

# **Current Status of the Mid-Term Management Plan**

***SZ-20***

**November 6, 2013**

**ZEON CORPORATION**

**Kimiaki Tanaka**

**President**

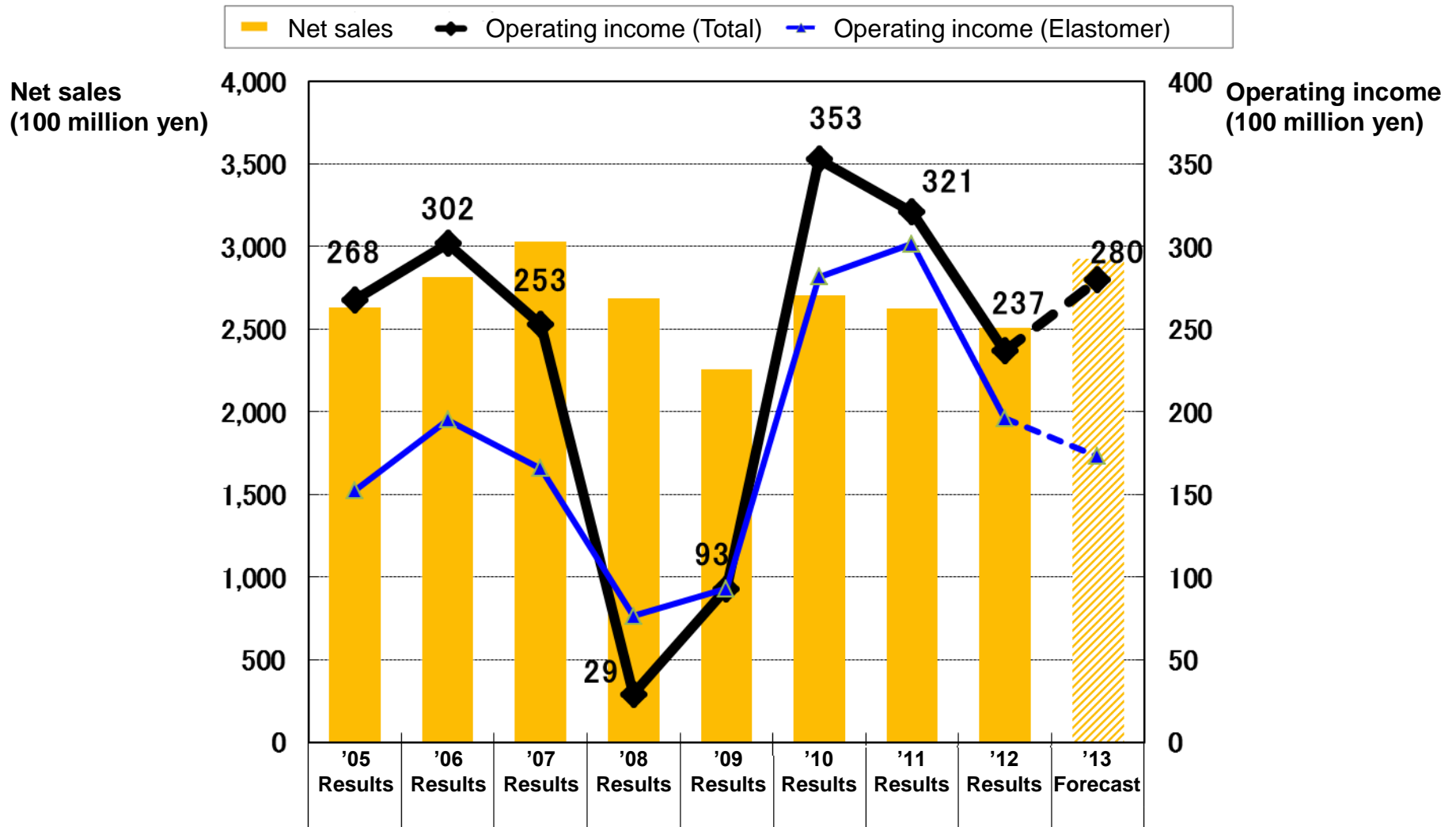
**I. FY2012 Results and Business Environment**

**II. Mid-term Management Plan *SZ-20***

**III. Business Topics**

**IV. Performance Goals**

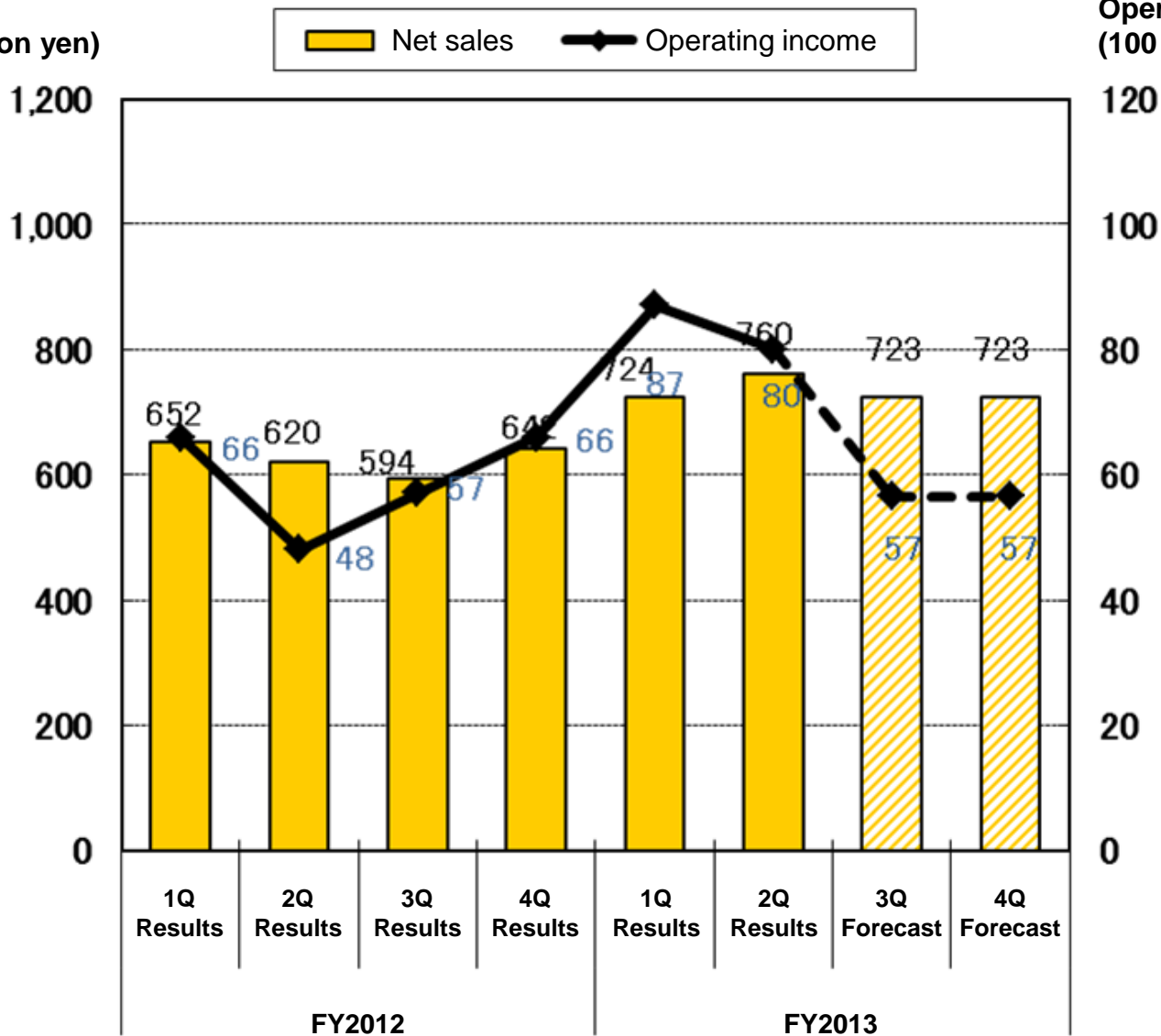
# Consolidated Results



# Consolidated Results – Quarterly

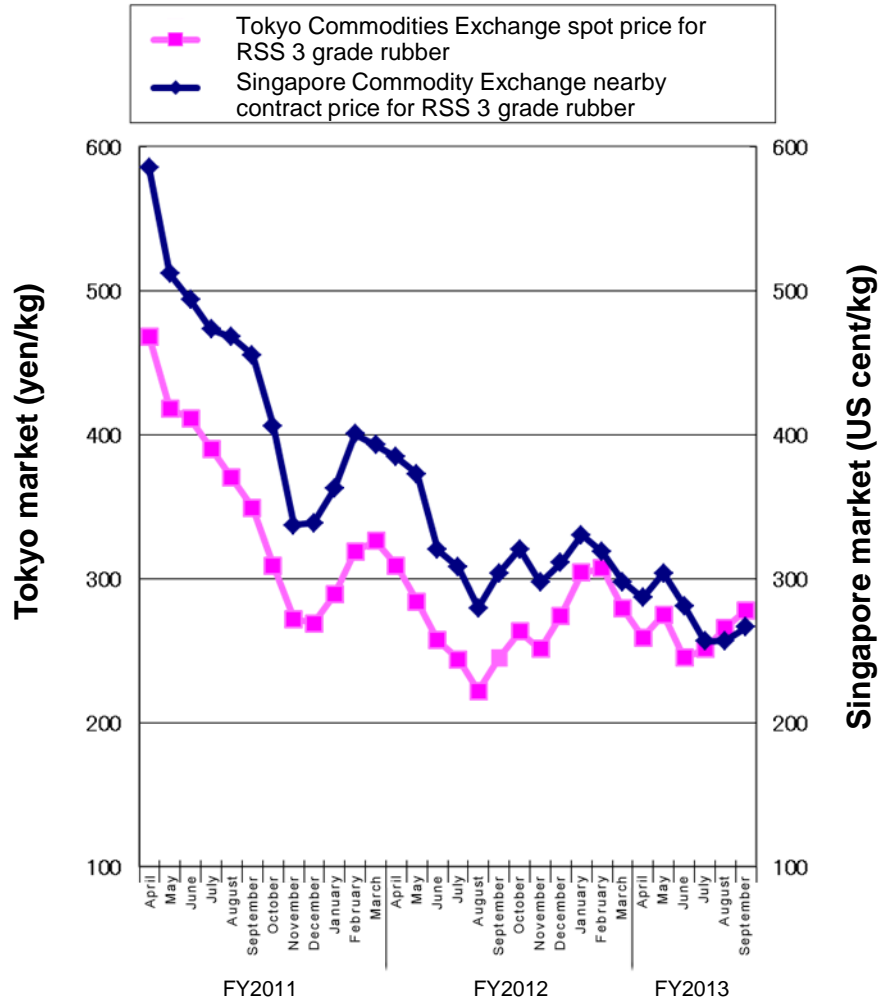
Net sales  
(100 million yen)

Operating income  
(100 million yen)



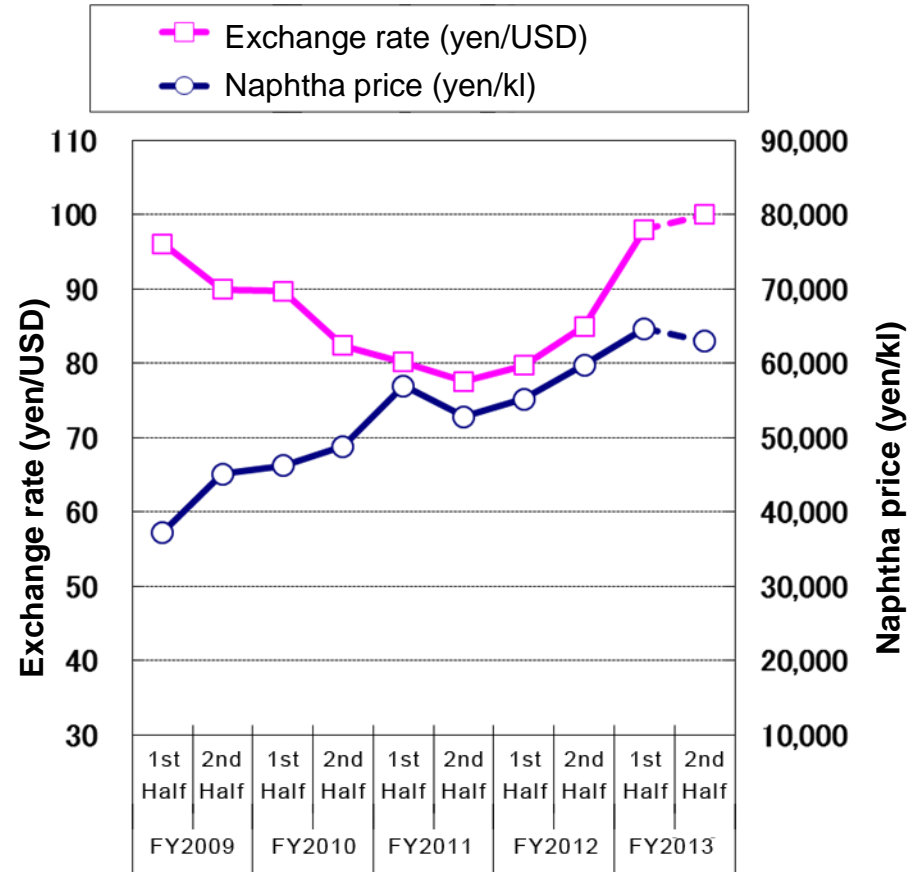
# Economic Environment

## Natural Rubber Market



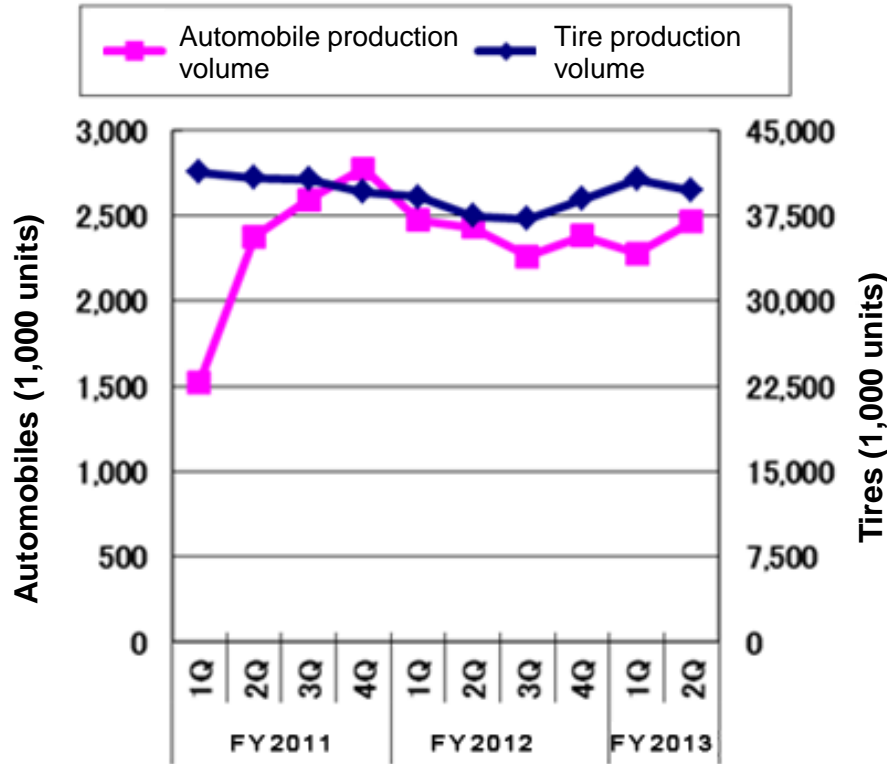
Source: Monthly Statistic Report for Synthetic Rubber

## Exchange Rate and Domestic Naphtha Price



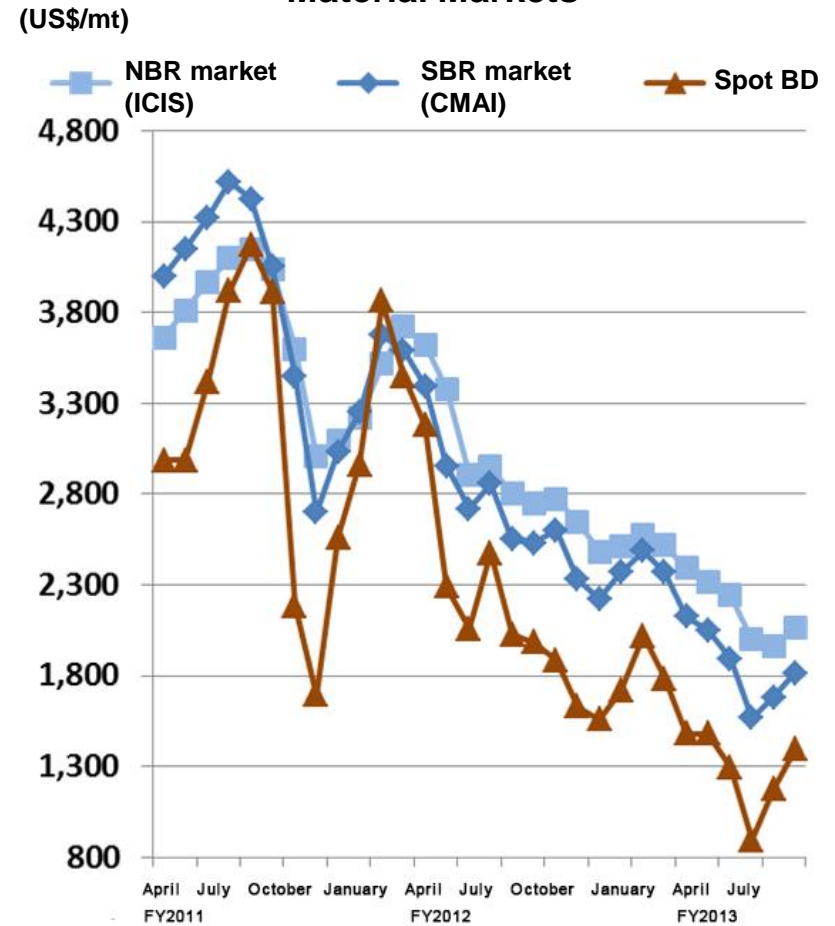
# Economic Environment

## Domestic Production of Automobiles and Tires



Source: Japan Automobile Manufacturers Association, Inc. and the Japan Automobile Tire Manufacturers Association, Inc.

## Synthetic Rubber and Butadiene Material Markets



Source: ICIS (NBR market, CFR Southeast Asia)  
 Source: CMAI (SBR market, CFR Southeast Asia market)  
 Source: PLATTS (Spot BD – CFR Taiwan)

# SZ-20

Evolve ideas toward execution from  
FY2011 through FY2013

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

ZEON will continue to contribute to the  
realization of customer dreams and a  
prosperous society

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

**FY2020 consolidated net sales:  
500 billion yen**

**FY2020 overseas production ratio:  
50%**

### **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 the three key fields**



## Strategy by Business Segment

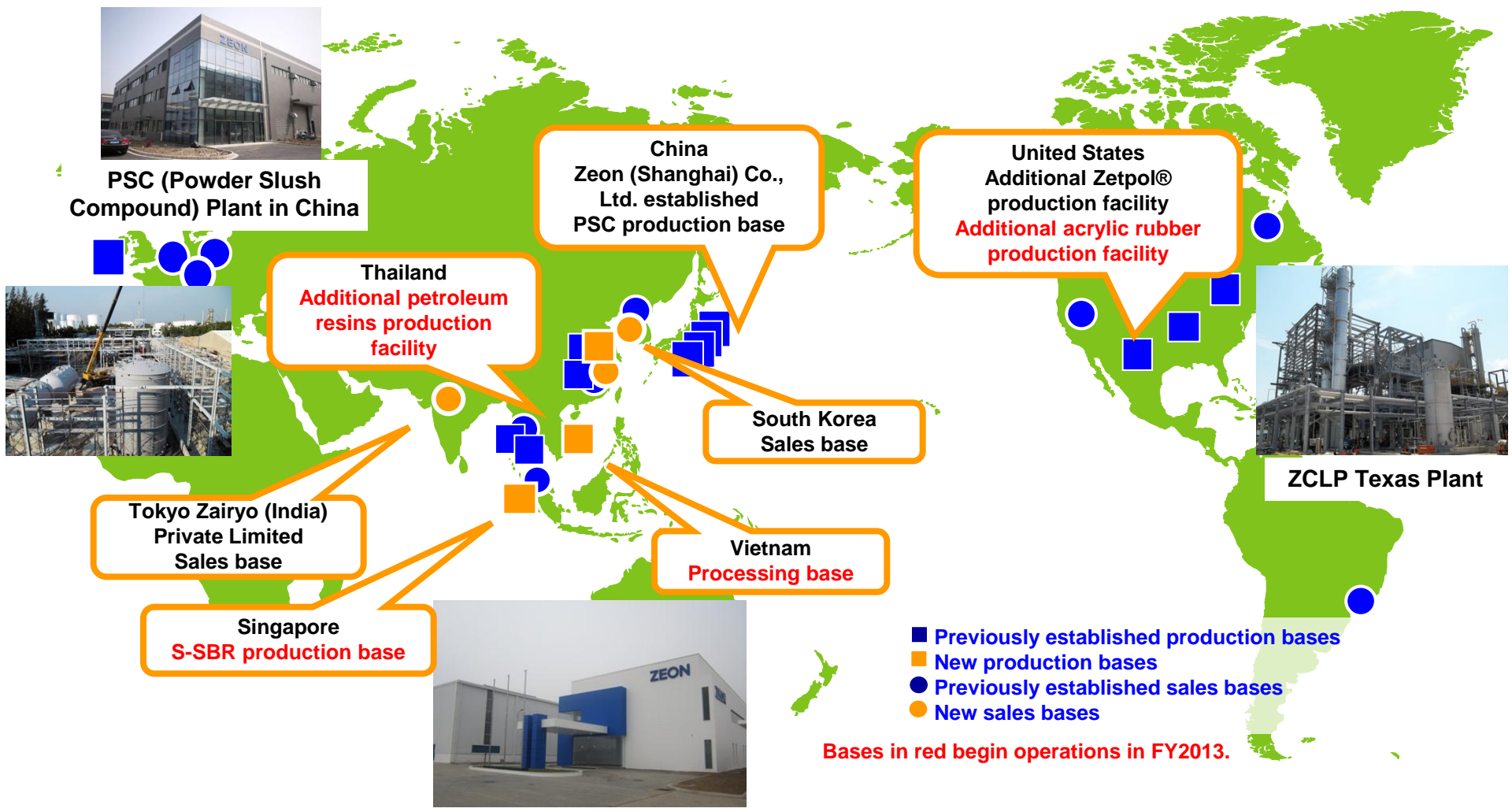
### Elastomer Materials Business

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

### Elastomer Materials Business

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

## Further Strengthen Competitive Businesses by Responding Globally to Growth Markets



## New S-SBR Plant Begins Operations

Securing supply capability for the expanding fuel efficient tire market

**Singapore Plant**  
Construction completed in March 2013

Test runs (polymerization to drying) began in July 2013  
→ Stabilizing operations and achieving built-in quality for start of full-scale operations in December



Began sample shipments for customer evaluations  
→ Favorable evaluation  
→ Early approval



## Zeon Chemicals Singapore Pte. Ltd. (ZCS) Plant

View from fourth floor of Dryer Building



Polymerization area

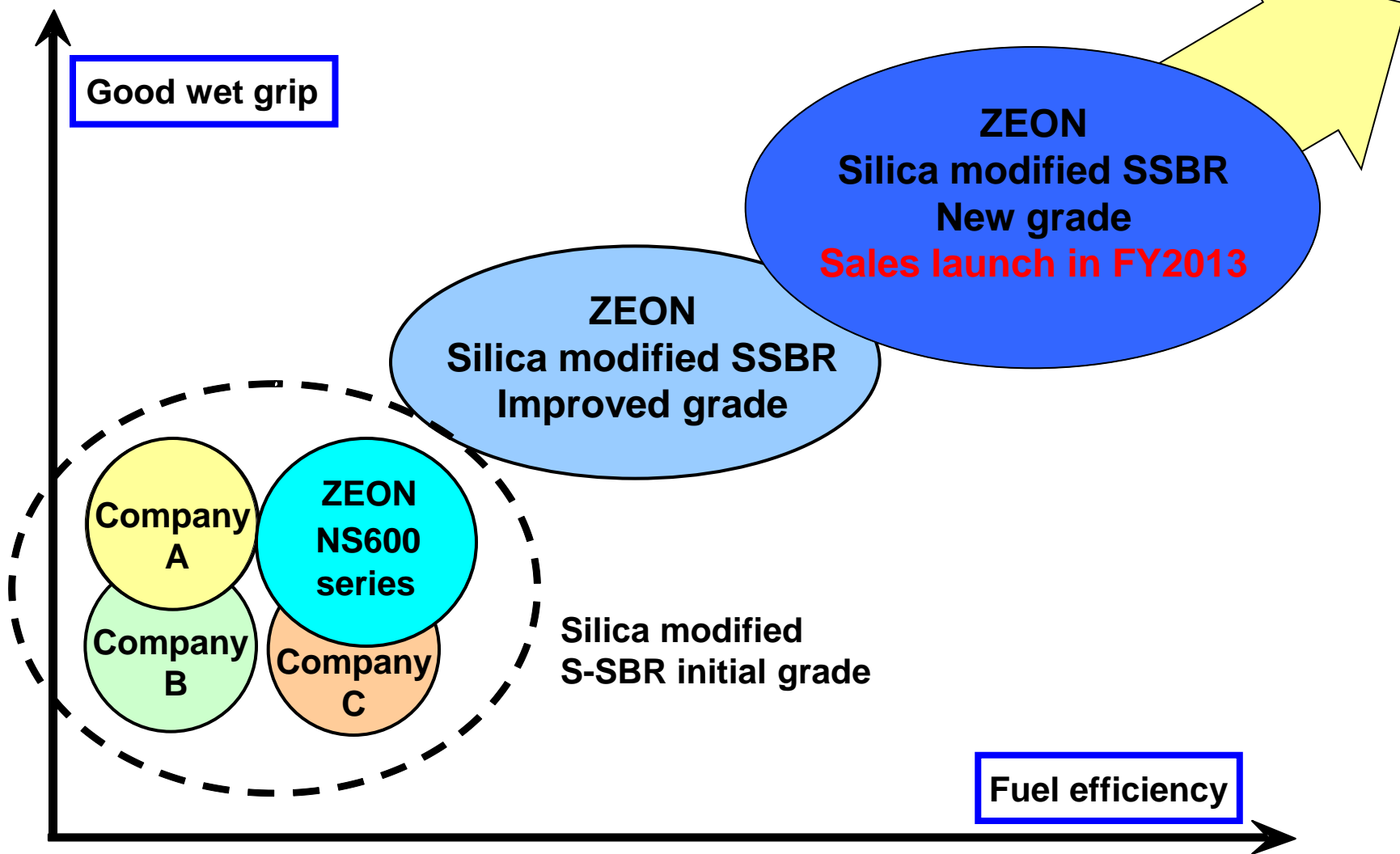


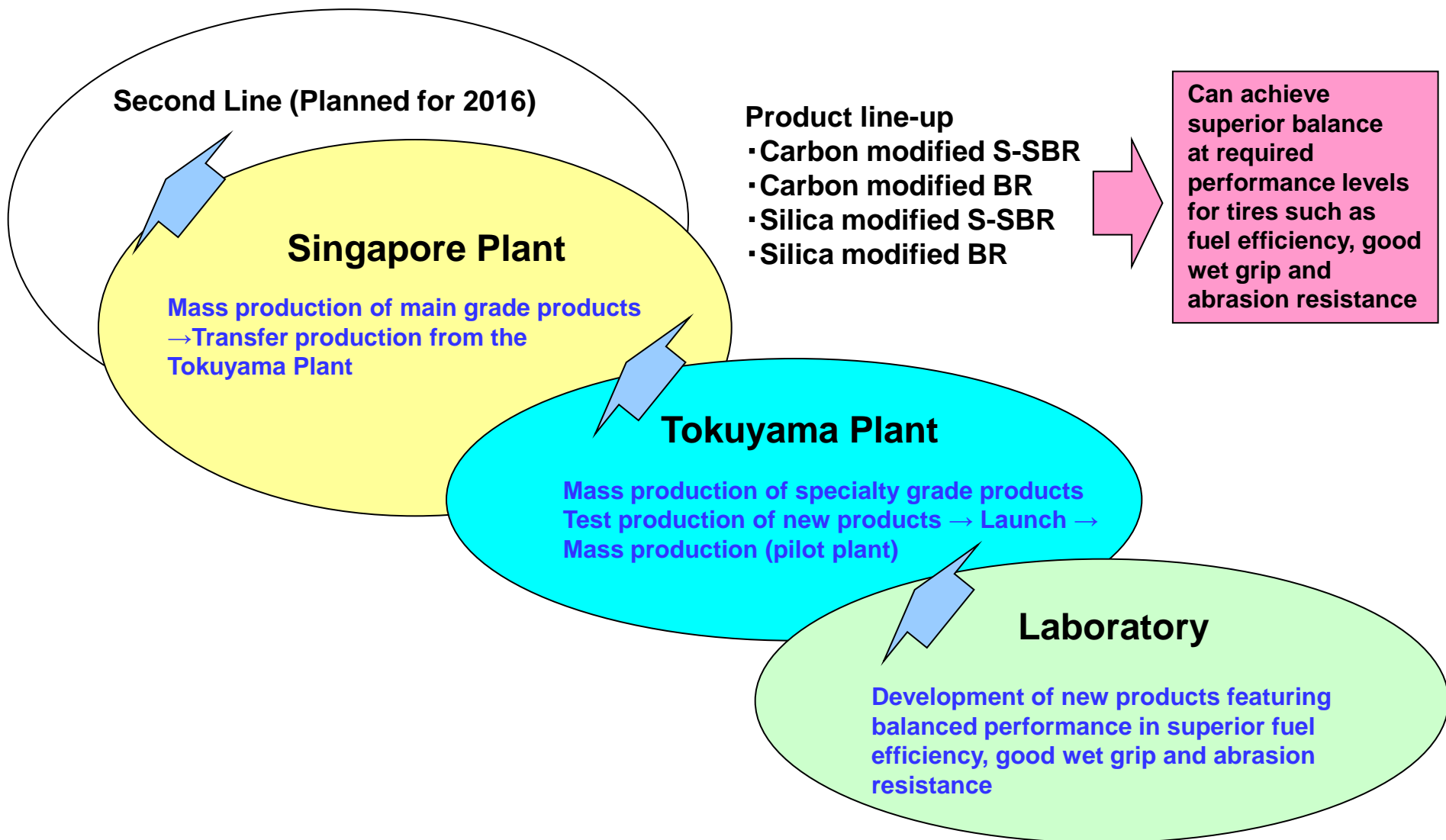
Tank farm area



In addition to fuel efficiency (low rolling resistance) and good wet grip, enhancing wear resistance is also important to reduce CO<sub>2</sub> emissions throughout the tire lifecycle.

+ Other key factors such as wear resistance





Established a processing base and constructed a distribution container (STEC®) plant

Shipments to be made for new S-SBR plant and general industrial applications

## Vietnam Plant

Started test production in April 2013



Started full-scale commercial production in June 2013



## Container for synthetic rubber (STEC®)



Began making shipments to Japan and Singapore

## Expanded C5 Petroleum Resin Plant

Meeting robust global demand for adhesive tape and traffic paint

## Thailand Plant

Completed construction and began operations of another plant that is similar in scale to the plant of subsidiary Zeon Chemicals (Thailand).



Started full-scale commercial production in September 2013





## Expanded Powder Slush Compound (PSC) material business

Supplying interior materials for automobiles for the Chinese and other markets

## China PSC Plant

First Line started production in April 2012



Used in automobiles as a surface skin material for instrument panels



Completed the expansion of the Second Line Capacity: 2,400 tonnes per year (starting November 2013)



## Expanded HNBR (Zetpol®) and Acrylic Rubber plants

Expanded plants at subsidiary Zeon Chemicals L.P.

### Texas Plant

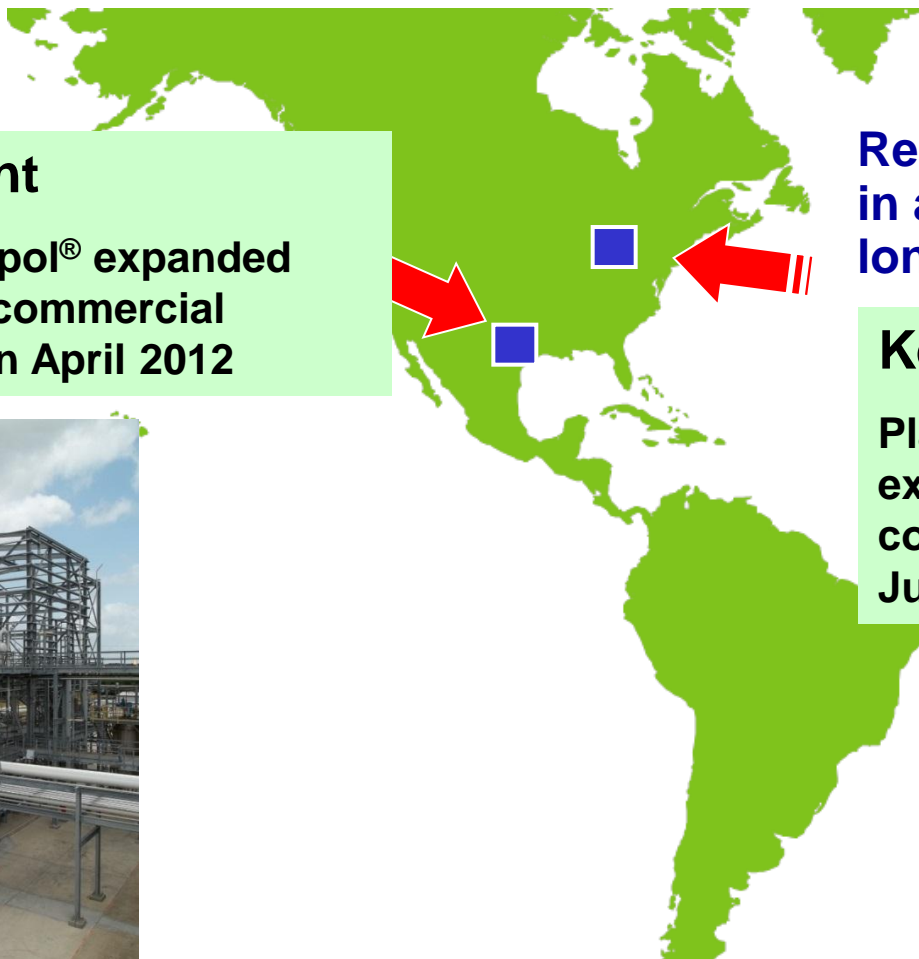
Plant for Zetpol® expanded and started commercial production in April 2012



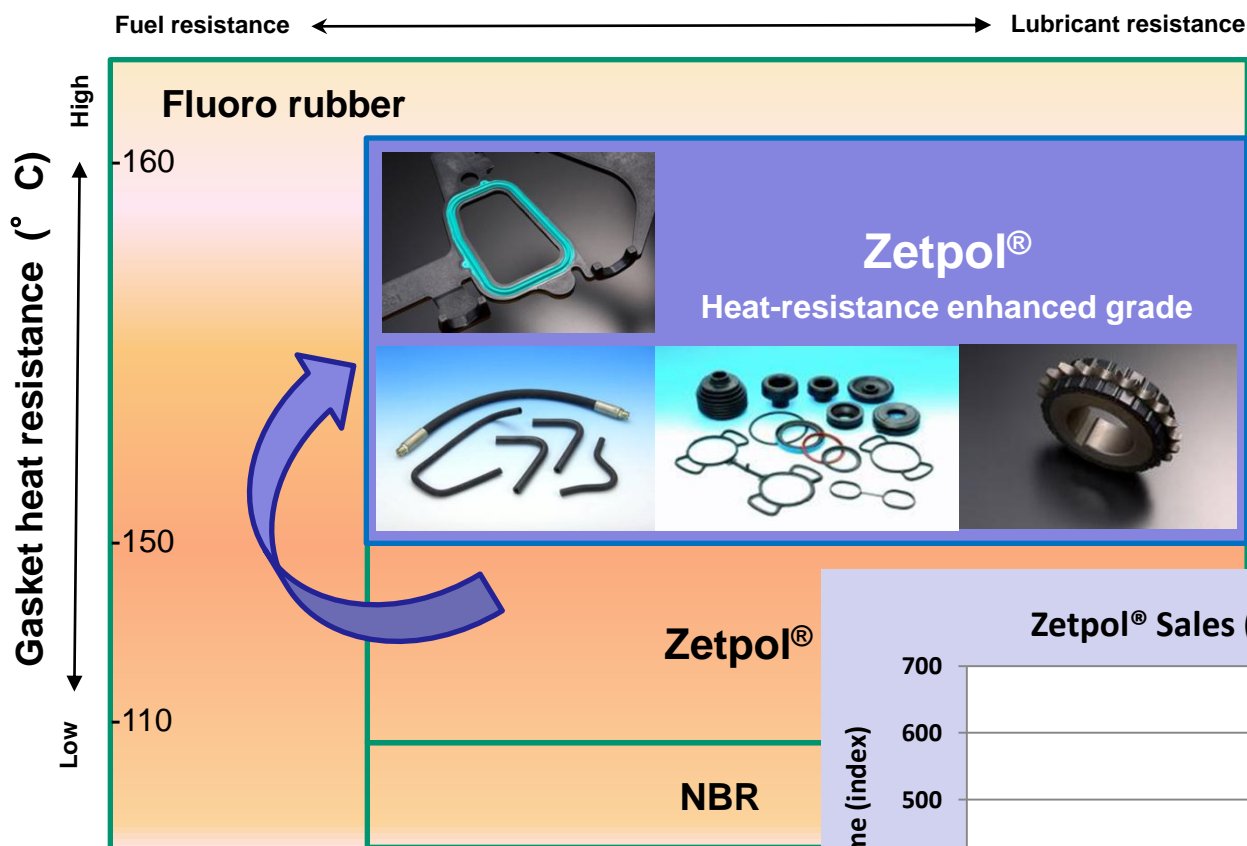
Responding to global increase in auto production and need for long-life products

### Kentucky Plant

Plant for acrylic rubber expanded and started commercial production in July 2013

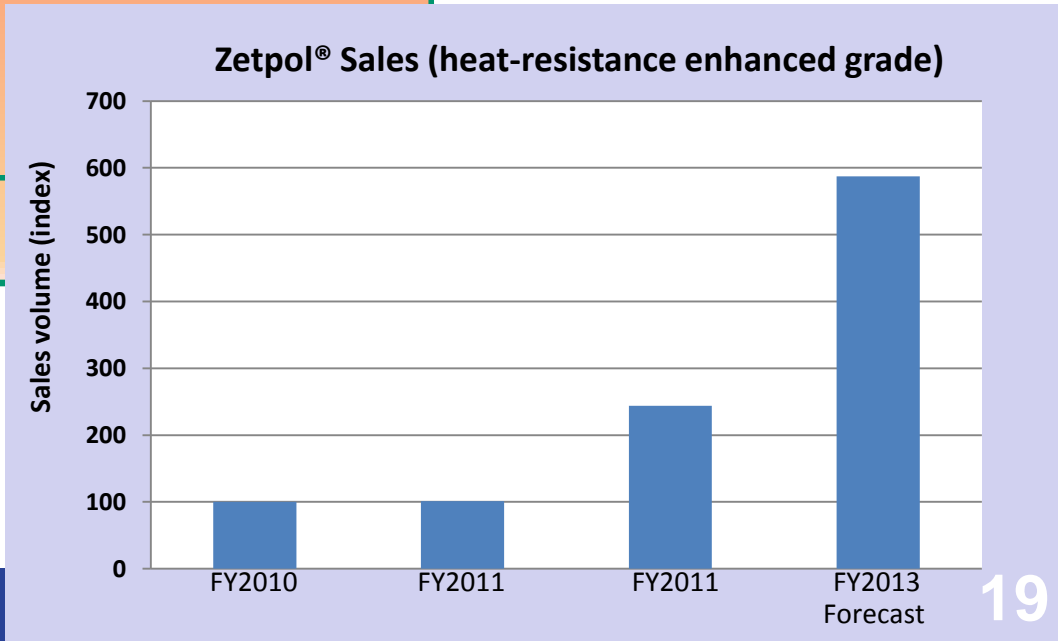


## Meeting the need for highly functional automotive components



**Started full-scale commercial production at a new facility at the Kawasaki Plant in March 2013**

Development is under way to meet heat resistance needs for applications related to molded products such as seals, gaskets, dampers and hoses used around alcohol fuels and lubricants.



## Acquisition of Tohpe for the acrylic rubber business

Providing new values by uniting R&D systems and proprietary technologies

ZEON

Tohpe

Speedy development

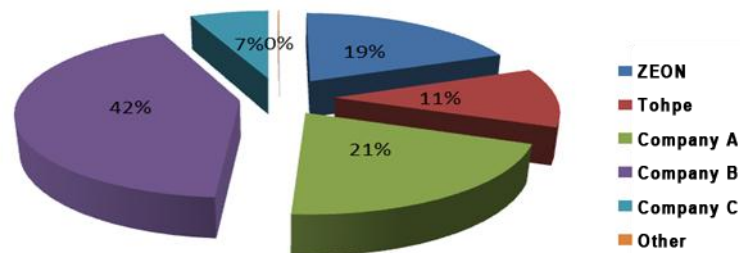
Development of unique new products

- Super heat resistant grade
- **Secondary vulcanization-free grade**
- **Vulcanization speed-adjusted grade**

Technical service through a global network

## Global Share of Acrylic Rubber

ZEON + Tohpe → 30%



Synergy effect

Aim for cost competitiveness

ZEON's global development

November 1: Integration of sales, research, logistics, purchasing

Streamline logistics

Streamline sales

August 1: Tohpe becomes fully owned subsidiary

Time frame

**Completed the initial facility expansion and increased sales of surgical gloves and other items**

October 2013

Completed expansion of existing facilities

2014

Increase sales (500 tons/year)

Consider further expansion or construction of new facilities



The market for surgical gloves, for which E-IR is mainly used, continues to grow by more than 10% every year due to concerns about allergies caused by proteins in natural rubber.

Consideration is being given to further expanding production of E-IR.

## Strategy by Business Segment

### Elastomer Materials Business

Further strengthen competitive businesses by responding globally to growth markets

### Elastomer Materials Business

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

## Three Key Specialty Material Fields

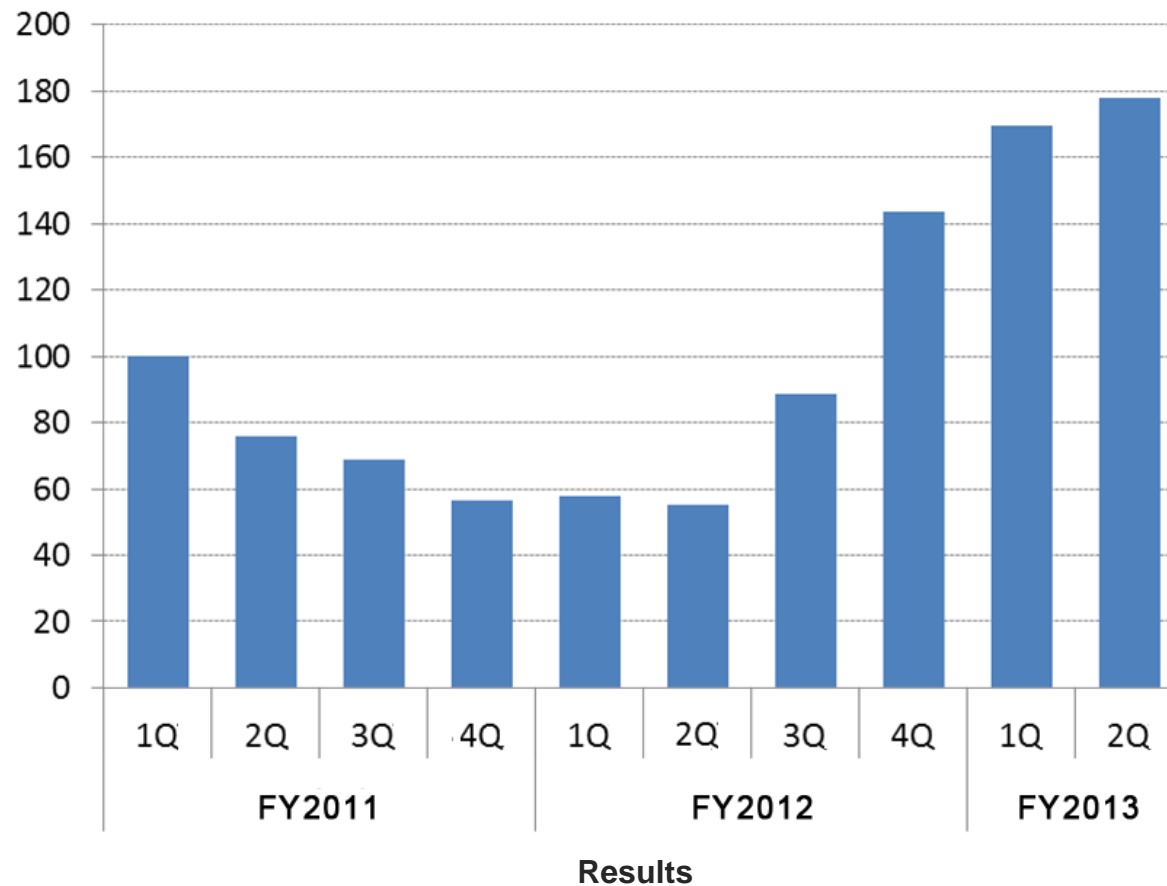
**IT components**  
Optical, packaging, electronic applications

**Energy components**

**Medical devices**

**Specialty Materials**

## Changes in Sales Volume of ZEON Optical Film

Sales volume  
(index)

Index is calculated based on sales volume in the first quarter of FY2011 as 100.

Completed a new plant for diagonally stretched retardation film in Tsuruga City, Fukui Prefecture

Combined the production capacity of diagonal stretching facilities to a total of 25 million m<sup>2</sup>/year

- Meeting growing demand for small- to medium-sized liquid crystal displays
- Consideration given to ideas included in our business continuity plan

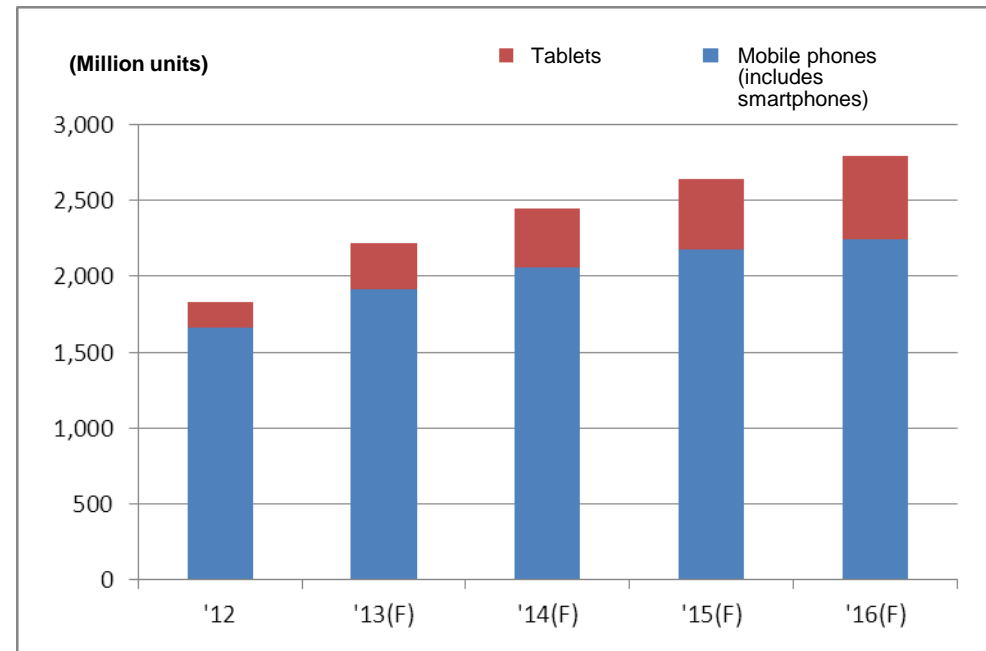
### Outline of New Plant

- Production capacity: approximately 10 million m<sup>2</sup>/year
- Completion of construction: October 2013
- Commercial production: to begin in FY2013



New plant

### Number of Smartphones and Tablets

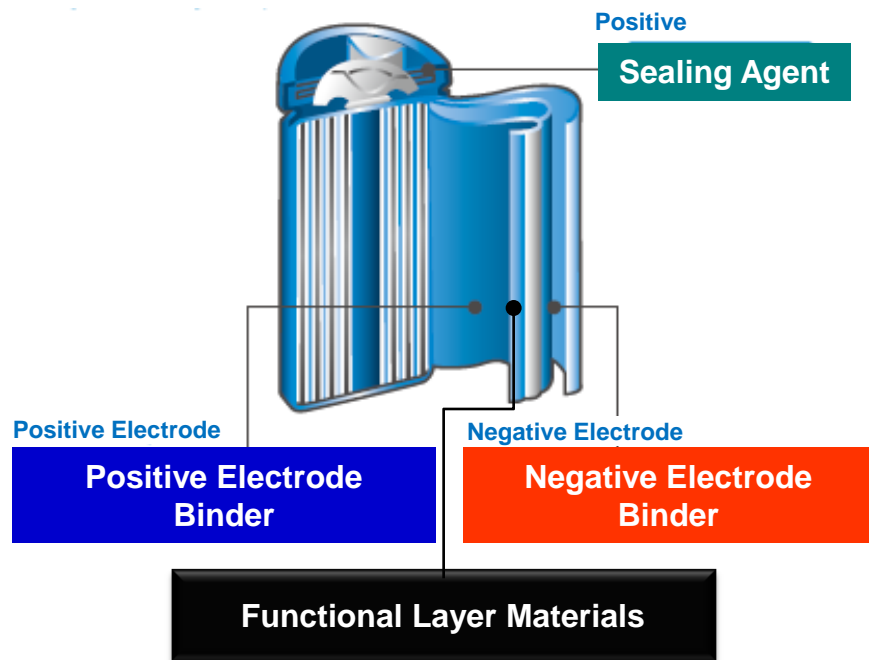


(Source: Display Search)

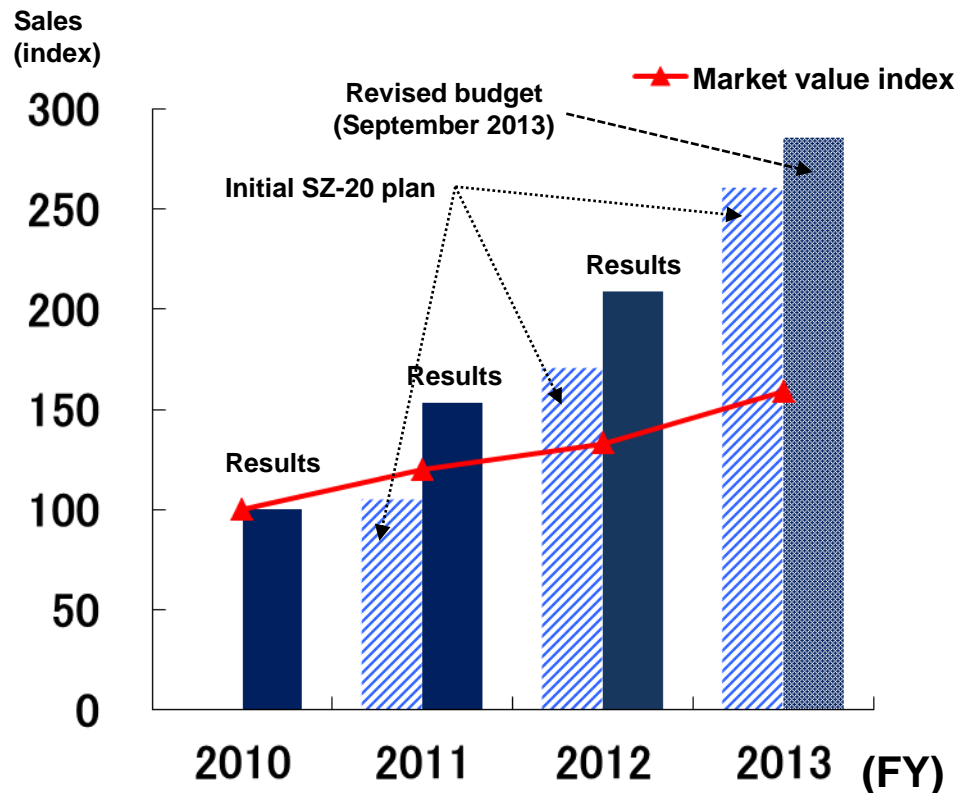


With a strengthened product line-up, the energy materials business has been successfully expanded beyond the company's original goals.

## ZEON Products for Lithium-ion Batteries



## Sales of ZEON's Battery Materials

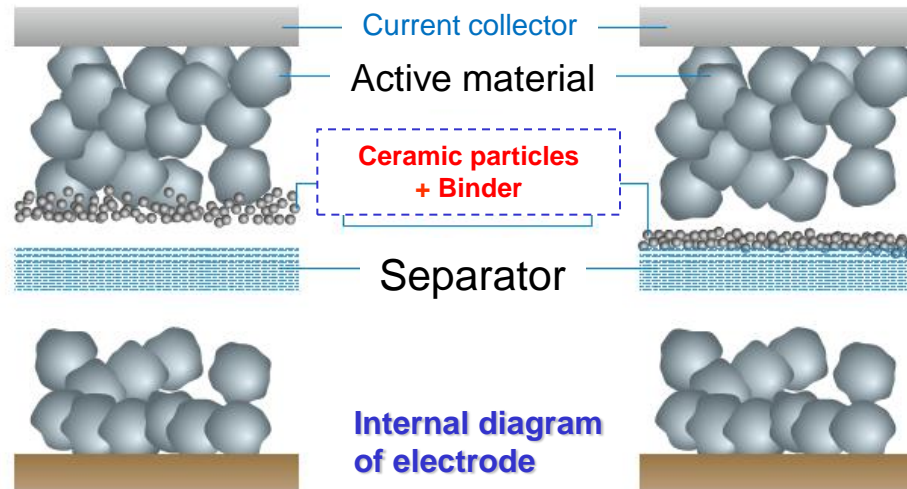


\*Index based on scale where FY2010 is 100

\*Market value based on report by three Japanese companies (February 2013)

Began developing slurry business based on the knowledge we gained through our pioneering technology in the binder business

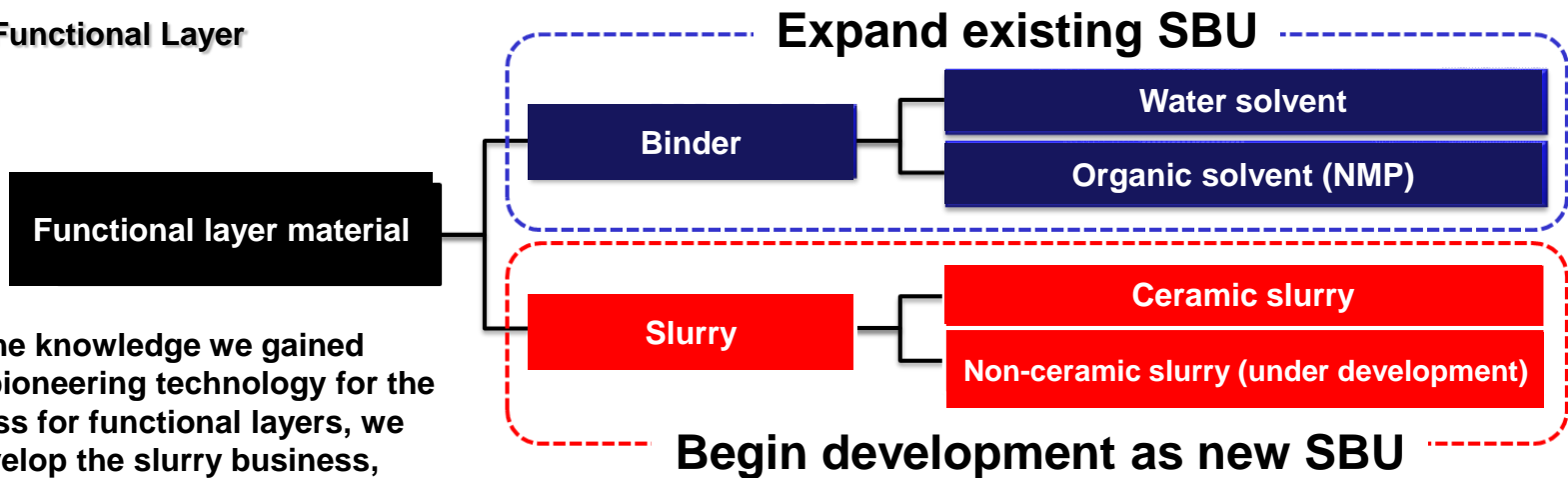
## Role of Functional Layer



1. Longevity
2. Filling properties

Functional layer material that enhances the above and other properties (Used extensively for smartphones and automotive applications)

## Product for the Functional Layer



Building on the knowledge we gained through our pioneering technology for the slurry business for functional layers, we started to develop the slurry business, where there is strong market demand.

## ZEON for Stone Extraction Target: 50% share of total gall stone removal market

### Balloon Catheter for Stone Extraction

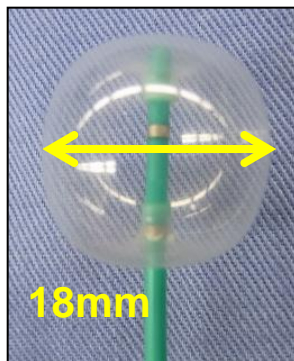
Launching new products and enhanced products to meet market needs



Enhanced capture



Expanded diameter

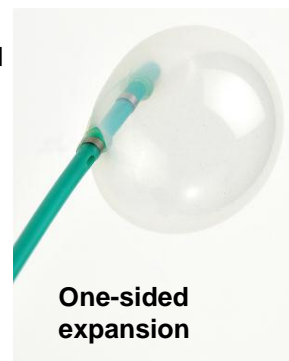


EX Balloon Catheter

Enhanced capture



Improved shape



Offset EX Balloon Catheter

Enhanced capture



Water flush

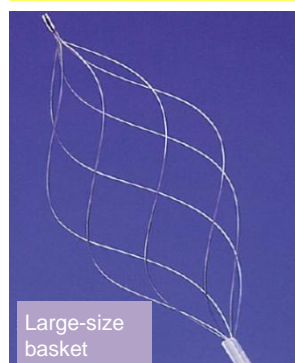


Balloon Catheter B

New Product

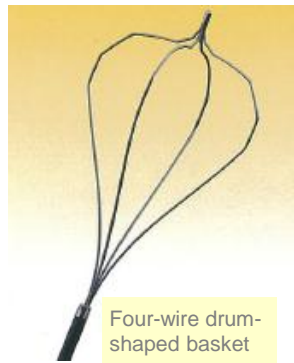
Started sales in February 2013

### Extraction Basket



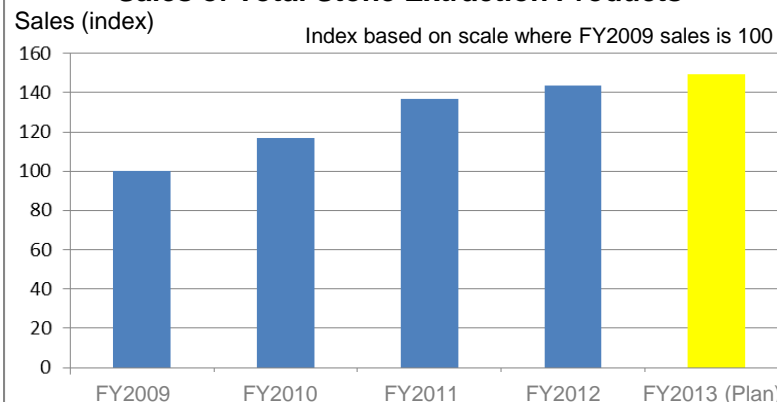
NT Basket Catheter

### Lithotripsy Basket



Crusher Catheter

### Sales of Total Stone Extraction Products



**Established a sales base in Guangzhou, China.  
Seeking to gradually increase registered  
pharmaceutical products and expand sales.**

<b>Name</b>	<b>Zeon Medical (Guangzhou) Inc.</b>
<b>Location</b>	<b>Room 1706A, Goldlion Digital Network Center, 138 Tiyu Road East, Tianhe, 510620, Guangzhou</b>
<b>Capital</b>	<b>200,000 USD</b>
<b>Shareholder</b>	<b>Zeon Medical Inc. (100%)</b>
<b>Start of operation</b>	<b>December 2012</b>
<b>Chairman</b>	<b>Muneki Sawa (President, Zeon Medical Inc.)</b>
<b>General Manager</b>	<b>Zhou Yongwei</b>
<b>Employees</b>	<b>5 (as of October 2013)</b>
<b>Business</b>	<b>Import and sales of medical devices for circulatory and digestive systems and various organs</b>



We began producing and providing samples of Carbon Nano Tubes (CNTs).

## Carbon Nano Tube Business: CNT Production

**NEDO**  
Achieved CNT capacitor  
development project

Large substrate surface area

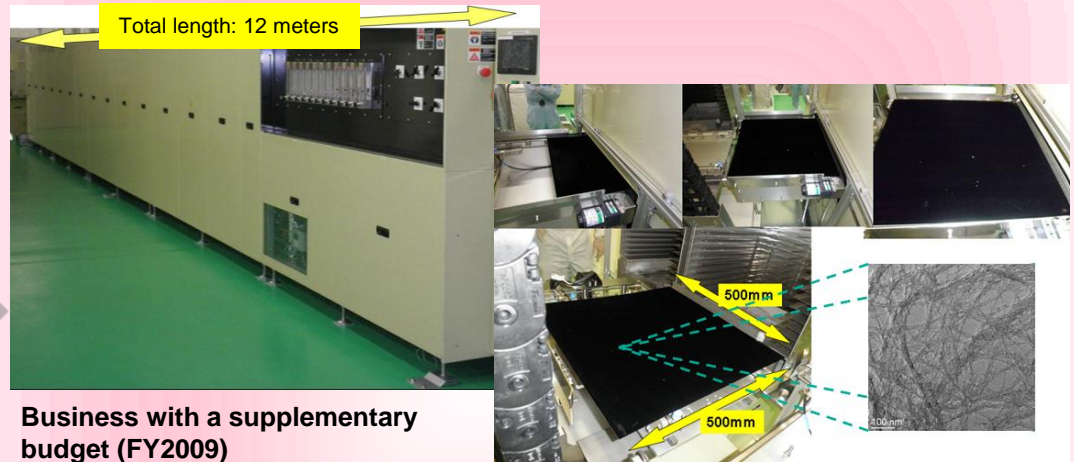


Continuous synthesizing  
technology



### Super Growth CNT Pilot Plant

Large surface area and continuous production



Business with a supplementary  
budget (FY2009)

In FY2011, started a collaborative project with the  
**National Institute of Advanced Industrial Science and  
Technology (AIST).**

Developing mass production technology and provided some samples

**In FY2012, ZEON began its own production.**

Providing samples in anticipation of mass production (Promoting a  
B-to-B business)

## Accelerating the development of new applications for Carbon Nanotubes (CNTs)

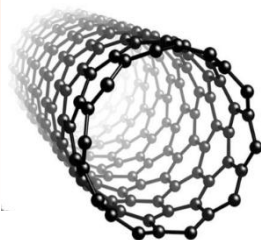
## Carbon Nanotube Business: CNT Application Development

CNT Application  
Development

Technology Research  
Association for Single Wall  
Carbon Nanotubes (TASC)  
Chairman: Naozumi Furukawa,  
Chairman, ZEON Corporation

## Members of the CNT project

National Institute of Advanced Industrial  
Science and Technology (AIST), Toray  
Industries, Inc., NEC Corporation, Teijin  
Limited, Sumitomo Precision Products  
Co., Ltd., [Zeon Corporation](#)



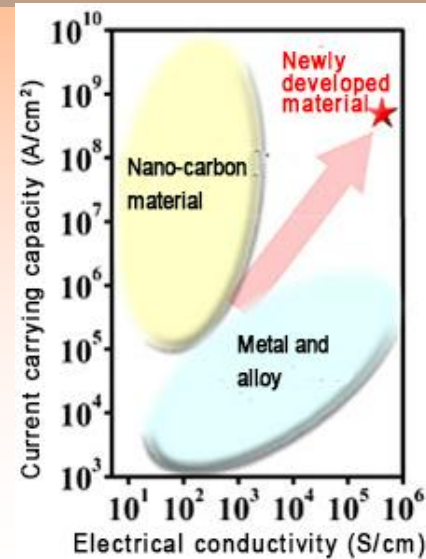
## ◆ Copper-CNT Composite Material

Material with electrical conductivity comparable to copper and  
capable of carrying electrical currents up to 100 times more  
than copper

Promising wiring material that can meet the needs of smaller  
devices with higher functionality

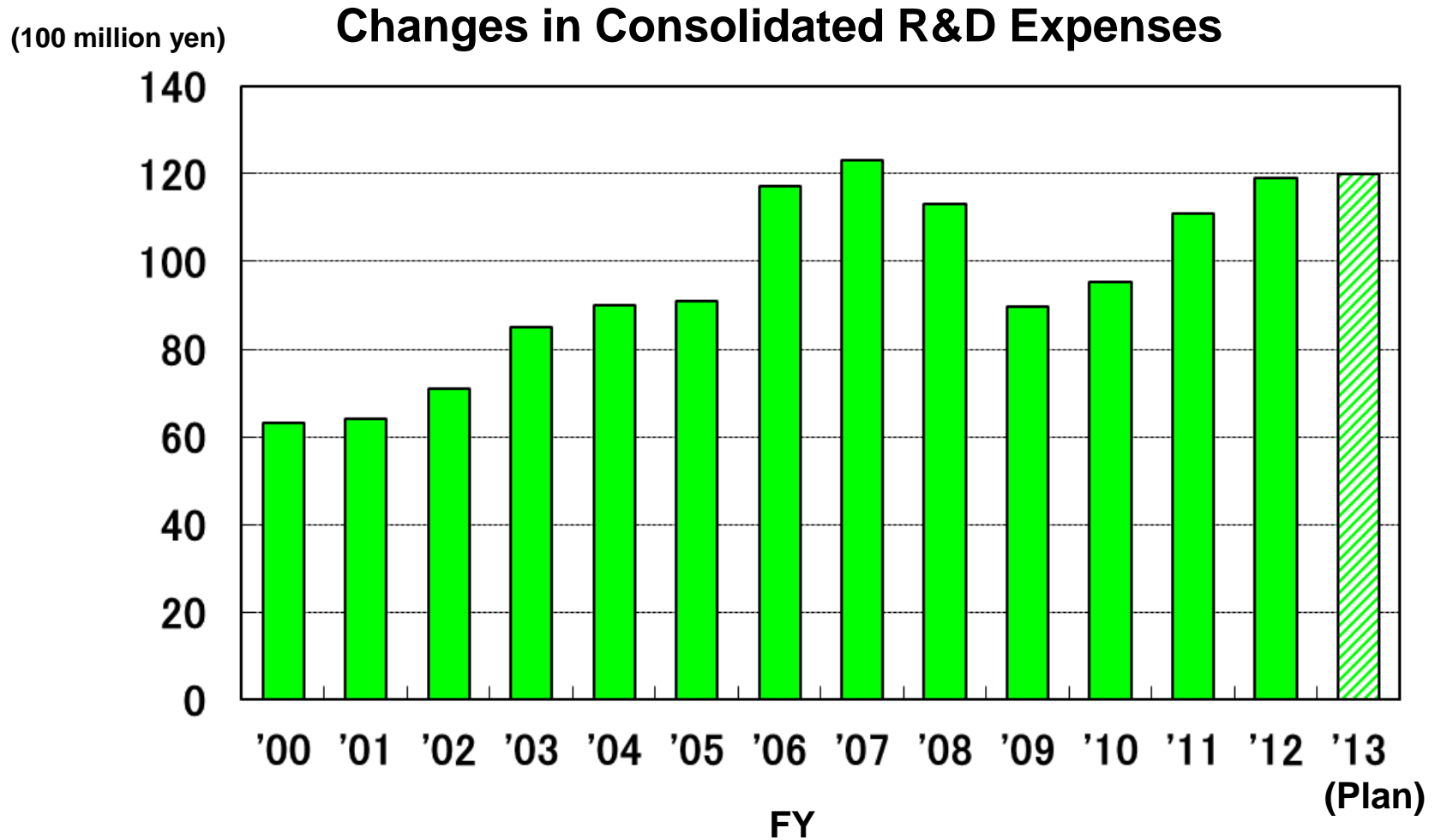


Newly-developed Cu-CNT composite  
material



(Source: AIST)

# Changes in R&D Expenses

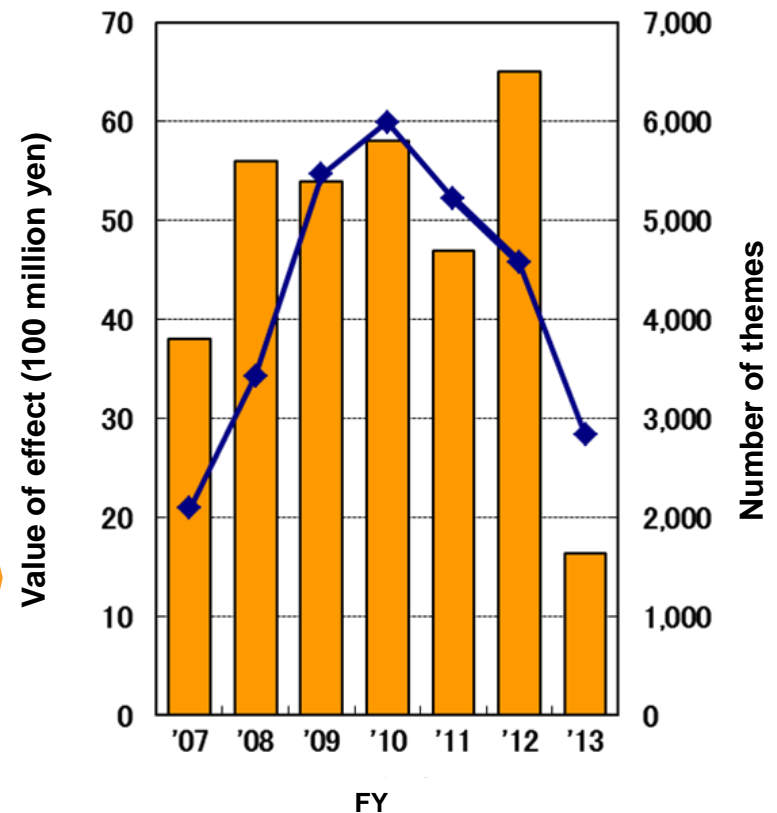


# Strengthening Cost Competitiveness

## Continuing Efforts for Innovation and Improvement

### ZΣ Activities – Transition in Monetary Effect and Number of Themes

Value of effect      Number of themes



### Production Innovation\*

Intelligent manufacturing system

Standardizing operations

Decreasing operational burden;  
common language

Reforming the business culture

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

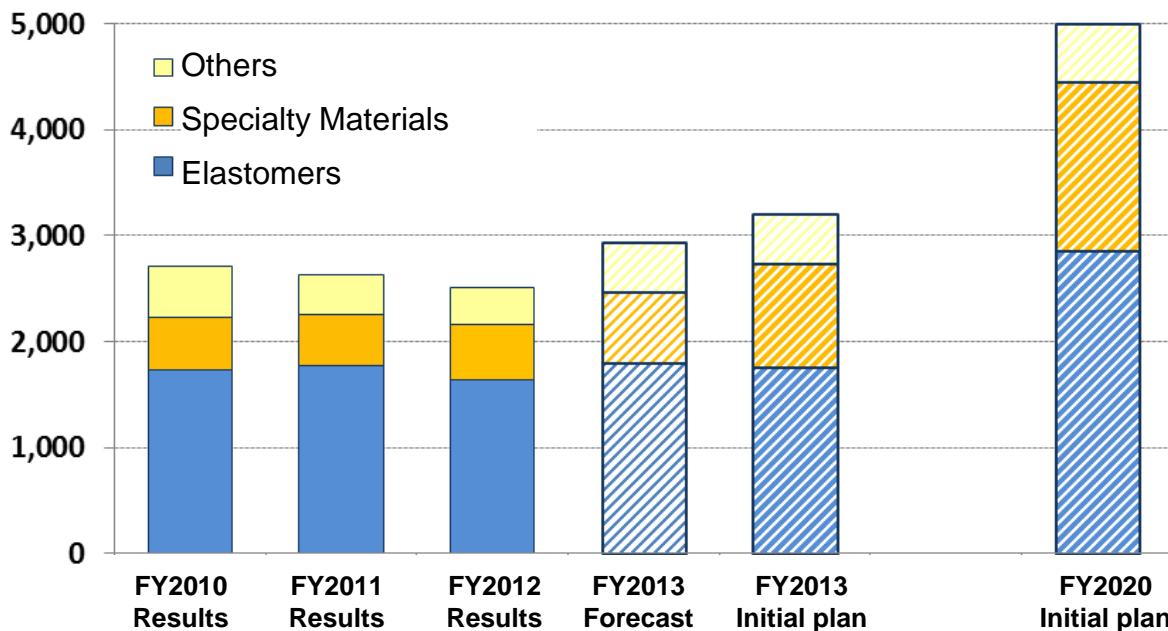
Approved Themes

\*Production Innovation: Daicel Production Innovation



## Targeting 500 Billion Yen in Consolidated Net Sales in FY2020

Net sales  
(100 million yen)



### Consolidated Net Sales

(100 million yen)

	FY2010	FY2011	FY2012	FY2013 Forecast	FY2013 Initial plan	FY2020 Initial plan
Consolidated Net Sales	2,704	2,628	2,508	2,900	3,200	5,000

### Capital Investment

(100 million yen)

	FY2010	Grand total from FY2011 to FY2020
Capital Investment	103	3,200

**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.**

**Public Relations Department, CSR Division, Zeon Corporation**

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