FY2016 - 2018 Mid-term Business Plan
“Dash 25”

April 20, 2016
YASKAWA ELECTRIC CORPORATION

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Long-term Business Plan “Vision 2025”

Offer a new value to society through fusion of core technology advancement and open innovation

**Our Goal**

**Respect Life**
We aim to contribute to improving quality of life and building a sustainable society with technologies accumulated over the past century.

**Empower Innovation**
We venture in new technologies/domains/targets to bring “Waku-Waku”*¹ excitement to people.

**Deliver Results**
We promise to deliver assured results to stakeholders, while continuously enhancing business execution capabilities.

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**Our Business Domains**

**Mechatronics**
Achieve revolutionary industrial automation, through combination of world’s leading edge technologies and open innovation.

**Clean Power**
Provide safe and secure living in a sustainable society.

**Humatronics***²
Create a society where people’s capabilities are maximized, through the application of mechatronics technology to medical/welfare segment.

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*¹ “Waku-Waku”: Onomatopoeia used in Japanese language to express someone’s feeling of enthusiasm

*² Humatronics: Term coined to denote a cross of Human and Mechatronics
Positioning of Mid-term Business Plan “Dash 25”

Leading start to achieve YASKAWA’s “Vision 2025”

<table>
<thead>
<tr>
<th></th>
<th>Dash 25</th>
<th>Challenge 25</th>
<th>Realize 25</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Establish profitable business structure</td>
<td>Challenge to create new value and market</td>
<td>Realize “Vision 2025”</td>
</tr>
</tbody>
</table>

Net Sales

Operating Income

<table>
<thead>
<tr>
<th>Year</th>
<th>Net Sales (100MJPY)</th>
<th>Operating Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>4,113</td>
<td>367</td>
</tr>
<tr>
<td>2016</td>
<td>4,500</td>
<td>450</td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td></td>
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<tr>
<td>2019</td>
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<tr>
<td>2020</td>
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<td>2021</td>
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<td>2022</td>
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<td>2023</td>
<td></td>
<td></td>
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<tr>
<td>2024</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2025 (FY)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Overview of Mid-term Business Plan “Dash 25”

- Operating Income 10%
- Net Sales 450BJPY
- Revenue from New Businesses 40BJPY

Maximize results of “Realize 100”*¹
Build foundation for realizing “Vision 2025”
Grow Clean Power as core business

Evolve “Glocal” *² management

*¹ Realize 100: Previous Mid-term business plan for FY2013-15
*² Glocal management: Management style defined by both a global management mindset and best local support capabilities anywhere in the world
Net Sales and Operating Income Goals

Aim to achieve operating income ratio of 10% in FY2018

<table>
<thead>
<tr>
<th>(100MJPY)</th>
<th>FY2015 Actual</th>
<th>FY2018 Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Sales</td>
<td>4,113</td>
<td>4,500</td>
</tr>
<tr>
<td>(From New Businesses)</td>
<td>203</td>
<td>400</td>
</tr>
<tr>
<td>Operating Income</td>
<td>367</td>
<td>450</td>
</tr>
<tr>
<td>Operating Income Ratio</td>
<td>8.9%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Exchange rate</td>
<td>1USD = 121JPY, 1EUR = 133JPY</td>
<td>1USD = 110JPY, 1EUR = 125JPY</td>
</tr>
</tbody>
</table>
## Net Sales Breakdown by Business Segment

<table>
<thead>
<tr>
<th>Business Segment</th>
<th>FY2015 Actual (100MJPY)</th>
<th>FY2018 Plan (100MJPY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motion Control</td>
<td>1,875</td>
<td>2,100</td>
</tr>
<tr>
<td>Robotics</td>
<td>1,541</td>
<td>1,700</td>
</tr>
<tr>
<td>System Engineering</td>
<td>431</td>
<td>500</td>
</tr>
<tr>
<td>Other</td>
<td>266</td>
<td>200</td>
</tr>
</tbody>
</table>

**Exchange rate**

- 1 USD = 121 JPY
- 1 EUR = 133 JPY

- 1 USD = 110 JPY
- 1 EUR = 125 JPY
Goals to Improve Capital Efficiency

Improve ROE through increased shareholder returns and profit

<table>
<thead>
<tr>
<th></th>
<th>FY2015 Actual</th>
<th>FY2018 Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROE</td>
<td>12.8%</td>
<td>13% or more</td>
</tr>
<tr>
<td>Dividend Payout Ratio</td>
<td>23.6%</td>
<td>27%</td>
</tr>
</tbody>
</table>

**FY2016-18 Investment**
- Cumulative total: 80BJPY (6.3% of net sales)
  - of which, capital investment: 50BJPY
  - of which, M&A investment: 30BJPY
Main Policy (1): Maximize Results of “Realize 100”

Establish highly profitable business structure by maximizing return on investments in “Realize 100” and release of new products.

- Development/Release of New Products
  - Line-up expansion of Σ-7 Series
  - Next drive series “Zero Series”
  - New model robot & controller

- Tetrapolar development
- Return on investment
- Robot Village "Glocal" production
- M&A
- Robot center
Creating Profits from Investments in “Realize 100” (R&D)

Fast expansion of product portfolio in individual market/region through “Glocal” development

- Outcomes from “Realize 100”
  - Tetrapolar development structure established in Motion control (servo and drive) division
  - Local development framework built in China and India, in addition to EUR/USA
  - Reinforced development resource through M&A (VIPA, Solectria, The Switch)

Initiatives for Dash 25

Efficient product development through optimal assignation of R&D function

- Shorten new product development time
- EUR/USA/CHN: Customized products, IND: Software
- Optimal HR reallocation to “Based technology development” in Japan

Global product development in new business fields

- Develop module package for wind power converter
- Launch of global string-type Photovoltaic (PV) inverter
- Develop and release of 690V drive
Creating Profits from Investments in “Realize 100” (Production)

Speed-up of customer response through promoting
a) Automation, b) Flexible production, and c) Optimal local production

◆ Outcomes from “Realize 100”
  • Global production/procurement strengthened to increase profitability
  • Increased production/local service capability, through Changzhou/Japan No.3 Robot factory operation
  • Increased overseas production ratio through strengthened servo production at Shenyang

Initiatives for Dash 25

Promotion of automation
◆ Evolve in-house automated factory for next-generation products
  • Enhance efficiency through introduction of automated production line
  • Establish automated in-house BTO* model line

Flexible production
◆ Establish next-generation production system
  • Build a global supply chain management system and strengthen coordination of entire supply chain
  • Promote in-house production of core parts to optimize global parts supply
  • Flexible production with ICT technology and new automation equipment

Optimal local production
◆ Realize optimal production framework
  • Servo: Production at site of demand in EUR/USA
  • Drive: Flexible production shift among JP, CHN, and ASEAN
  • Robotics: Third production site (after Japan/China) under consideration

* BTO = Built to order
Creating Profits from Investments in “Realize 100” (Sales)

Formulate an optimized and strong sales system that will fit business strategies in accordance with region, market, customer

- Outcomes from “Realize 100”
  - Increased further 13 Robot Centers (36 Centers in total globally)
  - Established sales network in Europe and India through YASKAWA’s sales channel
  - Expanded sales network from VIPA, Solectria, and The Switch
  - Reinforced sales back office function in Japan

Initiatives for Dash 25

- Link up with relevant and strong SIers and other partners in individual region to expand sales channel
- Development of sales back office function
  ⇒ To strengthen and raise the level of sales team and distributors
- Shift to application/solution based proposition
- Access machine builders through YASKAWA’s sales channel
- Maximize synergy with VIPA, Solectria, and The Switch
  ⇒ Expand achievements in The Americas and Europe to other regions
- Strengthen service business by utilizing cloud data
Expand Sales and Improve Profitability by Releasing New Products

**Realize 100**

**Dash 25**

Expand Line-up of Σ-7 Series

Zero Series

New Model of Robot & Controller

**Features**

- High functionality/High accuracy
- Easy-to-use
- Products with enhanced functions in individual application
- High performance/Downsizing
- Easy-to-use

**Measures to expand sales**

**[Servo & Controller]**

Business expansion and promotion of Σ-7 Series through differentiated functions and solution orientated proposals

**[Drive]**

Launch of new products with added value to individual application in target segment

**[Robotics]**

Raise customer satisfaction level through release of strengthened robot series and increase revenue/profitability
Main Policy (2): Build Foundation for Realizing “Vision 2025”

Conduct new preparative approach in core business fields, as well as challenging in new business field/business model.

New Preparative Approach to be World No.1 in Core Segment

Challenge in New Business Field/Business Model

Expansion of Core Business Segment

YASKAWA’s Industrie 4.0 Concept

New Automation Equipment

Automation of “Food” Production

Medical and Welfare Segment

OPEN INNOVATION
Expansion of Core Business Segment

**Servo**

- "Robotics Solution" that can realize customers automation needs
- Total-solution proposals for customer’s equipment/machine

**Drive**

- Release of 690V Series to capture target market
- New development team to promote preceding elemental technologies

**Robot**

- Expansion of robot application through "Collaborative Robot" concept
- New initiatives for robot system business

Component Enhancement + IoT/Cloud Service
Realizing YASKAWA’s Industrie 4.0 Concept

Achievement from BTO

- Flexible production (Variable type/quantity production, Optimal production allocation)
- Improved operational efficiency
- Shortened delivery time
- Stock reduction

Market growth

Advance in YASKAWA’s BTO production line

External sales of advanced components

New product/technology development of advanced component

Apply to customer
(Take in customer needs, figure out insufficient technology)

Create BTO automated production line in YASKAWA’s factory

Automation component
Component from outside
YASKAWA’s component

New production technology
Revolutionary production technology
Advanced IoT technology

Open Innovation

Customer

YASKAWA
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Realize next-generation production equipment with new flexible automation system, consisting of components compatible to BTO

Integration of automation component and ICT for a “Visible” and “Network Connected” interactive equipment

- Use of AI
- Teaching-less

Big data analysis (Intelligence server)

External cloud system

Manufacturing record

Production plan

3D Multi-Carrier Module

Component/Function to support automation

Open Innovation

Contact-less Power Supply/Transmission

Vision Sensor

In-house optimized component

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Approach the “Food” industry with YASKAWA’s unique automation solution technology

Destabilization of agricultural production / Decrease in working population due to aging population and lower birth rates
⇒ Business challenge in Food Production Industry to secure “raw materials” and “employees”

Primary Industry
- Expansion of elemental technology
  - Cultivation control technology
  - Automated harvest

Secondary Industry
- Food production process
  - Wash/Sterilize
  - Processing/Preparation
  - Loading/Layout
  - Packing/Shipping

Collaborative production line with Human and Robot

From upper stream → From lower stream
Medical and Welfare Segment

**CoCoroe Product Portfolio**
- Lower Limb Training Equip.
- Ankle Assist Equip.
- Upper Limb Training Equip.
- Transfer Assist Equip.
- Walking Assist Equip. “ReWalk”
- Biomedical Robot

**Sales Strategy**
Release of products by clarifying the business model in Medical/Welfare fields, mainly for Rehab/Nursing centers in Japan & Asia, with a view to establishing the CoCoroe brand

- Automation of experiments: ⇒ Startup of commissioned experiment business
- Preparation of anticancer drug: ⇒ Buildup of clinical testing data
- Automation of cell culture process

**Utilization of Open Innovation**
- Expand product portfolio of components for Humatronics Device
- Acquire low-cost production and sales know-how through alliances
- Accelerate commercialization by alliance with Government/Academia

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Main Policy (3) : Grow Clean Power into Core Business

Global development of Energy “Creation” and “Application” business fields, to be recognized as an emerging pillar of YASKAWA’s business.
Global Development of Energy “Creation” and “Application”

PV Inverter
- Japan: Release of new product to increase share in industrial market & Increase revenue with GaN* PV inverter in residential market
- The Americas: Solectria’s string-type PV inverter to raise competitiveness and increase profitability
- Emerging Countries: Expand sales in South America and Asia with sales network from core business

Electric Storage Converter
- Develop converter for electric storage use in Japan, in order to expand application fields in PV inverter business
  - Residential application: Hybrid PV system
  - Industrial application: Expand product capacity range & Global expansion

Large Wind Power Generation
- Joint development of new converter with The Switch to gain new big accounts in Europe/China/Japan
- Establish business with wind turbine companies that self-manufacture converter
- Expansion of business field through alliance
- Create global mass-production system

Electric Drivetrain System
- Enter Chinese Market of electric component business for EV system with high growth potential
- Enter Japanese high-end market, using experience from Chinese market
- Develop to other application

Maximize Synergy with Solectria
*GaN: Gallium nitride

Maximize Synergy with The Switch

*PV Inverter Large Wind Power Generation

Electric Storage Converter

Electric Drivetrain System
## Evolve “Glocal” Management

### Reinforcement of organizational and individual capabilities globally

#### Organizational Capabilities

**Global HQ Function**
- Promote optimization of corporate-wide operation
- Strengthen strategic HQ function
- Corporate venture system (creation of new business)

**Area Management**
- The Americas/Europe: Establish operating structure that cross over business segments
- Japan/China: Establish sales platform that cross over business segments

**Business Management**
- Transfer part of center function to local, especially in the field of new business

#### Individual Capabilities

**Strategic Global HR**
- Strengthen strategic global HR function

**Attractive Work Environment**
- Installation of new HR system in order to realize work-life balance for all employees

**Diversity Promotion**
- Formulation of corporate culture that can leverage female employee’s strengths

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