Direction of Renesas Group

Renesas Electronics Corporation

August 2, 2013

- Hisao Sakuta, Representative Director, Chairman and CEO
- Tetsuya Tsurumaru, Representative Director, President and COO

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1. Overview of the Direction
Principles of behavior as an organization and personnel

Three kinds of autonomy

- Autonomous Management
- Autonomous Business
- Autonomous Individuals
Principles of behavior as an organization and personnel

- Pride
- Social Worth: Ethics, Morality, Fairness
- Economic Value: Efficiency, economic potential, sales, and profit
- Social Worth × Economic Value
- Confidence
- Dreams

Maximize Corporate value
Direction of Renesas Group

Renesas’ mission - to develop society and industry

To realize the above,

**Selection and Concentration**
Focus on advantageous business

**Structural Reforms**
Build absolutely profitable structure

**Operational Changes that supports Business and Production Reforms**
Optimize resources on business

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Selection and Concentration (Market environment)

Expansion of middle class in developing countries

Power saving, environmental conscious

Fusion of control and IT

Transition of the population in developing countries

Motors consume approx. 60% of power consumption and annual shipments are more than 12 billion units. Recently inverter system spread rapidly.

The age of the Control & IT Fusion in all fields

Selection and Concentration (Market environment)

- Expansion of middle class in developing countries
- Power saving, environmental conscious
- Fusion of control and IT

Transition of the population in developing countries

- 2000: Rich, Upper-middle, Lower-middle, Poor
- 2005: Rich, Upper-middle, Lower-middle, Poor
- 2010: Rich, Upper-middle, Lower-middle, Poor
- 2015: Rich, Upper-middle, Lower-middle, Poor
- 2020: Rich, Upper-middle, Lower-middle, Poor

Source: METI

Motors consume approx. 60% of power consumption and annual shipments are more than 12 billion units. Recently inverter system spread rapidly.

Motor

Motor

Motor

Motor

Source: Renesas’ research based on statistics
Selection and Concentration (Criteria of Judgment)

Contribution to Customers
- Field where Renesas can contribute to customers with high technology to differentiate their products and compete in the world
- Field where Renesas can contribute to the customers who are oriented to general products to lead markets with speed

Viewpoint of Renesas
- Market with high growth rate or stability
- Market where Renesas has advantage
- Field where Renesas already has a high presence and can lead market

Renesas’ Strategic Business Domains
- Automotive
- Industry and Network
- General Purpose
Structural Reforms

Events in the past

- Natural Disasters
- Stagnant Market
- Market Change
- Strong Yen
- Decreasing Share

Push through the required structural reforms

Approx. 370 B yen

Approx. 210 B yen

(*) Total of the two companies before the integration
2. Review of the past years
# Review of the past years

## Production Reforms

<table>
<thead>
<tr>
<th>Front end (in Japan)</th>
<th>Aug.2, 2013</th>
<th>Current status</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 sites, 16 lines</td>
<td>9 sites, 14 lines</td>
<td>Being restructured to build a stable supply system and Fab-network</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Back end (in Japan)</th>
<th>5 sites</th>
<th>Focusing on main factories in Japan, and enhancing own sites abroad</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 sites</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Personnel Streamlining

<table>
<thead>
<tr>
<th>Number of employees (Consolidated)</th>
<th>Jun.30, 2013</th>
<th>Current status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approx. 48,000</td>
<td>Approx. 32,850</td>
<td>Achieved approx. 30% of personnel streamlining since the start of operations</td>
</tr>
</tbody>
</table>
Review of the past years <Reduction of Fixed Cost>

<Transition of the fixed cost>

FY09(*) | FY10 | FY11 | FY12

(Approx.210 Billion yen)

(*) Total of the two companies before the integration
Review of the past years <Transition of the Semiconductor Sales (Results)>

- FY11: 101.9 (B yen) with -11.1% growth
- FY12: 78.6 (B yen) with +5.4% growth
- FY13: 72.5 (B yen)

(*) FY11 = 100

- MCU
- A&P
- SoC
- Others

Market growth(*)

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3. Selection and Concentration
Selection and Concentration – Renesas’ Advantage

No.1 MCU maker in the world market
- Global sales network and customer support
- Solution for home appliances in developing countries

Power saving technology contributing energy saving
- Low power devices (e.g. RL78 Series)
- Low power system technology cultivated by MCUs and A&P (inverter control)

Integration of MCU (Control) and SoC (IT)
- Top level integration technology in the world
- High integration technology of multicore CPU (e.g. Car Navigation SoC)

High Reliability, Safe and Secured technology
- High reliability and quality lead automotive and industry field
- Function safety technology cultivated by automotive field
- Security technology to prevent attack by hackers and virus

Expansion of middle class in developing countries

Power saving and environmental conscious

Fusion of control and IT

Comfortable society with safety and security
Selection and Concentration – Renesas’ Advantage

Market Environment

- Expansion of middle class in developing countries
- Power saving and environmental conscious
- Fusion of control and IT

Automotive

- Firmly keep the power train and HEV/EV business
- Expansion of the chassis, safety and body business globally
- Fusion of safety driving assist and navigation
- Enhancement of the solution for function safety and security
- Solution for automotive center console
- Alliance to realize the next generation “intelligent car”

Industry Network and General Purpose

- Enhancement of motor solution as the key to power saving
- Business in developing countries collaborating with IDHs
- Expansion of the business of industrial network, power and lighting
- Enhancement of infrastructure business for 4G network
- Keep ASIC business utilizing prominent IPs
- Expansion of the business for smartphone panel

(*)HEV/EV: Hybrid Electric Vehicle/Electric Vehicle
# Selection and Concentration - Automotive

## Automotive Semiconductors WW

<table>
<thead>
<tr>
<th>Company</th>
<th>CY11</th>
<th>CY12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Renesas</td>
<td>13.8%</td>
<td>14.2%</td>
</tr>
<tr>
<td>2 Infineon</td>
<td>9.8%</td>
<td>9.1%</td>
</tr>
<tr>
<td>3 STMicro</td>
<td>8.7%</td>
<td>7.9%</td>
</tr>
<tr>
<td>4 Freescale</td>
<td>7.9%</td>
<td>7.0%</td>
</tr>
<tr>
<td>5 NXP</td>
<td>6.4%</td>
<td>6.3%</td>
</tr>
</tbody>
</table>

## Automotive processors (MCU/MPU) WW

<table>
<thead>
<tr>
<th>Company</th>
<th>CY09</th>
<th>CY10</th>
<th>CY11</th>
<th>CY12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Renesas</td>
<td>41.7%</td>
<td>41.2%</td>
<td>42.7%</td>
<td>43.5%</td>
</tr>
<tr>
<td>2 Freescale</td>
<td>19.5%</td>
<td>21.5%</td>
<td>19.5%</td>
<td>18.0%</td>
</tr>
<tr>
<td>3 Infineon</td>
<td>6.6%</td>
<td>7.0%</td>
<td>8.3%</td>
<td>8.1%</td>
</tr>
<tr>
<td>4 TI</td>
<td>6.6%</td>
<td>6.0%</td>
<td>5.9%</td>
<td>7.1%</td>
</tr>
<tr>
<td>5 Fujitsu</td>
<td>6.2%</td>
<td>7.0%</td>
<td>7.0%</td>
<td>6.5%</td>
</tr>
</tbody>
</table>

## Automotive Analog & Power semiconductors(*)

<table>
<thead>
<tr>
<th>Company</th>
<th>CY09</th>
<th>CY10</th>
<th>CY11</th>
<th>CY12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 STMicro</td>
<td>16.6%</td>
<td>17.9%</td>
<td>18.6%</td>
<td>16.6%</td>
</tr>
<tr>
<td>2 Infineon</td>
<td>16.5%</td>
<td>15.8%</td>
<td>16.6%</td>
<td>15.6%</td>
</tr>
<tr>
<td>3 NXP</td>
<td>11.4%</td>
<td></td>
<td>12.5%</td>
<td>10.8%</td>
</tr>
<tr>
<td>4 TI</td>
<td>8.3%</td>
<td>8.0%</td>
<td>7.9%</td>
<td>9.6%</td>
</tr>
<tr>
<td>5 Renesas</td>
<td>6.6%</td>
<td>7.0%</td>
<td>7.3%</td>
<td>8.6%</td>
</tr>
</tbody>
</table>

(*): Automotive Analog & Power Semiconductors: Non-Power Analog + Power Device

Reference: Strategy Analytics. The shares of automotive MCU and A&P were calculated with a parameter of total amount of the top 12 companies.
Selection and Concentration – 3 types of solutions

Provide values to customers

Devise Solution
- Single body evaluation
- Evaluation SW
- MCU, ASSP

Kit Solution
- Kits for systems
- Sample SW
- SoC
- MCU
- A&P

Platform Solution
- Solution menu
- Predominant technologies
- Eco systems
- SoC
- MCU
- A&P

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Example of Solution Business (1)  

The market needs speed with turnkey solution

Example of solution for home appliances (cooperation with IDHs in India)

IDH: Independent Design House

Motor Reference Kit

Cooperate with potent IDHs in India
Company A, B, C and D

Turnkey solution along with motor home appliances in India

Got inquiries of 4 M units / year

40 M units of home appliances with motors are produced in India in a year. Inverter with MCU control has just begun in India.
Example of Solution Business (2)  Platform Solution

Respond to various customers centering optimized platform for each field

Example of responding spreading international standard of Industrial Ethernet

Industrial Ethernet platform

- Platform Solution
- Kit Solution
- Device Solution

Platform Solution

Kit Solution

Device Solution

Respond to multiple international standard

Got each standard’s certification and adopted as the standard platform

Reference design

Prepared solution boards, drivers and protocol stack

Industrial Ethernet LSI

10 times of communication capacity compared with conventional products

The industrial Ethernet standards that industrial device makers (several thousand) join

Global market for industrial Ethernet (K node)

Growing rate: 117%/Y

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4. Structural Reforms
## Implementation of production Reforming and further progress

### Policy of the Production Reforms

- Retain and enhance Renesas’ advantageous technology (power saving and high quality)
- Build a flexible production system to correspond market change
- Raise efficiency of production (to realize cost performance for customers)

<table>
<thead>
<tr>
<th>Own sites</th>
<th>Front-end</th>
<th>Back-end</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Keep production of power saving and high quality devices in Japan (Flash MCU technology: Naka, Kawashiri, Saijo)</td>
<td>✓ Downsize or close other sites based on the production efficiency and cost performance principle</td>
<td>✓ Enhance 2 sites in Japan (Yonezawa, Oita) to lead high quality technology</td>
</tr>
<tr>
<td>✓ Enhance and enhance own sites abroad to improve production efficiency</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outsourcing (Foundries / Subcontractors)</th>
<th>✓ Mass production and collaborated development on long-term partnership with strategic partners</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>✓ Optimal QCD utilizing general outsourcing</td>
</tr>
</tbody>
</table>
## Production Reforms (Front-end)

<table>
<thead>
<tr>
<th>Site</th>
<th>Process (inch)</th>
<th>Before Structural Reforms</th>
<th>After Structural Reforms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naka</td>
<td>12</td>
<td>Continue production as Renesas’ main sites</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kawashiri</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saijo</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tsuruoka</td>
<td>12</td>
<td>Planned to be closed in 2 or 3 years</td>
<td>Production will be transferred to own sites or outsourcing sites.</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td></td>
<td>• EOL</td>
</tr>
<tr>
<td>Shiga</td>
<td>8</td>
<td>Planned to be closed in 2 or 3 years</td>
<td>Downsize and continue production to keep some products</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kofu</td>
<td>8</td>
<td>Planned to be closed in 1 or 2 years</td>
<td>Production will be transferred to own sites or outsourcing sites.</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td></td>
<td>• EOL</td>
</tr>
<tr>
<td>Takasaki</td>
<td>6</td>
<td>Continue production, downsizing to be appropriate scale</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Planned to be closed 1 year</td>
<td>Production will be transferred to own sites or outsourcing sites.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• EOL</td>
</tr>
<tr>
<td>Kochi</td>
<td>6</td>
<td>Continue production, downsizing to be appropriate scale</td>
<td></td>
</tr>
<tr>
<td>Yamaguchi</td>
<td>6</td>
<td>Continue production with downsizing, but considering transfer</td>
<td></td>
</tr>
</tbody>
</table>
### Production Reforms (Back-end)

<table>
<thead>
<tr>
<th>Site</th>
<th>Before Structural Reforms</th>
<th>After Structural Reforms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yonezawa</td>
<td>Continue production as Renesas’ main sites</td>
<td></td>
</tr>
<tr>
<td>Oita</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yanai</td>
<td>Planned to be closed in 2 years</td>
<td>• Production will be transferred to own sites or outsourcing sites.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• EOL</td>
</tr>
<tr>
<td>Yamaguchi (Ube)</td>
<td>Planned to be closed in 1 year</td>
<td></td>
</tr>
<tr>
<td>Kumamoto (Nishiki)</td>
<td>Will be decided to be transferred or closed within 2 years</td>
<td></td>
</tr>
</tbody>
</table>
Build Production System to deliver appropriate products to customers

Flexible Production

Special

Feature

General

Outsource (Foundry/Subcontractor)

Customer

Outsource (Foundry/Subcontractor)

Retain and enhance advantageous technology

Little

Market Change

Great

Life Cycle

Long

Short
Operation Change that is supporting Business and Production Reforms

Senior Vice Presidents (16 -> 8), Business Units (7 -> 5), Divisions (49 -> 34)

Resource (personnel and money) shift to focusing business, factories and markets

Design / Development
- Restructure sites

Production
- Found production subsidiaries
- United operation between factories

Sales / Marketing
- Integrate sales companies to Renesas main company

Renesas realizes the following things with these changes

(1) Customer oriented operation / improvement of added-value, (2) Improvement of development and production efficiency, (3) Speed up of decision
Image of Fixed Costs and Break Even Point

Approx. 370 B yen

Approx. 210 B yen

(*) Total of the two companies before the integration
5. Summary
Summary

Renesas’ mission - to develop society and industry

To realize the above,

Selection and Concentration
Focus on advantageous business

Structural Reforms
Build absolutely profitable structure

Operational Changes that supports Business and Production Reforms
Optimize resources on business