

# Financial Results For 2Q of the Year ending December 31, 2018

Investor Meeting  
July 31, 2018

Nippon Electric Glass Co., Ltd.

# Financial Results For 2Q of FY2018



# Summary of 2Q Financial Results

- Economic trends

(Global)

US: Economic recovery on the back of strong employment and personal consumption

Europe: Production and exports lose steam, recovery slows

China: Increase in exports and recovery trends

(Japan)

Modest recovery owing in part to improvement in employment, personal consumption and growth in exports

- Business performance

Net sales: Steady shipments of glass for LCDs and glass fiber

Contribution to sales from US fiber plants(EGFA) acquired in September 2017

Operating income: Influenced by the following points

Glass for LCDs: Launch of new facilities at Electric Glass (Xiamen) and moderate price decline

Glass Fiber: Cost of productivity improvement at EGFA, construction to expand capacity, and goodwill amortization

Other: Raw fuel prices and foreign exchange loss, etc.

# Summary of 2Q Financial Results

(Billions of JPY)

	FY2018			FY2017	Change
	1Q	2Q	2Q (accum)	2Q (accum)	%
Net sales	78.6	75.9	154.5	133.2	16
Operating income	7.1	6.8	14.0	16.2	(14)
Operating margin	9.1%	9.1%	9.1%	12.2%	
Ordinary income	5.1	6.4	11.5	15.9	(28)
Extraordinary income/loss	0.1	(0)	0	0	0
Income before income taxes and minority interests	5.2	6.3	11.6	15.9	(27)
Profit attributable to owners of parent	3.1	4.9	8.0	12.0	(33)
Earnings per share (JPY)	¥31.48	-	¥81.26	¥121.02	(33)
Net assets	534.2	-	535.0	522.0	-
Equity ratio	71.0%	-	70.8%	74.8%	-
Dividend per share (JPY)	-	-	¥50	¥40 (¥8 before share consolidation)	-

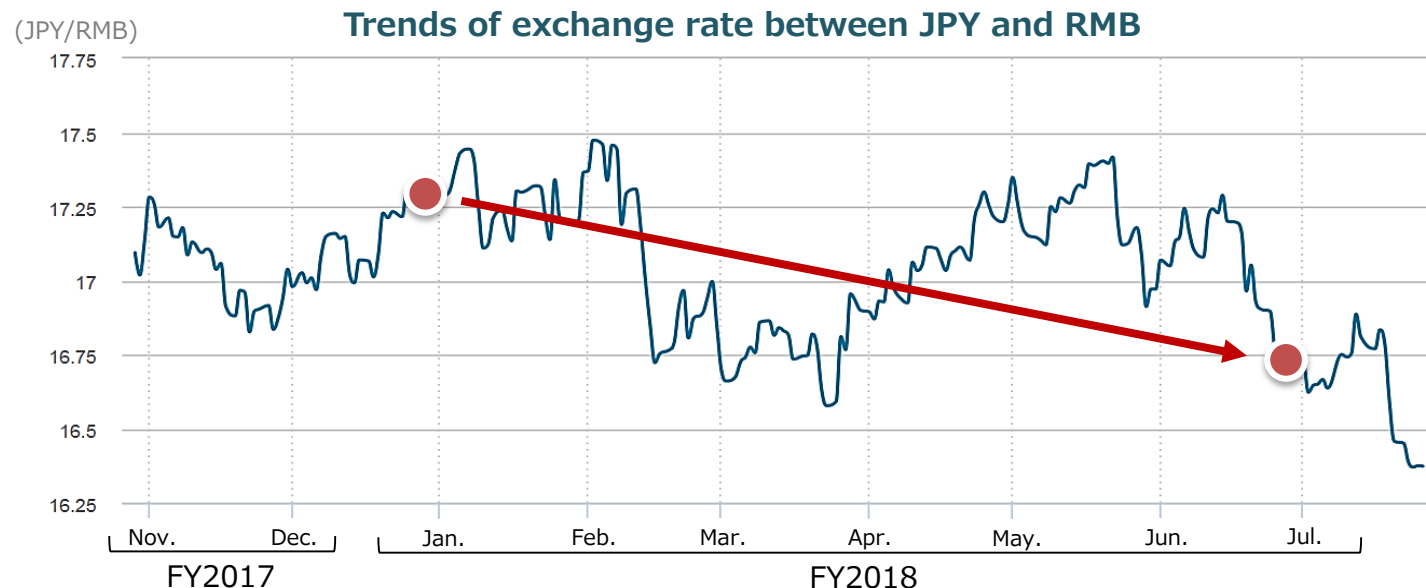
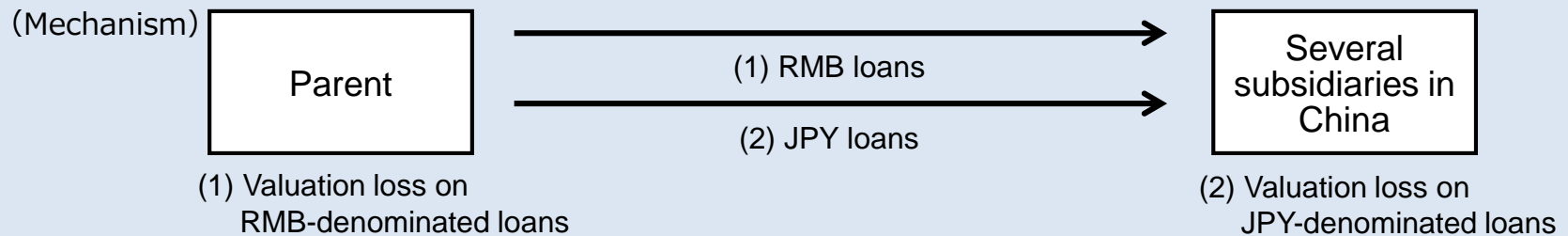
\*The Company carried out the share consolidation at a ratio of one for every five common shares on July 1, 2017. Earnings per share are calculated based on the assumption that the share consolidation had been implemented at the beginning of the year ended December 31, 2017.

# Topics on non-operating expenses, and extraordinary income/losses

- Foreign exchange loss

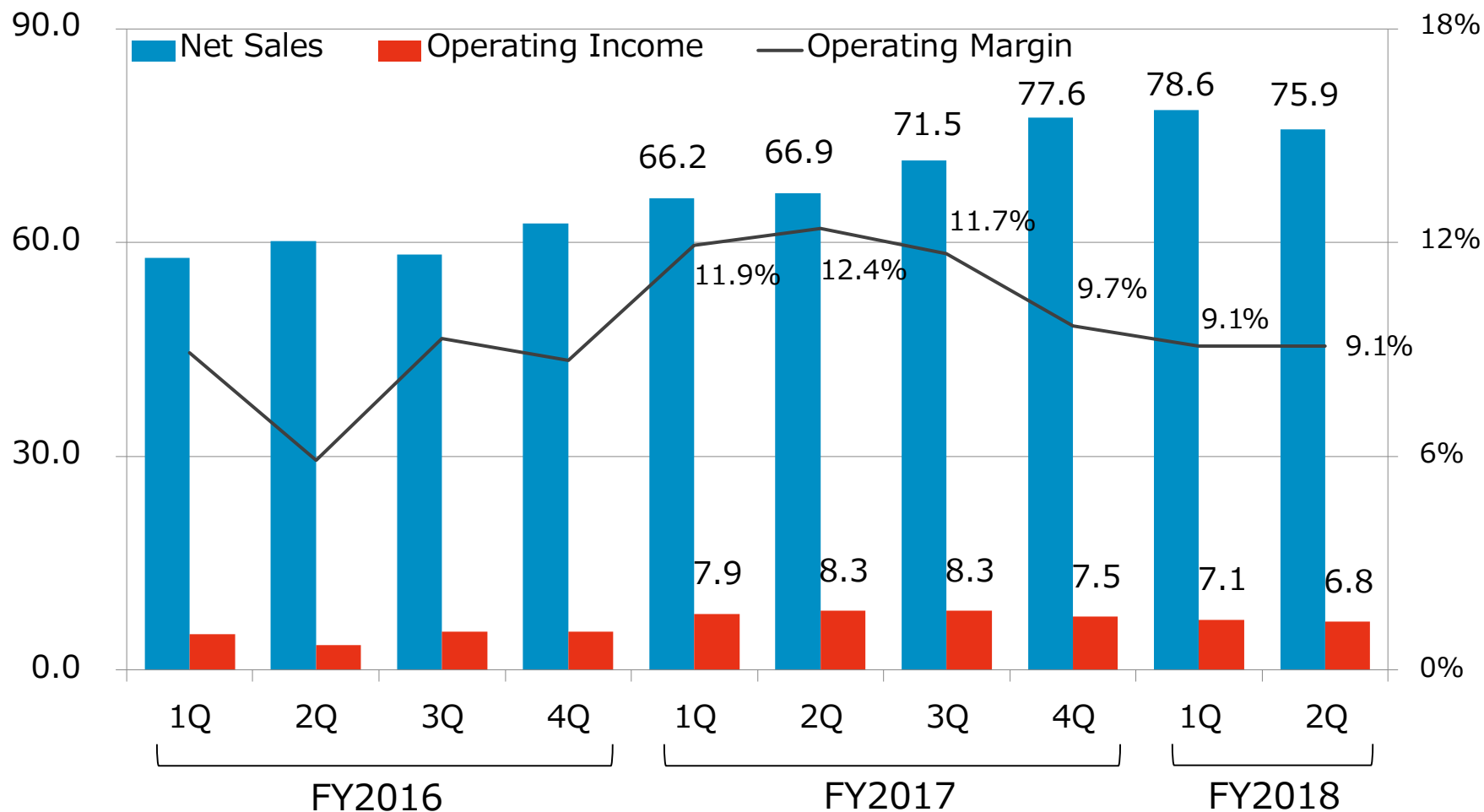
Negative impact when valuing debts and credits related to loans between the parent and subsidiaries in China from RMB to JPY

During the six month period the JPY appreciated in value against the RMB (End-2017: 17.29 JPY/RMB → End-2Q FY2018: 16.66 JPY/RMB)

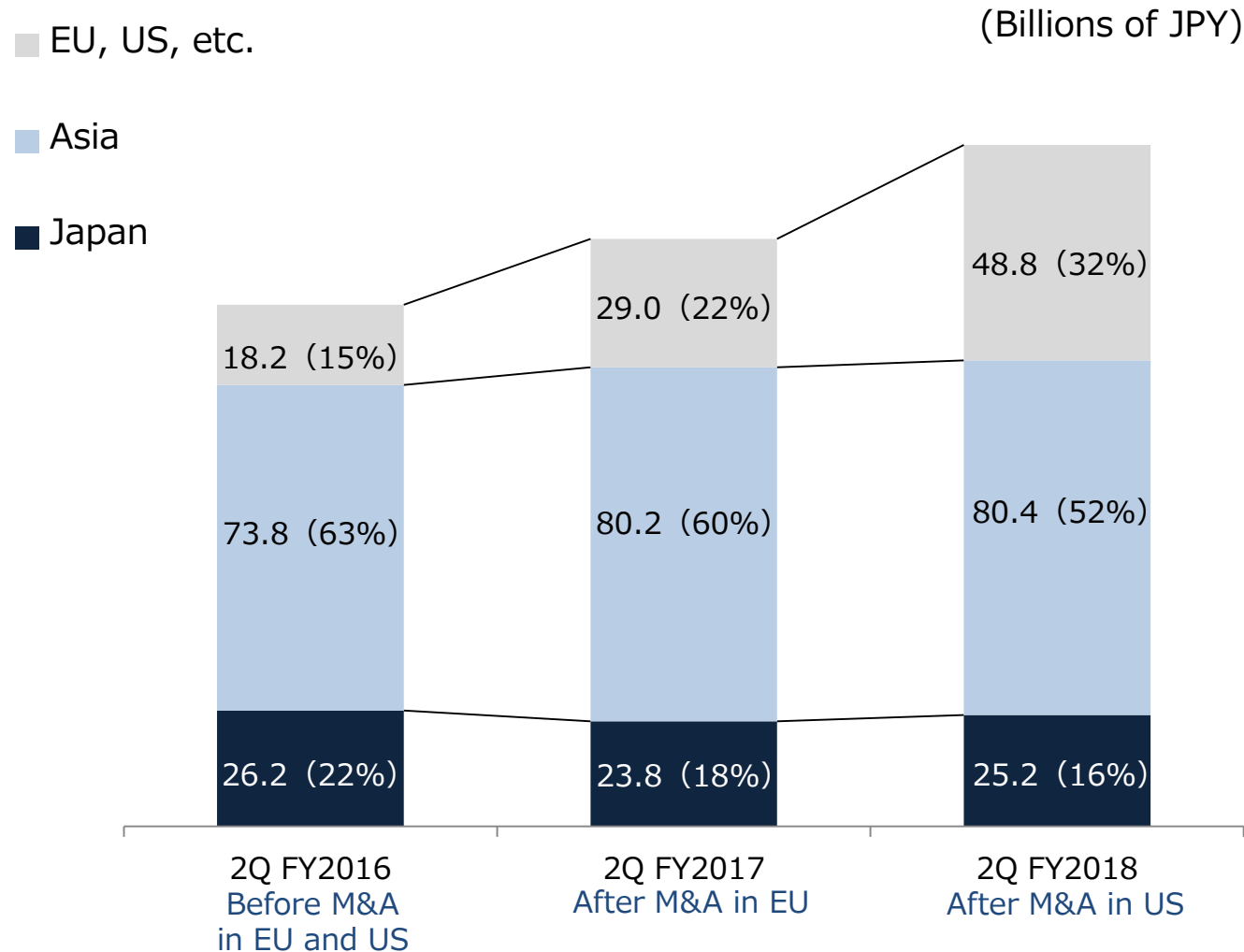


# Quarterly Trends

(Billions of JPY)



# Sales by Region



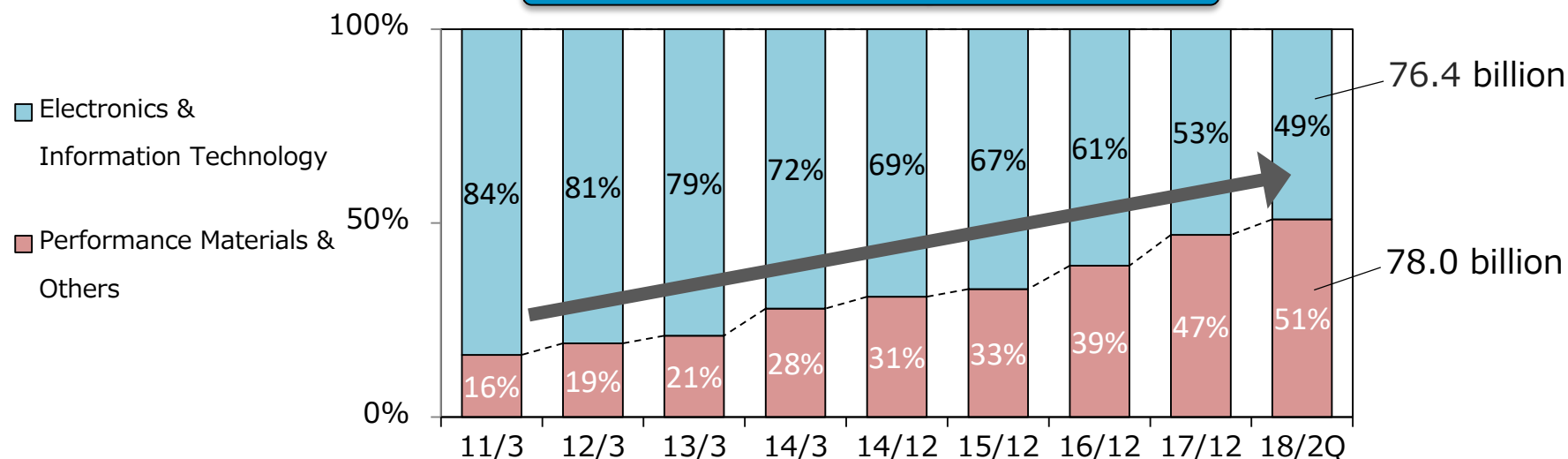


# Sales by Business

(Billions of JPY)

		2Q FY2017 (accum)		2Q FY2018 (accum)		Change	
		Net Sales	Ratio	Net Sales	Ratio	Net Sales	%
Glass Business	Electronics & Information Technology	72.3	54%	76.4	49%	4.1	5.8
	Performance Materials & Others	60.9	46%	78.0	51%	17.1	28.2
Total		133.2	100%	154.5	100%	21.3	16.0

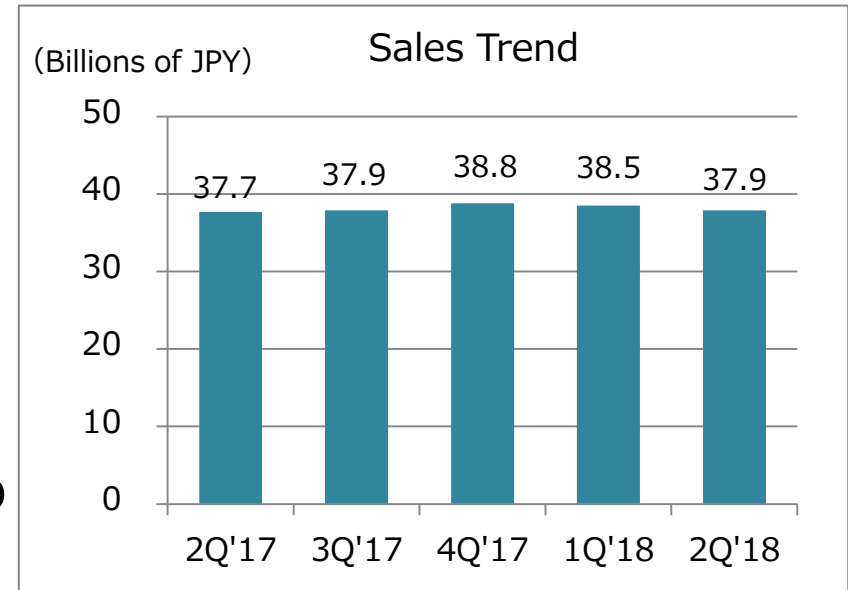
Trend of sales by business





# Sales – Electronics & Information Technology Nippon Electric Glass

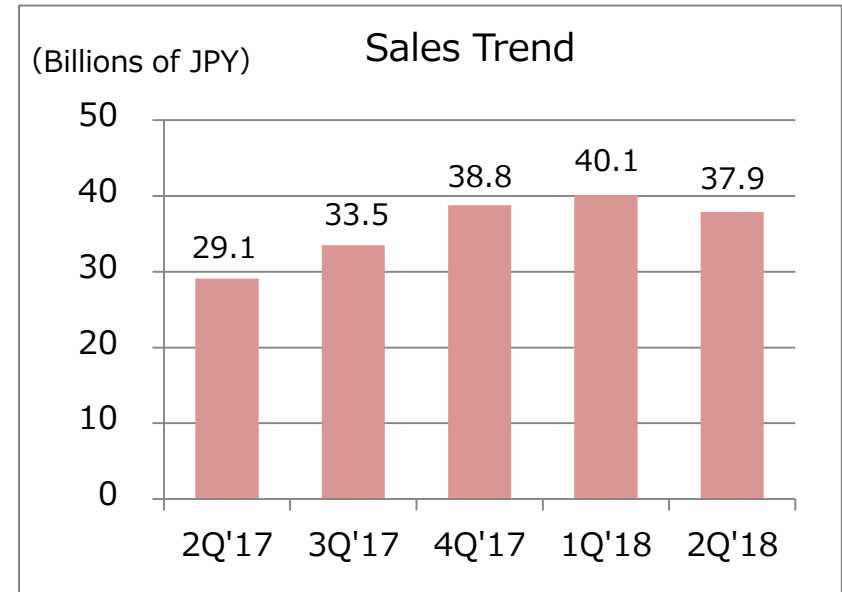
- Glass for LCDs:  
(2Q)  
Volume: Flat QoQ,  
shipment at high level  
Price: Moderate decline
- Cover glass <Dinorex<sup>®</sup>>:  
Shipments turned positive due to  
adoption in new models
- Glass for solar cells:  
Weak due to decrease in demand
- Glass for optical and electronic devices:  
Mild recovery in demand, mainly for use in consumer  
electronics, automobiles, and communication infrastructures





# Sales – Performance Materials & Others

- Glass fiber:
  - Strong shipments, mainly for high performance resin used in auto parts applications
  - EGFA also contributed to sales growth



- Building materials, heat resistant glass, glass tubing for medical use:
  - Building materials: Steady demand overall although growth faltered in Japan for large-scale buildings
  - Heat resistant glass: Demand remained weak due to impact from inventory adjustments at customers
  - Glass tubing for medical use: Shipments to growth markets grew but declined to other markets in 2Q

# Consolidated Balance Sheet

(Billions of JPY)

	Dec 31, 2017	Jun 30, 2018	Change
<b>Current assets</b>	<b>262.9</b>	<b>260.1</b>	(2.8)
Cash and deposits	117.0	118.9	1.8
Notes and accounts receivable-trade	61.1	60.3	(0.7)
Inventories	69.3	63.7	(5.6)
Others	15.3	17.1	1.8
<b>Non-current assets</b>	<b>501.4</b>	<b>488.4</b>	(13.0)
Property, plant and equipment	393.8	393.7	(0)
Intangible assets	35.0	33.2	(1.8)
Investments and other assets	72.6	61.4	(11.1)
<b>Total Assets</b>	<b>764.4</b>	<b>748.5</b>	(15.8)

## ■ Current assets

Inventory (-): Decline in product inventories (-)

## ■ Non-current assets

Property, plant & equipment (-): US goodwill amortization (-)  
 Investments & others (-): Decline in market value of investment securities (-)

	Dec 31, 2017	Jun 30, 2018	Change
<b>Liabilities</b>	<b>220.6</b>	<b>213.5</b>	(7.1)
Notes and account payable-trade	37.9	38.0	0
Interest bearing debts	120.6	118.7	(1.8)
Accrued income tax	1.9	2.2	0.2
Reserve for special repairs	23.2	23.4	0.1
Others	36.7	31.0	(5.6)
<b>Net assets</b>	<b>543.7</b>	<b>535.0</b>	(8.7)
Shareholders' equity	509.8	512.9	3.1
Accumulated other comprehensive income	28.9	17.2	(11.7)
Minority Interests	4.9	4.8	(0.1)
<b>Total liability &amp; net assets</b>	<b>764.4</b>	<b>748.5</b>	(15.8)

## ■ Liabilities

Interest bearing debts (-): Repayment of long-term loans (-)

## ■ Net assets

Accumulated other comprehensive income (-):  
 Valuation loss of other securities (-)

# Consolidated Statement of Cash Flows Nippon Electric Glass

(Billions of JPY)

	FY2017 2Q(accum)	FY2018 2Q(accum)	Change
<b>Cash flows from operating activities</b>	<b>24.4</b>	<b>24.9</b>	<b>5</b>
Profit before income taxes	15.9	11.6	
Depreciation	13.4	14.4	
Decrease (increase) in notes and accounts receivable, trade	(3.6)	(0.1)	
Decrease (increase) in inventories	(2.5)	4.9	
Increase (decrease) in notes and accounts payable	(1.1)	0.3	
Others	2.2	(6.2)	
<b>Cash flows from investing activities</b>	<b>(8.0)</b>	<b>(12.6)</b>	<b>(4.5)</b>
Purchase of non-current assets	(9.8)	(15.7)	
Others	1.7	3.1	
<b>Cash flows from financial activities</b>	<b>(18.4)</b>	<b>(6.9)</b>	<b>11.4</b>
Cash dividends paid	(4.7)	(5.3)	
Others	(13.6)	(1.5)	
<b>Effect of exchange rate changed on cash equivalents</b>	<b>(0.1)</b>	<b>(0.8)</b>	
<b>Net increase (decrease) in cash and cash equivalents</b>	<b>(2.2)</b>	<b>4.5</b>	<b>6.7</b>
<b>Cash and cash equivalents at the end of period</b>	<b>123.9</b>	<b>118.3</b>	<b>(5.5)</b>

**<From operating activities>**

- Profit before income taxes:  
Decrease
- Depreciation:  
CAPEX remains high level
- Inventories:  
Decline owing to increase in sales

**<From investing activities>**

- Non-current assets:  
Acquisition of facilities by overseas subsidiaries

**<From financial activities>**

- Short-term loans:  
Increase
- Long-term loans:  
Decrease owing to repayment
- Cash dividends paid:  
Payment of dividends to shareholders and minority shareholders

# Forecasts of FY2018 and progress in the Medium-term Business Plan “EGP2018”

# Consolidated Earning Forecast (1)

FY2018

(Billions of JPY)

	Sales	Operating income	Ordinary income	Profit attributable to owners of parent
Full Year	300.0	31.0	29.0	20.0

(Outlook)

## Summary

- Overseas: Continued economic recovery expected in the US and Europe  
Moderate recovery in China
- Japan: Modest economic recovery amid ongoing improvement in employment and income

## Foreign exchange rate

- Assumption: 110 JPY/USD, 130 JPY/EUR

# Consolidated Earning Forecast (2)

## (Outlook)

Displays (LCD)	<ul style="list-style-type: none"><li>● Smooth launch of Xiamen's new facilities</li><li>● Sales increase in China, a growth market</li></ul>
Optical and electronic devices	<ul style="list-style-type: none"><li>● Electronic devices: Modest growth toward year-end sales season</li><li>● Optical: Accurately address demand trends for communications infrastructure</li></ul>
Glass fiber	<ul style="list-style-type: none"><li>● Firm demand trend</li><li>● Seasonal operational adjustments at some clients</li><li>● Contribution to sales expansion from improved productivity at EGFA and capacity expansion</li></ul>
Medical	<ul style="list-style-type: none"><li>● Respond to expansion in demand in China market</li></ul>
Heat-resistant	<ul style="list-style-type: none"><li>● Modest recovery</li></ul>
Building materials	<ul style="list-style-type: none"><li>● Modest recovery</li></ul>

## 1. Progress in display business

### Issues

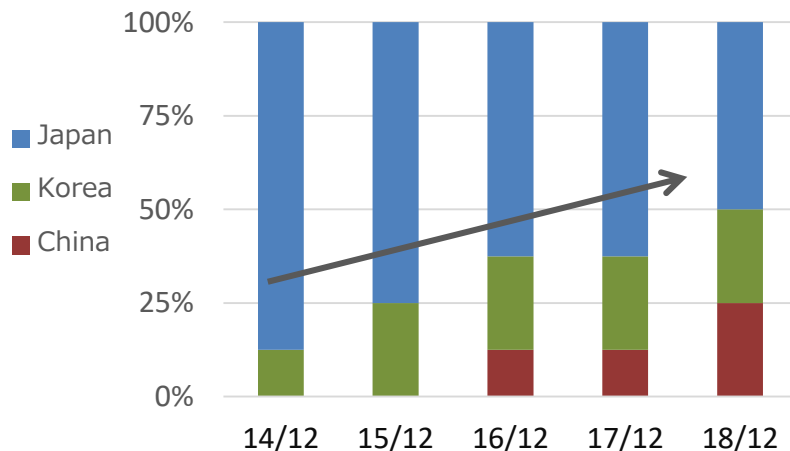
- Continued efforts in growing market in China
- Response to our main customers' plans to increase production
- Further improved quality and services
- Productivity improvement



### Progress

- Utilization of the capacity of Xiamen's new facilities (Phase II investment)
- Increased shipments to customers in China
- Benefits realized by longer life facilities

Forming capacity of glass substrate for FPD in Japan, Korea and China



Overseas production of display business



Electric Glass (Xiamen)



## 2. Progress in glass fiber business

### Issues

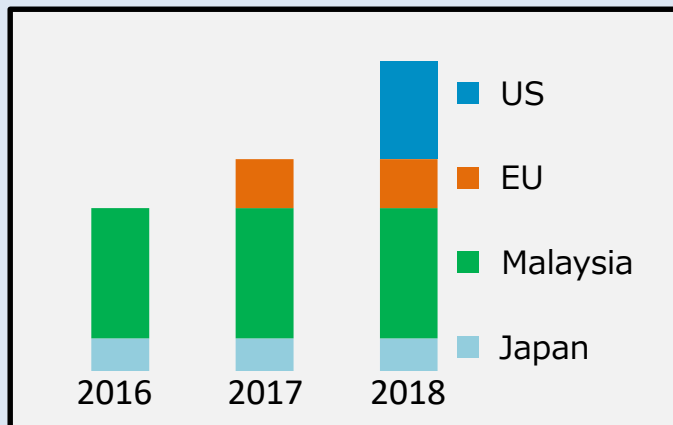
- Production increase in US (from 18/2Q)
- Improve profitability at plants in the US and EU and realize benefits from synergies
- Continue to implement M&A and alliance strategy
- Develop new products



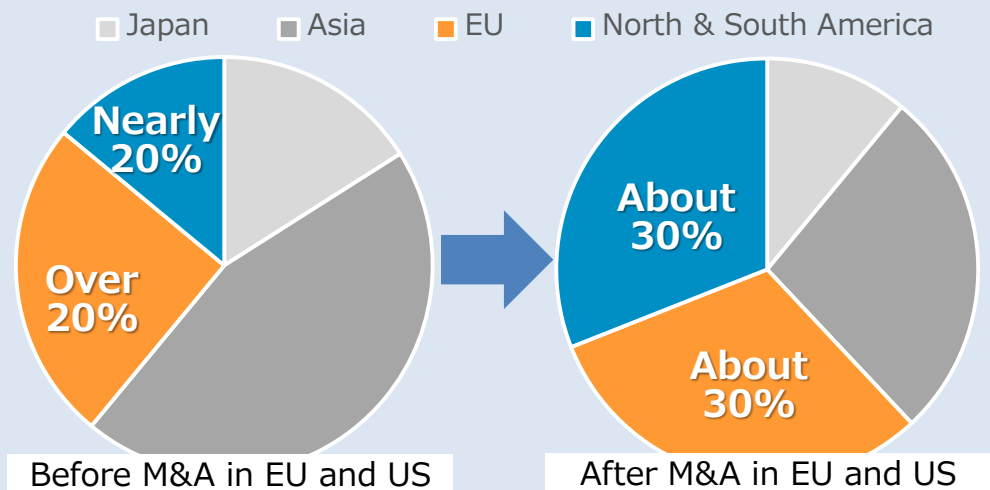
### Progress

- US plants: Production increase & improvement in productivity
- Optimal local production of products at four plants
- Continue to develop new products

### Growth in production scale



### Increased shipments to US and EU markets





# New products, R&D

## **Lamion**<sup>®</sup> (Ultra-thin Glass Laminated on Resin):

- Superior shock and penetration resistance
- Applications include train station platform doors, digital signage covers, as well as showcases to prevent theft



## Infrared absorbing filter (world's highest visible light transmittance):

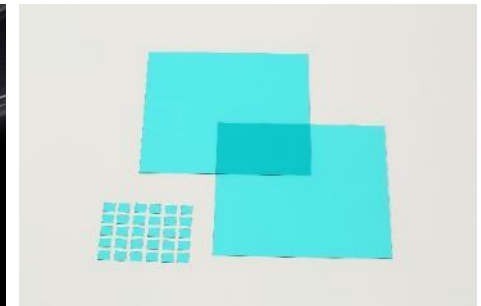
- For use as cover glass for image sensors in smartphones and other devices
- Contributes to the improvement of image quality, and thinner and more compact mobile devices

## High-efficiency Deep UV-transmitting Glass:

- Developing applications, including sterilization (germicidal) lamps by using deep UV light as a substitute for mercury lamps
- The above products are currently under evaluation by customers



Deep UV-transmitting Glass



Infrared absorbing filter

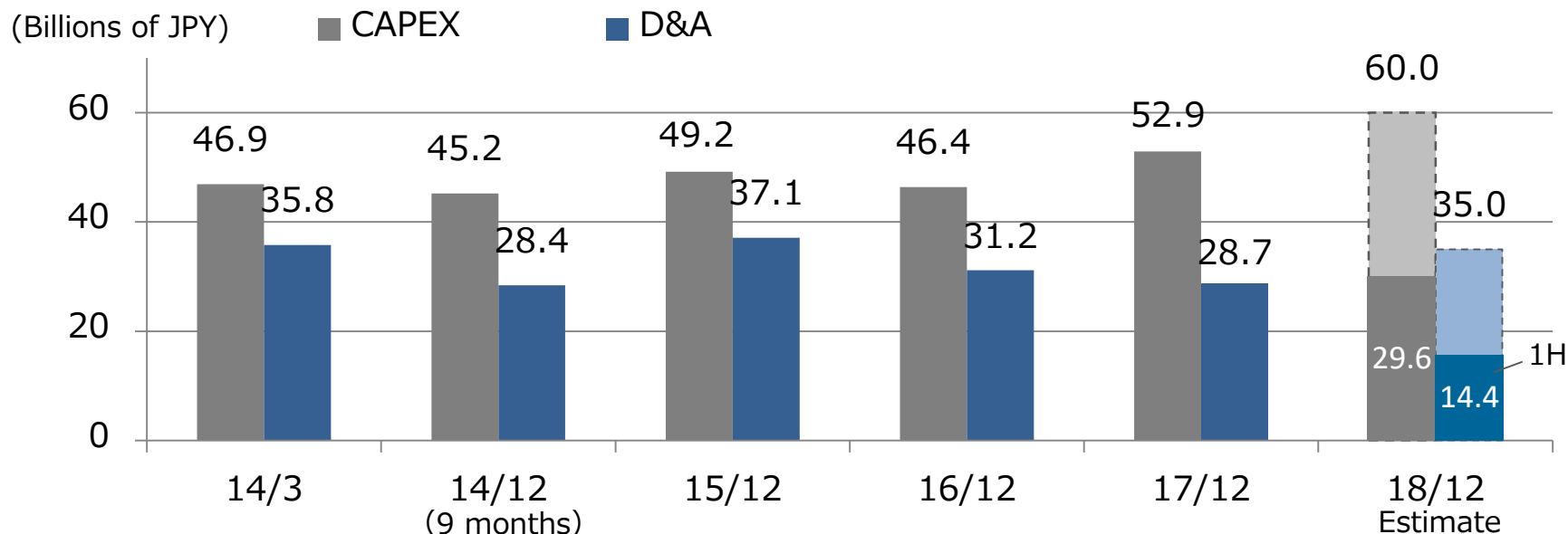
# CAPEX, Depreciation and Amortization Nippon Electric Glass

## CAPEX

- Planned 60.0 billion JPY in FY2018  
Xiamen Phase II, capacity expansion in US glass fiber business, improvement in profitability, repairs of equipment, investment etc.,
- Posted 29.6 billion JPY in 1H

## D & A

- Planned 35.0 billion JPY in FY2018
- Posted 14.4 billion JPY in 1H



\*14/12: including capital investments in overseas subsidiaries in January to March



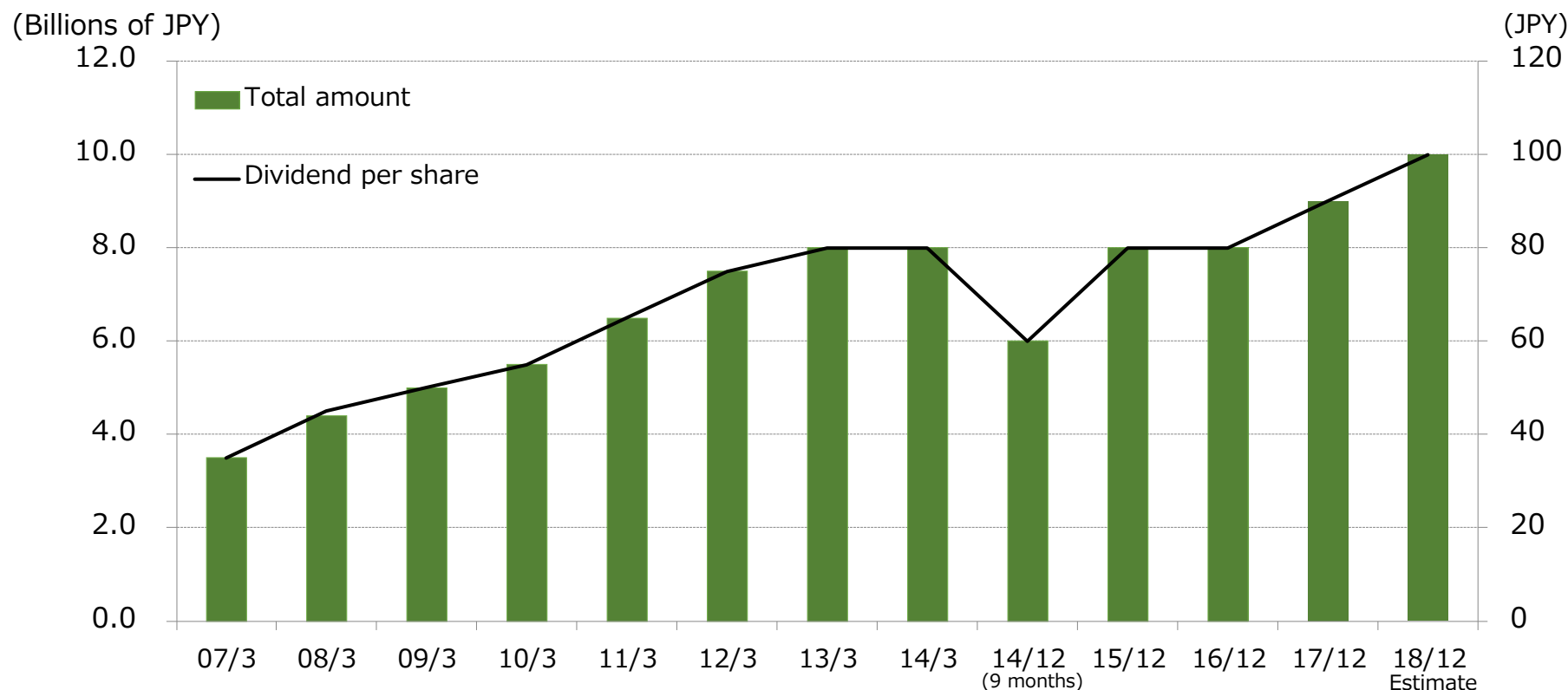
# Profit allocation--policy & dividends

## Profit allocation policy

- Based on continuous payment of stable dividends to shareholders
- Flexible shareholder return measures will also be considered as opportunities present

## FY2018 (estimate)

- Interim: 50 JPY per share
- Year-end: 50 JPY per share (100 JPY share/annum)



\*Amounts of dividends per share are retroactively adjusted for the share split and share consolidation.

# Profit allocation--Share Repurchases

- |   |  |
|---|--|
| 1. Reason                                   | To enhance shareholder returns as a fruit of Medium-term Business Plan, “EGP2018”        |
| 2. Total number of shares to be repurchased | Up to 3.3 million shares<br>(3.32% of total outstanding shares excluding treasury stock) |
| 3. Total repurchase amount                  | Up to 10 billion JPY   |
| 4. Repurchase period                        | July 31, 2018 ~<br>December 28, 2018   |
| 5. Repurchase method                        | Repurchase by means of market trades on the Tokyo Stock Exchange                         |

# Development of Glass Fiber Business

## Categories by manufacturing method

Item	Manufacturing method	Application
Long fiber	Long <b>filament</b> created by using a high-speed winder to wind melted glass	F RTP (fiber reinforced thermoplastic) 、 FRP (fiber reinforced plastics) etc.
Short fiber	<b>Flocculate</b> by using centrifugal force to spray melted glass	Glass wool (insulation and sound-proofing in houses)

⇒ NEG is expanding its business of long fiber.



# Development of Glass Fiber Business

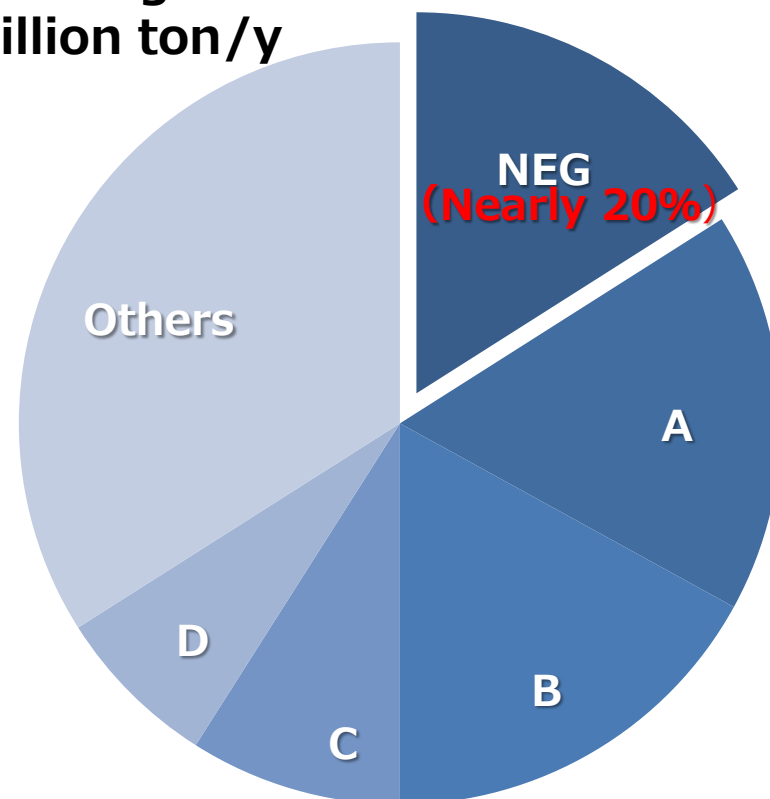
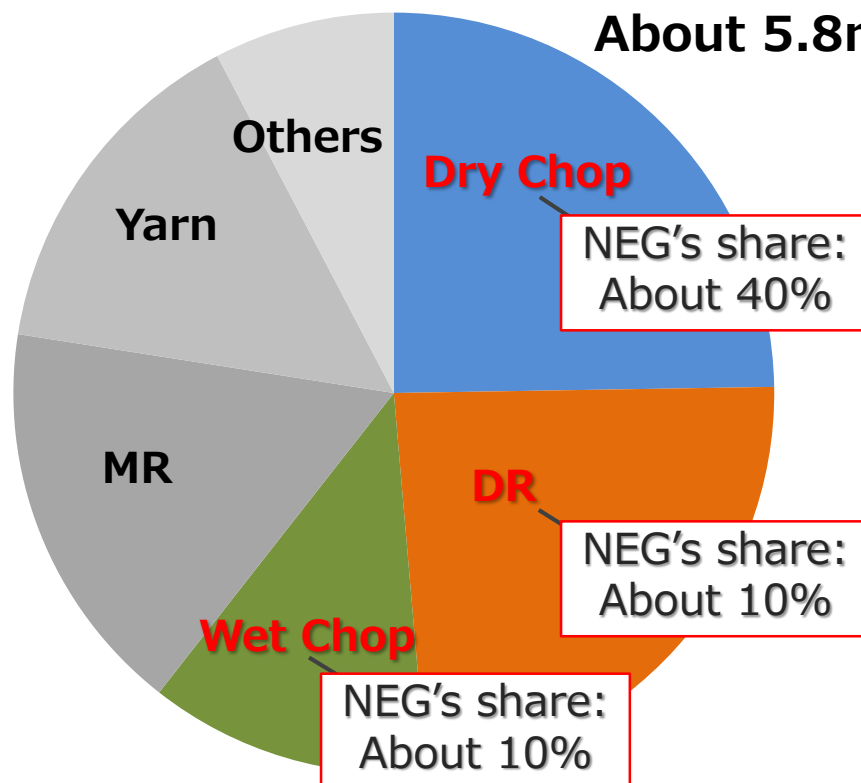
## Product ratio of the global glass long fiber market and NEG's market share (2017)

(\*NEG estimate)

Product ratio of the market

NEG's market share

**Market scale of long fiber:  
About 5.8million ton/y**
















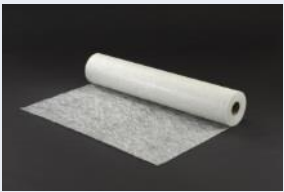







# Development of Glass Fiber Business

## NEG products & applications (1)

Item	Appearance	Customer processing method	Final use
Dry Chop 		<ul style="list-style-type: none"> <li>• Mix with resin to create pellets (3-5mm). These are melted down again for injection molding 【Thermoplastics】</li> <li>• Mix with resin to create a lump of specified size, and put it into a mold, then heat and press it into a shape. 【Thermosetting】</li> </ul>	Auto parts, electric/electronic parts, cameras, etc. 
DR (Direct Roving) 		<ul style="list-style-type: none"> <li>• Mix long fibers with melted resin and cut to uniform length to form pellets. These are melted down again for injection molding. 【Thermoplastics】</li> <li>• Long fibers or glass cloth is impregnated with melted resin, heated and molded into a shape. 【Thermosetting】</li> </ul>	Auto parts, wind power generator blades, insulator, farming poles, etc. 
Wet Chop 		<ul style="list-style-type: none"> <li>• Dispersed in water and a papermaking process is used to create glass fiber non-woven fabrics, and used as a reinforcement materials for flooring and roofing.</li> <li>• Mixed with gypsum in water and used as reinforcement material for gypsum board.</li> </ul>	Flooring, roofing, PCBs, reinforced gypsum board, etc. 

## NEG products & applications (2)

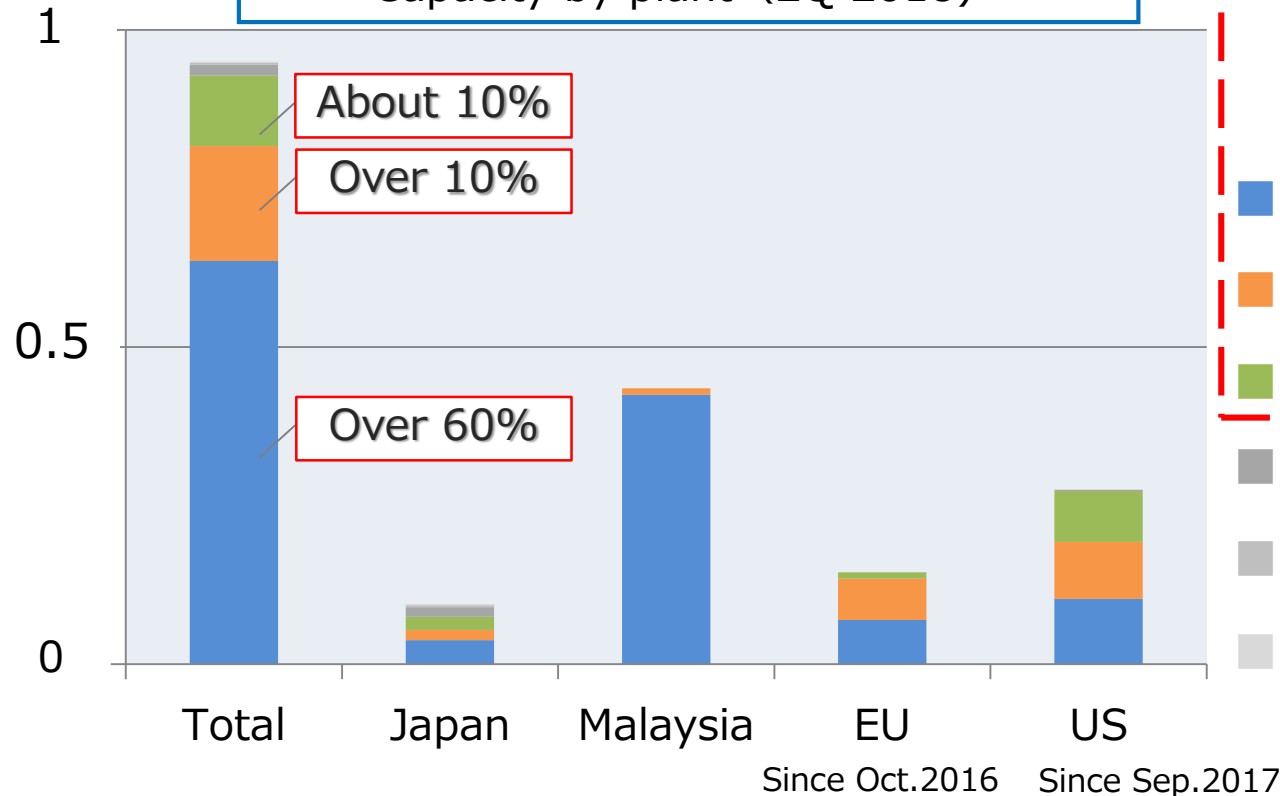
Item	Appearance	Customer processing method	Final use
MR (Multi-end Roving)		<ul style="list-style-type: none"> <li>Long fibers are cut to a specified length and impregnated with resin. These are used to create sheets that are several millimeters thick. These sheets are then heated and pressed into shapes. Or long fibers are cut to a specified length and sprayed into a mold along with melted resin. 【Thermosetting】</li> </ul>	<p>Bathtubs, septic tanks, pipes, etc.</p> 
MAT		<ul style="list-style-type: none"> <li>Used as a reinforcement material. Placed on both sides of urethane foam, which is a car headliner interior material.</li> </ul>	<p>Car headliner material, ships, septic tanks, etc.</p> 
Yarn		<ul style="list-style-type: none"> <li>Create glass cloth from twisted glass threads. Used as a reinforcement material in products such as PCBs.</li> </ul>	<p>PCBs, thermal insulation materials, etc.</p> 
ARG (Alkali Resistance Glass)		<ul style="list-style-type: none"> <li>Product shapes include Chop, Roving and Net. Mainly mixed with cement or other materials for reinforcement. Used in building interior and exterior materials, and in the housing, construction and civil engineering fields.</li> </ul>	<p>GRC (Glass Fiber Reinforced Cement), mortar to prevent cracking, imitation stone, etc.</p> 

# Development of Glass Fiber Business

## Expansion of product line-up by M&A

(million ton/y)

Capacity by plant (2Q 2018)



### Main products

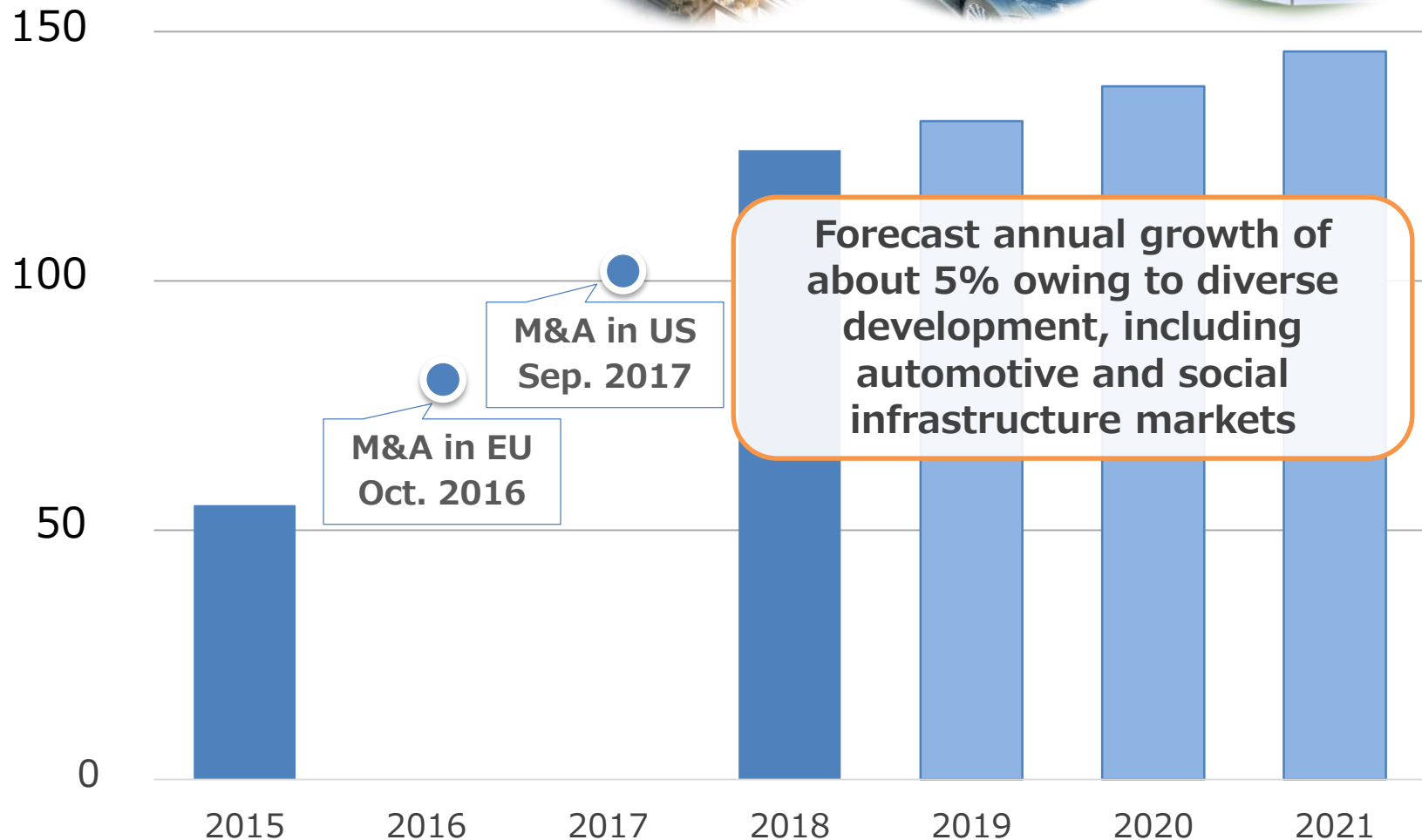
	Annual market growth
<span style="color: blue;">■</span> <b>Dry Chop</b>	5%
<span style="color: orange;">■</span> <b>DR</b>	6%
<span style="color: green;">■</span> <b>Wet Chop</b>	5%
<span style="color: grey;">■</span> MR	3%
<span style="color: lightgrey;">■</span> Yarn	3%
<span style="color: verylightgrey;">■</span> MAT	3%

(\*NEG estimate)

# Development of Glass Fiber Business

## Sales growth image

(Billions of JPY)



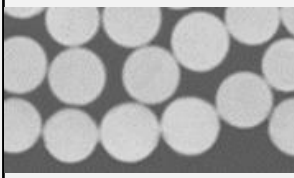
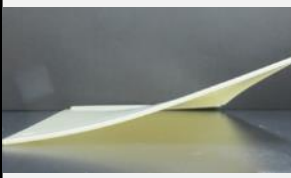


# Development of Glass Fiber Business

## Product development

### Flat glass fibers with elliptical cross section

In contrast with conventional chopped strands with round cross section, less warping for plastic products and more stable dimension can be realized. Improvement in strength and surface appearance is also possible.

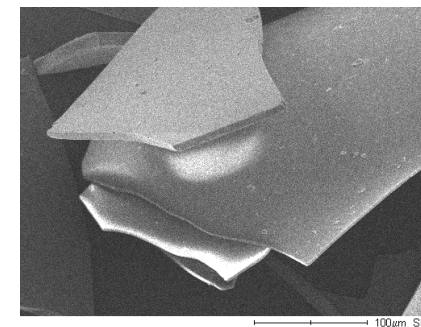
**【Applications】** Body of computers, tablets, smartphones, game consoles, etc.

	Cross sections	Warpage tests
Round cross section chopped strands		
Elliptical cross section chopped strands		

### Glass fillers jointly developed with Nippon Sheet Glass Co., Ltd.

Integrated our sizing agent technology with Nippon Sheet Glass' glass flake<sup>®</sup> technology. Less warping for plastic products and more stable dimensions.

**【Applications】** Body of computers, tablets, smartphones, game consoles, etc.



- The above products are currently under evaluation by customers

# Corporate Information

## Main Business

Electronics & Information Technology	FPD	Glass for liquid crystal displays Glass for Organic light emitting diode displays
	Cover Glass	"Dinorex" Specialty Glass for Chemical Strengthening
	Optical	Capillary and Ferrule for Optical Communication Devices Lens for Optical Communication Devices "Micro Preform" Glass Materials for Aspherical Lenses
	Electronic Devices	Functional Powder Glass Image Sensor Cover Glass Glass Tube for Small Electronic Products "Lumiphous" Phosphor-Glass Composite
	Solar Cells	Glass for Solar Cells
Performance Materials & Others	Glass Fiber	Chopped Strands for High Performance Resin Roving for Reinforced Plastics Chopped-Strand Mats for Automobiles Alkali-Resistant Glass Fiber for cement reinforcement
	Building Materials	Glass Blocks "Neoparies" Glass Ceramics Building Materials "FireLite" Fire-Rated Glass "Lamion" Ultra-thin Glass Laminated on Resin "Invisible Glass" Ultra-low Reflection Glass
	Heat-Resistant	"Neoceram" Super Heat-Resistant Glass-Ceramics "StellaShine" Heat-Resistant Glass-Ceramics for Cooking Appliance Top Plates "Neorex" Heat-Resistant Glass
	Medical Care	Glass Tubing for Pharmaceutical and Medical Use "LX Premium" Radiation Shielding Glass
	Others	Glass Tubing for Lighting Glass for Thermos Flasks Glass Making Machinery

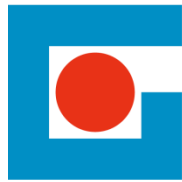
## Corporate Information

Name:	Nippon Electric Glass Co., Ltd.
Head Office:	7-1, Seiran 2-chome, Otsu, Shiga 520-8639, Japan
Founded:	Dec 1, 1949
Representative:	Masayuki Arioka, Chairman of the Board Motoharu Matsumoto, President
Capital:	32.1 billion JPY
Employees:	6,823 (Group total as of June 30, 2018)
Business:	Production and sale of special glass products, and manufacture and sale of glass making machinery
Plants:	Otsu, Shiga-Takatsuki, Notogawa, Precision Glass Center
Sales Office:	Osaka and Tokyo
Consolidated Companies:	12 in Japan 15 overseas (Malaysia, Korea, China, Taiwan, Europe, USA)

## Note regarding earnings forecasts

- ◆ The forward-looking statements, including earnings forecasts, contained in these materials are based on certain assumptions deemed to be reasonable by the Company at the present moment and include risks and contingencies.
- ◆ Actual business results may differ substantially from the earnings forecasts due to a number of factors.

*GLASS FOR FUTURE*



**Nippon Electric Glass**