Automotive & Industrial Systems Company

Business Policy

May 30, 2018

Yoshio Ito, President

Automotive & Industrial Systems Company

Panasonic Corporation

FY2018 Summary

FY2019 Business Policy

Mid-term Strategy
**FY2018 Results**

- **Sales increased whereas profits decreased vs. L/Y. Note that "profit created from businesses," which exclude special factors, increased in all the businesses.**

**Sales**
(billion yen, % vs. L/Y)

<table>
<thead>
<tr>
<th></th>
<th>FY2017</th>
<th>FY2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive</td>
<td>2,416.6</td>
<td>2,803.5</td>
</tr>
<tr>
<td>Energy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offset, etc.</td>
<td></td>
<td></td>
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</tbody>
</table>

In real terms excluding the effects of exchange rates: +13% (billion yen, % indicates profit rates)

<table>
<thead>
<tr>
<th></th>
<th>FY2017</th>
<th>FY2018</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
</tr>
<tr>
<td>Offset, etc.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Operating profit**
(billion yen, % indicates profit rates)

<table>
<thead>
<tr>
<th></th>
<th>FY2017</th>
<th>FY2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit created from businesses</td>
<td>93.0</td>
<td>91.4</td>
</tr>
<tr>
<td>Automotive</td>
<td>(3.8%)</td>
<td>(3.3%)</td>
</tr>
<tr>
<td>Energy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other income / loss</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reaction to gains on reversal related to legal affairs and gains on business transfer of the previous fiscal year, etc.

**FY2018 Achievements and Issues**

* The graphs indicate operating profit analyses.

**Automotive**

<table>
<thead>
<tr>
<th>Achievements</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Loss costs</td>
</tr>
<tr>
<td>FY2017</td>
<td>31.7</td>
</tr>
<tr>
<td>FY2018</td>
<td></td>
</tr>
</tbody>
</table>

- New IVI* and cockpit products contributed to sales and profits increase.
- Consolidation of Ficosa
- Loss costs for new product launch put a downward pressure on profit.

**Energy**

<table>
<thead>
<tr>
<th>Achievements</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Increase in R&amp;D depreciation expenses, etc.</td>
</tr>
<tr>
<td>FY2017</td>
<td>11.1</td>
</tr>
<tr>
<td>FY2018</td>
<td></td>
</tr>
</tbody>
</table>

- Small rechargeable batteries shifted to new markets and contributed to profit.
- Sales increase (automotive cylindrical types) by the Nevada factory lags behind by a fiscal year.

**Industrial**

<table>
<thead>
<tr>
<th>Achievements</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Businesses to be turned around</td>
</tr>
<tr>
<td>FY2017</td>
<td>39.9</td>
</tr>
<tr>
<td>FY2018</td>
<td></td>
</tr>
</tbody>
</table>

- Growth of industrial devices
- Profitability improved in businesses to be turned around (semiconductors & LCD panels).
- Delivery problems occurred in part due to demand increase.

* IVI: In-Vehicle Infotainment
## Growth Strategies

### Automotive
- Started the public road demonstration experiment of autonomous driving cars.
- Showcased the concept of the Living Space Autonomous Cabin.
- Ficosa’s Morocco factory opened.
- Capital tie-up with AZAPA Co., Ltd. (model base development)

### Energy
- The Nevada factory started mass production for Tesla.
- The Dalian factory started the mass production of automotive prismatic type batteries.
- Decided to expand automotive prismatic type batteries to the Himeji factory.
- Started examining collaboration with Toyota Motor Corporation on automotive prismatic type batteries.

### Industrial
- Panasonic Industrial Devices SUNX became a wholly owned subsidiary.
- Motor factory expansion (Zhuhai in China and Kaga in Ishikawa Prefecture, Japan).
- Production increase in high-function multi-layer circuit board materials (new Guangzhou factory).

### FY2018 Summary

### FY2019 Business Policy

### Mid-term Strategy
**FY2019 Basic Policy**

- The year to start reaping the benefits of large-scale investments and show results.
- Focus on "the automotive and industrial" markets and lead Panasonic by a sales and profit increase.

**Sales/Ratio of automotive and industrial businesses**

<table>
<thead>
<tr>
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<th>FY2017</th>
<th>FY2018</th>
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</thead>
<tbody>
<tr>
<td>Automotive</td>
<td>2,416.6</td>
<td>2,803.9</td>
<td>3,000.0</td>
</tr>
<tr>
<td>Industrial</td>
<td>1,880.0</td>
<td>2,003.9</td>
<td>1,957.0</td>
</tr>
</tbody>
</table>

- Expansion of automotive and industrial businesses
- Approx. +210.0 billion yen

(Exchange rates: $1 = 111 yen)

**Operating profit/rates**

<table>
<thead>
<tr>
<th></th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive</td>
<td>93.0</td>
<td>93.4</td>
<td>136.0</td>
</tr>
<tr>
<td>Industrial</td>
<td>43.0</td>
<td>43.0</td>
<td>43.0</td>
</tr>
</tbody>
</table>

- FY2018: +42.6 billion yen
- FY2019: +4.5% increase

* Restated the results of FY2018 based on the new structure.

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**FY2019 Management Targets**

- The three business groups all achieve sales and profits increase (excluding the effects of exchange rates).
- The energy business's sales increase and the industrial business contribute to a profit increase.

**Sales**

<table>
<thead>
<tr>
<th></th>
<th>FY2018</th>
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<td>Automotive</td>
<td>2,803.9</td>
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<td>1,880.0</td>
<td>1,957.0</td>
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</tbody>
</table>

- In real terms excluding the effects of exchange rates: +9%

**Operating profit**

<table>
<thead>
<tr>
<th></th>
<th>FY2018</th>
<th>FY2019</th>
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</tbody>
</table>

- FY2018: +42.6 billion yen
- FY2019: (4.5%) increase

* Restated the FY2018 results based on the new structure.
**Business Portfolio**

**Playing roles in the company with sales and earnings growth potential, concentrating resources mainly in automotive and industrial fields**

<table>
<thead>
<tr>
<th>Automotive</th>
<th>Energy</th>
<th>Industrial</th>
</tr>
</thead>
</table>

**Steady profit generation by competitive or high-share products, and creating investment resource for high-growth business**

<table>
<thead>
<tr>
<th>Energy</th>
<th>Industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Device, Energy Solutions</td>
<td>Device Solutions, Electronic Materials</td>
</tr>
</tbody>
</table>

**Improving profitability by thorough initiatives including business transformation and concentration in automotive and industrial fields**

<table>
<thead>
<tr>
<th>Industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panasonic Semiconductor Solutions, Panasonic Liquid Crystal Display</td>
</tr>
</tbody>
</table>

**Composition ratio by business portfolio (FY2019)**

- **High-growth business (6 BD)**
- **Stable-growth business (4BD)**
- **Low-profitable business (2BD)**

*excluding the sales of other company’s products*  
*excluding Low-profitable business and the sales of other company’s products*

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**Strategies by Business Group**

**Automotive**
- Four key categories (IVI, cockpits, ADAS*, and electric mechanisms) fully contribute to a sales increase.
- Continue R&D investments for new themes (next-generation cockpits, etc.)

**Energy**
- Accelerate the shift to automotive and industrial fields.
- Launch full-scale operations for factories with large-scale investments (Nevada, Dalian) contributing to an increased profit.

**Industrial**
- Continue to expand sales and profits by further increasing the ratio of automotive and industrial businesses.
- Steadily improve profitability at “businesses to be turned around” (semiconductors & LCD panels) toward turning them into the black in FY2020.

*ADAS: Advanced Driver Assistance System*  
*Nevada factory, US*  
*HV capacitor*
Automotive Business

- Fully expand the four key categories (IVI, cockpit systems, ADAS*, and electric mechanisms).
- Achieve sales increases through new product releases in collaboration with Ficosa (electronic mirrors, communication units, etc.).

**[Sales, operating profit rates] (billion yen, ( ) vs. L/Y)**

<table>
<thead>
<tr>
<th></th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>671.6</td>
<td>928.8</td>
<td>922.7</td>
</tr>
<tr>
<td>Operating Profit</td>
<td>3.4%</td>
<td>4.7%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Excluding effects of exchange rates (+2%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**[Operating profit analysis] (billion yen)**

- **FY2018**
  - 31.7
  - Increase in R&D, depreciation expenses, etc.

- **FY2019**
  - 43.4
  - Others
  - Decrease in loss costs, etc.

**Key initiatives during FY2019**

- The car model expansion of IVI and cockpits contributes to a sales increase.
- Reap the Ficosa synergy effects (R&D, manufacturing, procurement).

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Energy Business

- Reorganize the Rechargeable Battery Business Division into three business divisions* by customer and industry to reinforce the business base.
- Automotive batteries achieve a significant sales and profit increase through a production increase in sync with demand from key customers.

**[Sales, operating profit rates] (billion yen, ( ) vs. L/Y)**

<table>
<thead>
<tr>
<th></th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>493.6</td>
<td>562.5</td>
<td>758.0</td>
</tr>
<tr>
<td>Operating Profit</td>
<td>2.0%</td>
<td>3.8%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Excluding effects of exchange rates (+35%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**[Operating profit analysis] (billion yen)**

- **FY2018**
  - 11.1
  - Including Tesla Energy Business Division
  - Increase in equipment depreciation expenses

- **FY2019**
  - 29.1
  - Others
  - Streamlining/ Product mix, etc.

**Key initiatives during FY2019**

- Off-set increases in depreciation expenses and fixed costs due to large-scale investments by sales increase, etc.
- Improve profitability by increasing the utilization rate in cooperation with customers.

* FY2019: Energy Solutions Business Division
  Tesla Energy Business Division
  Automotive Energy Business division
  Energy Device Business Division

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Industrial Business

- **Fundamental businesses**: Increase profits through systematization/modularization and devices with dominant market shares.
- **Businesses to be turned around**: Improve marginal profit by enhancing the business structure.

### [Sales, operating profit rates]

(billion yen, % vs. L/Y)

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales</th>
<th>Operating Profit Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2017</td>
<td>870.8</td>
<td>4.4%</td>
</tr>
<tr>
<td>FY2018</td>
<td>945.2 (+9%)</td>
<td>5.7%</td>
</tr>
<tr>
<td>FY2019</td>
<td>984.1 (+4%)</td>
<td>5.7%</td>
</tr>
</tbody>
</table>

#### Electromechanical Control Business Division
- Device Solutions Business Division
- Electronic Materials Business Division

#### Businesses to be turned around
- PSCS, PLD*

### [Operating profit analysis]

(billion yen)

- **Fundamental businesses**:
  - Sales price declines
  - Increase in equipment depreciation expenses
  - Personnel expenses, etc.
  - Increase in fixed costs

- **Businesses to be turned around**

#### FY2018
- Streamlining/Product mix, etc.
- Personnel expenses, etc.
- Increase in fixed costs

#### FY2019
- 55.8

### [Key initiatives during FY2019]

- Expand the sales increase of industrial devices adapted for automation needs.
- Increase the sales of automotive devices (EV relays, passive components, etc.).
- Reduce the deficit of semiconductors and LCD panels with the prospect of turning them into the black in FY2020.

* PSCS: Panasonic Semiconductor Solutions Co., Ltd.
* PLD: Panasonic Liquid Crystal Display Co., Ltd.
* Restated the results of FY2018 based on the new structure.

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AIS Company Capital Investment Strategy

- **Continue to invest aggressively with a focus on automotive batteries through close collaboration with customers.**
- **Gradually make large-scale investments while assessing the demand, on the basis of risk minimization.**

### [Capital investments, equipment depreciation expenses] (Tangible assets only)

(billion yen)

<table>
<thead>
<tr>
<th>Year</th>
<th>Investment</th>
<th>Depreciation expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2017</td>
<td>191.8</td>
<td>102.3</td>
</tr>
<tr>
<td>FY2018</td>
<td>226.4</td>
<td>105.5</td>
</tr>
<tr>
<td>FY2019</td>
<td>241.0</td>
<td>141.0</td>
</tr>
</tbody>
</table>

#### Automotive battery investment

- **- Nevada**: Operation launch of additional equipment in line with an increase in vehicle production
- **- Himeji**: Preparations for the start of mass production during FY2020
- **- Dalian**: Increase production capacity based on customers’ production plans.

* Restated the results of FY2018 based on the new structure.
FY2018 Summary
FY2019 Business Policy
Mid-term Strategy

Progress toward 2 Trillion Sales in Automotive Business

- Expected to achieve the initial "2 trillion yen in FY2019" target in FY2020 with a one-year delay.
- Aim to achieve the sales target of 2.5 trillion yen and be ranked among "the world's top 10" in FY2022.

Automotive business sales

- Started initiatives toward 2 trillion yen sales
- AIS Company established
- The Nevada battery factory launched operations
- Acquired OpenSynergy
- Consolidation of Ficosa
- The Dalian battery factory launched operations

FY2013 ➔ FY2017 CAGR +7%
FY2017 ➔ FY2022 CAGR +14%

1.0 trillion yen
1.3 trillion yen
1.7 trillion yen
1.8 trillion yen
2.0 trillion yen
2.5 trillion yen

Order ratio 96%
Order ratio 84%
Order ratio 50%

Current mid-term plan
Next mid-term plan

Be ranked among the world's top 10 auto parts manufacturers
**Mid-term Growth Scenario: Automotive Business**

- Contribute to the evolution of cars through the four key categories "IVI, cockpits, ADAS, and electric mechanisms."
- Take up challenges for new service businesses in a mobility society.

![Sales growth/operating profit rates](image)

*Size of circle: sales scale

- Achieve profit growth by focusing on the four key categories.
  - Increase the market share through the integrated systems of "IVI + cockpits."
  - Expand businesses by building a track record of receiving orders and mass production of low-speed ADAS and electric mechanisms.

**Mid-term Growth Scenario: Energy Business**

- Reinforce "manufacturing" and contribute to the proliferation of electric vehicles.
- Take up challenges of "using" to create new demand.

![Sales growth/operating profit rates](image)

*Size of circle: sales scale

- Reinforce "manufacturing"
  - Respond to the dynamic automotive battery demand while ensuring a reliable investment recovery.
  - Himeji: Start mass production during FY2020 and expand thereafter. (prismatic types)
  - Nevada: Toward more than 35 GWh/year (cylindrical types)
  - Dalian: Increase production lines by customer. (prismatic types)

- Take up challenges of "using"
  - Make new contributions in the information infrastructure area (power storage systems).
  - Build new ecosystems with partners (sharing services, etc.).
Mid-term Growth Scenario: Energy Business (Automotive Batteries)

- Deepen partnership with "top runner" customers.
- Further evolving "the world's No. 1 batteries" (cylindrical and prismatic types)

**Deepen customer relationships**

**<Collaborate as a "partner," rather than as a "supplier"->**

- [Image: Tesla, Toyota Motor]

**<Increase transactions with "top runner" customers>**

- [Image: Vehicle models that adopted our batteries]

- [Table: Delivered, Received orders, Underway]

- Japanese companies: 6 companies, 29 models
- US companies: 2 companies, 14 models
- European companies: 4 companies, 15 models

**Lead the industry through product competitiveness**

**<Superiority of our batteries>**

In addition to high safety, product development suitable for use

- Prismatic types
  - For HV: High output
  - For PHV and EV: High capacity
- Cylindrical types
  - For EV: High energy density

**<Further evolution>**

- New materials development: Industry-leading energy density (Increase nickel ratio, optimize cobalt ratio)
- New structure development: Improving safety and capacity per volume

---

Mid-term Growth Scenario: Industrial Business

- Achieve stable growth by concentrating on "labor saving," "information communication infrastructure," and "automotive electric systems," whose demands are strong in the society.
- Pursue high profitability through "modularization" and "runaway high market share" based on competitive devices.

**[Sales growth/operating profit rates’ ]**

(billion yen, %)

*Size of circle: sales scale

- Labor-saving factory
  - Increase customer value through core components that support automation.
  - Increasing automotive modules with competitive devices at the core.
- Information communication infrastructure
  - Expanding for base stations and data centers, by using unique technologies as advantages.
  - Highly reliable technologies that customers continue to select.

**[Diagram: Sales index (FY2018: 100)]**

- Conductive capacitors
- Multi-layer circuit board materials
- Automotive power control units
  - (EV relays + current sensors + battery monitor ICs)
- Inductors
Mid-term Concepts

- Partner up with "top runner" customers and continue to launch No. 1 products.
- Create new business areas to aim for "next growth."

**Shift to new business areas**
ICT → Automotive/industrial

**Further selection and concentration**
From “take all” to “choosing from alternatives”

**Addition of layers, promotion of platform development**
(Units, modules, systems, services)

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FY2014 FY2016 FY2019 FY2022 FY2031
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(Reference) Details of each business whose sales are disclosed

<table>
<thead>
<tr>
<th>Businesses whose sales are disclosed</th>
<th>Major products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive Infotainment Systems Business Division</td>
<td>• IVI, cockpit systems, car navigation systems, car AV systems, car speakers, etc.</td>
</tr>
<tr>
<td>Automotive Electronics Systems Business Division</td>
<td>• On board charging systems, camera modules, back &amp; corner sensors, etc.</td>
</tr>
<tr>
<td>Ficosa International, S.A.</td>
<td>• Automotive mirrors, shifter systems, communication modules, etc.</td>
</tr>
<tr>
<td>Energy Device Business Division</td>
<td>• Dry batteries, nickel metal-hydride rechargeable batteries, micro batteries, etc.</td>
</tr>
<tr>
<td>Energy Solutions Business Division</td>
<td>• Small lithium ion batteries, battery modules for storage, power storage systems, etc.</td>
</tr>
<tr>
<td>Tesla Energy Business Division</td>
<td>• Automotive/power storage cylindrical type lithium ion batteries, etc.</td>
</tr>
<tr>
<td>Automotive Energy Business Division</td>
<td>• Automotive prismatic-type lithium ion batteries, automotive nickel metal-hydride rechargeable batteries, etc.</td>
</tr>
<tr>
<td>Electromechanical Control Business Division</td>
<td>• Relays, connectors, switches, automotive power supplies, motors, FA sensors, etc.</td>
</tr>
<tr>
<td>Device Solutions Business Division</td>
<td>• Conductive polymer capacitors, resistors, inductors, inertial sensors, etc.</td>
</tr>
<tr>
<td>Electronic Materials Business Division</td>
<td>• Electronic circuit board materials, plastic molding compounds, encapsulation materials, advanced films, etc.</td>
</tr>
<tr>
<td>Panasonic Semiconductor Solutions Co., Ltd.</td>
<td>• IC/LSI, image sensors, compound semiconductor, lead frames, etc.</td>
</tr>
<tr>
<td>Panasonic Liquid Crystal Display Co., Ltd.</td>
<td>• IPS liquid crystal display panel</td>
</tr>
</tbody>
</table>