Infrastructure Systems & Solutions Company

Business Strategy

Shinichiro Akiba
Company President and CEO
Infrastructure Systems & Solutions Company
Representative Executive Officer
Corporate Senior Executive Vice President
Toshiba Corporation

July 6, 2016
Ⅰ． Company Overview

Ⅱ． Core Businesses

Ⅲ． Initiatives for Growth
Positioning of Infrastructure Systems & Solutions Company

Responsible for infrastructure business that sustains quality lives

Provide Numbers of Specific Important Customers with the best solutions in three business areas

- **Public Infrastructure**
  - Central government
  - Roads
  - Communication
  - Municipalities
  - Broadcasting
  - Finance

- **Buildings & Facilities**
  - Developers
  - General contractors & Sub contractors
  - Buildings & Facility owners

- **Industrial Systems**
  - Railways
  - Logistics
  - Chemicals
  - Automobiles
  - Machinery
  - Iron & steel, etc.

Infrastructure Systems & Solutions Company

FY2015 consolidated net sales

- Infrastructure Systems & Solutions Company: 1,354.6 billion yen
- Energy Systems & Solutions Company: 2,589.5 billion yen
- Storage & Electronic Device Solutions Company: 1,947.6 billion yen
- Industrial ICT Solutions Co.: 568.7 billion yen
- Toshiba TEC Corporation
- Toshiba Client Solutions Corp.
- Toshiba Image Solutions Corp.
- Others

FY2015 consolidated net sales

- 1,354.6 billion yen
- 2,589.5 billion yen
- 1,947.6 billion yen
- 568.7 billion yen
- 24%
- 28%
- 28%
- 20%

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Business Areas

Provide products and services based on strengths in each of the 3 business areas

Public Infrastructure

- Water Treatment Systems
  - No. 1 Share
  - 25%*
- Airport Substation
  - No. 1 Share
  - 70%*
- Multiplex Radio System
  - Share
  - 30%*
- Central Server System
  - No. 1 Share
  - 50%*

Broadcasting & Network Systems

- Digital Master System
  - No. 1 Share
  - 53%*

Buildings & Facilities

- Uninterruptible power supply systems
  - Share
  - 26%*
- Elevators
  - Share
  - 22%*
- Lighting Fixtures
  - Share
  - 20%*
- Postal Automation Systems
  - No. 1 Share
  - 70%*

Industrial Systems

- Permanent magnet synchronous electric motor (PMSM) system
  - Saving in energy consumption
  - 39%**
- Industrial Motors
  - No. 1 Share
  - 28%*
- Industrial Systems and Automotive Systems
- Battery Systems

* Share percentages are Toshiba estimates for the Japanese market
** Based on the results of field test with Toshiba PMSM and induction motors
*** HVAC: Heating, Ventilating, and air conditioning

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Organizational Structure

Our 12 businesses divisions

Infrastructure Systems & Solutions Company

<table>
<thead>
<tr>
<th>Business Division</th>
<th>FY2015 net sales (billion yen)</th>
<th>Net sales composition ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water and Environmental Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Systems</td>
<td></td>
<td></td>
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<tr>
<td>Radio Wave Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Security and Automation Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buildings &amp; Facilities Solutions</td>
<td>686.8</td>
<td>49%</td>
</tr>
<tr>
<td>Elevators</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lightning Fixtures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HVAC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Railway Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial Systems</td>
<td>343.7</td>
<td>24%</td>
</tr>
<tr>
<td>Automotive Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Battery Systems</td>
<td></td>
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</tr>
</tbody>
</table>

Public Infrastructure Business area: 374.6 billion yen (27%)
Major Bases in Japan

The HQ function in Kawasaki cooperates with plants and branch offices

Kawasaki Smart Community Center
Head office functions, sales, engineering

Fuchu Complex
Water and environmental systems, Substation equipment, Disaster communication systems, Broadcasting systems, Elevators, Railway systems and Locomotives

Komukai Complex
Automation equipment (mail-sorting machines, banknote inspection machines, public transportation equipment), Radio wave systems, Highway systems

Mie Operations
Motors and inverters, Small and medium-sized transformers

Kashiwazaki Operations
Rechargeable batteries (SCiB)

Fuji Operations
Air-conditioning and heat source equipment

Kanuma Operations
Lighting Fixtures

* Other plants not shown above: Uenohara, Himeji, Yokosuka, Numazu, Imabari, and Tsuyama

Domestic branches and sales offices
Toshiba Corporation 41 locations, Toshiba Elevator and Building Systems 164 locations, Toshiba Lighting & Technology 75 locations, Toshiba Carrier 40 locations

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Overseas Subsidiaries

Take advantage of the overseas branch network to accelerate global growth

Subsidiaries: Japan 55; Overseas 79 (18 countries)
Employees: Japan 28,000; Overseas 15,000
Overseas sales ratio 27%

Photos of Major Global Manufacturing Sites

* EPC: Engineering, Procurement and Construction
Business Objectives and Core Competencies

Contribute to the customers who support society and industry with our technology platforms and adaptability to customers

What we aim for

Support the growth and evolution of our customers across a wide range of areas where high reliability and strong involvement with the public is required

Public Infrastructure    Buildings & Facilities    Industrial Systems

Technology Platforms

Technology platforms and core products
Monitoring Control, Power Electronics, Mechatronics and Image Processing, Wireless Communications, Heat Pumps, Lighting Controls and Batteries, Motors, Inverters, Transformers, Switchgear, and Others

Accumulation of fundamental technologies by plants
1936~ Yanagicho Plant*
1937~ Komukai Complex
1940~ Fuchu Complex

Adaptability to customers

Familiarity with customer businesses and problem solving
Be familiar with the customer's business and business operations, discover customer problems, build solutions to solve those problems, and provide a total service from development and manufacturing through to construction and maintenance

Number of specific important customers (9,000 companies)
Over a long period of time, teams of sales and sales engineers have built direct relationships with numbers of specific important customers, and work with them from initial negotiations through to construction and maintenance

* Yanagicho plant was transferred to Komukai Complex in 2005
Development of “Spiral Life Cycle Business”

By continually providing services that increase the value of our customers' core businesses, ensure that Toshiba products and systems are applied repeatedly and more widely for long periods of time, and develop “Spiral Life Cycle Business”

New solutions proposals

- Optimization of controls
- Business process improvements
- Solutions to problems

Energy-saving and labor saving
- Cost reductions
- Safety and peace of mind

IoT packages to increase the value of our customers’ core businesses

- Simulation analysis
- Analysis engine input
- Sensor information

Process modelling for Numbers of Specific Important Customers

Business knowledge learned from the customer

Equipment knowledge accumulated by Toshiba
# Results and Plan

**FY16**: Net sales of 1,340 billion yen, Operating income of 51 billion yen and a ROS of 3.8%

<table>
<thead>
<tr>
<th></th>
<th>FY15 Results</th>
<th>FY16 Forecast</th>
<th>YoY change</th>
<th>FY18 Provisional Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net Sales</strong> (Unit: 100 million yen)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Infrastructure</td>
<td>3,746</td>
<td>3,623</td>
<td>▲ 123</td>
<td></td>
</tr>
<tr>
<td>Buildings &amp; Facilities</td>
<td>6,868</td>
<td>6,799</td>
<td>▲ 69</td>
<td></td>
</tr>
<tr>
<td>Industrial Systems</td>
<td>3,437</td>
<td>3,403</td>
<td>▲ 34</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>13,546</td>
<td>13,400</td>
<td>▲ 146</td>
<td>14,200</td>
</tr>
<tr>
<td><strong>Operating Income</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Infrastructure</td>
<td>103</td>
<td>208</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>Buildings &amp; Facilities</td>
<td>▲ 27</td>
<td>252</td>
<td>279</td>
<td></td>
</tr>
<tr>
<td>Industrial Systems</td>
<td>▲ 150</td>
<td>50</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>▲ 74</td>
<td>510</td>
<td>584</td>
<td>320</td>
</tr>
<tr>
<td>Operating income margin</td>
<td>▲ 0.5%</td>
<td>3.8%</td>
<td></td>
<td>2.3%</td>
</tr>
<tr>
<td><strong>FCF</strong></td>
<td>1,446</td>
<td>▲ 180</td>
<td></td>
<td>190</td>
</tr>
</tbody>
</table>

* Net sales totals include internal write-offs and adjustments
Recognized the costs of FY15 asset write-downs, provisions for unprofitable projects and structural reforms, and realize a V-shaped recovery in FY16

(Unit: 100 million yen)

<table>
<thead>
<tr>
<th>FY15 One time factors</th>
<th>FY15 results excluding one time factors</th>
<th>FY16 forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impairment Lighting Fixtures</td>
<td>▲ 74</td>
<td>510</td>
</tr>
<tr>
<td>Provision for unprofitable projects</td>
<td>▲ 74</td>
<td></td>
</tr>
<tr>
<td>Asset Write-off</td>
<td>175</td>
<td></td>
</tr>
<tr>
<td>Inventory Write-off</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>Structural reforms</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Radio wave systems, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impairment Lighting Fixtures</td>
<td>185</td>
<td></td>
</tr>
<tr>
<td>Railway systems, etc.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Ⅰ．Company Overview

Ⅱ．Core Business

Ⅲ．Initiatives for Growth
Water Systems (1/2): Business Overview

Expand the EPC*1 and O&M*2 businesses for water treatment plants with monitoring and control technologies

Products and Services Overview

- Substation systems
- Monitoring control systems
- Water treatment systems
- Sludge drying systems
- O&M services

Major Accomplishments

Japanese water and sewerage plants: More than 1000 locations
Overseas water treatment facilities: More than 700 locations

*1 EPC: Engineering, Procurement, Construction
*2 O&M: Operation, Maintenance
*3 MMID: Megalopolis Manunggal Industrial Development (management company)
*4 B-DASH: Breakthrough by Dynamic Approach in Sewage High Technology Project
*5 ADG: Anaerobic Digester Gas
Water Systems (2/2): Business strategy

Japan : Expand service business by strengthening the revenue base in the replacement market
Overseas : Accelerate the business by leveraging the strength of Toshiba and local subsidiaries in the targeted market

Market environment

Japan
Replacement demand in the facilities construction market is key
Private commissions are expanding due to Municipalities financial difficulties and a lack of engineers

Overseas
Water environment improvement is active in areas that are industrializing and have growing population

Targeted markets and Fighting fields

<table>
<thead>
<tr>
<th>EPC</th>
<th>Japan</th>
<th>Asia (including India)</th>
<th>Middle East, Central and South America</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get Replacement Orders</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Toshiba

<table>
<thead>
<tr>
<th>Maintenanc e, O&amp;M</th>
<th>Japan</th>
<th>Asia (including India)</th>
<th>Middle East, Central and South America</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strengthen O&amp;M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultivate Maintenance &amp; O&amp;M businesses</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Develop Maintenance systems

FY2016 Priority Measures

Japan : Strengthen the revenue base, expand service business

- Ensure stable revenues through replacement orders
- Expand service business supporting customers’ needs to operate efficiently over a wider area, by unifying monitoring control systems and know-how from O&M with ICT*1

*1 ICT : Information and communication Technology

Overseas : Expand the business in the targeted markets with local subsidiaries as the core

- Cultivate the water and sewerage treatment business by unifying resources and the experience of subsidiaries with Toshiba’s technology and project experiences
- Expand the EPC services businesses With the experience of the Indian subsidiary and its global operation network

Overseas subsidiaries
India: UEM India Private Limited
Indonesia: PT. Envitech Perkasa
Elevators (1/2): Business Overview

Create safe, secure and comfortable moving spaces through reliable technologies and high quality

**New construction of elevators and escalators; renewal and maintenance; building energy-saving services**

**Products and Services Overview**

- **Order type Elevator**
  - Apply high efficiency gearless traction machine
- **Standard Elevator**
  - Industry’s first no-gap threshold
- **Escalator**
  - Apply soft material in step leading edge for safety
- **Maintenance service**
  - Advanced maintenance systems by latest ICT
- **Service information center**

**Major Accomplishments**

**FY2015 overseas sales ratio: 43%**

**Taipei 101**
- World's fastest class high speed elevator
- 12-year accident free operation
- 61 elevators installed (Including 2 ultra high speed elevators)

**Shanghai World Financial Center**
- 11 elevators installed (3 ultra-high speed elevators and 8 double deck elevators)

**Tokyo Sky Tree ®**
- Longest travel distance in Japan (464m)
- 6 elevators installed (Including 4 ultra high speed elevators)

**Abeno Harukas**
- Tallest high-rise building in Japan
- 29 elevators installed (Including 22 high speed elevators)

**UAE-Damac Towers**
- 38 elevators for installed (of which: 34 high speed elevators)
  (installation in early 2017)

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  (installation in early 2017)
Elevators (2/2): Business Overview

Generate profit by high quality maintenance services for maintenance stock, which is created by new construction and renewal projects in the Japanese, Chinese, Indian, Southeast Asian and Middle Eastern markets.

<table>
<thead>
<tr>
<th>Market Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
</tr>
<tr>
<td>Expanding new construction market by urban redevelopment and increasing renewal market</td>
</tr>
<tr>
<td>China</td>
</tr>
<tr>
<td>Despite squeezing in overall market, affordable housing, office and commercial facilities segments are growing</td>
</tr>
<tr>
<td>India</td>
</tr>
<tr>
<td>In addition to the high-end segment, continue growth in middle-upper segment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Targeted markets and Fighting fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Mature</td>
</tr>
<tr>
<td>2 Japanese competitors</td>
</tr>
</tbody>
</table>

FY2016 Priority Measures

Japan: Expand new constructions and strengthen field services
- Expand new construction share by new model SPACEL-GR II introduction
- Maximize customer benefit by proposing maintenance and renewal services and developing new ICT / IoT products

Overseas: Expand business in growing markets
- China: Focus on offices and commercial facilities and strengthen field service operations (call center, parts center and remote monitoring system)*
- India: Enter into the middle upper segment with the introduction of local-fit products through collaboration with Johnson Lifts Limited

< Realize Spiral stock business model in overseas markets >

1. Installation
2. Free maintenance/ Commercial Maintenance/ Refurbishment
3. Renewal control system/ Full renewal
4. Commercial Maintenance
5. Scrap & build/ Win order

* Shanghai Parts Center start operation in January 2016, Call center went into full-scale operation in April 2015
HVAC (1/2): Business Overview

By heat pump technology*, provide environmentally friendly and energy saving products

Products and Services Overview

- Chiller & heat source systems
- Air-conditioning for shops & offices
- Multi-air-conditioning units for buildings
- Ventilation fans and ventilation systems
- Water heaters (Eco Cute)
- Home & central air conditioners
- Cold-chain equipment
- Compressors
- Air conditioning equipment for trains

Major Accomplishments

FY2015 overseas sales ratio: 51%

"Hangzhou Bafang Castle City Comprehensive System" (China)
3,790 units
Multi-air-conditioning unit

HAYDARPAŞA PALACE HOTEL (Turkey)
180 units
Multi-air-conditioning unit

“M3M Woodshire” (India)
5,426 units
Home air-conditioning unit

Station building heat source equipment replacement (Kyoto)
28 units
Chiller

2015 Energy Conservation Award

Twin rotary A3 series
Twin rotary A4 series
Compressors

* Heat pump: energy-saving technology that uses thermal energy in the air to obtain a large amount of heat energy with a small energy input. It is mainly used for air conditioning, and to supply hot and cold water. In Japan it was positioned as a renewable energy in 2009.
# HVAC (2/2): Business Overview

Accelerate growth through Carrier Corporation’s sales network in over 150 countries, and strengthen the Japanese B2B business

## Market Environment

<table>
<thead>
<tr>
<th>Country</th>
<th>Market Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>Continue renewal demand for energy saving and low CO2 emissions equipment</td>
</tr>
<tr>
<td>America</td>
<td>Grow ductless air-conditioning market</td>
</tr>
<tr>
<td>Asia</td>
<td>Continue market growth</td>
</tr>
<tr>
<td>China</td>
<td>Decelerate growth but huge market size</td>
</tr>
<tr>
<td>India</td>
<td>Steady growth</td>
</tr>
</tbody>
</table>

## FY2016 Priority Measures

### Japan: Growth in new areas
- Acquire replacement demand from combustion-type heat sources (utilize superiority in energy saving and environmental-friendliness) by strengthening cooperation with energy companies
- Strengthen further product competitiveness for heat pump chillers, which we have No.1 share
- Propose one stop proposal to multi-store chains (retail and restaurant) by our air-conditioning and showcase products

### Overseas: Strengthen business operation by strategic investment for growth
- Found Sales Engineering Center (SEC) in Europe and US. Marketing, Development for local-fit product and spec-in activities by sales engineering
- Accelerate growth by expanding the dedicated sales network of Toshiba HVAC business in China

## Targeted markets and Fighting fields

<table>
<thead>
<tr>
<th></th>
<th>Japan</th>
<th>China</th>
<th>Southeast Asia</th>
<th>India</th>
<th>EU &amp; US</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2B</td>
<td>Toshiba Carrier</td>
<td>Strengthen cooperation with distributors</td>
<td>Strengthen sales network</td>
<td>SEC: marketing Product development spec-in activity</td>
<td>US Carrier Corporation sales network</td>
</tr>
<tr>
<td>B2C</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

* India SEC is under discussion
Railway Systems (1/2): Business Overview

Provide competitive core components and maintenance services for railway rolling stocks over the long term

Products and Services Overview

- AC-DC drive systems
- Power supply systems
- Air-conditioning systems
- Battery systems
- Locomotives
- Information systems and signalling systems
- Power supply systems
- Information systems, the station service systems*1

Major Accomplishments

Orders won for PMSM*2 in Japan and Overseas in FY15

H5 Bullet Train*4 vehicle electrical products

N700A Bullet Train vehicle electrical products

Hankyu Railway 1000 series electrical products

Bangkok Purple Line FTK (Full Turn Key)

Singapore SMRT (Singapore mass rapid transit)

Electrical components of China Electric locomotives

JR Freight railway company Hybrid replacement locomotives

*1: Station service systems (automatic ticket gates, automatic ticket machines, etc.) are Security and Automation Systems Division products
*2: Permanent Magnet Synchronous Motor
## Railway Systems (2/2): Business Overview

Cultivate new customers and enter new markets with energy saving, local-fit products and refurbishment as the core

### Market Environment

- Progress in industry alliances
- Renew aging stock to operate on existing infrastructure

### Targeted markets and Fighting fields

<table>
<thead>
<tr>
<th>Rolling stock</th>
<th>Electrical products</th>
<th>Operating systems</th>
<th>New services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leading systems integrators</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overseas: Company A, B, C &amp; D</td>
<td></td>
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</tr>
<tr>
<td>Japan: Company A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rolling stock makers</td>
<td>Parts makers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan: Company B</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Toshiba manufactures locomotives only)

### FY2016 Priority Measures

- Secure stable profits by promoting energy saving, such as PMSM systems in Japan

- Enter the Indian market with local-fit products by launching an India manufacturing base in FY2016

- Strengthen the refurbishing business by upgrading electrical products in existing trains to increase life of rolling stock, reduce life cycle costs, and propose performance improvements

  - Strengthen direct distribution routes with railway operators and aim to win orders for new rolling stock
  - Develop the business with JV "Railise", cooperate with railway operator Singapore SMRT
  - Respond to the refurbishment of locomotives and enter the EU market

- As new services, provide energy regeneration system and storage of electricity solution which allow to continue service during power outage

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**Railway Vehicle Hybrids & Regenerated Electrical Power Storage Solutions (Automotive & TESS*)**

- **Traction Energy Storage System** (a system that stores the power when an a railway vehicle brakes, and uses it on adjacent accelerating train)

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Battery Systems (1/2): Business Overview

Provide rechargeable batteries that are outstanding in high output, long service life, low-temperature performance and safety

Products and Services Overview

Toshiba SCiB:
A lithium-ion rechargeable battery (LIB) that uses lithium titanate (LTO) in the negative electrode

- High output: Can absorb and output high current
- Long service life: Service life over 15k cycles
- Low-temperature performance: Can be used in cold climates (-30 ℃)
- Safe: Less prone to rupture or catch fire

Major Accomplishments

Battery cell caused market failure accident track record of zero (below 0.1 ppm)

Suzuki: ENE Charge, S-ENE CHARGE, Mild Hybrid for use on-board vehicles
Van Hool EV Tram-buses
Operating in more than 10 EU cities

Tohoku Electric Power
Minami Soma substation supply and demand balance improved by storage battery system

Tokyo Subway
Ginza Line

Tokyo University of Marine Science and Technology
Electric propulsion ship

* Idling stop system
**Battery Systems (2/2): Business Overview**

Expand the battery cell module system into areas where stringent specification are required with a focus on automotive and industrial applications, taking advantage of top-class high input-output characteristics and long service life.

### Market Environment

- ISS, China EV bus and EU PHEV demand is growing with the tailwind of automotive environmental regulations.
- Industry demand is expanding due to replacements of lead batteries.
- Demand in railways and power generation is growing due to environmental factors.

### Targeted markets and Fighting fields

- **Charging time**
  - SCiB: 1 minute
  - LIB: 30 minutes
  - Lead: 10 hours

### FY2016 Priority Measures

#### High input / output type
- 3~10Ah
  - Take advantage of small size and ultra high-speed energy regenerating capacity to incorporate the growing automotive market (ISS, micro HEV) and expand scale.

#### High capacity type
- 20Ah~
  - Expand business for Automotive (EV bus) and auto conveyors which match with SCiB advantage such as commercial use and short charge times.
  - Products which is required to guaranteed long-term use over several decades, such as Electric power peak shift and Household storage batteries.
    - For automotive (EV buses), railways, industry, and power systems.
  - Apply to other in-house businesses and increase competitiveness.
    - Batteries for power, railways, elevators, households, etc.

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The charging time is the time it takes to charge 80% given a continuous rated input current.

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Ⅰ． Company Overview

Ⅱ． Core Business

Ⅲ． Initiatives for Growth
# The Middle and Long-term initiative

Take opportunities in middle and long-term mega trends and in market needs

## Mega Trends by 2025

<table>
<thead>
<tr>
<th>Climate Resources Population</th>
<th>Toshiba’s initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global warming, Stricter environmental regulations and Increase renewable energy</td>
<td>Respond to the risk of climate change and resource depletion</td>
</tr>
<tr>
<td>Climate change and Increase extreme weather</td>
<td>● Storage battery systems for electric power systems</td>
</tr>
<tr>
<td>Emerging countries: Population growth, Water and food shortages</td>
<td>● Disaster prevention solutions</td>
</tr>
<tr>
<td>Developed countries: Population aging and Labour shortages</td>
<td>● Water and environmental solutions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Urban areas</th>
<th>Contribute to create comfortable urban environment by upgrading and renewing aging infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emerging countries: Progress in rapid urbanization</td>
<td>● Elevators, HVAC, lighting fixtures and power substations</td>
</tr>
<tr>
<td>Developed countries: Increase aging infrastructure (railways, roads, water supply, etc.)</td>
<td>● Water and highway equipment</td>
</tr>
<tr>
<td>Japan: Progress in large-scale urban re-development projects</td>
<td>● Railway refurbishing</td>
</tr>
<tr>
<td>• Takeshiba district • Toranomon area • Tokyo station area • Shibuya Station area • Shinagawa Station area • Tokyo Olympic Games</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Industry</th>
<th>Contribute to energy conservation and efficiency improvement by the technology of power electronics, storage batteries and mechatronics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progress in energy saving in production facilities and building equipment</td>
<td>● High efficiency motors and inverters</td>
</tr>
<tr>
<td>Automotive: Environmental regulations and shift to electric powertrain</td>
<td>● High efficiency batteries for automotives</td>
</tr>
<tr>
<td>Logistics: Increase in quantity of small packages carried due to the e-commerce growth</td>
<td>● Postal and logistics solutions</td>
</tr>
</tbody>
</table>
Creation of new business opportunities
Continuously provide new solutions to improve the value of the customers' core business

**Building solutions case study**

**Smart BEMS*1**
Advanced environmentally friendly office building built in the Lazona Kawasaki district. Introduction of Toshiba "Smart Community Center"

- Building overall energy-saving rate: 35.2%
- Comfortable air-conditioning with energy saving controls
  - Air-conditioning power in summer: 15.9% reduction *2
  - Air conditioning power in winter: 13.1% reduction *2
- Image sensor applications
  - Lighting control
  - Electric light power: 12.8% reduction *2
- BCP*3 response systems
  - With load capacity controlled emergency generators (1,500kVA × 2), about 3 days power supply
- Improve building asset value
  - Improve both comforts and energy savings
  - Maximize continuance of energy supply in the event of a disaster

**Disaster prevention solutions case study**

**Phased Array Weather Radar**
As part of the Cabinet Office “Strategic innovation Creation Program” (SIP), implementing a demonstration project in cooperation with the National Institute of Information and Communications Technology, and Osaka University, etc.

- Wide range high-speed observations
  - Conventional observation space (radius 60km, height 15km)
  - Observation time: 30 seconds, conventional ratio* 1/20
  - With load capacity controlled emergency generators (1,500kVA × 2), about 3 days power supply
- Detects sudden heavy rain about 30 Minutes before it falls

- Ensure the safety and security of people
  - Improve the prediction accuracy and shorten time needed to observe weather
  - Guide people in accurate and quick evacuation

*1 BEMS: Building Energy Management System
*2 Value based on the Toshiba Smart Community Center demonstration project
*3 BCP: Business Continuity Plan
Investment for Growth

Optimize the allocation of business resources to the core businesses

FY16 plan

- **Sales**
  - 5 core businesses
  - 52% of sales
  - 48% of sales

- **Capital investment**
  - 28% of capital investment
  - 72% of capital investment

- **Research and development expense**
  - 32% of research and development expense
  - 68% of research and development expense

**Develop Advanced Water Solutions**
- Technologies of water treatment, energy-saving and energy creation

**Strengthen Elevator Field Business Operations**
- Expand remote monitoring maintenance system (China)

**HEVC**
- New Product development
  - New model production equipment (New product for Overseas / B2B in Japan)

**Develop Energy-saving Solutions for Railways**
- Regenerative power storage Railway hybrid system

**Increase Production capacity for SCiB Rechargeable Batteries**
- Invest in mass production line at Kashiwazaki Operations
Global Growth Strategy and Key Businesses

Generate steady profit in the US, China and Southeast Asia where we have business foundations; Expand business in the growth markets of India and Middle East

Europe
- HVAC: Found SEC and strengthen product development and sales

China
- Elevators: Strengthen field service operations by introducing remote monitoring system, etc.
- HVAC: Expand sales network
- Railway systems: Acquire refurbish demand for aging locomotives

Americas
- Industrial systems*: In addition to the oil and gas markets, where we are strong, expand into water, sewerage and mining markets
- Automotive systems: Increase production of motors for HEV
- HVAC: Found SEC and strengthen product development and sales

India & Middle East
- Water treatment systems: Expand water business for the public and industry through UEM
- HVAC: Consider establishment of India production base
- Elevators: Increase share through introduction of local-fit strategic products from TJEI*
- Railway systems: Establish manufacturing base at TTDI*

Southeast Asia
- Elevators: Expand new installations as the stock for future service business in growing countries
- HVAC: Expand product line-up
- Railway systems: Expand business through partnership with Singapore SMRT

Overseas sales ratio 27% (FY15 result) → 36% (FY18 plan)
Contribute to the Future of People and the Globe by Realizing Sustainable Society with Safety, Security and Reliability through Our Solutions for Social & Industrial Infrastructure and Buildings Facilities in all over the world.
This presentation contains forward-looking statements concerning future plans, strategies and performance of Toshiba Group.

These forward-looking statements are not historical facts, rather they are based on management’s assumptions and beliefs in light of the economic, financial and other data currently available.

Since Toshiba Group promotes business in various market environments in many countries and regions, its activities are subject to a number of risks and uncertainties that, without limitation, relate to economic conditions, worldwide mega-competition in the electronics business, customer demand, foreign currency exchange rates, tax rules, regulations and other factors. Toshiba therefore wishes to caution readers that actual results might differ materially from our expectations.

Toshiba’s fiscal year (FY) runs from April 1 to March 31. All figures are consolidated totals for the 12 months, unless otherwise indicated.