Nomura Investment Forum 2019
Financial Information

HORIBA, Ltd.
December 2, 2019
Contents

■ 2019 First Half / 3Q Results
■ 2019 Forecast
■ Outlines by Business Segments
■ Shareholder Return
■ Other Topics
  ● Financial Data
  ● Corporate Profile
### Review of 2019 First Half

<table>
<thead>
<tr>
<th>External Events</th>
<th>Internal Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>◆ The accelerating US-China trade conflict and the deteriorating Japan-South Korea relationship</td>
<td>◆ Continually-enhanced R&amp;D bases on a global level</td>
</tr>
<tr>
<td>◆ Intensified Brexit uncertainties</td>
<td>◆ Aggressive launch of new products</td>
</tr>
<tr>
<td>◆ Slowdown in capital spending for semiconductors</td>
<td>◆ Selected as a “Nadeshiko Brand” and for the “Health &amp; Productivity Stock Selection Program” by METI and the Tokyo Stock Exchange</td>
</tr>
</tbody>
</table>
Summary of 2019 First-Half Results

Significant year-on-year decrease in sales and profit due to a slowdown of the Semiconductor segment

P&L
- Year-on-year decrease in sales and profit of the Semiconductor segment
- Decline in profitability of the Automotive segment due to a change in geographical sales mix and other factors

B/S
- Total assets were ¥273.6bn, down ¥3.6bn, mainly due to collection of accounts receivable
- Total liabilities were ¥111.6bn, down ¥3.6bn, mainly due to decrease in accounts payable and loan repayment
- Equity ratio: 58.9%  
  (Compared to the end of Dec. 2018)

CF
- Operating CF: Cash in ¥13.8bn due to operating profit and collection of accounts receivable
- Investing CF: Cash out ¥4.2bn due to acquisition of tangible fixed assets
- Financial CF: Cash out ¥7.2bn due to dividend payment
- Free CF +¥9.5bn
# 2019 First Half Results

(Billions of Yen)

<table>
<thead>
<tr>
<th></th>
<th>2018 1st Half</th>
<th>Forecast (as of Feb.12)</th>
<th>2019 1st Half</th>
<th>vs 2018</th>
<th>vs Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sales</strong></td>
<td>99.9</td>
<td>96.0</td>
<td>91.6</td>
<td>- 8.3</td>
<td>- 4.3</td>
</tr>
<tr>
<td><strong>Operating Profit</strong></td>
<td>14.0</td>
<td>10.5</td>
<td>8.2</td>
<td>- 5.7</td>
<td>- 2.2</td>
</tr>
<tr>
<td><strong>OP %</strong></td>
<td>14.1%</td>
<td>10.9%</td>
<td>9.0%</td>
<td>-5.1p</td>
<td>-1.9p</td>
</tr>
<tr>
<td><strong>Ordinary Profit</strong></td>
<td>13.7</td>
<td>10.3</td>
<td>8.0</td>
<td>- 5.6</td>
<td>- 2.2</td>
</tr>
<tr>
<td><strong>Net Profit attributable to Owners of Parent</strong></td>
<td>10.5</td>
<td>7.0</td>
<td>5.7</td>
<td>- 4.7</td>
<td>- 1.2</td>
</tr>
<tr>
<td><strong>USD / JPY</strong></td>
<td>108.67</td>
<td>110.00</td>
<td>110.06</td>
<td>+1.39</td>
<td>+0.06</td>
</tr>
<tr>
<td><strong>EUR / JPY</strong></td>
<td>131.55</td>
<td>125.00</td>
<td>124.32</td>
<td>-7.23</td>
<td>-0.68</td>
</tr>
</tbody>
</table>
## 2019 First Half Results by Segment

(Billions of Yen)

<table>
<thead>
<tr>
<th></th>
<th>Sales</th>
<th>Operating Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Results</td>
<td>Forecast (as of Feb. 12)</td>
</tr>
<tr>
<td><strong>Auto</strong></td>
<td>32.7</td>
<td>36.0</td>
</tr>
<tr>
<td><strong>P&amp;E</strong></td>
<td>9.2</td>
<td>10.0</td>
</tr>
<tr>
<td><strong>Medical</strong></td>
<td>13.1</td>
<td>14.0</td>
</tr>
<tr>
<td><strong>Semi</strong></td>
<td>32.3</td>
<td>23.0</td>
</tr>
<tr>
<td><strong>Scientific</strong></td>
<td>12.5</td>
<td>13.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>99.9</td>
<td>96.0</td>
</tr>
</tbody>
</table>

* : Record-high
## 2019 3Q (Jan.-Sep.) Results

(Billions of Yen)

### (by Segment)

<table>
<thead>
<tr>
<th></th>
<th>2018 3Q</th>
<th>2019 3Q</th>
<th>vs 2018</th>
<th>Results</th>
<th>2018 3Q</th>
<th>2019 3Q</th>
<th>vs 2018</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sales</strong></td>
<td>146.0</td>
<td>137.0</td>
<td>-9.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Operating Profit</strong></td>
<td>17.8</td>
<td>12.0</td>
<td>-5.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>OP %</strong></td>
<td>12.2%</td>
<td>8.8%</td>
<td>-3.4p</td>
<td></td>
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<tr>
<td><strong>Ordinary Profit</strong></td>
<td>17.5</td>
<td>11.5</td>
<td>-5.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Net Profit attributable to Owners of Parent</strong></td>
<td>13.4</td>
<td>8.4</td>
<td>-5.0</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>USD / JPY</strong></td>
<td>109.60</td>
<td>109.12</td>
<td>-0.48</td>
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<td></td>
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</tr>
<tr>
<td><strong>EUR / JPY</strong></td>
<td>130.87</td>
<td>122.62</td>
<td>-8.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Auto
- **Sales**: 48.3
- **Operating Profit**: 1.7
- **OP %**: 12.2%
- **Ordinary Profit**: 17.5
- **Net Profit attributable to Owners of Parent**: 13.4

### P&E
- **Sales**: 13.4
- **Operating Profit**: 1.1
- **OP %**: 8.8%
- **Ordinary Profit**: 13.4
- **Net Profit attributable to Owners of Parent**: 13.4

### Medical
- **Sales**: 19.2
- **Operating Profit**: 1.3
- **OP %**: 12.2%
- **Ordinary Profit**: 19.2
- **Net Profit attributable to Owners of Parent**: 19.2

### Semi
- **Sales**: 45.4
- **Operating Profit**: 14.0
- **OP %**: 31.7%
- **Ordinary Profit**: 45.4
- **Net Profit attributable to Owners of Parent**: 45.4

### Scientific
- **Sales**: 19.5
- **Operating Profit**: 0.9
- **OP %**: 10.2%
- **Ordinary Profit**: 19.5
- **Net Profit attributable to Owners of Parent**: 19.5

### Total
- **Sales**: 146.0
- **Operating Profit**: 17.8
- **OP %**: 12.2%
- **Ordinary Profit**: 17.8
- **Net Profit attributable to Owners of Parent**: 13.4
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## Market Assumptions for 2019

<table>
<thead>
<tr>
<th>Sector</th>
<th>Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto</td>
<td>Strong appetite for investment in the global automotive sector due to tighter emission regulations mainly in Asia and innovation for electrification &amp; autonomous driving. Global investment slowdown</td>
</tr>
<tr>
<td>P&amp;E</td>
<td>Increase in demand due to tighter environmental regulations in emerging countries  &lt;br&gt; Recovery in investment in the oil industry</td>
</tr>
<tr>
<td>Medical</td>
<td>Japan: Favorable sales to doctors in private practice  &lt;br&gt; Overseas: Increase in demand for blood testing equipment in emerging countries</td>
</tr>
<tr>
<td>Semi</td>
<td>Subdued capital spending by semiconductor manufacturers  &lt;br&gt; Anticipate a pick-up in investment, on the background of robust demand for semiconductor devices from a mid- to long-term perspective</td>
</tr>
<tr>
<td>Scientific</td>
<td>Robust corporate R&amp;D spending  &lt;br&gt; Accelerating research on new materials for secondary batteries</td>
</tr>
</tbody>
</table>
## Exchange rate

<table>
<thead>
<tr>
<th></th>
<th>2018 Results</th>
<th>2019 Forecast</th>
<th>2019 Results</th>
<th>2019 Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1st Half</td>
<td>Jan.-Sep.</td>
<td>Full year</td>
<td>Forecast</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(as of Feb. 12)</td>
</tr>
<tr>
<td><strong>USD</strong></td>
<td>108.67</td>
<td>109.60</td>
<td>110.44</td>
<td>110</td>
</tr>
<tr>
<td><strong>EUR</strong></td>
<td>131.55</td>
<td>130.87</td>
<td>130.35</td>
<td>125</td>
</tr>
</tbody>
</table>

### 1 yen O.P. sensitivity for 2019 Forecast (Yen appreciation/Full year)

- USD: -230 million yen
- EUR: -20 million yen
## 2019 Forecast

(Billions of yen)

<table>
<thead>
<tr>
<th></th>
<th>2018 Results</th>
<th>Forecast (as of Feb. 12)</th>
<th>Forecast (as of Aug. 6)</th>
<th>Forecast (as of Nov. 11)</th>
<th>vs 2018</th>
<th>vs Previous Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sales</strong></td>
<td>210.5</td>
<td>218.0</td>
<td>213.0</td>
<td>207.0</td>
<td>-3.5</td>
<td>-6.0</td>
</tr>
<tr>
<td><strong>Operating Profit</strong></td>
<td>28.8</td>
<td>29.0</td>
<td>25.0</td>
<td>23.0</td>
<td>-5.8</td>
<td>-2.0</td>
</tr>
<tr>
<td><strong>OP %</strong></td>
<td>13.7%</td>
<td>13.3%</td>
<td>11.7%</td>
<td>11.1%</td>
<td>-2.6p</td>
<td>-0.6p</td>
</tr>
<tr>
<td><strong>Ordinary Profit</strong></td>
<td>28.3</td>
<td>28.5</td>
<td>24.5</td>
<td>22.5</td>
<td>-5.8</td>
<td>-2.0</td>
</tr>
<tr>
<td><strong>Net Profit attribute to Owners of Parent</strong></td>
<td>22.3</td>
<td>20.0</td>
<td>17.5</td>
<td>16.0</td>
<td>-6.3</td>
<td>-1.5</td>
</tr>
<tr>
<td><strong>Net profit per share (Yen)</strong></td>
<td>529</td>
<td>474</td>
<td>414</td>
<td>379</td>
<td>-150</td>
<td>-35</td>
</tr>
<tr>
<td><strong>ROE</strong></td>
<td>14.3%</td>
<td>11.9%</td>
<td>10.5%</td>
<td>9.7%</td>
<td>-4.6p</td>
<td>-0.8p</td>
</tr>
</tbody>
</table>
## 2019 Forecast by Segment

(Billions of yen)

<table>
<thead>
<tr>
<th></th>
<th>Sales</th>
<th>Operating Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2018 Results</td>
<td>2019 Forecast</td>
</tr>
<tr>
<td></td>
<td>Forecast (as of Feb. 12)</td>
<td>Forecast (as of Aug. 6)</td>
</tr>
<tr>
<td>Auto</td>
<td>79.6</td>
<td>85.0</td>
</tr>
<tr>
<td>P&amp;E</td>
<td>19.3</td>
<td>20.0</td>
</tr>
<tr>
<td>Medical</td>
<td>26.0</td>
<td>28.0</td>
</tr>
<tr>
<td>Semi</td>
<td>57.7</td>
<td>55.0</td>
</tr>
<tr>
<td>Scientific</td>
<td>27.7</td>
<td>30.0</td>
</tr>
<tr>
<td>Total</td>
<td>210.5</td>
<td>218.0</td>
</tr>
</tbody>
</table>
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First Half Results and 2019 Forecast

2019 First Half Results

EMS
Higher demand in China and India, driven by adoption of new regulations
Robust demand in Europe continued even after the introduction of new regulations WLTP

MCT¹
Increase in projects in Japan and Europe

ECT²
Business expansion in the next-gen automotive technology development field

1: Mechatronics  2: Engineering Consultancy & Testing

2019 Full Year Forecast

EMS
Weak shipment amid an economic slowdown in Asia

MCT
Increase in demand for fuel cell test systems

ECT
Aggressive investment to accelerate growth but weak sales. Operating expense on an increasing trend

(comment updated as of Nov. 11)

【Half year】Sales and O.P.

<table>
<thead>
<tr>
<th>Sales (Billions of yen)</th>
<th>O.P. (Billions of yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>55.0</td>
</tr>
<tr>
<td>2015</td>
<td>58.2</td>
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<tr>
<td>2016</td>
<td>62.2</td>
</tr>
<tr>
<td>2017</td>
<td>73.3</td>
</tr>
<tr>
<td>2018</td>
<td>79.6</td>
</tr>
</tbody>
</table>

【Full year】Sales and O.P.

<table>
<thead>
<tr>
<th>Sales (Billions of yen)</th>
<th>O.P. (Billions of yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>55.0</td>
</tr>
<tr>
<td>2015</td>
<td>64.2</td>
</tr>
<tr>
<td>2016</td>
<td>73.3</td>
</tr>
<tr>
<td>2017</td>
<td>79.6</td>
</tr>
</tbody>
</table>

(comment updated as of Nov. 11)
First Half Results and 2019 Forecast

2019 First Half Results

【Stack gas analyzers】
Strong sales in Japan

【Air quality monitoring】
Decline from last year when a large project was recorded in Asia
Increase in demand in Europe

【Water quality monitoring】
Sales increase due to business growth in emerging countries

2019 Full Year Forecast

(comment updated as of Nov. 11)

【Stack gas analyzers】
Anticipate business expansion in emerging countries, including China and India

【Process measurement equipment】
Robust demand due to rising crude oil prices

【Water quality monitoring】
Robust sales of a new product, the water quality monitoring system for ships

[Graphs showing sales and O.P. for 2014-2019 for both first half and full year, with updated comments as of Nov. 11]
2019 First Half Results

- Decrease in sales from Europe in yen terms due to the euro’s depreciation against the yen
+ Business expansion in emerging countries, including China and India
+ Enhanced sales of the new product but new entrants in the market in Japan

2019 Full Year Forecast

(Comment updated as of Nov. 11)

+ Anticipate growth in micro-blood analysis system business, driven by a new product launch
+ Further business expansion in emerging countries due to an increase in demand
+ Operating expense on an increasing trend
First Half Results and 2019 Forecast

### 2019 First Half Results
- Decline in both sales and operating profit comparing with the previous year
- Semiconductor manufacturers’ capital expenditure adjustment continued.

### 2019 Full Year Forecast
- Anticipate the current condition to continue despite some signs of investment recovery by semiconductor manufacturers
- Expect an increase in demand in the medium- to long-term

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(Billions of yen)

#### First Half Results

<table>
<thead>
<tr>
<th></th>
<th>Sales</th>
<th>O.P.</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.1H</td>
<td>17.8</td>
<td>4.4</td>
</tr>
<tr>
<td>16.2H</td>
<td>20.9</td>
<td>5.1</td>
</tr>
<tr>
<td>17.1H</td>
<td>24.7</td>
<td>6.7</td>
</tr>
<tr>
<td>17.2H</td>
<td>28.5</td>
<td>8.8</td>
</tr>
<tr>
<td>18.1H</td>
<td>32.3</td>
<td>10.2</td>
</tr>
<tr>
<td>18.2H</td>
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<td>19.1H</td>
<td>22.7</td>
<td>5.3</td>
</tr>
<tr>
<td>19.2H</td>
<td>27.2</td>
<td>6.6</td>
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</table>

#### Full Year Forecast

<table>
<thead>
<tr>
<th></th>
<th>Sales</th>
<th>O.P.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>28.9</td>
<td>6.4</td>
</tr>
<tr>
<td>2015</td>
<td>35.3</td>
<td>9.4</td>
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<tr>
<td>2016</td>
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<td>9.6</td>
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<td>2017</td>
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<tr>
<td>2019</td>
<td>50.0</td>
<td>12.0</td>
</tr>
<tr>
<td>2019</td>
<td>50.0</td>
<td>12.0</td>
</tr>
</tbody>
</table>

(Comment updated as of Nov. 11)
First Half Results and 2019 Forecast

2019 First Half Results

+ Sales increase in Asia and Americas on the background of robust corporate R&D spending
+ Improvement in profitability compared to last year when one-off expenses were recorded in Americas

2019 Full Year Forecast

+ Enhance initiatives aimed for business expansion in the materials analysis of secondary battery
+ Product customization increased, but the expense increased in order to approach new customer
- Weak sales in Asia

(comment updated as of Nov. 11)
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Shareholder Return

Basic policy
- Dividend payment + Share buyback = 30% of Consolidated net profit to be targeted
- Remaining earnings are retained internally for strategic investment (i.e. facilities, M&A)

Dividends per share and Share buybacks
- 2017 Results 116yen [Interim 40yen/Year-end 76yen]
- 2018 Results 145yen [Interim 50yen/Year-end 95yen]
- 2019 Forecast 130yen [Interim 50yen/Year-end 80yen]

Ordinary dividend: 125yen
Commemorative dividend for the 65th anniversary of the company foundation: 20yen

Renewed record-highs in dividend in 9 years
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Withdrawal from the ITS* business

- Developed and provided total management systems that enabled monitoring of commercial vehicle driving information
- Commoditization of onboard devices made it hard to differentiate the products
- Will end to sell products and offer services by 2024
- Recorded non-operating income and expense in the second quarter of 2019 but the impact was immaterial.

Make use of knowledge of R&D/operation of cloud system services, obtained in the ITS business, to develop new businesses.
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Operating Profit Analysis (vs 2018)

(Billions of yen)


17.87

- Decrease Sales: -5.66
- Decrease Cost of Goods Sales: +1.34
- Exchange Impact for Gross Profit: -1.32
- Exchange Impact for Expenses: +0.94
- Increase R&D Cost: -1.55
- Decrease Other Expense: +0.38


12.00

Decrease Gross Profit: -4.32
Exchange Impact: -0.38
Increase Expenses: -1.17

Decrease Operating Profit: -5.87
## Impact of Fluctuation in Foreign exchange

### Exchange rate impact (2019 First Half results)

Sales -¥1.63bn  O.P. -¥0.14bn

<table>
<thead>
<tr>
<th></th>
<th>2019 First Half results</th>
<th>vs 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease Sales</td>
<td></td>
<td>- 1.63</td>
</tr>
<tr>
<td>Decrease Cost of Goods Sales</td>
<td></td>
<td>+ 1.01</td>
</tr>
<tr>
<td>Decrease Expenses</td>
<td></td>
<td>+ 0.47</td>
</tr>
<tr>
<td>Impact to Operating Profit</td>
<td></td>
<td>- 0.14</td>
</tr>
</tbody>
</table>

### Exchange rate impact for 2019 Forecast

1 yen impact of Sales and O.P. (Yen appreciation)

Sales
- USD -¥0.44bn
- EUR -¥0.37bn

Operating Profit
- USD -¥0.23bn
- EUR -¥0.02bn

<table>
<thead>
<tr>
<th>(Yen)</th>
<th>2018 1st Half</th>
<th>2019 1st Half</th>
<th>Diff.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>USD</strong></td>
<td>108.67</td>
<td>110.06</td>
<td>+ 1.39</td>
</tr>
<tr>
<td><strong>EUR</strong></td>
<td>131.55</td>
<td>124.32</td>
<td>-7.23</td>
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<table>
<thead>
<tr>
<th>(JPY) 2019 Forecast</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>USD</strong></td>
<td>110.00</td>
</tr>
<tr>
<td><strong>EUR</strong></td>
<td>125.00</td>
</tr>
</tbody>
</table>
## Capital Investment, Depreciation, R&D

(Billions of yen)

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>2019</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Result</td>
<td>Forecast (as of Aug 6)</td>
<td>Forecast (as of Nov. 11)</td>
<td>vs 2018</td>
</tr>
<tr>
<td>Capital Investment</td>
<td>10.2</td>
<td>16.0</td>
<td>14.0</td>
<td>+3.7</td>
</tr>
<tr>
<td>Depreciation</td>
<td>7.2</td>
<td>8.0</td>
<td>8.0</td>
<td>+0.7</td>
</tr>
<tr>
<td>R&amp;D (To Net Sales)</td>
<td>15.1</td>
<td>16.0</td>
<td>16.0</td>
<td>+0.8</td>
</tr>
<tr>
<td>(To Net Sales)</td>
<td>7.2%</td>
<td>7.5%</td>
<td>7.7%</td>
<td></td>
</tr>
</tbody>
</table>

- **PP&E**
  - Enhancement of Asia bases, Investment to HORIBA MIRA,
  - Battery evaluation testing facility (HORIBA BIWAKO E-HARBOR)
- **R&D**
  - Increase in Automotive and Semiconductor segments

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>vs 3Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>3Q</td>
<td>7.4</td>
<td>8.3</td>
<td>60%</td>
</tr>
<tr>
<td>3Q</td>
<td>5.2</td>
<td>6.4</td>
<td>81%</td>
</tr>
<tr>
<td>vs 3Q</td>
<td>10.9</td>
<td>12.2</td>
<td>77%</td>
</tr>
</tbody>
</table>

(To Net Sales) 7.2% 7.5% 7.7% 7.5% 9.0%
## Consolidated Cash Flows (First Half)

(Billions of yen)

<table>
<thead>
<tr>
<th></th>
<th>2019 1st Half</th>
<th>2018 1st Half</th>
<th>Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash flows from operating activities</td>
<td>+13.84</td>
<td>+12.40</td>
<td>+1.44</td>
</tr>
<tr>
<td>Cash flows from investing activities</td>
<td>-4.26</td>
<td>-4.43</td>
<td>+0.16</td>
</tr>
<tr>
<td>Cash flows from financing activities</td>
<td>-7.26</td>
<td>-4.31</td>
<td>-2.94</td>
</tr>
<tr>
<td>Cash and cash equivalents at end of year</td>
<td>+64.64</td>
<td>+61.47</td>
<td>+3.17</td>
</tr>
<tr>
<td>Free cash flows</td>
<td>+9.58</td>
<td>+7.97</td>
<td>+1.60</td>
</tr>
</tbody>
</table>
## Cash Balance

### (Billions of yen)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Loan Balance</th>
<th>Current ratio</th>
<th>Capital ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>Cash* 51.9</td>
<td>237%</td>
<td>55%</td>
</tr>
<tr>
<td></td>
<td>Bonds 15.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Long 19.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Short 12.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>Cash* 58.3</td>
<td>239%</td>
<td>57%</td>
</tr>
<tr>
<td></td>
<td>Bonds 15.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Long 18.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Short 8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>Cash* 62.8</td>
<td>246%</td>
<td>58%</td>
</tr>
<tr>
<td></td>
<td>Bonds 15.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Long 17.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Short 12.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019 end of Sep.</td>
<td>Cash* 63.4</td>
<td>249%</td>
<td>59%</td>
</tr>
<tr>
<td></td>
<td>Bonds 15.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Long 16.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Short 9.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


*Cash*…Cash and Cash Equivalents at End of Period.
## Issue of Unsecured Straight Bonds

<table>
<thead>
<tr>
<th></th>
<th>5th Unsecured Straight Bonds</th>
<th>6th Unsecured Straight Bonds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total amt. of issue</td>
<td>15 billion yen</td>
<td>15 billion yen</td>
</tr>
<tr>
<td>Interest rates</td>
<td>0.18% per annum</td>
<td>0.27% per annum</td>
</tr>
<tr>
<td>Date of Issue</td>
<td>October 17, 2019</td>
<td></td>
</tr>
<tr>
<td>Maturity Date</td>
<td>October 16, 2026, (7 years)</td>
<td>October 17, 2029, (10 years)</td>
</tr>
<tr>
<td>Purposes</td>
<td>Bond redemption, CAPEX, other investments, repayment of borrowings and working capital</td>
<td></td>
</tr>
</tbody>
</table>

### Loan situation

- **Bonds (Newly issued)**: 300 billion yen
- **Bonds (redemption in 2020)**: 150 billion yen
- **Borrowed for MIRA acquisition**: 151 billion yen

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonds</td>
<td>150</td>
<td>150</td>
<td>151</td>
<td>151</td>
</tr>
<tr>
<td>Borrowed</td>
<td>151</td>
<td>151</td>
<td>151</td>
<td></td>
</tr>
</tbody>
</table>

(Billions of yen)
Contents

- 2019 First Half / 3Q Results
- 2019 Forecast
- Outlines by Business Segments
- Shareholder Return
- Other Topics
- Financial Data
- Corporate Profile
Business Segments

Net Sales
210.5 billion yen

Sales by business segment (%)
Fiscal 2018

Scientific: 13%
Automotive: 38%
Semiconductor: 28%
Medical: 12%
P&E: 9%

Expanding in New Domains
and
Moving onto a New Stage
Global Network

(As of December 31, 2018)

Employees by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>The number of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td>991 (12%)</td>
</tr>
<tr>
<td>Europe</td>
<td>2,637 (33%)</td>
</tr>
<tr>
<td>Asia</td>
<td>4,315 (55%)</td>
</tr>
<tr>
<td>Total</td>
<td>7,943</td>
</tr>
</tbody>
</table>

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HORIBA’s Business Domain from Nano- to Cosmic-Level Analysis

- **Agriculture**
  - Plant factory
  - Soil analysis
  - Food safety
  - Safety management

- **Water Quality Management**
  - Monitoring system
  - Compliance with waste water regulations

- **Global Environment Conservation**
  - Monitoring air pollution
  - Renewable energy/power plant
  - Greenhouse gases

- **IT Infrastructure**
  - IoT, Cloud, 5G
  - Automation informatics

- **Automotive/Ship Development**
  - Ultra-low emission
  - Vehicle electrification, EV
  - Autonomous driving
  - Regulatory compliance

- **New Material Development**
  - Secondary battery
  - Biomaterial
  - Steel and ceramics

- **Manufacturing Process**
  - Semiconductor device
  - Solar panels
  - Petrochemical plant

- **Health and Security**
  - Diagnostic equipment
  - New drug development
  - Drinking water

- **Space Development**
  - Planetary probe
  - Auroral analysis

- **Space Development**
  - Planetary probe
  - Auroral analysis
HORIBA’s Steady Growth: x10 Net Sales and x18 Op. Profit in 30 years

Fiscal year ending Dec. 2018
Net sales: 210.5 billion yen
Operating profit: 28.8 billion yen

1953 HORIBA, LTD. was established


1953
HORIBA, LTD. was established

Founded business as student entrepreneur

Developed globally successful products

Expanded business globally through M&A

Moving on to the next stage with our new management

President
Masao Horiba
Masahiro Oura
Atsushi Horiba
Masayuki Adachi

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HORIBA BIWAKO E-HARBOR
HORIBA BIWAKO E-HARBOR

- Consolidating development, design, and production operations of gas measurement equipment at a single location
- Doubling of production capability and shortening delivery time to one-third by using a new production methodology
- Comprehensive engineering services from sales to development, production, and maintenance in the Automotive testing laboratory

- Profitability improvement of exhaust gas analyzers
- Presenting cutting edge automotive development technology

Total investment: 10.0 billion yen, Location: Otsu City, Shiga Prefecture, Full operation: May 2016
xEV system test cell

Performance evaluation of battery / fuel cell

Powertrain test cell  Engine test cell  Vehicle test cell

CELL 0  CELL 1  CELL 2  CELL 3

E-LAB

Test in the Loop

Battery Test  Fuel Cell Test
Discharging  Charging
Powertrain Test  Electric Motor Test
Vehicle Test

Engine Test
Expansion of E-LAB for xEV Technology (CELL Zero)

Expanding E-LAB to add test facility for secondary batteries and fuel cells

【Features of facility】

- Providing a wide temperature range of test environment
  → To be used for xEV and fuel cell evaluation
- CELL Zero to be connected with CELL 1, 2 and 3
  → Total evaluation system “Test in the Loop”

Objective of “Test in the Loop”

Proposal of a highly-efficient R&D environment for electric vehicles
- Data measurement in virtual environment of a real vehicle
- Performance verification, using a real vehicle with the embedded simulation model

Opened in Nov. 2019
@HORIBA BIWAko E-HARBOR
Information on page 40 to 41 are as of acquired the company.
## HORIBA MIRA Ltd.

Providing Engineering Service with World Leading Mobility Development Capability and R&D Location with Dedicated Facilities and Proving Ground

| Business Offering | 1. Vehicle development engineering  
|                   | 2. Test engineering               
|                   | 3. MIRA Technology Park (Providing Unique R&D Location) |
| Established       | 1946                             |
| Head office       | Nuneaton, Warwickshire, UK       |
| Major locations   | U.K., China, and India           |

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MIRA Technology Park

Various experiments using a large test course

MIRA Technology Park
30 customers

Test Site
More than 35 Test Sites
Wind Tunnels(3)/EMC(9)/Crash lab/NVH Chassis/Battery test

Proving ground
• Performance(4.5km)
• Off road
• Wet surface
• City Circuit
• Noise-Generating
• Ride & Durability

Transmission test
Braking systems
Tire development
Durability
Dr. Akira Yoshino, who was awarded the Nobel Prize in Chemistry 2019, attended the ceremony as the chairperson of the award.

Contribute to accelerating innovation through supporting young researchers and engineers globally

Theme of this year
Cutting-edge analysis and measurement technologies for efficient control in order to optimize energy and battery utilization

【Award ceremony】
- Presentation and poster session
  - Introduced research themes by awardees
  - Discussion with awardees about themes directly
- Many experts from governments and academic institutions attended

【Purposes for future】
- Strengthen relationship with research institutions
- Realize results from researches and lead to enlarge HORIBA's business related to electrification

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Thank you