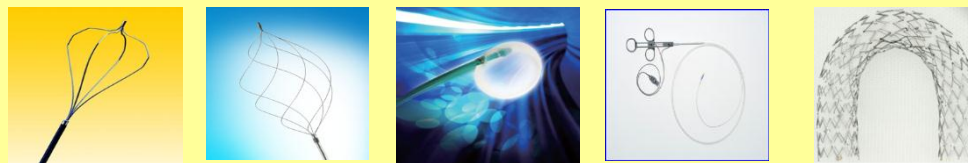
### Circulatory System

- IABP (auxiliary circulation)
- PTCA balloon catheters



### Gastrointestinal System

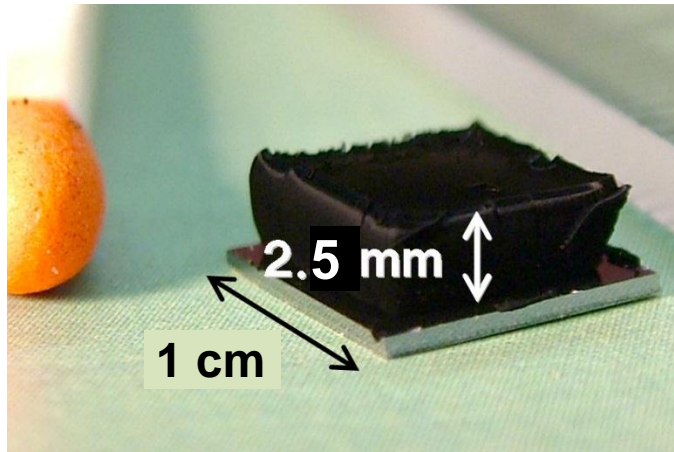
- Bile stone extraction (ERCP): EX balloon, extraction basket, lithotripsy basket, etc.
- Digestive tract: Bipolar high-frequency surgical knives, snares, hemostatic clips, etc.
- Biliary system: biliary stents, tubes, etc.



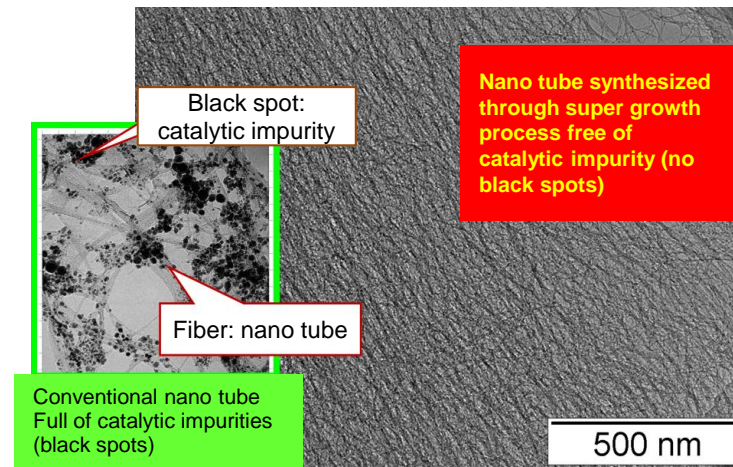
## CARBON NANO TUBE (CNT) UNDER DEVELOPMENT

“Super Growth CNT” developed by the National Institute of Advanced Industrial Science and Technology (AIST)

(1) Length: **Maximum length at millimeter scale**



(2) High purity: **Catalytic impurity less than 1%**

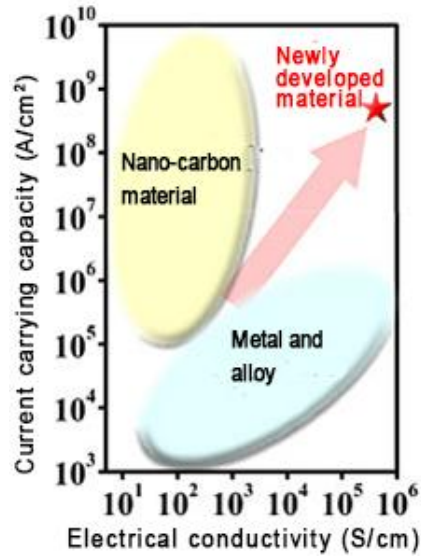


(3) Large surface area (specific surface area: larger than 800 m<sup>2</sup>/g)  
**Largest carbon-based fiber substance**

## NUMEROUS DIFFERENTIATING CHARACTERISTICS

## CNT APPLICATIONS

**Cu-CNT composite material**

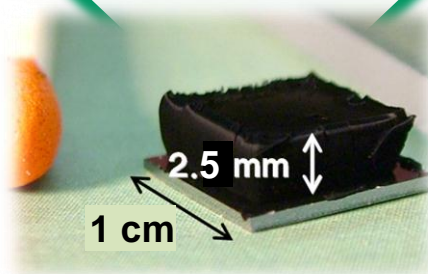


Electrical resistance comparable to copper with a current density that is 100 times greater, with physical properties that challenge global conventions

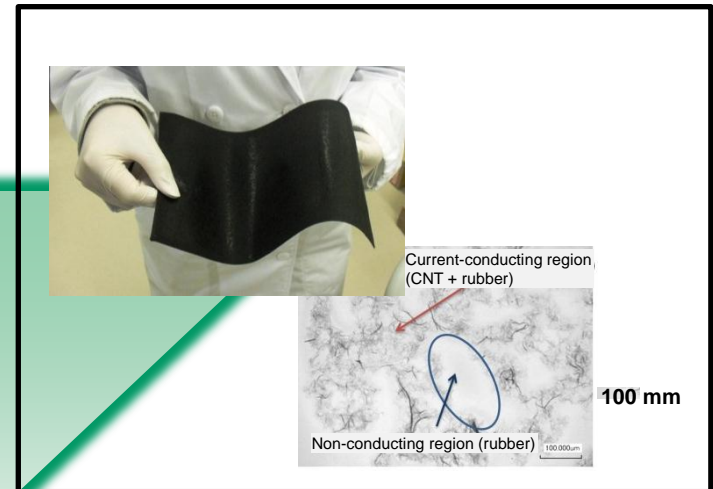
**Al-CNT composite material**



Four times greater thermal conductivity compared to aluminum



**Rubber-CNT composite material**



No electrical resistance when stretched

Improves rubber properties with minimum addition

Soft and as thermally conductive as iron

Source: AIST  
Technology Research Association for Single Wall Carbon Nanotubes



## CNT BUSINESS DEVELOPMENT

Sales/Revenue

**Enterprise Blueprint for 2020**  
CNT business aims to contribute to consolidated net sales, targeting 500 billion yen

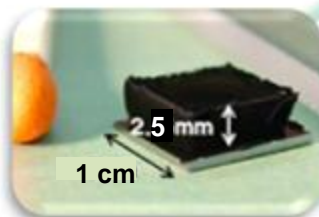


Create new business



Develop new technology

Strengthen new business



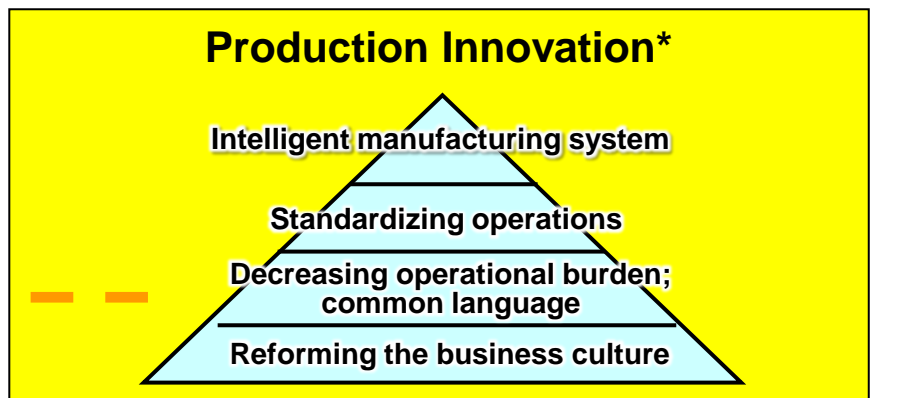
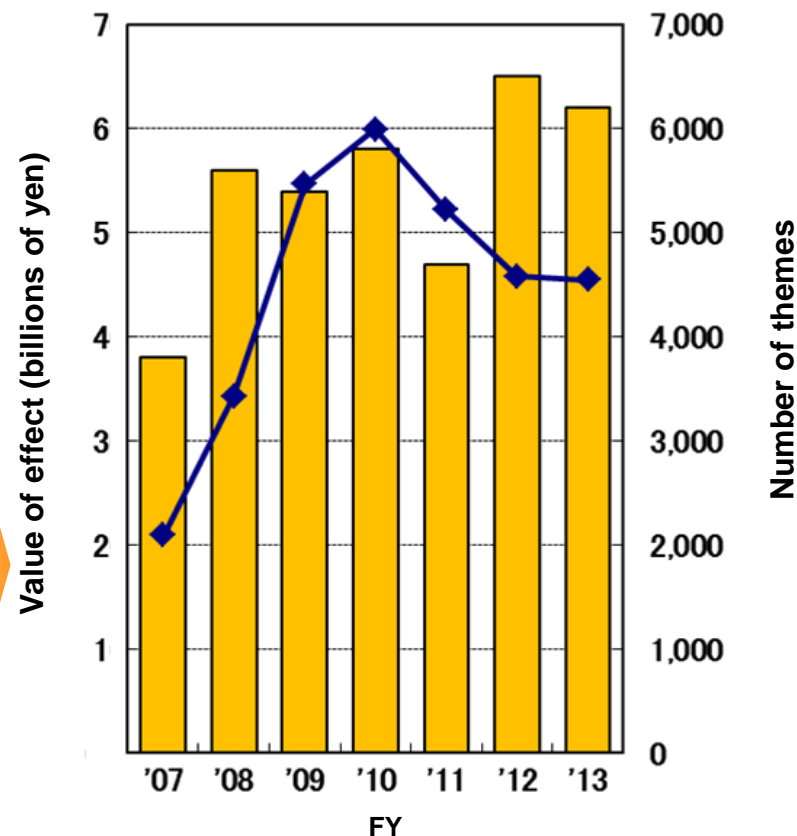
Integrate with existing businesses



Enhance functionality of rubber components

Continuing efforts for innovation and improvement

## ZΣ Activities – Transition in monetary effect and number of themes



Top-down approach

Strengthening ZEON's cost competitiveness

Bottom-up approach

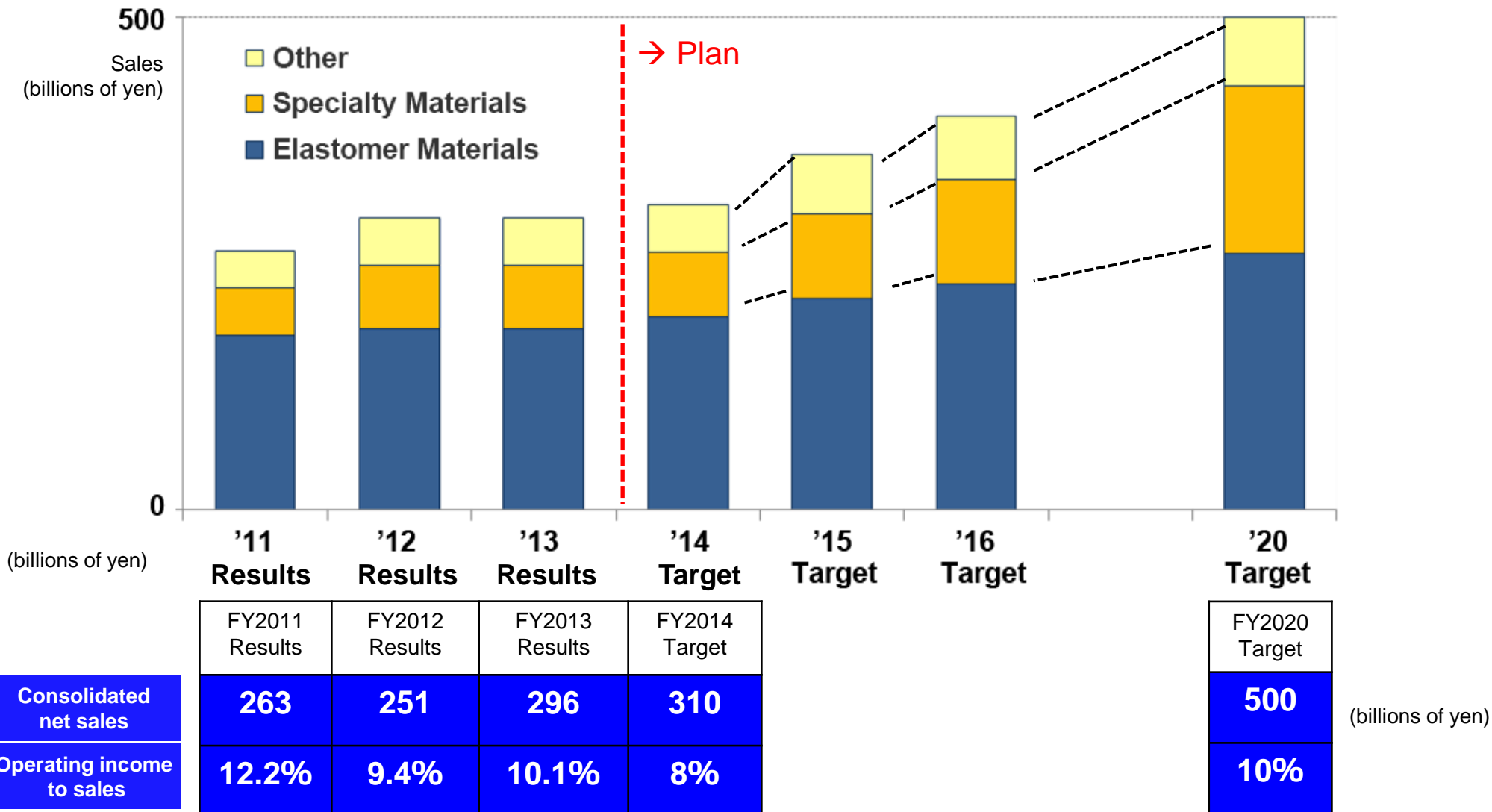
## ZΣ Activities

- ★ Cost reduction theme
- ★ Circle theme (small group activities)
- ★ Nurturing cost awareness and education

Approved themes

\*Production Innovation: Daicel Production Innovation

## Targeting 500 billion yen in consolidated net sales in FY2020



## Enterprise Blueprint for 2020

Increase decision making speed

Raise operational efficiency

Encourage dialogue

**Nurturing a culture of change**

Create major change

Think and act on individual initiative

Cooperation and teamwork through dialogue

Diversity of ideas

Self-initiative based on self-identity

**Promoting the Torch Activities**

Zero industrial accidents

Zero abnormalities in key processes

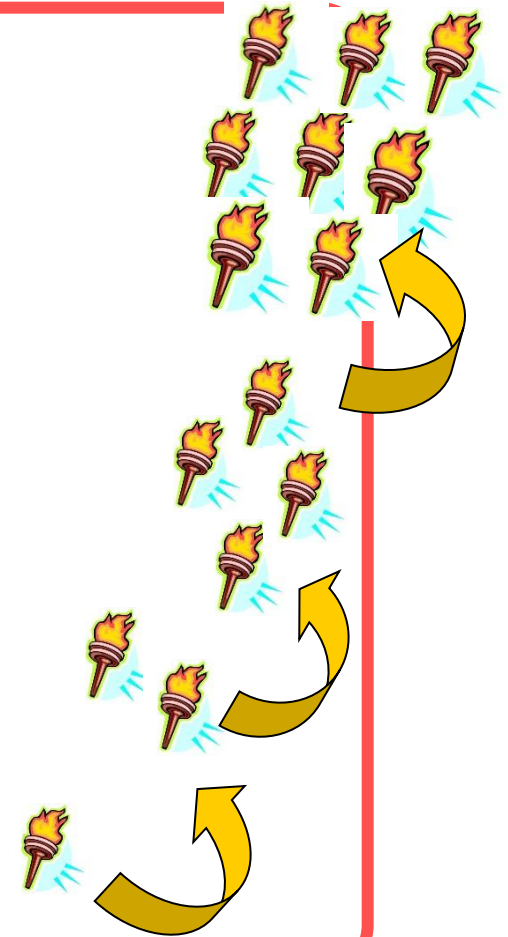
Self-management of health

**Thorough commitment to safety and health**

**Nurture a business culture based on “visualization” to achieve our Enterprise Blueprint for 2020**

**Activities aimed at achieving the Enterprise Blueprint for 2020 through the efforts of each individual and beginning with expressing “what I value,” “what I want to do” and “what I want to become,” leading to awareness, contemplation and action.**

**This individual change can be described as lighting a single torch that can catch on and spread, and we have named it the “Torch Activities” to reflect our passionate aspirations.**



## **Torch:**

**A guiding light for our future goals; a light that makes our uncertain foothold visible and provides warmth, heat, energy and brightness (joy); a flame keeps us moving**

**Speed**

**Dialogue**

**Social  
Contribution**

**Mutual trust and fellowship**

**ZEON's plans, forecasts, and other data appearing in this presentation were calculated based on information which was currently available and therefore includes risks and uncertainties. Actual results may differ depending on various factors.**



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