Financial Information

HORIBA, Ltd.

September, 2019
Contents

- 2019 First Half Results
- 2019 Forecast
- Outlines by Business Segments
- Shareholder Return
- Other Topics
- Financial Data
- Corporate Profile
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## 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>Segment</th>
<th>Sales (as of Feb. 12)</th>
<th>Operating Profit (as of Feb. 12)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Results</td>
<td>Forecast</td>
</tr>
<tr>
<td>Auto</td>
<td>32.7</td>
<td>36.0</td>
</tr>
<tr>
<td>P&amp;E</td>
<td>9.2</td>
<td>10.0</td>
</tr>
<tr>
<td>Medical</td>
<td>13.1</td>
<td>14.0</td>
</tr>
<tr>
<td>Semi</td>
<td>32.3</td>
<td>23.0</td>
</tr>
<tr>
<td>Scientific</td>
<td>12.5</td>
<td>13.0</td>
</tr>
<tr>
<td>Total</td>
<td>99.9</td>
<td>96.0</td>
</tr>
</tbody>
</table>

- Record-high

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## Market Assumptions for 2019

<table>
<thead>
<tr>
<th>Sector</th>
<th>Assumptions</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</td>
</tr>
<tr>
<td>P&amp;E</td>
<td>Increase in demand due to tighter environmental regulations in emerging countries</td>
</tr>
<tr>
<td></td>
<td>Recovery in investment in the oil industry</td>
</tr>
<tr>
<td>Medical</td>
<td>Japan: Favorable sales to doctors in private practice</td>
</tr>
<tr>
<td></td>
<td>Overseas: Increase in demand for blood testing equipment in emerging countries</td>
</tr>
<tr>
<td>Semi</td>
<td>Subdued capital spending by semiconductor manufacturers</td>
</tr>
<tr>
<td></td>
<td>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</td>
</tr>
<tr>
<td></td>
<td>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</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1st Half</td>
<td>Full year</td>
<td>Previous Forecast (as of Feb. 12)</td>
<td>Results</td>
</tr>
<tr>
<td><strong>USD</strong></td>
<td>108.67</td>
<td>110.44</td>
<td>110</td>
<td>110.22</td>
</tr>
<tr>
<td><strong>EUR</strong></td>
<td>131.55</td>
<td>130.35</td>
<td>125</td>
<td>125.16</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>Previous Forecast (as of Feb. 12)</th>
<th>Forecast (as of Aug. 6)</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><strong>213.0</strong></td>
<td>+2.4</td>
<td>-5.0</td>
</tr>
<tr>
<td><strong>Operating Profit</strong></td>
<td>28.8</td>
<td>29.0</td>
<td><strong>25.0</strong></td>
<td>-3.8</td>
<td>-4.0</td>
</tr>
<tr>
<td><strong>OP %</strong></td>
<td>13.7%</td>
<td>13.3%</td>
<td><strong>11.7%</strong></td>
<td>-2.0p</td>
<td>-1.6p</td>
</tr>
<tr>
<td><strong>Ordinary Profit</strong></td>
<td>28.3</td>
<td>28.5</td>
<td><strong>24.5</strong></td>
<td>-3.8</td>
<td>-4.0</td>
</tr>
<tr>
<td><strong>Net Profit attribute to Owners of Parent</strong></td>
<td>22.3</td>
<td>20.0</td>
<td><strong>17.5</strong></td>
<td>-4.8</td>
<td>-2.5</td>
</tr>
<tr>
<td><strong>Net profit per share (Yen)</strong></td>
<td>529</td>
<td>474</td>
<td><strong>414</strong></td>
<td>-115</td>
<td>-60</td>
</tr>
<tr>
<td><strong>ROE</strong></td>
<td>14.3%</td>
<td>11.9%</td>
<td><strong>10.5%</strong></td>
<td>-3.8p</td>
<td>-1.4p</td>
</tr>
</tbody>
</table>

★ : Record-high
# 2019 Forecast by Segment

(Billions of yen)

<table>
<thead>
<tr>
<th>Segment</th>
<th>Sales</th>
<th>Operating Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2018</td>
<td>2019</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>

- ⭐: Record-high

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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

**MCT**
Increase in projects in Japan and Europe

**ECT**
Business expansion in the next-gen automotive technology development field

1: Mechatronics  2: Engineering Consultancy & Testing

**2019 Full Year Forecast**

**EMS**
Demand growth in China and India to continue

**MCT**
Increase in demand for fuel cell test systems

**ECT**
Aggressive investment to accelerate growth
Operating expense on an increasing trend

---

**Half year** Sales and O.P.

**Full year** Sales and O.P.

<table>
<thead>
<tr>
<th>Year</th>
<th>Half year Sales</th>
<th>Half year O.P.</th>
<th>Full year Sales</th>
<th>Full year O.P.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>55.0</td>
<td>5.8</td>
<td>85.0</td>
<td>9.0</td>
</tr>
<tr>
<td>2015</td>
<td>64.2</td>
<td>4.4</td>
<td>85.0</td>
<td>8.0</td>
</tr>
<tr>
<td>2016</td>
<td>62.2</td>
<td>3.5</td>
<td>85.0</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>73.3</td>
<td>7.6</td>
<td>85.0</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>79.6</td>
<td>7.7</td>
<td>85.0</td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>85.0</td>
<td>8.0</td>
<td>85.0</td>
<td></td>
</tr>
</tbody>
</table>

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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

**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

#### [Half year] Sales and O.P.

<table>
<thead>
<tr>
<th></th>
<th>16. 1H</th>
<th>16. 2H</th>
<th>17. 1H</th>
<th>17. 2H</th>
<th>18. 1H</th>
<th>18. 2H</th>
<th>19. 1H</th>
<th>19. 2H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>7.7</td>
<td>8.9</td>
<td>8.0</td>
<td>9.3</td>
<td>9.2</td>
<td>10.1</td>
<td>9.1</td>
<td>10.8</td>
</tr>
<tr>
<td>O.P.</td>
<td>0.8</td>
<td>0.6</td>
<td>0.3</td>
<td>0.7</td>
<td>0.8</td>
<td>1.1</td>
<td>0.6</td>
<td>1.3</td>
</tr>
</tbody>
</table>

#### [Full year] Sales and O.P.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>16.4</td>
<td>16.7</td>
<td>16.7</td>
<td>17.4</td>
<td>19.3</td>
<td>20.0</td>
<td>20.0</td>
</tr>
<tr>
<td>O.P.</td>
<td>2.0</td>
<td>1.7</td>
<td>1.5</td>
<td>1.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>

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First Half Results and 2019 Forecast

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

- 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

(Billions of yen)
Decline in both sales and operating profit comparing with the previous year

Semiconductor manufacturers’ capital expenditure adjustment continued.

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
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

+ Anticipate profitability improvement and market development through product customization
+ Enhance initiatives aimed for business expansion in the materials analysis of secondary battery

(Billions of yen)

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales</th>
<th>O.P.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>25.6</td>
<td>1.2</td>
</tr>
<tr>
<td>2015</td>
<td>27.0</td>
<td>1.3</td>
</tr>
<tr>
<td>2016</td>
<td>25.7</td>
<td>0.9</td>
</tr>
<tr>
<td>2017</td>
<td>26.1</td>
<td>0.4</td>
</tr>
<tr>
<td>2018</td>
<td>27.7</td>
<td>0.2</td>
</tr>
<tr>
<td>2019</td>
<td>30.0</td>
<td>1.0</td>
</tr>
<tr>
<td>2019</td>
<td>30.0</td>
<td>1.0</td>
</tr>
</tbody>
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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

**Per-share dividend (from 2004 to 2019 Forecast)**

- Renewed record-highs in dividend in 9 years

<table>
<thead>
<tr>
<th>Year</th>
<th>Ordinary Div. (yen)</th>
<th>Commemorative Div. (yen)</th>
<th>Div. Total (yen)</th>
<th>Total Return Ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>16</td>
<td>0</td>
<td>16</td>
<td>17.0%</td>
</tr>
<tr>
<td>2005</td>
<td>25</td>
<td>0</td>
<td>25</td>
<td>18.0%</td>
</tr>
<tr>
<td>2006</td>
<td>26</td>
<td>0</td>
<td>26</td>
<td>17.0%</td>
</tr>
<tr>
<td>2007</td>
<td>39</td>
<td>0</td>
<td>39</td>
<td>19.0%</td>
</tr>
<tr>
<td>2008</td>
<td>44</td>
<td>0</td>
<td>44</td>
<td>44.0%</td>
</tr>
<tr>
<td>2009</td>
<td>13</td>
<td>0</td>
<td>13</td>
<td>17.0%</td>
</tr>
<tr>
<td>2010</td>
<td>17</td>
<td>0</td>
<td>17</td>
<td>9.0%</td>
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<tr>
<td>2011</td>
<td>40</td>
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<td>40</td>
<td>20.0%</td>
</tr>
<tr>
<td>2012</td>
<td>40</td>
<td>0</td>
<td>40</td>
<td>50%</td>
</tr>
<tr>
<td>2013</td>
<td>60</td>
<td>0</td>
<td>60</td>
<td>29.0%</td>
</tr>
<tr>
<td>2014</td>
<td>67</td>
<td>0</td>
<td>67</td>
<td>28.2%</td>
</tr>
<tr>
<td>2015</td>
<td>70</td>
<td>0</td>
<td>70</td>
<td>26.8%</td>
</tr>
<tr>
<td>2016</td>
<td>85</td>
<td>0</td>
<td>85</td>
<td>30.6%</td>
</tr>
<tr>
<td>2017</td>
<td>116</td>
<td>0</td>
<td>116</td>
<td>27.6%</td>
</tr>
<tr>
<td>2018</td>
<td>125</td>
<td>0</td>
<td>125</td>
<td>30.0%</td>
</tr>
<tr>
<td>2019</td>
<td>130</td>
<td>0</td>
<td>130</td>
<td>27.4%</td>
</tr>
</tbody>
</table>

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

*ITS: Intelligent Transport Systems

- 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)

**2019 Jan. - Jun.**

- Decrease Sales: -6.72
- Decrease Cost of Goods Sales: +2.51
- Exchange Impact for Gross Profit: -0.61

**2018 Jan. – Jun.**

- Gross Profit: -4.21
- Exchange Impact: -0.14
- Increase Expenses: -1.41

- Operating Profit: -5.77

(Billions of yen)

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**Impact of Fluctuation in Foreign exchange**

(Billions of yen)

<table>
<thead>
<tr>
<th>Exchange rate impact (2019 First Half results)</th>
<th>Sales -¥1.63bn  O.P. -¥0.14bn</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019 First Half results</td>
<td>vs 2018</td>
</tr>
<tr>
<td>Decrease Sales</td>
<td>- 1.63</td>
</tr>
<tr>
<td>Decrease Cost of Goods Sales</td>
<td>+ 1.01</td>
</tr>
<tr>
<td>Decrease Expenses</td>
<td>+ 0.47</td>
</tr>
<tr>
<td>Impact to Operating Profit</td>
<td>- 0.14</td>
</tr>
</tbody>
</table>

(US$) 2019 Forecast
- Sales
  - USD -¥0.44bn
  - EUR -¥0.37bn

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

(End) 2019 Forecast
- USD 110.00
- EUR 125.00

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

### (Billions of yen)

<table>
<thead>
<tr>
<th></th>
<th>2018 Result</th>
<th>2019 Forecast (as of Aug 6)</th>
<th>vs 2018</th>
<th>vs Previous Forecast</th>
<th>1st Half Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capital Investment</strong></td>
<td>10.2</td>
<td>16.0</td>
<td>+5.7</td>
<td>-</td>
<td>5.7</td>
</tr>
<tr>
<td><strong>Depreciation</strong></td>
<td>7.2</td>
<td>8.0</td>
<td>+0.7</td>
<td>-</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>R&amp;D</strong></td>
<td>15.1</td>
<td>16.0</td>
<td>+0.8</td>
<td>-</td>
<td>7.2</td>
</tr>
<tr>
<td><em>(To Net Sales)</em></td>
<td>7.2%</td>
<td>7.3%</td>
<td>7.5%</td>
<td>7.2%</td>
<td>9.1%</td>
</tr>
</tbody>
</table>

### 2019 Topics

- **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
## Consolidated Cash Flows

(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

Total Loan Balance


Cash Balance (Billions of yen)

(Consolidated basis, each end of year)


Cash*…Cash and Cash Equivalents at End of Period.
Business Segments

Automotive Test Systems

Process & Environmental

Medical

Semiconductor

Scientific

Expanding in New Domains and Moving onto a New Stage

Net Sales
210.5 billion yen

Sales by business segment (%)
Fiscal 2018

Automotive 38%

Semiconductor 28%

Medical 12%

P&E 9%

Scientific 13%
Global Network

Employees by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Employees</th>
<th>The number of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td>991 (12%)</td>
<td>9</td>
</tr>
<tr>
<td>Europe</td>
<td>2,637 (33%)</td>
<td>22</td>
</tr>
<tr>
<td>Asia</td>
<td>4,315 (55%)</td>
<td>18 (4 in Japan, Including HORIBA, Ltd.)</td>
</tr>
<tr>
<td>Total</td>
<td>7,943</td>
<td>49</td>
</tr>
</tbody>
</table>

(As of December 31, 2018)
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


1970

1980

1990

2000

2010

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

Moving on to the next stage with our new management

President
Masao Horiba
Masahiro Oura
Atsushi Horiba
Masayuki Adachi

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

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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
Expansion of E-LAB for xEV Technology

Expanding E-LAB to add test facility for secondary batteries and fuel cells
(Operation is planned to start in 2019)

CELL 0

CELL 1

CELL 2

CELL 3

Additional facility

Cell and module testing, pack and fuel cell experiments
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)    |

<table>
<thead>
<tr>
<th>Established</th>
<th>1946</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head office</td>
<td>Nuneaton, Warwickshire, UK</td>
</tr>
<tr>
<td>Major locations</td>
<td>U.K., China, and India</td>
</tr>
</tbody>
</table>
MIRA Technology Park

Various experiments using a large test course

- MIRA Technology Park
  - 30 customers

- Test Site
  - “35” Test Site
  - 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
Mid-Long Term Management Plan “MLMAP2023”

HORIBA, Ltd.

September, 2019
MLMAP2023

1. Looking back on the current plan (MLMAP2020)
2. Numerical Targets
3. Priority Measures
4. Segment Strategy
5. Regional Strategy
6. Capital Strategy
MLMAP2023

1. Looking back on the current plan (MLMAP2020)
2. Numerical Targets
3. Priority Measures
4. Segment Strategy
5. Regional Strategy
6. Capital Strategy
20-Year Operating Results and Progress of MLMAP2020

Achieved continuous sales growth and high profitability through proactive investments with a long-term perspective

1.8 times sales growth in 8 years from 2010

Sales
Operating income
Net income

2001-2005

2006-2010

2011-2015

2016-2020

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales</th>
<th>Operating income</th>
<th>Net income</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>74.4</td>
<td>2.5</td>
<td>-1.0</td>
</tr>
<tr>
<td>2002</td>
<td>105.6</td>
<td>6.4</td>
<td>6.5</td>
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<tr>
<td>2003</td>
<td>116.0</td>
<td>11.2</td>
<td>11.7</td>
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<tr>
<td>2004</td>
<td>118.5</td>
<td>12.2</td>
<td>14.9</td>
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<td>2005</td>
<td>123.4</td>
<td>7.9</td>
<td>8.6</td>
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<td>2006</td>
<td>122.0</td>
<td>7.9</td>
<td>8.6</td>
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<td>2007</td>
<td>120.0</td>
<td>7.9</td>
<td>8.6</td>
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<tr>
<td>2008</td>
<td>118.5</td>
<td>12.2</td>
<td>14.9</td>
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<tr>
<td>2009</td>
<td>118.5</td>
<td>12.2</td>
<td>14.9</td>
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<td>2010</td>
<td>118.5</td>
<td>12.2</td>
<td>14.9</td>
</tr>
<tr>
<td>2011</td>
<td>118.5</td>
<td>12.2</td>
<td>14.9</td>
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<tr>
<td>2012</td>
<td>118.5</td>
<td>12.2</td>
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<td>2017</td>
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<td>14.9</td>
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<td>2018</td>
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<td>14.9</td>
</tr>
<tr>
<td>2019</td>
<td>118.5</td>
<td>12.2</td>
<td>14.9</td>
</tr>
<tr>
<td>2020</td>
<td>250.0</td>
<td>30.0</td>
<td>20.0</td>
</tr>
</tbody>
</table>

MLMAP2020 Profit plan

- Operating income: ¥30bn ⇒ Achieved 96% in 2018
- Net income: ¥20bn ⇒ Achieved in 2018

HORIBA, Ltd. and its domestic consolidated subsidiaries had formerly recognized revenue mainly on a shipping basis. However, starting from fiscal 2016, HORIBA, Ltd. and its domestic consolidated subsidiaries changed their revenue recognition method to a completion-date-of-installation or delivery-date basis under the terms and conditions of the relevant contracts. The amounts in or before fiscal 2015 are not retrospectively revised.

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Main Topics, 2016-2019 [M&A/Capital Investment]

Investing to expand business scale and areas at a time of drastic change in industrial structure

New businesses acquired through M&As

- [UK] MIRA Ltd. Strengthening the engineering capability
- [DE] FuelCon AG Strengthening the battery measurement business
- [US] MANTA Instruments, Inc. Strengthening particle measurement business
- Micro-blood analysis system business acquired from ROHM Co., Ltd
Main Topics, 2016-2019 [M&A/Capital Investment]

Investing to expand business scale and areas at a time of drastic change in industrial structure

Strengthening development/production capabilities: ¥40bn invested in 3 years

- **[US]** Optical measurement technology
  Strengthened the production/R&D base

- **[US]** Semiconductor business
  Strengthened the R&D base

- **[US]** Process measurement
  A new base for facility business

- **[US]** Support to a new institute of the University of California

- **[IN]** Test center for automotive

- **[KR]** Consolidation of production/sales/service base

- **[JP]** Aso plant
  The 5th expansion

- **[JP]** Battery evaluation test facility

- **[JP]** HORIBA BIWAKO E-HARBOR

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Background in Launching MLMAP2023

Urgent need to respond to the accelerated changes in business environment

- Significant changes in the trend of automotive industry
  - Electrification/ Autonomous driving
  - New entrants

- Accelerated advanced in technology development
  - AI/IoT
  - Bio/ healthcare
  - Advanced materials

- Increasing interest in solving social issues
  - Environmental protection
  - SDGs/ ESG investments
  - Workstyle reform
  - Diversity

Open up a new era toward 2023, the 70th-anniversary year of HORIBA’s founding, by utilizing all HORIBA resources under its new management team from 2018

MLMAP2023 Slogan ONE STAGE AHEAD
MLMAP2023

1. Looking back on the current plan (MLMAP2020)
2. Numerical Targets
3. Priority Measures
4. Segment Strategy
5. Regional Strategy
6. Capital Strategy
Numerical Targets of MLMAP2023

- Net sales: ￥300.0bn
- Operating income: ￥40.0bn
- Net income: ￥30.0bn
- EPS (Earnings Per Share): ￥711
- ROE: 10% or more
- Total return ratio: Target around 30%

Foreign exchange rate assumptions: ￥110/US$, ￥125/Euro
Numerical Targets of MLMAP2023

Advancing to the next stage with continuous growth in sales and profit

1.5 times growth from 2018

CAGR (Billions of yen)

Sales
2015→2018:7.2%
2018→2023:7.3%

Operating income
2015→2018:14.2%
2018→2023:6.8%

Net income
2015→2018:20.1%
2018→2023:6.1%

Sales
2015→2018:7.2%
2018→2023:7.3%
MLMAP2023

1. Looking back on the current plan (MLMAP2020)
2. Numerical Targets
3. Priority Measures
4. Segment Strategy
5. Regional Strategy
6. Capital Strategy
Priority Measures of MLMAP2023

1. Market Oriented Business
   To develop analysis and measurement solutions, utilizing HORIBA’s core technologies, in the leading three business fields of the mega trend

2. Solution Provider Beyond Life Cycle Management
   To support customers’ core businesses from all aspects – from product introduction to replacement

3. HORIBA Core Values “The Next Stage of Super Dream Team”
   To enhance the organizational structure that fosters resilient human resources, which are the driving force of all businesses
   BlackJack Project/Stained Grass Project/HORIBA Premium Value

MLMAP2023 Slogan “ONE STAGE AHEAD”
Concentrate R&D resources into specific analysis/measurement technologies. By applying the core technologies, develop products efficiently in our five business segments, which target different markets, and launch them.
### Priority Measure 1: “Market-Oriented Business”

To develop analysis and measurement solutions, utilizing HORIBA’s core technologies, in the leading three business fields of the mega trend.

<table>
<thead>
<tr>
<th>Market</th>
<th>Energy &amp; Environment</th>
<th>Materials &amp; Semiconductor</th>
<th>Bio &amp; Healthcare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Targets</td>
<td>Mobility, Power generation, Environmental preservation, Water</td>
<td>Advanced materials, Materials for semiconductor</td>
<td>Clinical diagnostic, Pharmaceutical, Drug discovery, Cells, DNA</td>
</tr>
<tr>
<td>Corresponding business segments</td>
<td>Automotive Test Systems</td>
<td>Semiconductor</td>
<td>Medical-Diagnostic</td>
</tr>
<tr>
<td></td>
<td>Process &amp; Environmental</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scientific</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Aims to transform itself into an entity that accelerates innovation by "measurement" technologies.
Priority Measure 2: Becoming a “Solution Provider Beyond Life Cycle Management”

To support customers’ businesses from all aspects, from installation to replacement

Products/Solution Packages

Support the efficient operation of customers’ facilities
Accurate facility management utilizing data from operations

Consulting with analysis technologies
Offer new value via analysis of measured data

Integrate equipment sales with high-value-added support

Always with you: HORIBA is always on the customer’s side
Priority Measure 3: “HORIBA Core Values”
The next stage of the Super Dream Team

BlackJack Project

To bring about changes in our awareness and activities, the project has yielded a system for sharing front-line operating information with the management:
- The cumulative number of project themes exceeds 9,000; collectively they are an integral part of HORIBA’s corporate culture.
- Leads the activities to turn in profits from investments

Policy for 2023

- Expand the BlackJack Project overseas (Asia)
- Make it a group-wide project
- Bring the management closer to the front-line globally

Stained Glass Project

HORIBA’s diversity promotion project

[Themes]
2014: Women’s empowerment
2017: Connect the Management/HR/Front-line

Policy for 2023

- Promote personnel exchanges among group companies
- Adopt a remote-work system in Jan. 2019
- Pursue both job satisfaction and comfortable working environment
- Promote activities globally
- Lead the personnel system reform

HORIBA’s World Cup goes to the best proposal from reps from several nations. In 2018, India won first prize.
Priority Measure 3: “HORIBA Core Values”
Improve asset efficiency with HORIBA Premium Value

Budgeting by using HORIBA’s unique KPI (subtracting “Cost of Capital” from “Operating Income”) that measures capital efficiency

HORIBA Premium Value

Operating income - Cost of Capital

[Invested Capital X Internal WACC]

- A simple calculation method, easily adopted by group companies
- Use of “Operating Profit,” monitored by business divisions every day
- Evaluate in absolute monetary terms, easily capturing effects and targets achievement

Approach for the enhancement of capital efficiency

- Value drivers
- Examples of activity targets by segment

Flexible Procurement
Just in Time!

Well recognized globally

Ultimate Supply Chain
Stream Production!

Reform of entire production processes with partner companies

Proper Working Capital
CCC* Improvement!

Adequate global control of Accounts Receivable and Inventory

*CCC: Cash Conversion Cycle
1. Looking back on the current plan (MLMAP2020)
2. Numerical Targets
3. Priority Measures
4. Segment Strategy
5. Regional Strategy
6. Capital Strategy
Vision of MLMAP2023

Application-driven business

Provide the best applications in four business areas.
Establish a position as an indispensable partner in the automotive development field.

Emissions: Engine/exhaust gas
Energy efficiency: Electrification
CAV: Connected/autonomous driving system
Enterprise Data Management for Development: Overall vehicle-related R&D

Target for 2023
Sales of ¥120bn; Operating Income of ¥12bn
Emissions: Strengthening the existing areas and challenging growth areas

**Solutions for fuel efficiency and exhaust gas regulations (Strengthening the existing areas)**

- **Globally, continuing tighter regulations**
  - Flexible applications for emission measurement
  - Proactive launch of new products
  - New product “FTX-ONE” (To evaluate engines and catalysts)
  - Providing diverse regulation-related line-ups from all directions

- **Efficient application for RDE* is imperative**
  - Automatic driving system
  - Four-wheel drive test system
  - Advanced emissions test facility
  - Create a lab environment for accurate Real Driving Emissions simulations
  - Provide systems that help shorten the development process

*Real Driving Emissions Regulations

**Optimal powertrains (Challenging growth areas)**

- Electrification leads to an increase in system development, shifting away from single-unit (i.e., engine, battery, or motor) development

- Propose a “package” to solve issues related to analysis and measurement

- Fuel cell test system
- Motor test system
- Engine test system
- Battery test system

Maximize the Group synergy and provide total solutions
Energy Efficiency: Maximize the electrification business

Contribute to optimizing the development process of electric vehicles

Establishment of the “CELL Zero” test facility for evaluation of batteries for electric vehicles
(Scheduled to open in HORIBA BIWAKO E-HARBOR in 2019)

CELL Zero to be connected with CELL 1, 2 and 3

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

Provide measurement solutions with new values with the “Test in the Loop” total evaluation system

Objective of “Test in the Loop”

2023: Achieve sales of ¥10bn in the electrification business
CAV*: Acquisition of Initiatives in Advanced Technology

* CAV: Connected and Autonomous Vehicle

“Drive/Turn/Stop & Protect” - Support R&D from all directions
(HORIBA MIRA’s initiatives)

Drive/Turn/Stop

- Multi-purpose tests for autonomous vehicles
  - Verification of telecommunication function, vehicle safety/limit control range

Protect

- Opened the Vehicle Resilience Technology Centre
  - Support of R&D of autonomous driving technologies
  - Comprehensive approach that combines cyber security and EMC

In cooperation with the UK government and local universities, HORIBA aims to take initiative in the R&D domain of autonomous driving technologies

HORIBA MIRA’s initiatives were broadcasted in Japanese TV station KBS Kyoto’s news program "KyobizX". (Go to HORIBA’s website to see the program in Japanese at HORIBA’s official Facebook)
Enterprise Data Management for Development: Contributing to optimizing overall vehicle R&D

Contributing to the front-loading of automotive development (reduction in man-hours from shorter development process)

HORIBA

Core system that integrates and manages analysis and measurement data

Knowledge in engineering and testing

Conventional development process

• Centralize various data
• Utilize applications with high reproducibility and simulation software

2. Improve man-hours efficiently by reducing the amount of rework

1. Front-load R&D processes

Start planning

Required workload

Man-hours for R&D

Efficient R&D process

New car launch

① Front-loading the peak of workload

② Shorten man-hours for R&D

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Vision of MLMAP2023

HORIBA as a worldwide player who analyzes the entire earth

Provide various solutions in the global market: ranging from approaches to environmental regulations, to raising production efficiency

Business growth in emerging countries
[Approaches to environmental reg.]

Open up markets in developed countries
[Improve industrial processes]

Grow globally in the water monitoring business

Target for 2023
Sales of ¥28bn; Operating Income of ¥2.8bn
Global Trend and Growing Needs of Environmental Measures

Increased awareness on global environmental preservation ⇒ contribution to productivity improvement

Phase to improve industrial processes

Phase for improving the environment

Approaches to environmental regulations

Product sales/Repair/Maintenance

High productivity/Optimization/Data management

Developing countries

Emerging countries

Developed countries

Phase of social growth

Demand
Growth in Emerging Countries/Developed Countries

**Emerging Countries (Southeast Asia, etc.)**

- **Needs**
  - Improve air pollution
  - Enhance localization of production and engineering
  - Develop business with local partners

- **Gas**
  - Improve air pollution
  - Stack gas analyzers
  - Air pollution analyzers

- **Water**
  - Improve water quality
  - Automatic total nitrogen/phosphorus monitoring system

- **Approaches to environmental regulations**
  - Respond to local needs

**Developed Countries**

- **Approaches to env. reg. + Industrial process improvement**
  - Industrial process measurement
  - New measurement solutions for production processes
  - Electronic industry/market
  - Capture demand for factory-related water quality/gas measurement
  - Data management
  - Water monitoring system for water supply facilities
  - Complement your knowledge with the system

- **Improve**
  - Higher productivity in the petrochemical sector
  - Improve combustion efficiency in power plants
  - Comprehensive support in semiconductor manufacturing
  - Realize a skill transfer and reduction in manpower in facility management
Global Growth in the Water Measurement Business

Integrated into
HORIBA Advanced Techno Co., Ltd.

Water measurement business

Sales expansion in the tap water monitoring market

Kuala Lumpur (Malaysia)
Tap water quality monitoring system

Sao Paulo (Brazil)
Monitoring of water discharge in the tap water infrastructure investment

Undertake data management and realize reduction in manpower

はかるEXpress

Free installment of analyzers ⇒ Charge for measured data

Utilize existing technologies and sales network and aim to grow globally

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Vision of MLMAP2023

To be a Preferred Partner

Expand product portfolio from small to large scale analyzers. Accelerate global business expansion.

Enhancing strength
Sales development in the small- and medium-sized market

Entering the large-scale market
Access to the hospital market

Capturing emerging markets
Enhance business in India/China

Target for 2023
Sales of ¥40bn; Operating Income of ¥4bn
Expand Business Domains

Use of proprietary technologies and alliances for further expansion

<table>
<thead>
<tr>
<th>Test Category</th>
<th>Hematology</th>
<th>Clinical Chemistry</th>
<th>Immunology</th>
<th>Coagulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market size</td>
<td>¥0.35tn</td>
<td>¥2tn</td>
<td>¥2tn</td>
<td>¥0.2tn</td>
</tr>
</tbody>
</table>

(HORIBA's estimates)

Hospitals
- Large hospitals
- Testing centers
- Small- and medium-sized hospitals
- Small- and medium-sized market: Expand application to clinical chemistry and Immunology.
- Hematology: Enter the large-scale market.

Private practitioners

Hospital units and surgery rooms (POCT)

Enhance strength in the small- to medium-sized market

Business environment
- Increase in testing in the background of the aging society
- Increase in importance of clinical diagnosis by primal care doctors

HORIBA's strategy

- Use μTAS* technologies, acquired from ROHM, to develop products with hematology plus extra functions
- Support process optimization at the customer site by introducing the data management system.
- Expand product line-ups in the clinical chemistry category through business alliance.

μTAS: Micro Total Analysis System acquired from Rohm Co., Ltd.
Entering Large-scale Markets and Focusing on Particular Markets

Expand business in large-scale markets

- Business environment
  - European market: centralization of testing at large-scale laboratories and productivity improvement
  - Emerging markets: increase in testing

HORIBA’s strategy

- Expand sales of HELO Solution, the first product for a new large-scale market
- Alliance with Siemens Healthcare Diagnostics Inc. to enter the large-scale market

Strengthen global network/supply chain

- Markets to focus on
  - R&D center
  - Supply application
  - Reagent factory

R&D: product development in Japan and France
Production/sales: enhance local capabilities in the markets to focus

Enhance HORIBA’s strength and expand into a new stage.
Vision of MLMAP2023

Shape the market, sell the solution

Evolve the company into a comprehensive supplier that provides high-value-added solutions in all semiconductor manufacturing processes, from R&D to aftermarket services.

Enhance the existing fields
Extend coverage
Taking up challenges in new fields

Establish a robust R&D network and supply chain

Target for 2023
Sales of ¥77bn and Operating Income of ¥17.7bn
Semiconductor Market Projection and HORIBA’s Market Share in Mass Flow Controllers (MFC)

HORIBA’s global market share in MFC (RH)

Market size by semi. device type (LH)

- Others
- Analog
- Discrete and Opto Electronics
- Flash Memory
- DRAM
- Logic

Semiconductor market projection: Data from VLSI Research, modified by HORIBA
Market share of MFC: HORIBA’s estimates (as of August 2019)
Provide high-value-added solutions in semiconductor manufacturing processes

<table>
<thead>
<tr>
<th>R&amp;D</th>
<th>CVD/Etching process</th>
<th>Wet/Lithograph process</th>
<th>Challenge to add new value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribute to evaluation/analysis of next-gen materials</td>
<td>Increase in processes due to miniaturization and multi-layering</td>
<td>Deal with micro particles, pay attention to safety</td>
<td>Various analysis and measurement technologies and experiences</td>
</tr>
<tr>
<td>Contribute to evaluation/analysis of next-gen materials</td>
<td>Cope with a wide variety of materials</td>
<td>Extreme rays applied for EUV, etc.</td>
<td>Use of big data for the process control of SPE to optimize manufacturing</td>
</tr>
</tbody>
</table>

**SPE’s controlling process**
Expand flow control applications as new solutions related to a vacuum chamber

- Gas/liquid flow control
- Pressure monitoring
- Measurement/Analysis

**Accumulate analysis and measurement data**

- High-precision wet/lithograph processes
- Conductivity Meters
- Chemical concentration monitors
- Reticle/mask particle detection system
- Gratings

**Contribute to improving productivity in semi. manufacturing processes**
Establish a Solid R&D Network and Supply Chain

Global R&D system

Enhance R&D operations in Kyoto and Fukuchiyama (Japan), and Reno (US)

- Reflect customers’ needs in R&D
- Aim to gain higher market share
- Advanced Technology Center

1. Research next-gen semiconductor manufacturing process
2. Standardize flow control

Fukuchiyama Technology Center
Kyoto
Reno Technology Center
Fukuchiyama, Kyoto
Nevada, US

Enhance supply capacity

Production system in Japan

- Accelerate local engineering in China
- Increase production capacity and supply timely

Facility expansion to boost production volume

- Kyoto: production of high-end models
- China: supply mass flow controllers tailored for local needs

Kyoto
Beijing, China

Aso, Kumamoto, Japan

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Vision of MLMAP2023

Core Technology Provider

Apply the technology cultivated as a founding business in the megatrend market. Leading “HORIBA in Technology” in cooperation with each segment

Advanced materials  Bio  Energy, Semiconductor, Water

Customized technology to meet all customer needs; Local engineering for local needs

Target for 2023

Sales of ¥35bn and Operating Income of ¥3.5bn
Maximize synergies by effectively using resources from three global bases

<table>
<thead>
<tr>
<th>HORIBA FRANCE (France)</th>
<th>HORIBA (Japan)</th>
<th>HORIBA INSTRUMENTS (US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A leading company in spectroscopic analysis</td>
<td>Utilizing various technologies as a “headquarter of core technology”</td>
<td>Deploy applications that satisfy customer needs</td>
</tr>
<tr>
<td>Increase market shares by more applications in various fields</td>
<td>Flexible product customization → Leading in industrial processes</td>
<td>Strengths in bio, healthcare, and nano technology areas</td>
</tr>
<tr>
<td>Boasting a 30% global share* Raman spectrometer</td>
<td>Founding technology [pH meter]</td>
<td>Opened a new base on the East Coast (2018) to strengthen R&amp;D and production capacity</td>
</tr>
<tr>
<td>Jobin Yvon (Horiba France at present) 200th anniversary in 2019</td>
<td>A wide range of technologies [Water monitoring/Particle-size distribution analysis/Elemental analysis]</td>
<td>Targeting the bio market [Fluorescence and absorbance spectrometer/Nanoparticle tracking analysis system]</td>
</tr>
</tbody>
</table>

Provide innovative solutions that support the technological progress in the world

**[Advanced materials]**
- Advanced nano-level spectroscopic analysis technology
- Approach to 2D materials and micro plastics

**[Bio]**
- Develop applications for analysis of cosmetics, pharmaceuticals, viruses, and vaccines

*In-house survey as of August 2019

Path: 20201209 BY V-212

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Collaborate with other segments to realize business expansion by using their sales channels

**Energy and automotive industry**
- Increase in demand for secondary battery material analysis

**Semiconductor**
- Growth of Chinese semiconductor manufacturers
  - Increase in demand for analysis and evaluation of semiconductor materials

**Water quality measurement**
- Efficient water management at water treatment plants
- Seek to contribute to solving environmental issues centered on water

**Profit from electrification in China**
- Increase in demand for battery material analysis
- Accelerate industry penetration of spectral analysis technology

- Held the raman/fluorescence spectroscopy symposium

**Aiming to increase volume by expanding the range from R&D to production processes**
One-to-One Customization & Global Engineering

Accelerate product development for customer needs

One to One Customization
Customization & Engineering

Inline/online measurement
Contributing to improving production processes

Analysis efficiency enhancement (work efficiency)

Efficiency through automation

Imaging
Efficiency by visualization of analysis data

Highly-difficult measurement samples
Proposal for analysis using a new method

Strengthen uniqueness in global engineering

Founding Technology
Propose products for customers based on analysis of their needs
Secure high profitability through diversity in production selectivity

Global Engineering
Launch of global products, made in Singapore
New pH meter (announced in August 2019)

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Sharing light and passion
200 years of optical innovation

www.horiba.com/en_en/200years
1. Looking back on the current plan (MLMAP2020)
2. Numerical Targets
3. Priority Measures
4. Segment Strategy
5. Regional Strategy
6. Capital Strategy
India

Vision of MLMAP2023

Think Big. Grow Bigger.

Strengthen sales and the service network, rooted in the local society
Provide high-value-added analysis/measurement technologies

Enhance engineering/facility capability
- Establish local bases to strengthen engineering capability
- Provide products and technologies that meet local needs

Enhance supply network
- Capture demand in clinical testing along with population growth
- Enhance a supply network to maintain stable volume and quality

2023 plan
Sales of ¥13.0bn

2015 Results
- ¥3.2bn +15%
2018 Results
- ¥7.5bn +15%
2023 MLMAP
- ¥13.0bn +37%

ATS*: Automotive Test System

Capture demand in a volume zone and become a driver of future growth

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Current Status and Changes in China Market

China: Rapid growth and changes in the market
Growth and technological improvement of local companies

HORIBA: Invest aggressively and realize further growth in China at the time of changing trends in technology

1. Strengthen “production capacity” for the Chinese market
2. Strengthen “R&D capability” for the Chinese market
   - Establish an application center
   - Collect cutting-edge information

Plan for 2023

Sales of ¥47.0bn

- 2023 MLMAP
  - ATS +13%
  - P&E
  - ME
  - Semi
  - SCI
- 2019 Result
  - ¥27.8bn
  - +16%
- 2015 Result
  - ¥20.5bn

Implement the strategy at “China speed” and drive growth
MLMAP2023

1. Looking back on the current plan (MLMAP2020)
2. Numerical Targets
3. Priority Measures
4. Segment Strategy
5. Regional Strategy
6. Capital Strategy
Shareholder Return and Financial/Investment Strategy

Shareholder return policy

- Dividend payment + Share buyback = 30% of consolidated net profit* to be targeted
- Retained earnings will be used for strategic investment (i.e., CAPEX, M&A)

*In fiscal 2013, the policy was shifted from the non-consolidated dividend payout ratio, based on non-consolidated net income of HORIBA, Ltd., to the total return ratio, based on HORIBA’s consolidated net income.

Financial/investment strategy

1. Invest effectively from a long-term perspective
2. Utilize intra-group financing
   - Utilize financial group companies (US, Europe, UK and China)
3. Utilize HORIBA Premium Value (PV) to improve asset efficiency

Free cash flows for every five years

- Improve capital efficiency by utilizing the PV
- Invest effectively from a long-term perspective

Per-share dividend and total return ratio

### Commemorative Div. (yen)
- 2011: 40
- 2012: 40
- 2013: 60
- 2014: 70
- 2015: 85
- 2016: 116
- 2017: 125
- 2018: 145
- 2019 (Forecast): 130

### Ordinary Div. (yen)
- 2011: 10
- 2012: 19.5%
- 2013: 28.6%
- 2014: 28.2%
- 2015: 26.8%
- 2016: 30.6%
- 2017: 27.6%
- 2018: 30.0%
- 2019 (Forecast): 27.4%

### Total Return Ratio (%)
- 2011: 19.5%
- 2012: 28.6%
- 2013: 28.2%
- 2014: 26.8%
- 2015: 30.6%
- 2016: 27.6%
- 2017: 30.0%
- 2018: 27.4%
- 2019 (Forecast): 31.3%

### Free cash flows for every five years (Billions of yen)

- March 2005 to December 2008: 40.7
- January 2009 to December 2013: 61.1
- January 2014 to December 2018: 89.9

- Improve capital efficiency by utilizing the PV
- Invest effectively from a long-term perspective
Thoughts on ESG investment and SDGs

Under the corporate motto "Joy and Fun," all HORIBARIANs understand the nature of ESG/SDGs investment and realize growth of each business.

We contribute to realizing the sustainable society advocated by SDGs* by offering analyze and measurement technologies which lead technology innovation that supports security, safety, and health for people while contributing to global environmental conservation.

HORIBA supports ESG investment and SDGs to be active globally and strives to disclose clear information.

Symbol for MLMAP2023: Hawk

Find the targets from a heightened perspective
Accomplish the objectives at the fastest speed
Thank you
References
## Numerical targets (vs 2018, vs 2019)

(Billions of yen)

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>MLMAP2020</th>
<th>MLMAP2023</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Results</td>
<td>Forecast</td>
<td>Plan</td>
<td>Plan</td>
</tr>
<tr>
<td>Sales</td>
<td>210.5</td>
<td>213.0</td>
<td>250.0</td>
<td>300.0</td>
</tr>
<tr>
<td>Operating income</td>
<td>28.8</td>
<td>25.0</td>
<td>30.0</td>
<td>40.0</td>
</tr>
<tr>
<td>Operating income%</td>
<td>13.7%</td>
<td>11.7%</td>
<td>12.0%</td>
<td>13.3%</td>
</tr>
<tr>
<td>Net income</td>
<td>22.3</td>
<td>17.5</td>
<td>20.0</td>
<td>30.0</td>
</tr>
<tr>
<td>EPS (Yen)</td>
<td>529</td>
<td>414</td>
<td>475</td>
<td>711</td>
</tr>
<tr>
<td>ROE</td>
<td>14.3%</td>
<td>10.5%</td>
<td>10% or more</td>
<td>10% or more</td>
</tr>
</tbody>
</table>
### Numerical targets (by Segment)

(Billions of yen)

<table>
<thead>
<tr>
<th></th>
<th>Sales</th>
<th>Operating income</th>
</tr>
</thead>
<tbody>
<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>50.0</td>
</tr>
<tr>
<td>Scientific</td>
<td>27.7</td>
<td>30.0</td>
</tr>
<tr>
<td>Total</td>
<td>210.5</td>
<td>213.0</td>
</tr>
</tbody>
</table>
Transition of Symbol

MLMAP 2006-2010
MLMAP 2011-2015
MLMAP 2016-2020
MLMAP 2019-2023
Thank you

감사합니다

Cảm ơn

ありがとうございます

Grazie

Dziekuje

धन्यवाद

Merci

謝谢

Obrigado

Σας ευχαριστούμε

谢

Thank you

谢谢

Danke

Thank you

谢谢

Gracias

感谢

Thank you