RENESAS GROWTH STRATEGY
TO BECOME #1 IN FOCUSED INDUSTRIES

September 13, 2016
SHIFT FROM STRUCTURAL REFORM TO GROWTH STAGE

Drastic Structural Reform

Reframe Business
Strategic Shift
Focused Investment

Consistent Strategically Focused Investment

<table>
<thead>
<tr>
<th></th>
<th>FY12</th>
<th>FY15</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue from Core Business</td>
<td>65%</td>
<td>91%</td>
<td>+ 25 pts</td>
</tr>
<tr>
<td>Revenue from Auto + Industrial</td>
<td>55%</td>
<td>70%</td>
<td>+ 15 pts</td>
</tr>
<tr>
<td>Operating Margin</td>
<td>-3%</td>
<td>15%</td>
<td>+ 18 pts</td>
</tr>
<tr>
<td># of Production Sites Worldwide</td>
<td>30</td>
<td>16</td>
<td>- 14 sites</td>
</tr>
</tbody>
</table>

[Note] Figures in FY12 versus FY15
## CAPITAL ALLOCATION
DISTINGUISHED STRATEGIC APPROACHES TO BECOME #1 IN FOCUSED INDUSTRIES

<table>
<thead>
<tr>
<th>MCU</th>
<th>Automotive</th>
<th>Intensive R&amp;D Spend to Stay as an Industry Leader</th>
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</thead>
<tbody>
<tr>
<td>SoCs</td>
<td>Renesas R-Car</td>
<td>Strategic Partnerships and Alliances Leveraging Renesas Proven Track Record and Market Recognition</td>
</tr>
<tr>
<td>Analog &amp; Mixed-Signals</td>
<td>Strategic Investment including Mergers and Acquisitions</td>
<td></td>
</tr>
<tr>
<td>Power Discretes</td>
<td>Selective Investment to Enhance Competitiveness and Profitability</td>
<td></td>
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</tbody>
</table>

Organic + In-Organic Approaches Leveraging Renesas’ Market Recognition
AUTOMOTIVE
FOCUSED INVESTMENT IN “CORNER-STONE” (*1) TECHNOLOGIES FOR THE NEXT GENERATION VEHICLE, LEVERAGING RENESAS’ QUALITY – ROBUSTNESS AND HIGH-RELIABILITY

Sensing and recognition technology
- Sensor AFE by cutting-edge BiCD technology
- Advanced recognition technology by R-Car products

Protection from unauthorized access and hacking
- International standard compliant Security IP
- High-speed inter-vehicle / road-to-vehicle cryptography technology

Robust vehicle network technology
- Next generation gateway IP technology
- High reliability in-vehicle network technology

Fail-safe operational function (*2)
- Proven track record in complying with ISO26262
- Cutting-edge 28nm MCU to support multiplex system (jointly developed with TSMC)

*1 Highly competitive technologies / products that resemble corner stones of the Othello game. Color represents the market competitiveness (dark blue: high / pale blue: low, based on company’s assumption)

*2 Secure safe driving even in the event of failure
AUTOMOTIVE CONTROL SYSTEM
EXPANDING BUSINESS WORLDWIDE WITH MARKET SHARE #1 MCU FOR AUTOMOTIVE CONTROL AND THE WORLD’S FIRST 90nm BiCD

Market Trend and Key Requirements

- Strengthened environmental regulations and increasing demand for xEV in EU, USA and especially in China
- Increasing needs for safety and robustness
- High speed and layered in-vehicle network

- Total solution proposition for xEV
- Enhanced functional safety and security levels
- Advanced gateway technology

Renesas Solution

- High speed in-vehicle network (CAN-FD, Ethernet, etc.)
- Advanced gateway IP technology

- High accuracy sensor input by 90nm BiCD technology
- Sensing control technology for EV motor

Connectivity
- International standard certified automotive security IP technology
- Protection from external attack and tampering

Security
- Strong footprint in functional safety area, an ASIL-D certified supplier
- High integration technology to enable multiplex system

Sensing

Functional Safety

RMS: Relative Market Share of Automotive MCU (Company’s assumption)
AUTOMOTIVE INFORMATION SYSTEM
EXPANDING STRATEGIC ALLIANCE/PARTNERSHIP AS A TOP SEMICONDUCTOR VENDOR LEADING THE RAPIDLY GROWING MARKET

Market Trend and Key Requirements

- New market participants from different spaces into high-end automotive information system
- Growing concern on security system for connected vehicles
- Intensive technology integration needs for future autonomous driving
- State-of-the-art HMI (Human-Machine Interface)
- Robust and secured communication system with external network
- Comprehensive technology for sensing/recognition/control.

Renesas Solution

- Real-time wireless technology for ITS/V2X
- In-vehicle communication (Ethernet AVB)
- Camera image recognition and distortion correction
- Driver monitoring system
- Robust gateway between external information and internal control systems
- High-speed cryptography technology for secured V2X data exchange
- Advanced functional safety solution for autonomous driving (level 4)
- Robust recognition/failure prediction system

Market data: SoCs for IVI (In Vehicle Infotainment) and cluster
AVB: Audio Video Bridging
ITS: Intelligent Transportation Systems

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SOLUTION FOR NEXT GENERATION VEHICLE COMBINATION WITH INTERSIL ENABLES A MORE COMPREHENSIVE SOLUTION PROPOSITION

- Head Up Display + LDD
- In-Vehicle Infotainment + VSP
- Display Network + BMIC
- ADAS + AHL
- Camera Network
- Battery Management

ADAS: Advanced Driving Assistant System
AHL: Analog HD Link
BMIC: Battery Management IC
LDD: Laser Diode Driver
VSP: Video Signal Processor
AUTONOMOUS DRIVING
UNDERSTANDING THE WHOLE ARCHITECTURE OF A VEHICLE IS CRUCIAL FOR AUTONOMOUS DRIVING. RENESAS IS THE ONLY PROVIDER THAT CAN OFFER A COMPLETE SOLUTION

Required Function & Process Flow

**SENSING**
- **Camera**
  - Renesas R-Car
  - Collaborate with Tier-1

- **Radar**
  - Renesas RH850

- **V2X**
  - Renesas R-Car

**COGNITIVE**
- **Camera**
  - Renesas R-Car
  - Collaborate with Tier-1

**HUMAN INTERFACE**
- **Gateway**
  - Renesas RH850
  - EV Motor

**CONTROL / DRIVING**
- **Engine**
  - Renesas RH850
- **Braking**
  - Renesas RH850
- **Steering**
  - Renesas RH850

Joint R&D with Tier-1/OEMs

**SENSING**

**SECURITY**

**FUNCTIONAL SAFETY**

**CONNECTIVITY**
INDUSTRIAL AND BROAD-BASED
MAINTAIN INDUSTRY LEADERSHIP BY INVESTING IN “CORNER-STONE” TECHNOLOGIES FOR SMART SOCIETY (RENEAS IS A MARKET LEADER IN INDUSTRIAL / HA / PRINTER / SMART METER TODAY)

- Embedded artificial intelligence
  - Low-power embedded MCU/MPU
  - Accelerator technology by DRP
- High sensitivity and high accuracy
  - Real time image recognition
  - Capacitive touch sensor and image sensor
- Low power and low noise operation
  - System & power control technology
  - Efficient BLDC motor solution
- Coverage of multiple security levels
  - High throughput TSIP and high speed cryptography technology
  - Robust tamper-resistant technology
- Safety in factory and at home
  - Expertise in HW & SW support
  - SIL-3 solution
- Embedded system capability
  - Wired / wireless data transfer IP
  - High quality PLC technology (smart meter, BA, FA)

BA: Building Automation
BLDC: Brushless Direct Current
DRP: Dynamic Reconfigurable Processor
FA: Factory Automation
PLC: Power Line Communication
SIL: Safety Integrity Level (industry standard)
TSIP: Trusted Secure Intellectual Property (Renesas’ proprietary security IP)
SMART HOME

#1 IN INVERTER CONTROL TO SIGNIFICANTLY REDUCE POWER CONSUMPTION
EXPECT MARKET EXPANSION MEETING ENERGY-SAVING REGULATIONS IN EMERGING COUNTRIES

Market Trend and Key Requirements

<table>
<thead>
<tr>
<th>RMS</th>
<th>&gt;2.0x</th>
<th>&gt;2.5x</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAM (¥ bn)</td>
<td>3.8</td>
<td>4.0</td>
</tr>
<tr>
<td>SAM (¥ bn)</td>
<td>3.8</td>
<td>4.0</td>
</tr>
</tbody>
</table>

- Integration of smart home appliances and healthcare applications
- Energy-saving for HA and expansion of inverter solution
- Requirement for comfort performance and energy-saving
- Security technology to secure privacy
- Optimized power control and advanced energy-saving technology
- Solution for crime prevention and surveillance

Renesas Solution

- End-point security technology to secure privacy
- TSIP embedded MCU to offer security at HW level
- Face recognition technology for crime prevention and surveillance
- High sensitivity touch sensor IP
- Bio-information sensing
- Battery charge monitoring with single digit % accuracy

- BLDC motor solution to reduce noise by 90%, power consumption by 50%
- Development tool for optimized motor control

- Network HA and connected devices (e.g. BLE)
- External connection through home gateway
- DC power supply by USB-PD

RMS: Relative Market Share (Company’s assumption)
TSIP: Trusted Secure Intellectual Property (Renesas’ proprietary security IP)
USB-PD: USB Power Delivery

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BLDC: Brushless Direct Current
BLE: Bluetooth Low Energy
SMART FACTORY
REALIZE INDUSTRY 4.0 BY OFFERING EDGE DEVICE WITH WORLD TOP MARKET SHARE “R-IN” PRODUCT AND EMBEDDED ARTIFICIAL INTELLIGENCE

Market Trend and Key Requirements

- Rapid “industrial Ethernet” penetration for industry 4.0 (EtherCAT / Profinet / CC-Link protocol)
- Volume market at mid-low price range expanding in China and other emerging regions
- Real time responsiveness with low power consumption
- High accuracy of network control, and strengthened security feature

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
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<tbody>
<tr>
<td>RMS</td>
<td>1.9</td>
<td>1.9</td>
<td>2.0</td>
<td>2.0</td>
<td>2.1</td>
</tr>
<tr>
<td>TAM</td>
<td>2.0</td>
<td>2.1</td>
<td>2.1</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>SAM</td>
<td>1.9</td>
<td>1.9</td>
<td>2.0</td>
<td>2.0</td>
<td>2.1</td>
</tr>
</tbody>
</table>

($ bn)

Renesas Solution

- RTOS control at hardware level
- Reduced consumption and heat of equipment
- Flexible hardware by DRP technology
- Process quality determination of production equipment and predictive maintenance solution
- Security technology for factory
- Functional safety solution for production equipment
- Variety of motor control SW / IP
- Collaboration with major industrial accounts
- Meet industry de-fact standard Ethernet protocols
- Sensor network through PLC

DRP: Dynamic Reconfigurable Processor
PLC: Power Line Communication
RMS: Relative Market Share (Company’s assumption)
RTOS: Real Time Operating System
SMART GRID

#1 MARKET SHARE IN MCU FOR POWER METER IN INDIA FOR POWER THEFT PREVENTION
BE THE FIRST ONE TO ENTER THE GROWING MARKET

### Market Trend and Key Requirements

- **RMS**: >1.5x to <2.0x
- **TAM**:
  - 2016: 1.1
  - 2017: 1.1
  - 2018: 1.2
  - 2019: 1.2
  - 2020: 1.2
- **SAM**:
  - 2016: 0.9
  - 2017: 0.9
  - 2018: 1.0
  - 2019: 1.0
  - 2020: 1.0

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**Renesas Solution**

- **G3-PLC (Golden Module) and PRIME1.3.6 certified PLC solution**
- **Joint evaluation with EU-based power supplier**
- **Proactive involvement in determining next generation standard PRIME 1.4**

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**Wired Data Transfer IP**

- **Gauge IP**: Meet standards / regulations in each region of the world
- **Alliance**: Variety of reference models for emerging countries

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**Gauge IP**

- **Security**: Robust HW security solution (IEC compliant)
- **Low power consumption and compact implementation**

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**IEC**: International Electrotechnical Commission (international standards and conformity assessment organization)

**PLC**: Power Line Communication

**RMS**: Relative Market Share (Company’s assumption)
SOLUTION FOR SMART SOCIETY
COMBINATION WITH INTERSIL ENABLES A MORE COMPREHENSIVE SOLUTION PROPOSITION

Smart Home

Network / Server
NW Memory
High speed
Search Engine
LD/PD

PMIC

CIS: CMOS Image Sensor
LD/PD: Laser Diode/Photo Diode
OIS: Optical Image Stabilizer

Smart Factory

PMIC

Machine Vision

CIS
OIS
VSP

PLC: Power Line Communication
PMIC: Power Management IC
RF: Radio Frequency
VSP: Video Signal Processor

Smart Meter

PLC
RF
NOW READY FOR TAKE-OFF
SOLID D-IN TO SUPPORT ORGANIC GROWTH
ADDING STRATEGIC IN-ORGANIC APPROACH TO BECOME #1 IN FOCUSED AREAS

 Organic

Significant number of designed-in projects in the pipeline ready to launch in focused area in coming years

 In-Organic

Intersil’s broader analog portfolio and expertise to enable Renesas to enhance complete system solution offering

Automotive

Industrial

Broad-based, etc.

...and further in-organic expansion
FINANCIAL TARGET TO BE UPDATED, BUT FOR NOW…

<table>
<thead>
<tr>
<th>Metric</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>Focus domains to outperform their markets</td>
</tr>
<tr>
<td>Gross Margin</td>
<td>45%</td>
</tr>
<tr>
<td>R&amp;D / Revenue</td>
<td>15%</td>
</tr>
<tr>
<td>SG&amp;A / Revenue</td>
<td>15%</td>
</tr>
<tr>
<td>Operating Margin</td>
<td>&gt;10%</td>
</tr>
</tbody>
</table>

(Figures on a non-GAAP basis)
MORE TO COME

stay tuned...
FORWARD-LOOKING STATEMENTS

The statements in this presentation with respect to the plans, strategies and forecasts of Renesas Electronics and its consolidated subsidiaries (collectively "we") are forward-looking statements involving risks and uncertainties. We caution you in advance that actual results could differ materially from such forward-looking statements due to several factors. The important factors that could cause actual results to differ materially from such statements include, but are not limited to: general economic conditions in our markets, which are primarily Japan, North America, Asia and Europe; demand for, and competitive pricing pressure on, our products and services in the marketplace; our ability to continue to win acceptance of its products and services in these highly competitive markets; and movements in currency exchange rates, particularly the rate between the yen and the U.S. dollar. Among other factors, a worsening of the world economy; a worsening of financial conditions in the world markets, and a deterioration in the domestic and overseas stock markets, would cause actual results to differ from the projected results forecast.