Nomura Investment Forum 2018

HORIBA, Ltd.
December 7, 2018
Contents

- 2018 Jan.–Sept. Results
- 2018 Forecast
- Business Segments Outline
- Shareholder Return
- Other Topics
  - Financial Data
  - Corporate Profile

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# Review of 2018

<table>
<thead>
<tr>
<th>External Events</th>
<th>Internal Events</th>
</tr>
</thead>
</table>
| ◆ Escalating global trade tensions  
◆ Decline in emerging markets currencies due to tightening by the Fed in the U.S.  
◆ Temporary subdued capital spending despite robust demand for semiconductors  
◆ Automotive electrification, emission regulations | ◆ Enhanced North American bases (for Semiconductors and Scientific)  
◆ Full-scale operation at the expanded Aso factory (for Semiconductors)  
◆ Aggressive investment in next-generation automotive technologies |
## 2018 Jan.–Sept. Results

Made a record-high in sales and profit

<table>
<thead>
<tr>
<th></th>
<th>2017 Jan.–Sept. Results</th>
<th>2018 Jan.–Sept. Results</th>
<th>Diff.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>132.2</td>
<td>146.0</td>
<td>+13.7</td>
<td>+10%</td>
</tr>
<tr>
<td>Operating Profit</td>
<td>14.6</td>
<td>17.8</td>
<td>+3.2</td>
<td>+22%</td>
</tr>
<tr>
<td>O.P. %</td>
<td>11.0%</td>
<td>12.2%</td>
<td>+1.2p</td>
<td>—</td>
</tr>
<tr>
<td>Ordinary Profit</td>
<td>14.3</td>
<td>17.5</td>
<td>+3.1</td>
<td>+22%</td>
</tr>
<tr>
<td>Net Income attribute to Owners of Parent</td>
<td>10.7</td>
<td>13.4</td>
<td>+2.6</td>
<td>+25%</td>
</tr>
</tbody>
</table>

### USD/JPY
- 2017: 111.89
- 2018: 109.60
- Diff.: -2.29

### EUR/JPY
- 2017: 124.58
- 2018: 130.87
- Diff.: +6.29

(Billions of Yen)
2018 Jan.–Sept. Results by Segments

(Billions of Yen)

<table>
<thead>
<tr>
<th>Segment</th>
<th>2017 Jan.–Sept. Results</th>
<th>2018 Jan.–Sept. Results</th>
<th>Diff.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto</td>
<td>45.3</td>
<td>48.3</td>
<td>+2.9</td>
<td>+7%</td>
</tr>
<tr>
<td>P&amp;E</td>
<td>12.0</td>
<td>13.4</td>
<td>+1.4</td>
<td>+12%</td>
</tr>
<tr>
<td>Medical</td>
<td>18.5</td>
<td>19.2</td>
<td>+0.7</td>
<td>+4%</td>
</tr>
<tr>
<td>Semi</td>
<td>38.5</td>
<td>45.4</td>
<td>+6.8</td>
<td>+18%</td>
</tr>
<tr>
<td>Scientific</td>
<td>17.7</td>
<td>19.5</td>
<td>+1.7</td>
<td>+10%</td>
</tr>
<tr>
<td>Total</td>
<td>132.2</td>
<td>146.0</td>
<td>+13.7</td>
<td>+10%</td>
</tr>
</tbody>
</table>

Sales

<Auto>
- Increased sales of EMS and ECT*1 businesses
- Decreased profit due to expenses associated with the acquisition, and other factors (MCT*2)
  ※1 Engineering Consultancy & Testing  ※2 Mechatronics

<P&E>
- Increased sales of water quality analyzers and air pollution analyzers in Asia; the process measurement equipment business increased in the Americas.

<Medical>
- Increased sales of blood cell testing instruments in Asia
- The depreciation of the yen against the euro boosted sales in Europe when translated into yen

<Semi>
- Increased sales and profit due to robust capital spending by semiconductor manufacturers.

<Scientific>
- Increased sales of analyzers for R&D by private sectors
- Expense incurred to strengthen the base in the Americas
Booking Trend

Backlog exceeded 100 billion yen due to booming Auto. segment, while Semi. segment showed slow down.

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3Q</td>
<td>4Q</td>
<td>1Q</td>
<td>2Q</td>
</tr>
<tr>
<td>Auto</td>
<td>22.2</td>
<td>23.0</td>
<td>18.8</td>
<td>22.9</td>
</tr>
<tr>
<td>P&amp;E</td>
<td>5.0</td>
<td>4.9</td>
<td>4.3</td>
<td>4.7</td>
</tr>
<tr>
<td>Medical</td>
<td>6.0</td>
<td>6.8</td>
<td>7.2</td>
<td>6.0</td>
</tr>
<tr>
<td>Semi</td>
<td>13.1</td>
<td>17.7</td>
<td>19.0</td>
<td>12.4</td>
</tr>
<tr>
<td>Scientific</td>
<td>7.5</td>
<td>8.5</td>
<td>6.5</td>
<td>5.9</td>
</tr>
<tr>
<td>Total</td>
<td>54.0</td>
<td>61.1</td>
<td>56.0</td>
<td>52.2</td>
</tr>
</tbody>
</table>

(Billions of Yen)
Contents

- 2018 Jan.-Sept. Results
- 2018 Forecast
- Business Segments Outline
- Shareholder Return
- Other Topics
  - Financial Data
  - Corporate Profile
## Market Overview for the Full Year 2018

<table>
<thead>
<tr>
<th>Sector</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Auto</strong></td>
<td>Strong appetite for investment in the global automotive sector due to tighter emission regulations in Japan &amp; Asia and innovation for electrification &amp; autonomous driving</td>
</tr>
</tbody>
</table>
| **P&E**  | Increase in demand due to tighter environmental regulations in emerging countries  
Recovery in investment in the oil industry due to higher oil prices |
| **Medical** | Japan: Favorable sales to doctors in private practice  
Overseas: Increase in demand for blood testing equipment in emerging countries |
| **Semi**  | Anticipate a pick-up in investment, due to solid demand of semiconductor devices from a mid- to long-term perspective |
| **Scientific** | Robust corporate R&D expenditures  
Accelerating research on new materials for secondary batteries |
2018 Forecast

Sales and profit revised downward due to increased investments in Auto. segment and to reflected the latest semiconductor market trend. No change in dividends

<table>
<thead>
<tr>
<th></th>
<th>2017 Results</th>
<th>Previous Forecast (as of Aug. 3)</th>
<th>Current Forecast (as of Nov. 9)</th>
<th>VS 2017</th>
<th>VS Previous Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>195.3</td>
<td>212.0</td>
<td><strong>207.0</strong></td>
<td>+11.6</td>
<td>-5.0</td>
</tr>
<tr>
<td>Operating Profit</td>
<td>26.8</td>
<td>31.0</td>
<td><strong>27.5</strong></td>
<td>+0.6</td>
<td>-3.5</td>
</tr>
<tr>
<td>O.P. %</td>
<td>13.7%</td>
<td>14.6%</td>
<td>13.3%</td>
<td>-0.4p</td>
<td>-1.3p</td>
</tr>
<tr>
<td>Ordinary Profit</td>
<td>26.6</td>
<td>30.4</td>
<td><strong>26.9</strong></td>
<td>+0.2</td>
<td>-3.5</td>
</tr>
<tr>
<td>Net Income attribute to Owners of Parent</td>
<td>16.2</td>
<td>21.5</td>
<td><strong>20.0</strong></td>
<td>+3.7</td>
<td>-1.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th></th>
<th>2017</th>
<th>2018</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>USD/JPY</td>
<td>112.16</td>
<td>110.00</td>
<td>110.00</td>
<td>-2.16</td>
<td>-</td>
</tr>
<tr>
<td>EUR/JPY</td>
<td>126.70</td>
<td>130.00</td>
<td>130.00</td>
<td>+3.30</td>
<td>-</td>
</tr>
</tbody>
</table>
## 2018 Forecast by Segments

### Sales

<table>
<thead>
<tr>
<th>Segment</th>
<th>2017 Results</th>
<th>Previous Forecast (as of Aug. 3)</th>
<th>2018 Current Forecast (as of Nov. 9)</th>
<th>VS 2017</th>
<th>VS Previous Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto</td>
<td>73.3</td>
<td>79.0</td>
<td><strong>78.0</strong></td>
<td>+4.6</td>
<td>-1.0</td>
</tr>
<tr>
<td>P&amp;E</td>
<td>17.4</td>
<td>19.0</td>
<td><strong>19.0</strong></td>
<td>+1.5</td>
<td>-</td>
</tr>
<tr>
<td>Medical</td>
<td>25.1</td>
<td>26.0</td>
<td>26.0</td>
<td>+0.8</td>
<td>-</td>
</tr>
<tr>
<td>Semi</td>
<td>53.3</td>
<td>60.0</td>
<td><strong>56.0</strong></td>
<td>+2.6</td>
<td>-4.0</td>
</tr>
<tr>
<td>Scientific</td>
<td>26.1</td>
<td>28.0</td>
<td><strong>28.0</strong></td>
<td>+1.8</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>195.3</td>
<td>212.0</td>
<td><strong>207.0</strong></td>
<td>+11.6</td>
<td>-5.0</td>
</tr>
</tbody>
</table>

### Operating Profit

<table>
<thead>
<tr>
<th>Segment</th>
<th>2017 Results</th>
<th>Previous Forecast (as of Aug. 3)</th>
<th>2018 Current Forecast (as of Nov. 9)</th>
<th>VS 2017</th>
<th>VS Previous Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto</td>
<td>7.6</td>
<td>8.0</td>
<td><strong>6.5</strong></td>
<td>-1.1</td>
<td>-1.5</td>
</tr>
<tr>
<td>P&amp;E</td>
<td>1.0</td>
<td>1.4</td>
<td>1.4</td>
<td>+0.3</td>
<td>-</td>
</tr>
<tr>
<td>Medical</td>
<td>1.9</td>
<td>2.0</td>
<td>2.0</td>
<td>+0.0</td>
<td>-</td>
</tr>
<tr>
<td>Semi</td>
<td>15.6</td>
<td>19.0</td>
<td><strong>17.0</strong></td>
<td>+1.3</td>
<td>-2.0</td>
</tr>
<tr>
<td>Scientific</td>
<td>0.4</td>
<td>0.6</td>
<td>0.6</td>
<td>+0.1</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>26.8</td>
<td>31.0</td>
<td><strong>27.5</strong></td>
<td>+0.6</td>
<td>-3.5</td>
</tr>
</tbody>
</table>

### Key Points:

**<Auto>**
- Revised sales downward reflected the recent order trend (ECT)
- Revised profit downward due to temporary expense in the US, expenses associated with the acquisition of FuelCon AG (Germany) and increased investments to enhance R&D capabilities

**<Semi>**
- Revised sales and profit reflected the recent order trend

**<P&E, Medical, and Scientific>**
- No change from the previous forecast

**Total sales and profit will renew record-highs**
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2018 Jan.–Sept. Results

- **EMS**<sup>1</sup> Europe – Solid demand after new regulations
  China, India – Demand increase for compliance with new regulations

- **MCT**<sup>2</sup> Lower profitability due to temporary expense in the US, and expenses associated with the acquisition of FuelCon AG (Germany)

- **ECT**<sup>3</sup> Expanded business in next-gen. auto. technology


2018 Full Year Forecast

- **EMS** Demand growth in China and India
- **MCT** Steady delivery of orders received for Europe, Asia
- **ECT** Aggressive investment to accelerate growth

【Half year】Sales and O.P.

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales (Billions of yen)</th>
<th>O.P. (Billions of yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.1H</td>
<td>26.6</td>
<td>2.9</td>
</tr>
<tr>
<td>15.2H</td>
<td>38.7</td>
<td>2.2</td>
</tr>
<tr>
<td>16.1H</td>
<td>28.1</td>
<td>0.5</td>
</tr>
<tr>
<td>16.2H</td>
<td>34.0</td>
<td>2.9</td>
</tr>
<tr>
<td>17.1H</td>
<td>30.6</td>
<td>2.1</td>
</tr>
<tr>
<td>17.2H</td>
<td>42.7</td>
<td>4.0</td>
</tr>
</tbody>
</table>

【Full year】Sales and O.P.

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales (Billions of yen)</th>
<th>O.P. (Billions of yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>49.5</td>
<td>8.0</td>
</tr>
<tr>
<td>2014</td>
<td>55.0</td>
<td>6.5</td>
</tr>
<tr>
<td>2015</td>
<td>65.4</td>
<td>7.6</td>
</tr>
<tr>
<td>2016</td>
<td>62.2</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>73.3</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>79.0</td>
<td></td>
</tr>
</tbody>
</table>

Effect of enhanced emission regulations

Status of the next-gen. emission regulations
HORIBA BIWAKO E-HARBOR achieved record-high output

- **Sales of EMS business**
  - 2015 (Before the start of E-HARBOR) ¥39.8bn
  - 2018 (forecast) ¥49.0bn
  - Up 25%

- **Emission regulations**

<table>
<thead>
<tr>
<th>Regulation</th>
<th>EU</th>
<th>Japan</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLTP¹</td>
<td>Sep. 2017</td>
<td>Oct. 2018</td>
</tr>
<tr>
<td>RDE²</td>
<td></td>
<td>2022 (plan)</td>
</tr>
</tbody>
</table>

China and India: Adoption of new regulations in 2020 (plan)
(Same level as Euro6)

1: Worldwide harmonized Light vehicles Test Procedure
2: Real Driving Emissions
Enhanced engineering capability

Increase in solution provision for the automotive development processes

- **Vehicle testing system (Subaru Corp.)**
  - Provide the powertrain testing system that reproduces climate change and other conditions of real driving.
  - Tie up with HORIBA’s labs in Japan and the U.S. and curtail the customer’s development processes.

- **Joint dev’t of EV technologies (Keihin Corp.)**
  - HORIBA MIRA provides the battery management system to assists the EV system development.

HORIBA MIRA in the U.K. opened MIRA Technology Institute

- Jointly invested with the LLEP* in the U.K.
  - Aimed at fostering personnel in the next-gen. automotive industry
- Education facility in a 24,500㎡ site
- Managed by local universities (inviting professors)

*LLEP: Leicester & Leicestershire Enterprise Partnership

Rendering of MIRA Technology Institute

Opened in Sep. 2018

Quoted from https://www.miratechnologypark.com/
Battery evaluation testing facility for electric vehicles (HORIBA BIWAKO E-HARBOR)

- Assessment of the combination of a battery, powertrain, and a vehicle
- Testing a wide range of temperature environment → To be used in evaluating xEV and fuel batteries
- Operation to start in July 2019 (plan)
- Investment amount: about ¥1.3bn

Advanced Battery Development Suite (ABDS) (HORIBA MIRA)

HORIBA MIRA’s engineering capability to be deployed globally
Auto

Expanding Business Domains (FuelCon Acquisition)

Acquisition of FuelCon AG

- A leading German developer of fuel cell and battery test systems for electric vehicles
- Owns diverse fuel cell test systems
- Supplied systems mainly to German automakers

Established: 2001
Sales: 11,504k EUR (2017)
Operating profit: 199k EUR (2017)
Workforce: 62 (ex. Management)
Location: Magdeburg, Germany (About 160km west of Berlin)
Major customers: Volkswagen, BMW, Audi, Hyundai, Bosch

Sales Breakdown:
- Fuel cell test systems: 46%
- Lithium ion battery test systems: 54%

HORIBA Group’s expansion of business domains

<table>
<thead>
<tr>
<th>Electrified vehicles (HEV, PHEV, FCEV, etc.)</th>
<th>Vehicle</th>
<th>Drive system</th>
<th>Engine</th>
<th>Battery/FC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring instruments (EMS/MCT)</td>
<td>HORIBA</td>
<td>HORIBA</td>
<td>HORIBA</td>
<td>HORIBA/FuelCon</td>
</tr>
<tr>
<td>Test automation</td>
<td>HORIBA</td>
<td>HORIBA</td>
<td>HORIBA</td>
<td>HORIBA/FuelCon</td>
</tr>
<tr>
<td>Engineering (ECT)</td>
<td>MIRA</td>
<td>MIRA</td>
<td></td>
<td>MIRA</td>
</tr>
</tbody>
</table>

Use of FuelCon’s experience and know-how to expand electric vehicle business

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Expanding Business Domains (Support to the UCI)

Support to the UCI for a new institute

- Committed support to the University of California, Irvine (UCI) to establish the Horiba Institute for Mobility and Connectivity (HIMAC)
- Enhance industry and academia partnering in the energy sector of the UCI, a credible institute recognized by the Environmental Protection Agency (EPA) and other U.S. regulatory authorities

HORIBA Group’s expansion of business domains

Integration

HORIBA

Energy field

Mobility field

【HIMAC】
Combine energy and mobility fields
Research and education efforts on integrated systems

A place for research and education

Contribution of HORIBA’s analysis and measurement technologies across the changing energy industry

Energy production
- Stack gas analyzers
- Power production
- Emission measurement systems

Transportation and storage
- Hydrogen storage, fuel cell vehicles, etc.
- Lithium-ion battery
- Raman spectrometers, etc.

Consumption and environment
- Smart houses
- Offices and factories
- Air quality monitoring systems, etc.
- Electric vehicles, etc.
- Gasoline, hybrid vehicles
- Four-wheel drive test systems, etc.
**2018 Jan.–Sept. Results**

- **Stack gas analyzers:** Sales increase in North America due to enforced marketing; flattish demand in Japan
- **Air quality monitoring:** Demand growth in Europe and emerging countries due to enhanced regulations
- **Water quality:** Sales increase due to business expansion in Japan and emerging countries

**2018 Full Year Forecast**

- **Stack gas analyzers:** Anticipate progress in VOC regulations in China
- **Process measurement equipment:** Anticipate a recovery in investment due to higher oil prices
- **Water quality monitoring:** Capture replacement demand in Japan and expand business in emerging countries
**Initiatives for expansion into new markets**

### Business growth in Asia

Expand the environmental regulation and monitoring business

- Delivery to and continued orders received from Ho Chi Minh and 5 other cities/provinces in Vietnam
  - Air Quality Monitoring Station (AQMS)
  - Water Quality Monitoring Station (WQMS)

**Main operation by HORIBA, Vietnam**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales (¥bn)</td>
<td>2.4</td>
<td>2.1</td>
<td>2.5</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Analytical part of AQMS, produced at HORIBA BIWAKO E-HARBOR

### Launch of “HAKARU EXpress”

From a hardware sales business to a data sales business using cloud computing

- Installation of automatic total nitrogen, total phosphorous measurement equipment
  1. Provide the water quality measurement report
  2. Use cloud and monitor the status of equipment

**Main operation by HORIBA Advanced Techno**

Air pollution monitoring equipment business: Consolidated sales (¥bn)

**From air pollution monitoring equipment business to air quality monitoring equipment business:**

Consolidated sales (¥bn)

- 2015: 2.4
- 2016: 2.1
- 2017: 2.5
- 2018 Fore.: 3.0

**Dan Horiba**
President of HORIBA Advanced Techno Co., Ltd.

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※: HAKARU = Measuring in Japanese
Jan.–Sept. Results and 2018 Forecast

**2018 Jan.–Sept. Results**

- Strong sales of new products in Japan
- Sales increase in Europe in yen terms due to the weaker yen
- Business expansion in emerging countries (China, India)

**2018 Full Year Forecast**

- Intensified competition in hematology and CRP analyzers in Japan
- Further business expansion in emerging countries with high demand
- Higher sales promotion expenses due to new product launch

**Medical**

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales (Billions of yen)</th>
<th>O.P. (Billions of yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>26.8</td>
<td>2.4</td>
</tr>
<tr>
<td>2014</td>
<td>27.0</td>
<td>1.7</td>
</tr>
<tr>
<td>2015</td>
<td>27.6</td>
<td>2.5</td>
</tr>
<tr>
<td>2016</td>
<td>26.5</td>
<td>2.8</td>
</tr>
<tr>
<td>2017</td>
<td>25.1</td>
<td>1.9</td>
</tr>
<tr>
<td>2018</td>
<td>26.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>

**Half year**

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales (Billions of yen)</th>
<th>O.P. (Billions of yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.1H</td>
<td>13.9</td>
<td>1.3</td>
</tr>
<tr>
<td>15.2H</td>
<td>13.7</td>
<td>1.2</td>
</tr>
<tr>
<td>16.1H</td>
<td>13.8</td>
<td>1.5</td>
</tr>
<tr>
<td>16.2H</td>
<td>12.7</td>
<td>1.2</td>
</tr>
<tr>
<td>17.1H</td>
<td>12.3</td>
<td>0.8</td>
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<tr>
<td>17.2H</td>
<td>12.8</td>
<td>1.0</td>
</tr>
<tr>
<td>18.1H</td>
<td>13.1</td>
<td>1.0</td>
</tr>
<tr>
<td>18.2H</td>
<td>12.8</td>
<td>0.9</td>
</tr>
</tbody>
</table>

**Full year**

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales (Billions of yen)</th>
<th>O.P. (Billions of yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>26.8</td>
<td>2.4</td>
</tr>
<tr>
<td>2014</td>
<td>27.0</td>
<td>1.7</td>
</tr>
<tr>
<td>2015</td>
<td>27.6</td>
<td>2.5</td>
</tr>
<tr>
<td>2016</td>
<td>26.5</td>
<td>2.8</td>
</tr>
<tr>
<td>2017</td>
<td>25.1</td>
<td>1.9</td>
</tr>
<tr>
<td>2018</td>
<td>26.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>
Initiatives for business expansion

New products to be launched globally

Mid and large-sized
new product
“HELO Solution”
Completed installation in France, Brazil, Thailand and the U.K.

5 diff. white cell diagnosis + CRP
“Yumizen H630”
Favorable sales to doctors in private practice in Japan

Business alliance with Siemens Healthcare Diagnostics
In the process of arranging products for obtaining accreditation

Opened the application center (biochemical) to accelerate the U.S. business

➢ To start full operation in August 2018 in Irvine, California
➢ For application development in the biochemical field
➢ Biochemical business consolidated sales: ¥4.1bn (2017)

Biochemical analytical equipment to be launched in the U.S. (OEM supply from JEOL Ltd.)
Jan.–Sept. Results and 2018 Forecast

2018 Jan.–Sept. Results

+ Record-high sales and O.P.
+ Record-high production volume in Mass Flow Controllers (MFC)
+ The Aso factory expansion boosted supply capacity.

2018 Full Year Forecast

+ Anticipate a pick-up in investment due to solid demand from a mid- to long-term perspective, despite the current time-out in capital spending demand by semicon makers
+ Japan: The Aso factory’s full-fledged operation has stabilized the supply system.
+ Overseas: Opening of a new development base in the U.S. to enhance a global R&D capacity
Strengthen supply capacity and global R&D

Full-fledged production after the Aso expansion

**Combined output at Aso and Kyoto**

*350,000 MFCs per year*

Production status: Record-high output (March 2018)
- Aso Factory: Mass production of MFCs
- Kyoto Factory: Development and production of advanced MFCs

**HORIBA STEC Aso Factory**

- **Construction completion ceremony (May 2018)**
- **Expanded area**

**Opening of HORIBA Reno Technology Center**

- **Enhance a N. America development base in the focus area**
- **Establish a global R&D capability**

- **Start:** Aug. 2018  **Investment:** App. ¥1.2bn
- **Place:** Reno, Nevada, the U.S.
- **Activity:** Development in fluid measurement and control technologies

**Reno Technology Center’s surroundings**

- **Relocate into the semiconductor industry cluster region**
  1. Deepen relationship with customers
  2. Promptly capture needs
  3. Incorporate into products

**HORIBA’s global MFC market share:** About 60% (HORIBA’s estimate; as of 2018)
### 2018 Jan.–Sept. Results

**+** Sales increase in Japan, Americas and Europe on the back of robust corporate R&D spending

**–** Expense incurred to strengthen bases in Americas

### 2018 Full Year Forecast

**+** Solid sales in Japan to continue

**+** Enhance actions for business expansion in secondary batteries

**–** Risk in temporary slowdown in sales of spectroscopes for semicon makers in Americas

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

<table>
<thead>
<tr>
<th></th>
<th>Sales (Billions of yen)</th>
<th>O.P. (Billions of yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>13.1</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>13.6</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>12.3</td>
<td>0.2</td>
</tr>
<tr>
<td></td>
<td>13.3</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>11.5</td>
<td>-0.4</td>
</tr>
<tr>
<td></td>
<td>14.6</td>
<td>0.9</td>
</tr>
<tr>
<td></td>
<td>12.5</td>
<td>-0.5</td>
</tr>
<tr>
<td></td>
<td>15.4</td>
<td>1.1</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>Sales (Billions of yen)</th>
<th>O.P. (Billions of yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>22.9</td>
<td>0.9</td>
</tr>
<tr>
<td>2014</td>
<td>25.6</td>
<td>1.2</td>
</tr>
<tr>
<td>2015</td>
<td>26.7</td>
<td>1.1</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>28.0</td>
<td>0.6</td>
</tr>
<tr>
<td>2018</td>
<td>28.0</td>
<td>0.6</td>
</tr>
</tbody>
</table>
Strengthen global bases and expand core business

### Opening of HORIBA New Jersey Optical Spectroscopy Center

- **Start:** Aug. 2018  
  **Investment:** App. ¥2.1bn  
  **Place:** Piscataway, New Jersey, the U.S.  
  **Activity:** Development and production of fluorescence analyzers and spectrometers

### Hosting of the RamanFest 2018 International Symposium on Raman technologies

- **Held on June 25 and 26, 2018**  
- **Attended by about 100 advanced technology researchers and developers**  
- **HORIBA initiated this project, held the first one in 2013 and the first in Japan in 2018.**  
- **16 academic/corporate speakers and poster session**  
  - Connecting academia and industries  
- **Aim at further business expansion as a leading company with a 50-year history in Raman Spectroscopy**  

*HORIBA’s estimate (as of 2018)*
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- 2018 Jan.–Sept. Results
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- Shareholder Return
- Other Topics
  - Financial Data
  - Corporate Profile
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 buyback**

<table>
<thead>
<tr>
<th>Year</th>
<th>Interim</th>
<th>Year-end</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016 Results</td>
<td>85 yen</td>
<td>[30 yen, 55 yen]</td>
</tr>
<tr>
<td>2017 Results</td>
<td>116 yen</td>
<td>[40 yen, 76 yen]</td>
</tr>
<tr>
<td>2018 Forecast</td>
<td>120 yen</td>
<td>[50 yen, 70 yen]</td>
</tr>
</tbody>
</table>

**Per-share dividend (from 2008 to 2018 Forecast)**

Renewed record-highs in dividend in 7 years (Fore.)

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Per-share</td>
<td>44</td>
<td>13</td>
<td>17</td>
<td>40</td>
<td>60</td>
<td>67</td>
<td>70</td>
<td>85</td>
<td>116</td>
<td>120</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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HORIBA’s perspectives on ESG investment

**Contribution to the environment and society via its business:**

**Building of an open & fair governance structure**

### Examples

**ESG \_ENVIRONMENT**
- **Emission gas measurement system**
  - Portable emission measurement system OBS-ONE
  - Contribute to emission regulations, realizing healthy society, preventing climate change
- **Environment-related products**
  - Industrial water quality analyzer H-1 Series
  - Contribute to environmental preservation and improvement by identifying causes of pollutions via analysis of air pollutants and industrial waste

**ESG \_SOCIAL**
- **Innovation for electrification & autonomous driving**
  - Help realize safe, pleasant society
- **MIRA Technology Institute**
  - Contribute to industries' development by developing next-gen. talents
- **Aso factory’s expansion**
  - Contribute to local communities and continuous job creation

**ESG \_GOVERNANCE**
- **Outside Directors with diverse experiences and skills**
  - Raise the quality of strategies by making decisions upon active discussions at the Board of Directors and corporate value
  - Sawako Takeuchi
    - Academic background as a holder of a doctor’s degree in engineering and international experience
  - Masahiro Sugita
    - Deep insight and knowledge on finance and economy, and accumulated experience as a director and auditor of other companies
  - Jiko Higashifushimi
    - Insight as Head Priest of the Shorenin Religious Corporation and work experience at a financial institution
HORIBA Premium Value to improve asset efficiency

Case of an improved asset efficiency in the MCT business

◆ Improvement at Olomouc Factory (Czech) with a focus on production of standard Chassis dynamometers
✓ Full review of production processes and supply chain and adoption of the Kanban pull system

25% cut in production lead-time

Workshops on adoption of a new benchmark

◆ Action plan for those responsible in global finance
◆ Workshops for managers

➢ Action plan (examples)
  • Promoting the benchmark to all group employees
  • Optimization of group inventory by sharing inventory information
  • Building of a sales company–factory cooperative structure for collection of receivables

Olomouc Factory (left) and its production area (right)

HORIBA Premium Value

A new management benchmark with awareness on WACC

O.P. Cost of capital

(Invested capital x In-house rate of cost of capital)
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Trend of Market capitalization

- ¥52bn in Dec. 2008
- ¥407bn on May 14, 2018 (Record-high)
Operating Profit Analysis (vs 2017)

(Billions of yen)

2017 Jan.-Sept.

14.61

Increase Sales +12.75

Increase Cost of Goods Sales -5.26

Exchange Impact for Gross Profit +0.09

2018 Jan.-Sept.

17.87

Increase Sales -5.26

Increase Cost of Goods Sales +12.75

Exchange Impact for Gross Profit -0.32

Exchange Impact for Expenses +0.09

Increase R&D Cost -0.75

Increase Other Expenses -3.24

Increase of Operating Profit +3.26

Increase Gross Profit +7.49

Exchange Impact -0.22

Increase Expenses -4.00
# Impact of Fluctuation in Foreign exchange

## Exchange rate impact (2018 Jan.–Sept. Results vs 2017)

### Sales

- **+¥980mil O.P. −¥220mil**

<table>
<thead>
<tr>
<th></th>
<th>Sales</th>
<th>Operating Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>USD</td>
<td>EUR</td>
</tr>
<tr>
<td>Auto</td>
<td>+660</td>
<td>-130</td>
</tr>
<tr>
<td>P&amp;E</td>
<td>+40</td>
<td>-50</td>
</tr>
<tr>
<td>Medical</td>
<td>+280</td>
<td>-60</td>
</tr>
<tr>
<td>Semi</td>
<td>-170</td>
<td>-390</td>
</tr>
<tr>
<td>Scientific</td>
<td>+160</td>
<td>-150</td>
</tr>
<tr>
<td>Total</td>
<td>+980</td>
<td>-790</td>
</tr>
<tr>
<td></td>
<td>+1,250</td>
<td>-220</td>
</tr>
</tbody>
</table>

### Exchange rate impact for 2018 Forecast

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

- **Sales**
  - USD: −¥460mil
  - EUR: −¥320mil

- **Operating profit**
  - USD: −¥200mil
  - EUR: −¥20mil

## 2017 vs 2018

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD</td>
<td>111.89</td>
<td>112.16</td>
</tr>
<tr>
<td>EUR</td>
<td>124.58</td>
<td>126.70</td>
</tr>
<tr>
<td>USD</td>
<td>109.60</td>
<td>110.00</td>
</tr>
<tr>
<td>EUR</td>
<td>130.87</td>
<td>130.00</td>
</tr>
<tr>
<td>EUR</td>
<td>110.00</td>
<td>110.00</td>
</tr>
</tbody>
</table>

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### Capital Investment, Depreciation, R&D

(Billions of Yen)

Capital investment: expected to exceed the last year results while revised downward considering the recent progress

<table>
<thead>
<tr>
<th></th>
<th>2017 Results</th>
<th>Previous Forecast (As of Aug. 3)</th>
<th>2018 Current Forecast (As of Nov. 9)</th>
<th>vs Previous Forecast</th>
<th>2017 Jan.–Sept.</th>
<th>2018 Jan.–Sept.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Investment</td>
<td>11.6</td>
<td>16.0</td>
<td>14.0</td>
<td>-2.0</td>
<td>8.3</td>
<td>7.4</td>
</tr>
<tr>
<td>Depreciation</td>
<td>7.5</td>
<td>7.5</td>
<td>7.5</td>
<td>-</td>
<td>5.6</td>
<td>5.2</td>
</tr>
<tr>
<td>R&amp;D (To net sales)</td>
<td>13.9</td>
<td>15.5</td>
<td>15.5</td>
<td>-</td>
<td>10.0</td>
<td>10.9</td>
</tr>
</tbody>
</table>

- Capital investment; expected to exceed the last year results while revised downward considering the recent progress.
- Results: 11.6.
- Previous Forecast (As of Aug. 3): 16.0.
- Current Forecast (As of Nov. 9): 14.0.
- vs Previous Forecast: -2.0.
- 2017 Jan.–Sept.: 8.3.

**Notes:**

- (To net sales): 7.1%.
- (To net sales) Previous Forecast: 7.3%.
- (To net sales) Current Forecast: 7.5%.
- (To net sales) vs Previous Forecast: +0.2p.
- 2017 Jan.–Sept.: 7.6%.
- 2018 Jan.–Sept.: 7.5%.
# Consolidated Cash Flows

(Billions of Yen)

<table>
<thead>
<tr>
<th></th>
<th>2018 First Half</th>
<th>2017 First Half</th>
<th>Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash flows from operating activities</td>
<td>+12.40</td>
<td>+16.27</td>
<td>-3.86</td>
</tr>
<tr>
<td>Cash flows from investing activities</td>
<td>-4.43</td>
<td>-6.80</td>
<td>+2.37</td>
</tr>
<tr>
<td>Cash flows from financing activities</td>
<td>-4.31</td>
<td>-7.10</td>
<td>+2.79</td>
</tr>
<tr>
<td>Cash and cash equivalents at end of year</td>
<td>61.47</td>
<td>54.17</td>
<td>+7.29</td>
</tr>
<tr>
<td>Free cash flows</td>
<td>+7.97</td>
<td>+9.47</td>
<td>-1.49</td>
</tr>
</tbody>
</table>
Cash Balance

(Billions of Yen)

Total Loan Balance

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Loan Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>44.7</td>
</tr>
<tr>
<td>2016</td>
<td>46.7</td>
</tr>
<tr>
<td>2017</td>
<td>42.0</td>
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<tr>
<td>2018 end of Jun.</td>
<td>40.5</td>
</tr>
</tbody>
</table>

Cash Balance

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash*1</th>
<th>Bonds</th>
<th>Long</th>
<th>Short</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>47.8</td>
<td>15.0</td>
<td>16.8</td>
<td>12.8</td>
</tr>
<tr>
<td>2016</td>
<td>51.9</td>
<td>15.0</td>
<td>19.2</td>
<td>12.4</td>
</tr>
<tr>
<td>2017</td>
<td>58.3</td>
<td>15.0</td>
<td>18.7</td>
<td>8.3</td>
</tr>
<tr>
<td>2018 end of Jun.</td>
<td>61.4</td>
<td>15.0</td>
<td>18.3</td>
<td>7.1</td>
</tr>
</tbody>
</table>

- Loan repayment due to group financing
- Recent issuer rating : R&I “A” (September 2018), JCR “A” (August 2018)

*1 Cash*1…Cash and Cash Equivalents at End of Period. *2 JBIC: Japan Bank for International Cooperation

Bond redemption
In 2020
Borrowed from JBIC*2 ¥15.1bn
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Corporate Profile

Head Office
Kyoto, Japan

Foundation
1945

Incorporation
1953

Fiscal Year End
December 31

Atsushi Horiba
Chairman & Group CEO

- Corporate motto -

Omoshiro-okashiku
Joy and Fun

To have interest and pride in our work to enjoy our lives
Business Segments

- Environmental & Process Systems
- Environmental Radiation Monitor
- Environmental Regulation & Process Business
- In-Vitro Diagnostic (IVD) Systems
- Integration of HORIBA ABX SAS’ s Technology & Marketing Know-how

- Emission Measurement Systems
- Test Automation Systems
- Intelligent Transport Systems
- Engineering Consultancy & Testing (HORIBA MIRA, Ltd)

- In-situ Analysis
- Synergy among HORIBA HQ, HORIBA STEC, HORIBA Advanced Techno and HORIBA France SAS’ s Technologies

- Mass Flow Controller

- Raman, Grating, and Fluorescence
- Synergy of HORIBA and HORIBA Jobin Yvon’ s Technologies

Automotive Test Systems
Process & Environmental
Medical
Semiconductor
Scientific
Sales Breakdown by Segment

Sales: ¥195.3bn

- Automotive: 38% (73.3MUSD)
- Scientific: 13% (26.1MUSD)
- Semiconductor: 27% (53.3MUSD)
- P&E: 9% (17.4MUSD)
- Medical: 13% (25.1MUSD)

( ) = Segment Sales in MUSD
% = Segment Sales Ratio

(Sales of FY2017)
Market Share

Global
- Emission Measurement Systems: 80%
- Stack Gas Analyzers: 20%
- Mass Flow Controllers: 60%
- Raman Spectrophotometers: 30%

Domestic
- Automatic Blood Cell Counter plus CRP: 100%
- Gratings: 35%

(As of December 31, 2015)

※Market shares quoted are estimates by HORIBA.
HORIBA Worldwide

Sales of FY2017: ¥195.3bn (1,729 MUSD)

The Number of Group Companies by region (As of December 31, 2017)

- Americas: 9
- Europe: 22
- Asia: 17 (4 in Japan, including HORIBA, Ltd.)
- Total: 48

Sales Ratio by Region
- EU: 21%
- Japan: 33%
- Americas: 17%
- Asia: 29%
Employees by Region

(As of December 31, 2017)

- **Japan**: 38%
- **Total Asia**: 4,041 (54%)
- **Total Europe**: 2,414 (33%)
- **Total Americas**: 944 (13%)

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of Employees</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>7,399</td>
<td>38%</td>
</tr>
<tr>
<td>Total Asia</td>
<td>4,041</td>
<td>54%</td>
</tr>
<tr>
<td>Total Europe</td>
<td>2,414</td>
<td>33%</td>
</tr>
<tr>
<td>Total Americas</td>
<td>944</td>
<td>13%</td>
</tr>
</tbody>
</table>
Thank you