

# Creating a New TEL: Key Initiatives

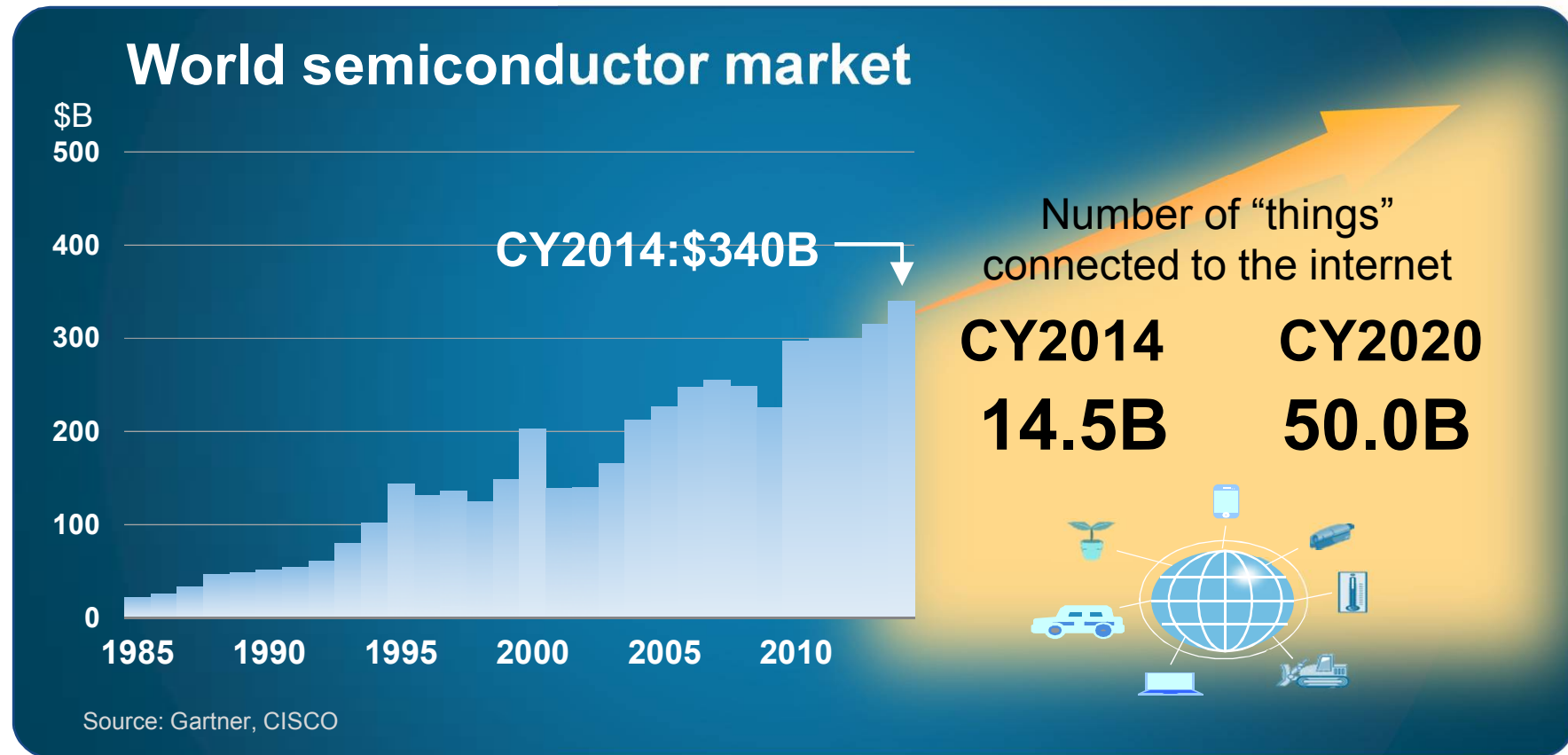
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Tetsuro Higashi  
Representative Director, President & CEO  
July 10, 2015



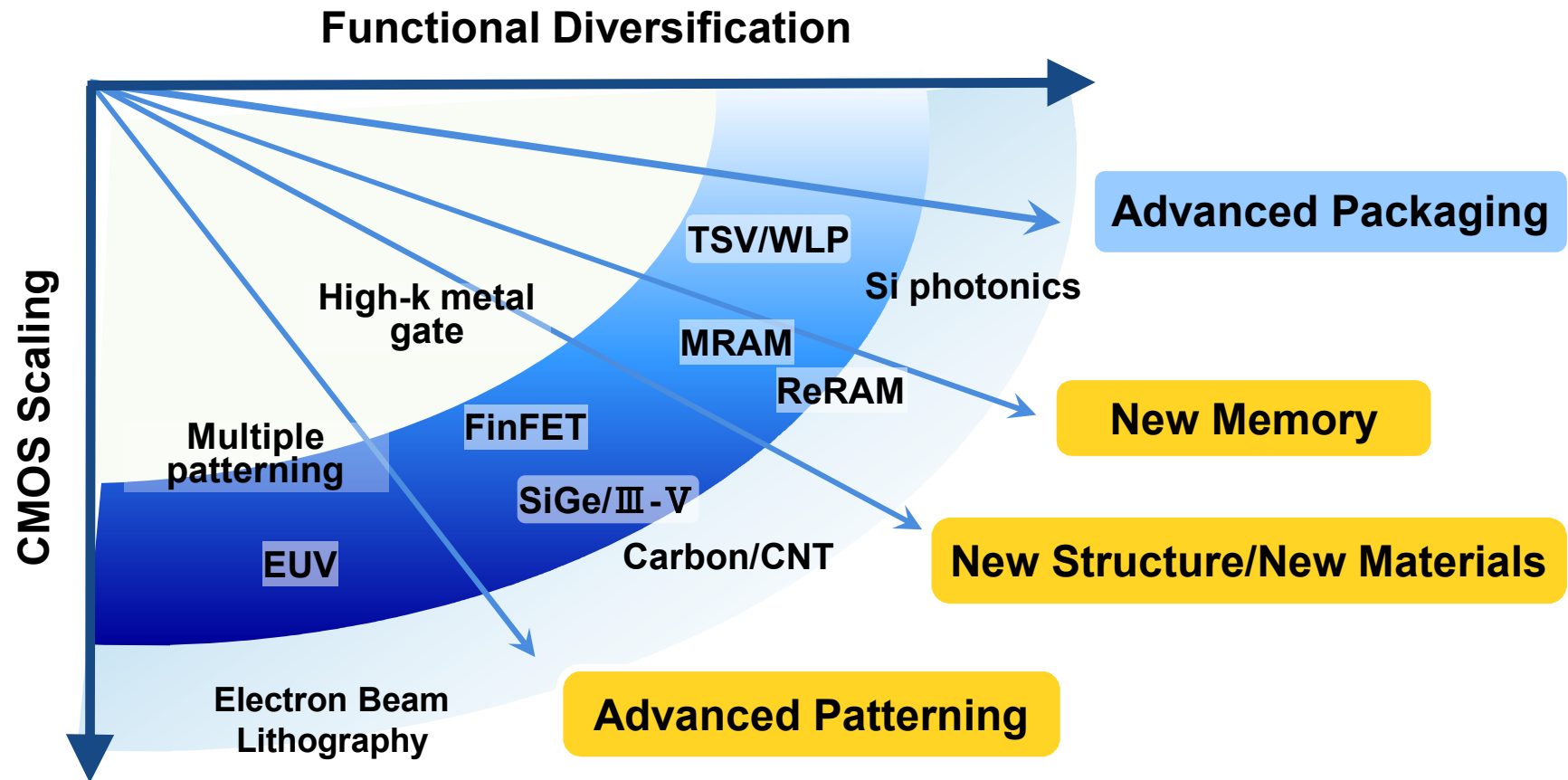
**TOKYO ELECTRON**

# Changing Market Environment: The IoT Era is Coming



**Paradigm shift to IoT will lead to increased applications  
and expand the semiconductor market**

# Direction of Technological Innovations



**Evolution of semiconductors involves new, extensive technologies**

## Vision

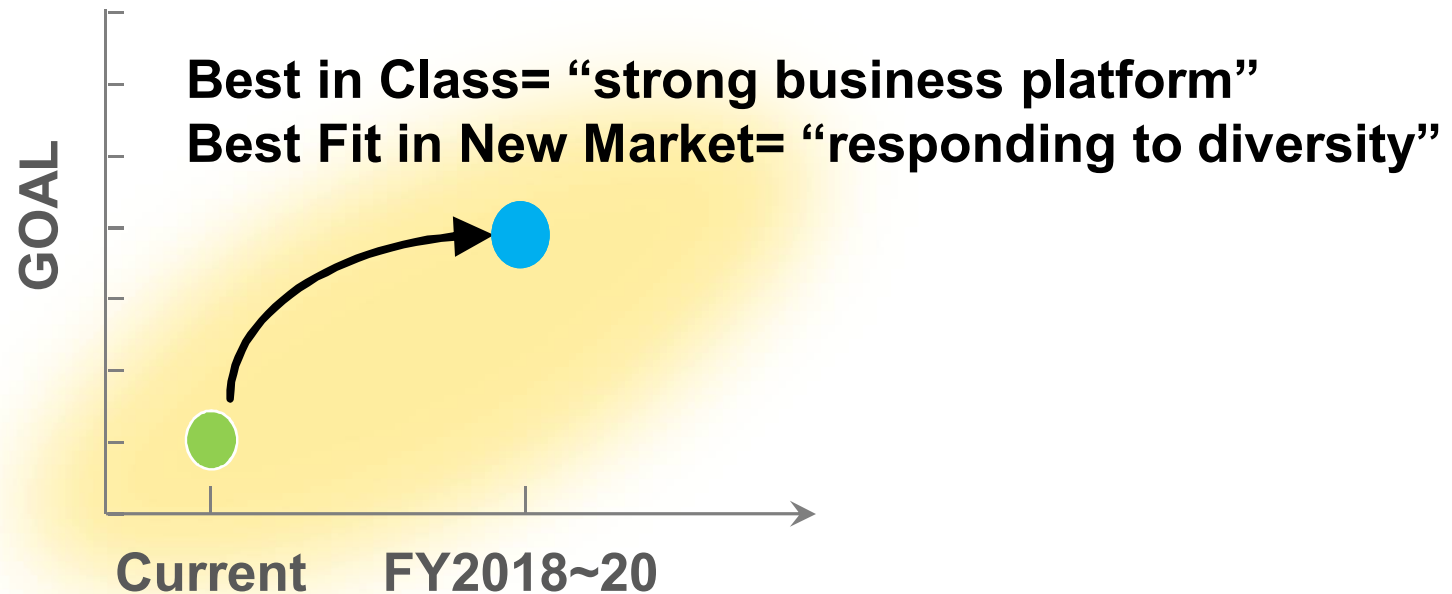
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**A real global company generating  
high added-value and profits  
to Semiconductor and FPD  
industries through innovative  
technologies and groundbreaking  
solutions with diverse integrated  
technologies**

# Medium-term Business Direction

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1. Best in Class
2. Best Fit in New Market

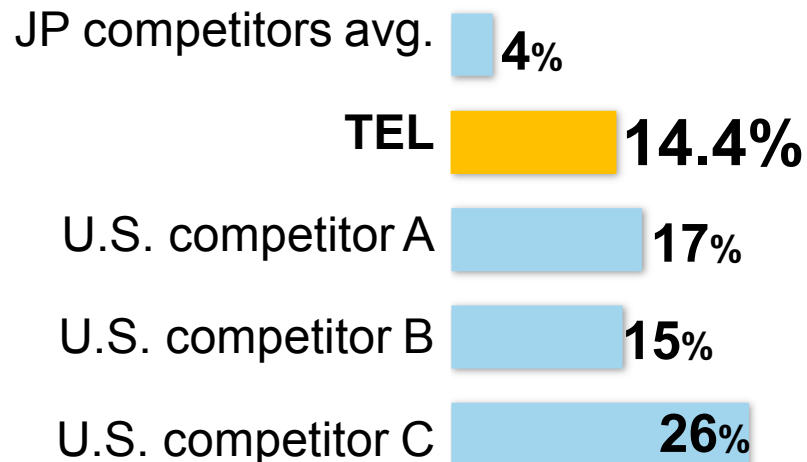


**Strengthen platform and response capability to support further major advances**

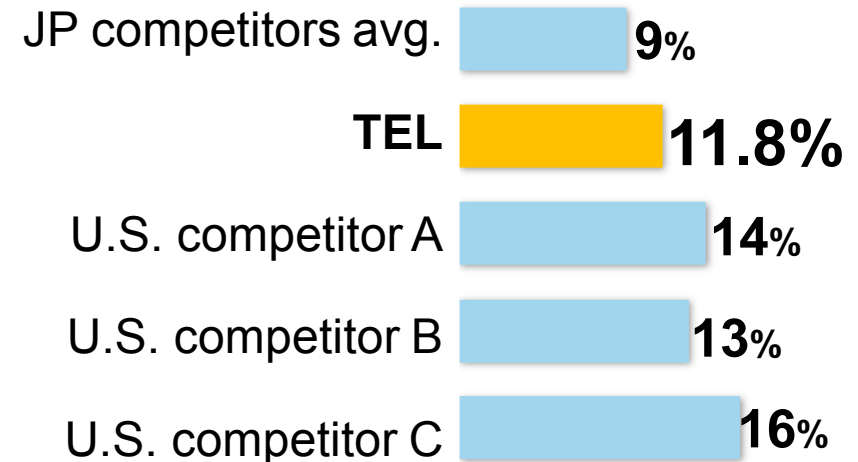
“Best in Class”

## Benchmarks (Most Recent Fiscal Year)

### Operating margin



### ROE



**TEL still positioned behind U.S. peers  
despite some improvement**

“Best in Class”

## New Financial Model

<b>Wafer Fab Equipment Market size</b>	<b>\$30B</b>	<b>\$37B</b>
<b>Sales</b>	<b>¥720B</b>	<b>¥900B</b>
<b>Operating margin</b>	<b>20%</b>	<b>25%</b>
<b>ROE</b>	<b>15%</b>	<b>20%</b>

## Aiming for global-level results

# Global Growth Strategy

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**Changing market  
environment**  
IoT era

**Changing customer  
needs**

Diversification of  
differentiated technology



## Approaches to diversification

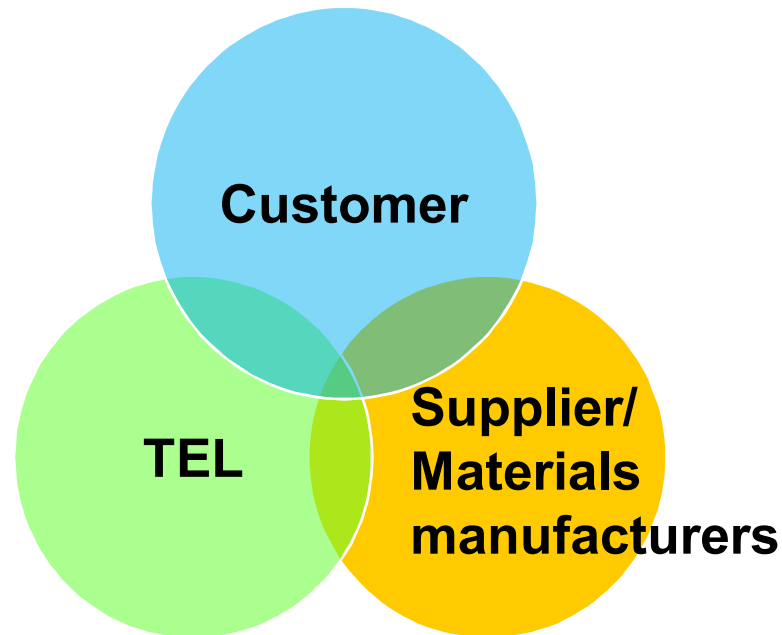
- Grasp customers' true needs for **differentiation and customization**
- Provide solutions **bringing our technological strengths all together, extensively and swiftly**



“Best Fit in New Market”

# Global Growth Strategy

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**Fully utilize TEL’s corporate DNA—our track record of creating strong relationships of mutual trust, and work closely with customers to overcome tough technological challenges**

## Transition to a New Structure

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Key points of structural reform:

- **Created COO post**
- **CSS that enables swift business execution**
- **Appointed younger generation directors with broad knowledge**
- **Utilize global talent**

**Become a company that identifies customers’ needs and surpasses their expectations**

CSS: Corporate Senior Staff

# Key Initiatives for Achieving Targets

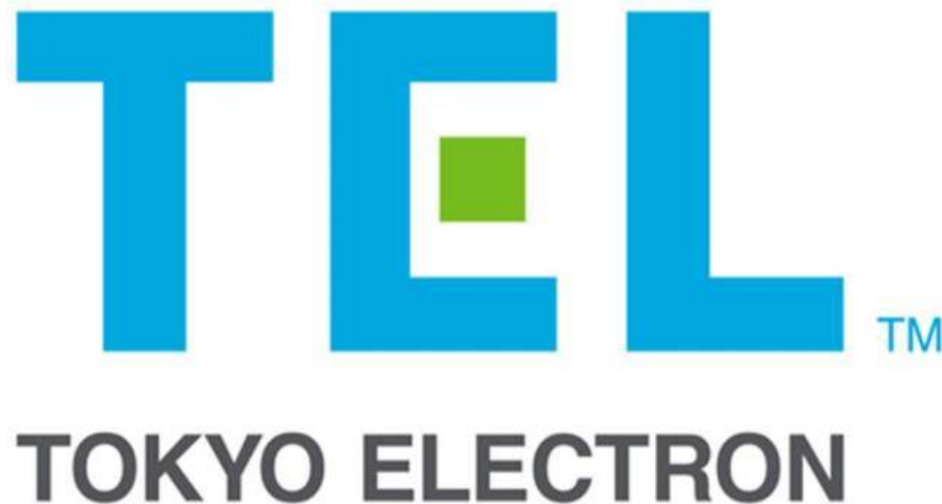
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- **Overwhelming differentiation in core businesses**
- **Shift to creating customer needs**
- **Reinforce foundation for realizing growth and technological innovation**
- **Improve efficiency of operations**
- **Utilize global talent**

# New Corporate Logo

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## New Corporate Logo



- The square placed in the center of the logo signifies the high precision of TEL's technology. It also represents core technology, which is essential for the growth of industry and society.
- The new youthful, vibrant green represents a human element as well as environmental conservation, which is a key focus in TEL's business.
- The neat, polished, and universal shape represents TEL's absolute trust and presence, showing our organization's fairness.
- Global design which shows our company achieving global excellence.

# Medium-term Management Plan

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Toshiki Kawai

Representative Director, Senior Executive Vice President & COO

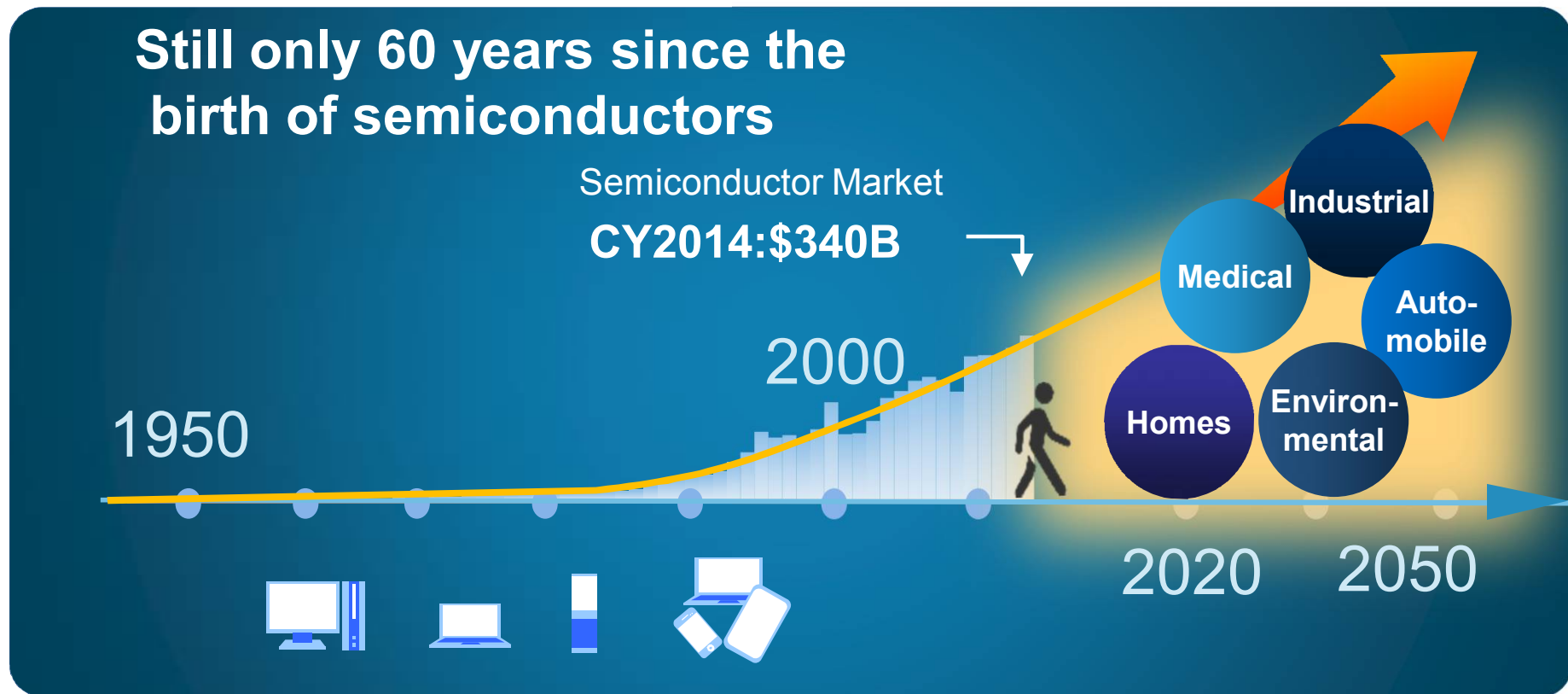
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**TOKYO ELECTRON**

# Market Environment

Network society

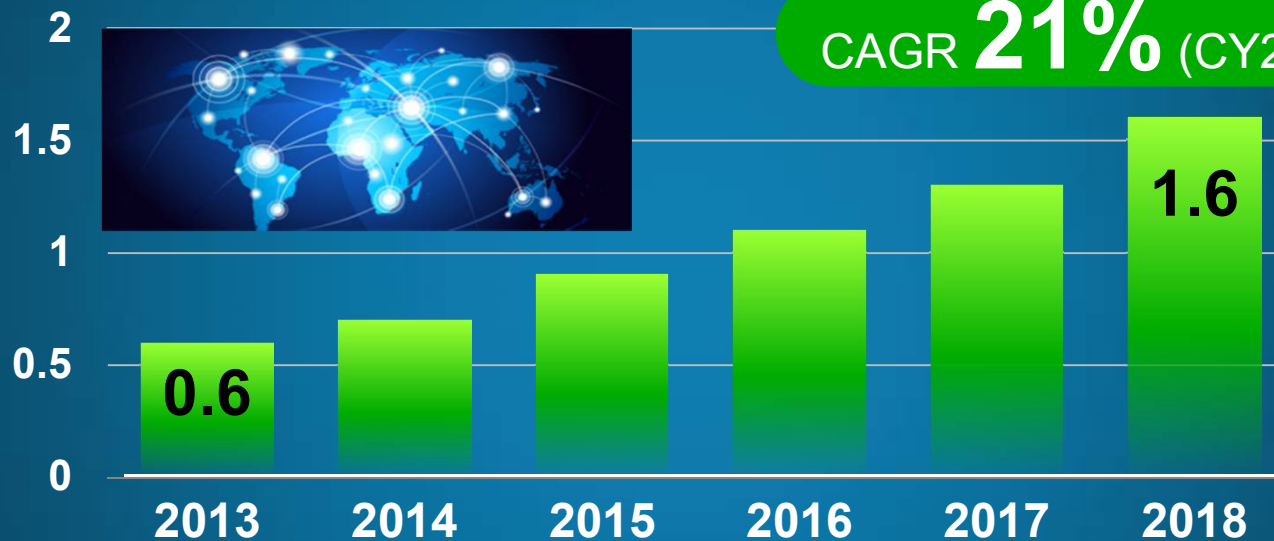


**Semiconductors still only in the early stages**

# Market Environment

## World IP traffic

Zettabyte/year

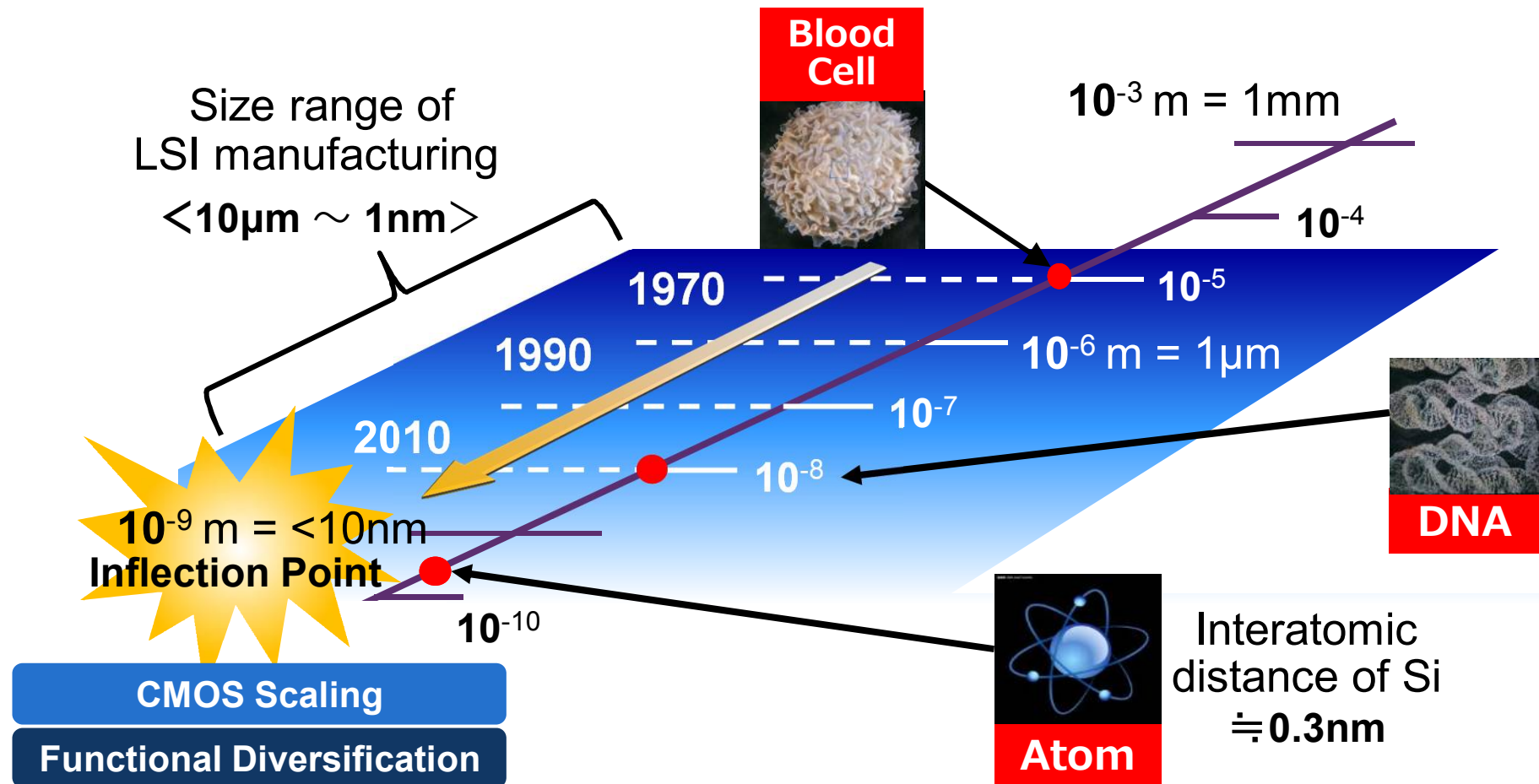


Cisco Visual Networking Index (VNI) 2013-2018

**Data sent on networks will continue to increase explosively**

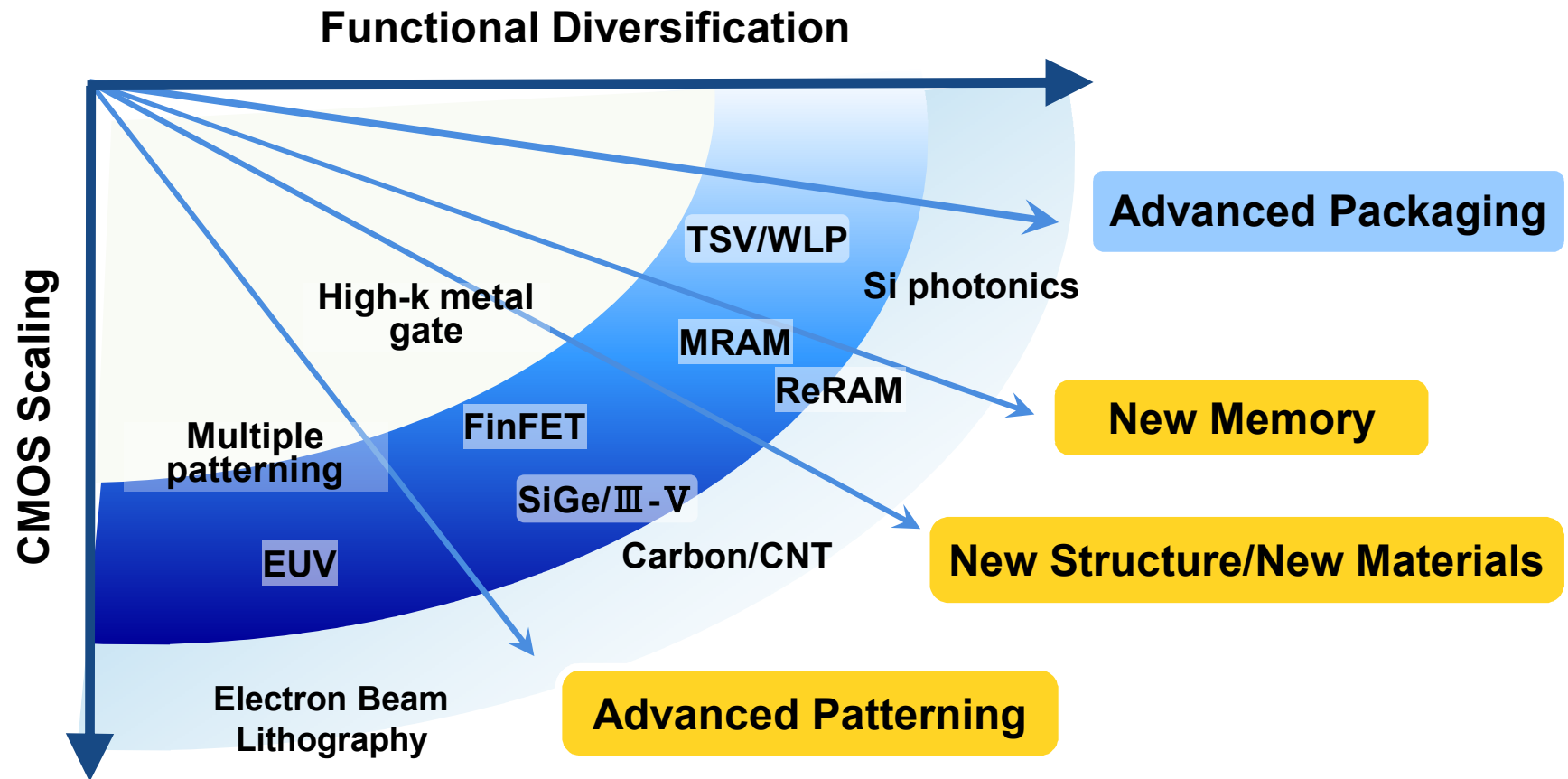
Zettabyte: Unit indicating the magnitude of computer storage devices and digital data.  $10^{21}$  bytes

# Semiconductor Industry at an Inflection Point



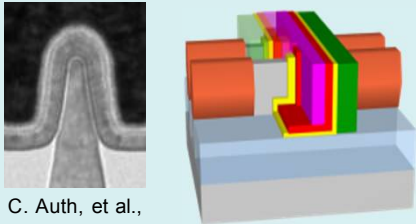
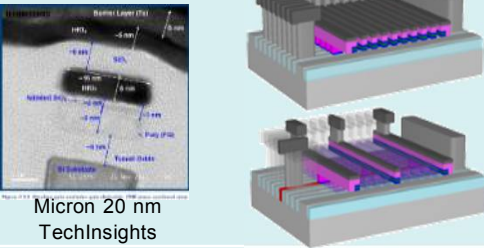
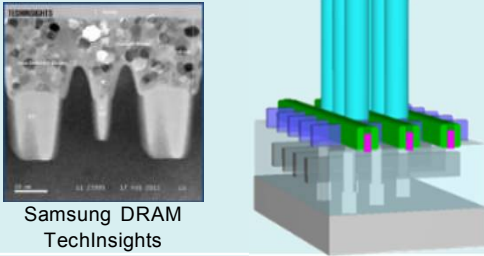
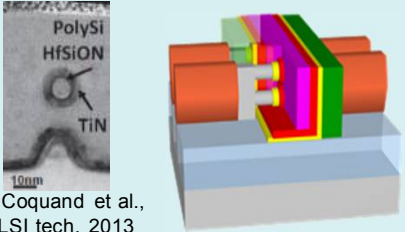
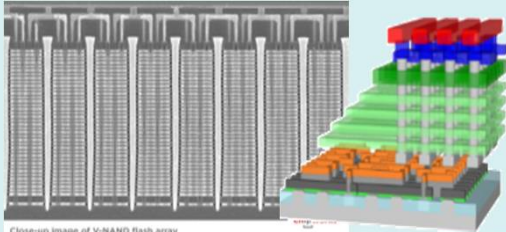
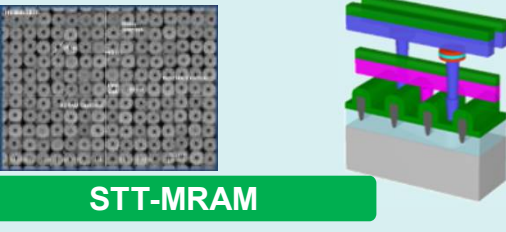


# Direction of Technological Innovations



**Evolution of semiconductors involves new, extensive technologies**

# Technological Trends: High-volume Manufacturing & Next-generation Devices

	Cutting-edge logic	Flash Memory	DRAM
High-volume manufacturing (present)	<b>16/14nm (2<sup>nd</sup> Gen. FinFET)</b>  C. Auth, et al., VLSI tech. 2012	<b>2D FG-NAND 15nm</b>  Micron 20 nm TechInsights	<b>~20nm</b>  Samsung DRAM TechInsights
Next generation (2018~)	<b>7nm (nanowire, new materials)</b>  R. Coquand et al., VLSI tech. 2013	<b>3D NAND 64 layer stacking</b>  Close-up image of V-NAND flash array	<b>Continuous 1x/1y scaling</b>  <b>STT-MRAM</b>
Technological inflection points	<b>Challenges: Speed and low power consumption</b> <ul style="list-style-type: none"> <li>• Shift to 3D structure device (FinFET)</li> <li>• New structures (nanowire)</li> <li>• New materials</li> </ul>	<b>Challenge: Integration</b> <ul style="list-style-type: none"> <li>• Shift to 3D layer stacking</li> <li>• Etching and deposition technology for high-aspect structure</li> </ul>	<b>Challenge: Capacitor capacity</b> <ul style="list-style-type: none"> <li>• High-aspect etching</li> <li>• Shift to ALD for capacitor materials</li> <li>• Possibility of partial replacement with MRAM</li> </ul>

**Identify technological inflection points and provide solutions**

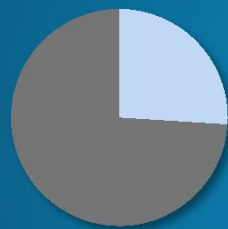
# Our SPE Competitiveness

## TEL product market share (CY2014)

Overwhelming competitiveness



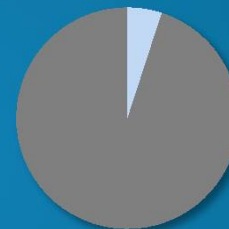
Coater/  
developer



Etch



Thermal  
processing



Single wafer  
deposition



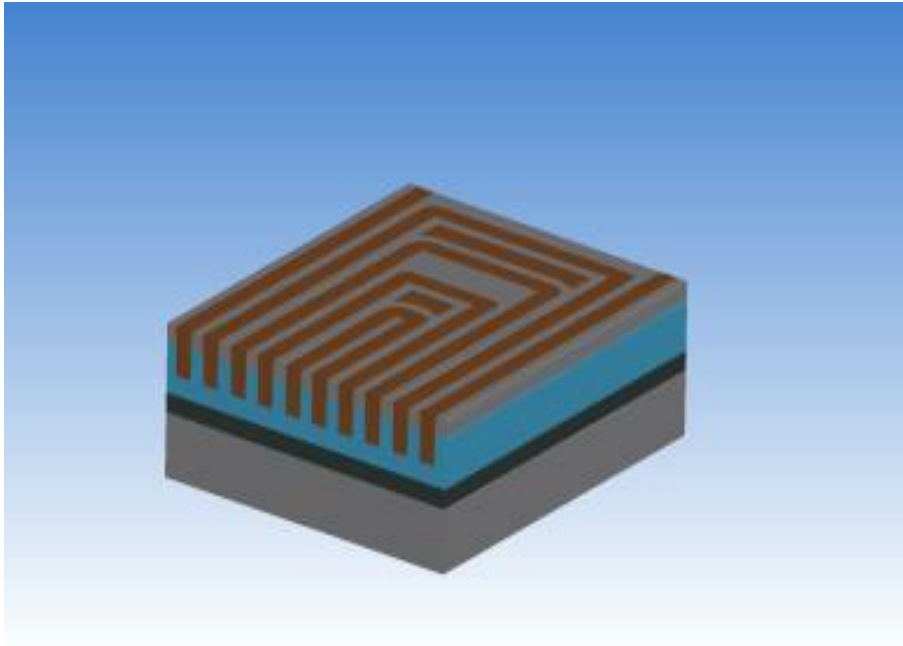
Cleaning



Wafer  
prober

Source: Gartner

# SPE Products: Broad Product Line Up in Patterning



Process Finished



**Clean Track**

*LITHIUS Pro™ Z*



**ALD Film Deposition**

*NT333™, Triase+™ EX-II™,  
TELINDY PLUS™ IRad*



**Dry Etch**

*Tactras™*



**CVD Film Deposition**

*Triase+™ CVD, TELINDY PLUS™*



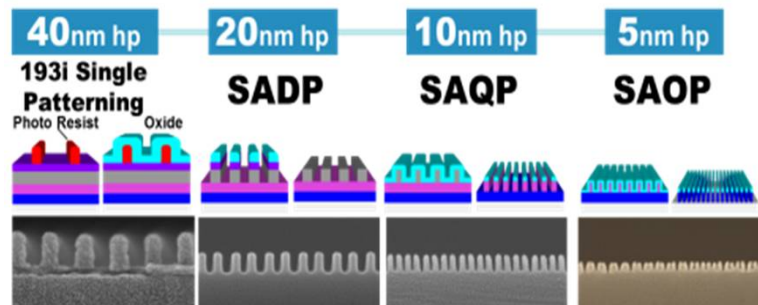
**Wet Cleaning**

*CELLESTA™ -i*

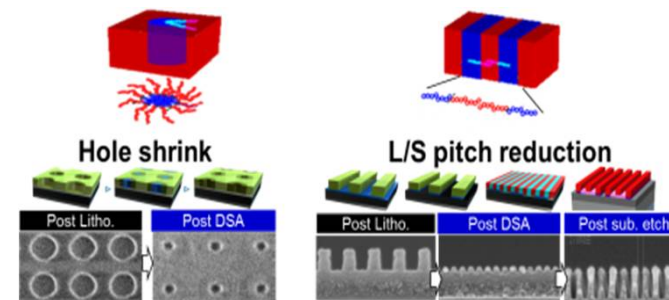
# SPE Business Strategy: Strengthen Ability to Provide Technological Solutions in Patterning

## “Patterning Solution Project”

Respond to customer needs for leading-edge technology by leveraging broad product line



Multiple patterning technology



DSA\* technology

\*Directed Self-Assembly

# SPE Business Strategy: STT-MRAM Development



Gas cluster ion  
beam system



Single wafer  
cleaning  
system



Etch/CVD  
system



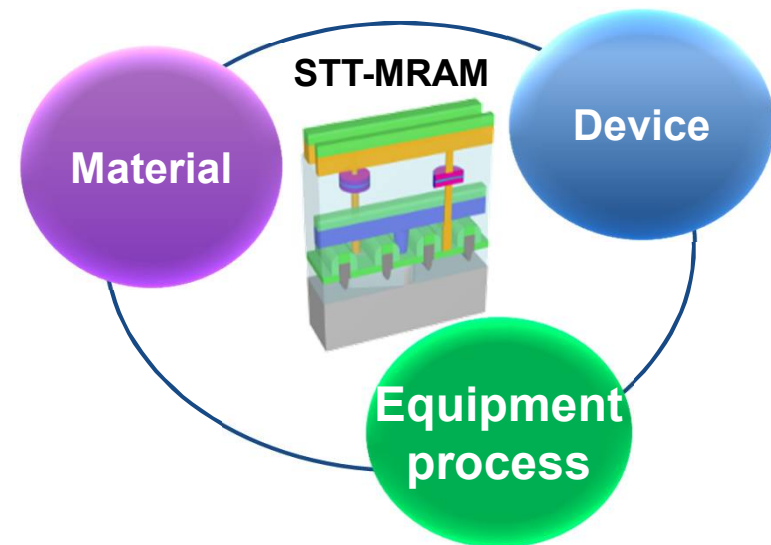
Magnetic annealing  
system



MTJ sputtering  
system

- **Strengthen development with customers, Tohoku University, and consortia**
- **Lead development for practical use**

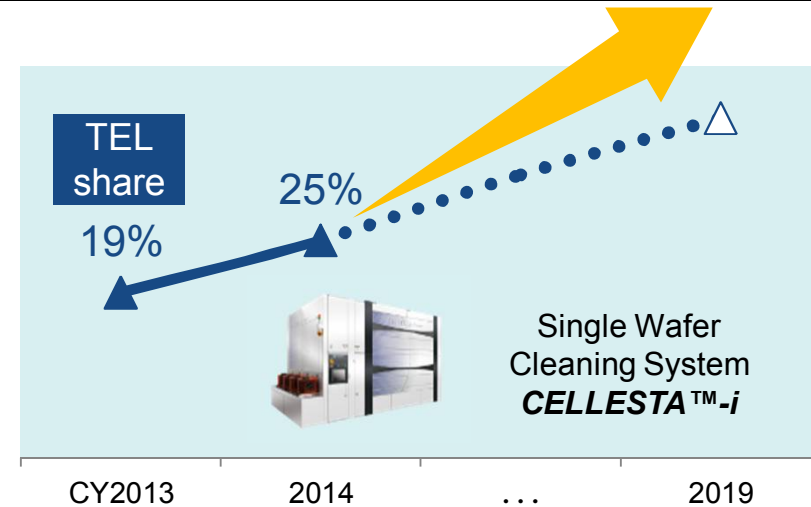
STT-MRAM: Spin Transfer Torque-Magnetoresistive Random Access Memory



# SPE Business Strategy: Topics and Key Strategies by Equipment Category

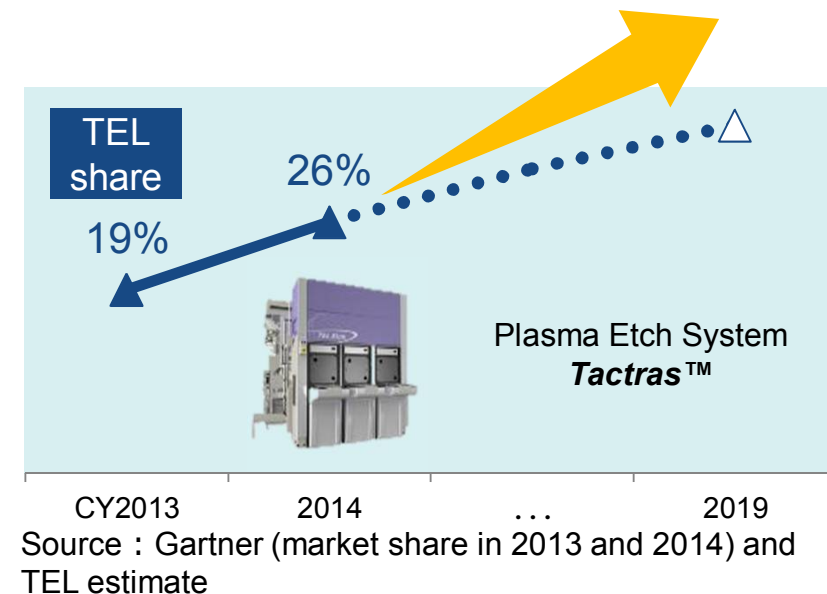
## Cleaning system

- Highest ever market share in 2014
- Customer penetration in leading-edge HVM lines progressing as planned, with our proprietary technology
- Expand applications of single wafer cleaning and dry cleaning system and further increase market share



## Etching system

- Doubled sales in 2014 YoY and increased market share
- Acquire POR in patterning and memory HARC processes, where growth expected



POR (Process of Record): Certification of equipment application in customer semiconductor manufacturing process

HARC: High Aspect Ratio Contact



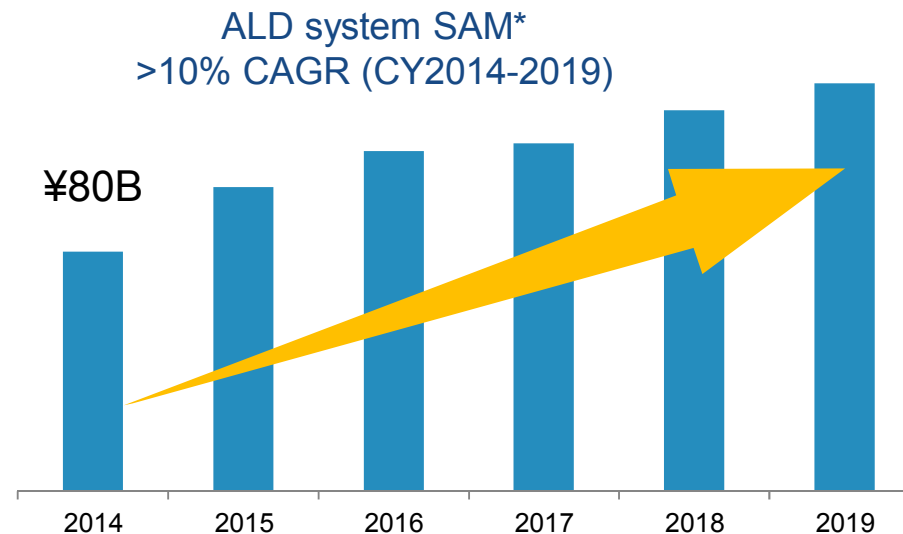
# SPE Business Strategy: Topics and Key Strategies by Equipment Category

## ALD system

- Respond to needs for high coverage and productivity required in miniaturization and 3D structure
- Expect to acquire POR and share in logic and memory with semi-batch ALD system NT333, which is differentiated by its high productivity and high-quality film



ALD system  
NT333™



\*SAM: Served Available Market

Source: TEL estimate



# SPE Business Strategy: Strengthen Field Solutions Business

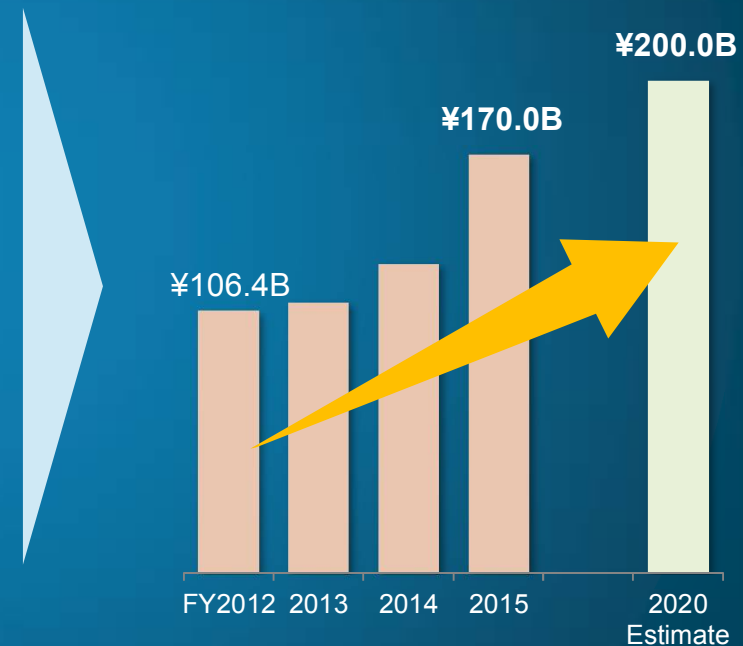
## Expanding business opportunities

The IoT era will bring demand  
for diverse semiconductor  
technologies

Explosive growth of IP traffic =  
semiconductor growth

TEL's installed base  
54,000 units

## Support customer needs in existing production lines



Field solutions business sales are included in SPE and FPD segment sales.

## Expand field solutions business opportunities in IoT era

# SPE Business New Framework

**New framework and executive structure to  
“Enhance our strengths”**

- Enhance our core strength—the full trust of our customers
- Implemented account and region management structures
- Create value-added products leveraging the integration of the core technology and expertise of each BU
- Launched patterning solution project
- Maximize the strengths in value creation and efficiency of each plant and development site



**Global Field General HQ**



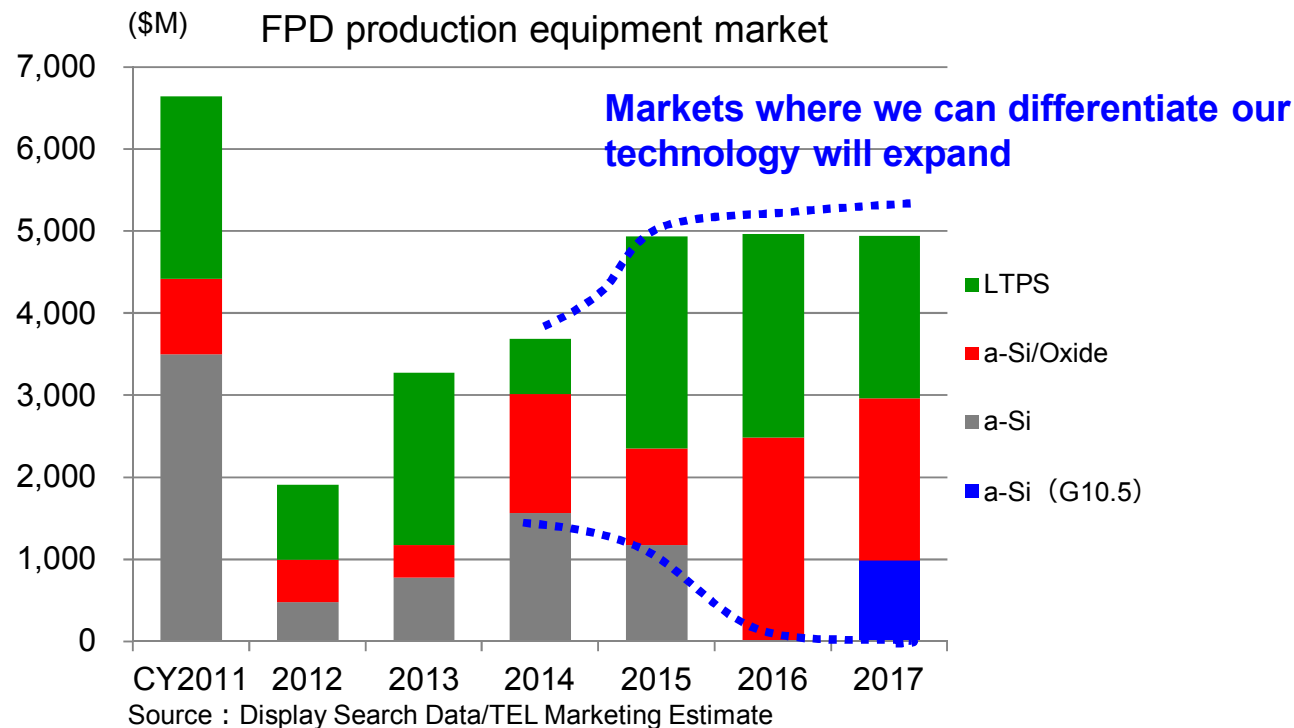
**Business Steering  
General HQ**



**Development/  
Manufacturing General HQ**

# FPD Business Strategy

Shift to large-size panels, increased demand for high-resolution for smart phones. Introduced our differentiated ICP\* etch systems in growing LTPS/metal oxide market



**Increase market share and profitability,  
aim for 20% OPM**

\* ICP : Inductively Coupled Plasma

# Summary

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## **Toward profitability and ROE improvement**

- **Focus on SPE business**
- **Leverage product line up and respond to diversifying needs**
- **New framework and executive structure to enhance our strengths**

# Financial Model, Shareholder Returns Policy

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Tetsuro Hori

Corporate Director, Senior Vice President & General Manager

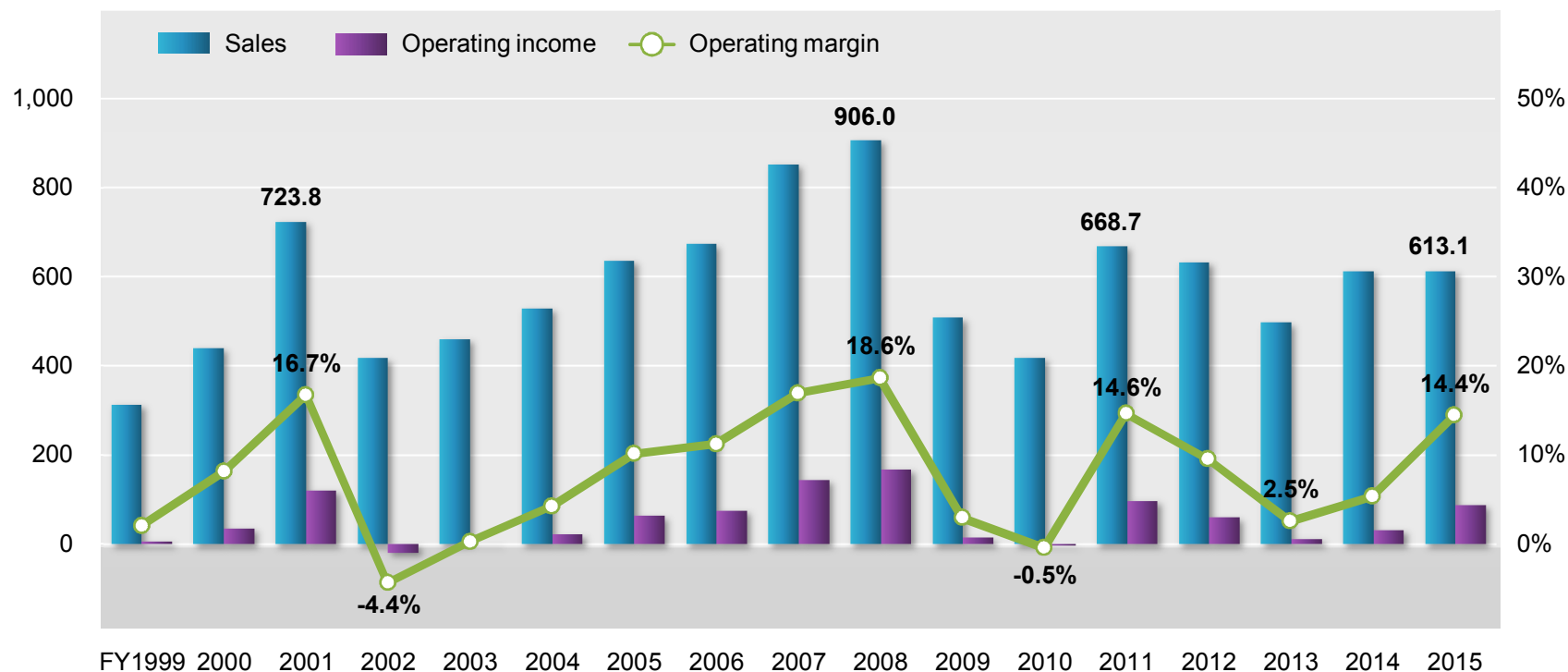
July 10 , 2015



**TOKYO ELECTRON**

# Financial Performance

(Billion Yen)



## Financial Model (toward FY2020)

- Build an earnings structure capable of attaining an OPM of 25% at WFE market size \$37B

(Billion Yen)

	FY2016 (Estimate)	FY2020 (Medium-term plan)	
	WFE \$33.5B	WFE \$30B	WFE \$37B
Net sales	675	720	900
SPE	625	660	840
FPD	47	60	60
Gross profit	265	305	395
Gross profit margin	39%	42%	44%
SG&A expenses	153	160	170
SG&A expense ratio	23%	22%	19%
Operating income	112	145	225
Operating margin	17%	20%	25%
Net income	79	100	155

## SPE Sales (WFE \$37B)

### ➤ Sales growth in excess of market growth

(Billion Yen)

	FY2016 (Estimate)	FY2020 (Medium-term plan)	Growth
	WFE \$33.5B	WFE \$37B	WFE +10%
Sales	625	840	+34%
New equipment	465	650	+40%
Field solutions	160	190	+19%

- Enhance our ability to identify the technological needs of our customers and to develop products to meet them
- Respond to growing demand for field solutions



## FPD Sales

- Target sales growth in leading-edge areas, where we can differentiate our technology

(Billion Yen)

	FY2016 (Estimate)	FY2020 (Medium-term plan)	Growth
Sales	47	60	+28%
New equipment	38	48	+26%
Field solutions	9	12	+33%

- Focus on etching systems and OLED deposition systems, areas in which we have technological superiority

## Gross Profit (WFE \$37B)

### ➤ Gross profit margin: up 5%pts

(Billion Yen)

	FY2016 (Estimate)	FY2020 (Medium-term plan)	Growth
Gross profit	265	395	+49%
Gross profit margin	39%	44%	+5%pts

- Raise marginal profit ratio through efforts to enhance product competitiveness
- Expand field solutions business
- Reduce costs by sharing technology across our products
- Reduce costs, shorten production lead-times and pursue quality from the design stage onward

## SG&A Expenses (WFE \$37B)

➤ SG&A expense ratio: improve by 4%pts

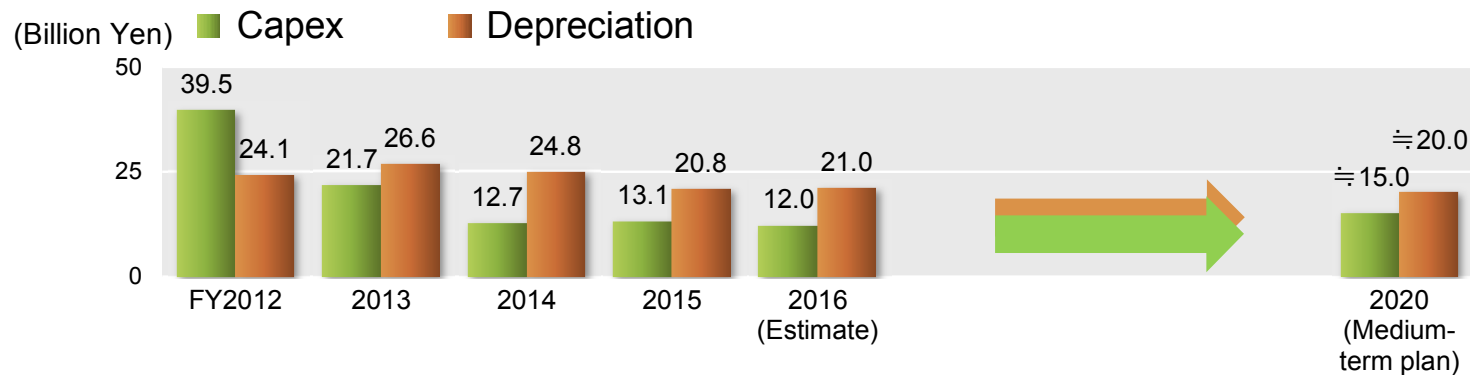
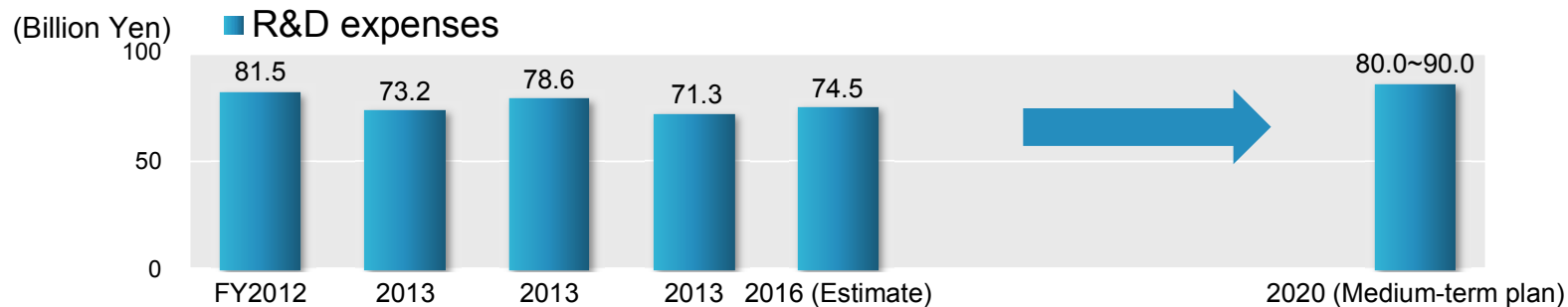
(Billion Yen)

	FY2016 (Estimate)	FY2020 (Medium-term plan)	Growth
SG&A expenses	153	170	+11%
SG&A expense ratio	23%	19%	-4%pts

- Pursue operational efficiencies by reinforcing regional sales & marketing and field engineering capabilities under account management structure
- Select development projects carefully, focusing on SPE

# R&D Expense, Capex Plans

- Advance developmental efforts that are necessary for growth while working to improve their efficiency
- Maintain capex at around its current level



# Managerial Targets

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- We target a global level of profitability

<b>WFE Market</b>	<b>\$30B</b>	<b>\$37B</b>
<hr/>		
<b>Operating margin</b>	<b>20%</b>	<b>25%</b>
<hr/>		
<b>ROE</b>	<b>15%</b>	<b>20%</b>

# Capital Policy, Shareholder Returns

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## ➤ Approach to capital policy

- While closely monitoring the business environment and our necessary cash balance, we will strive to raise ROE through earnings maximization and asset turnover improvement to efficiently utilize shareholders equity

## ➤ Approach to shareholder returns

- Business trends in our industry can be volatile and our policy is to link dividend payments to business performance
- However, to assure stable returns to our shareholders, we will utilize our sound financial foundation to establish a minimum DPS payment

# New Policy for Shareholder Returns

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**Dividend payout ratio: 50%**

**Annual DPS of not less than ¥150**

**We will review our dividend policy if the company does not generate net income for two consecutive fiscal years**

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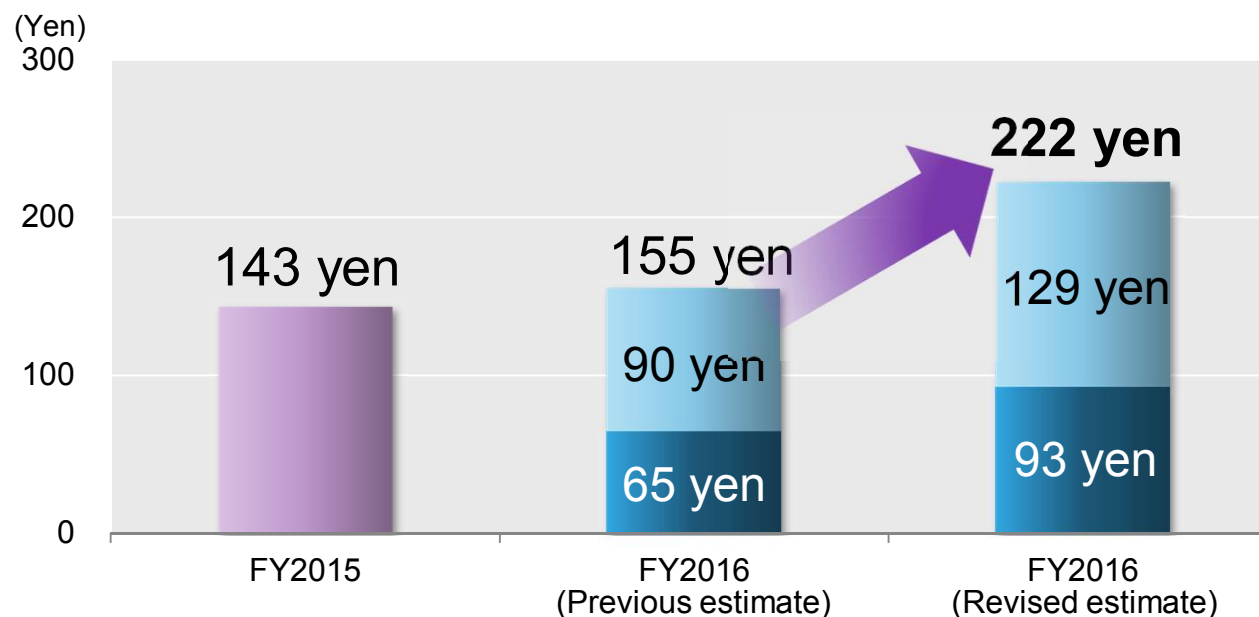
**We will flexibly consider share buybacks**

Our previous dividend policy since FY2011 year-end dividend was performance-linked payout ratio of around 35%.

## FY2016 Dividend Forecast (Announced on July 10, 2015)

- Revised dividend forecast based on new shareholder returns policy

Dividend per share (Estimate)		
Interim	Year-end	Year Total
93 yen	129 yen	222 yen



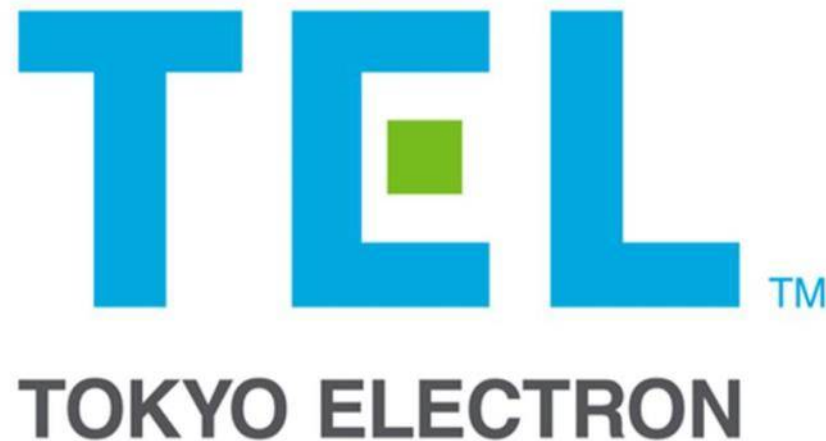


# Summary

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We strive to outperform market growth and enhance our corporate value

New Corporate Logo



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▶ **Disclaimer regarding forward-looking statement**

Forecast of TEL's performance and future prospects and other sort of information published are made based on information available at the time of publication. Actual performance and results may differ significantly from the forecast described here due to changes in various external and internal factors, including the economic situation, semiconductor/FPD/PV market conditions, intensification of sales competition, safety and product quality management, and intellectual property-related risks.

▶ **Processing of numbers**

For the amount listed, because fractions are rounded down, there may be the cases where the total for certain account titles does not correspond to the sum of the respective figures for account titles. Percentages are calculated using full amounts, before rounding.

▶ **Exchange Risk**

In principle, export sales of Tokyo Electron's mainstay semiconductor and FPD/PV panel production equipment are denominated in yen. While some settlements are denominated in dollars, exchange risk is hedged as forward exchange contracts are made individually at the time of booking. Accordingly, the effect of exchange rates on profits is negligible.

FPD/PV: Flat panel display/Photovoltaic