November 11, 2019

1st Half Results & Financial Position, Ended March 2020

Teruhisa Ueda
President & CEO
Shimadzu Corporation
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(2) FY 2019 1H  Results by Business Segment
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Financial Highlights

Record net sales for the first half

- Net sales, operating income, and net income exceeded previous records for the first half. (Third consecutive year of record sales, and fifth consecutive year of record operating income and net income)
- Both sales and income increased for Analytical, Medical, and Aircraft segments, but both decreased for the Industrial Machinery segment, due to a downturn in semiconductor market conditions.

Record net sales for Analytical and Medical (Strong MS and LC sales for Analytical)

- Both Analytical and Medical segments broke previous net sales records.
- MS drove results with double-digit increase, including double-digit increases in Japan, China, Europe, and India.
- LC sales also increased, with double-digit increases in Japan and Southeast Asia.

Strong results in Japan

- In Japan, Analytical net sales increased 6 %, with strong sales of MS, LC, and testing machines.
- Medical net sales increased 20 %, with strong sales of diagnostic X-ray systems (fluoroscopy, angiography, and general radiography).
### Statement of Income

- **Net sales:** 186.5 billion yen (3.6 billion yen or 2% year-on-year increase)
- **Operating income:** 17.9 billion yen (0.4 billion yen or 2% year-on-year increase)

<table>
<thead>
<tr>
<th>Units: Billions of yen</th>
<th>1H FY 2019</th>
<th>YoY FY 2018</th>
<th>Changes</th>
<th>Percent Increase/Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net Sales</strong></td>
<td>186.5</td>
<td>182.9</td>
<td>+3.6</td>
<td>+2%</td>
</tr>
<tr>
<td><strong>Operating Income</strong></td>
<td>17.9</td>
<td>17.4</td>
<td>+0.4</td>
<td>+2%</td>
</tr>
<tr>
<td><strong>Operating Margin</strong></td>
<td>9.6%</td>
<td>9.5%</td>
<td>0.1 pt</td>
<td>—</td>
</tr>
<tr>
<td><strong>Ordinary Income</strong></td>
<td>18.1</td>
<td>18.7</td>
<td>-0.6</td>
<td>-3%</td>
</tr>
<tr>
<td><strong>Profit Attributable to Owners of Parent</strong></td>
<td>13.2</td>
<td>12.9</td>
<td>+0.3</td>
<td>+3%</td>
</tr>
</tbody>
</table>

#### Exchange Rate Effect

- **Net sales:** -2.4 billion yen
- **Operating income:** -0.7 billion yen

#### Foreign Exchange Sensitivity

<table>
<thead>
<tr>
<th>(Billions of yen)</th>
<th>Net Sales</th>
<th>Operating Income</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>USD</strong></td>
<td>1.2</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>EUR</strong></td>
<td>0.2</td>
<td>0.07</td>
</tr>
</tbody>
</table>

#### Major Investments

<table>
<thead>
<tr>
<th></th>
<th>FY 2019</th>
<th>FY 2018</th>
<th>Changes</th>
<th>Percent Increase/Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>R&amp;D Expenses</strong></td>
<td>8.5</td>
<td>8.1</td>
<td>+0.4</td>
<td></td>
</tr>
<tr>
<td><strong>CAPEX</strong></td>
<td>9.7</td>
<td>10.2</td>
<td>-0.5</td>
<td></td>
</tr>
<tr>
<td><strong>Depreciation and Amortization</strong></td>
<td>6.5</td>
<td>5.6</td>
<td>+0.9</td>
<td></td>
</tr>
</tbody>
</table>
Analysis of Year-on-Year Increase/Decrease in Operating Income

- Exchange rate effect was -0.7 billion yen.
- Excluding such exchange rate effects, the effect of real sales increases was 2.4 billion yen.
- Real decrease in profitability was 0.2 billion yen, with a 1.1 billion yen real increase in expenses.

17.4
FY 2018 1st half

-0.7 Impact of yen appreciation

 Increase in net sales after excluding the impact of yen appreciation

+2.4
Increase in real profitability

-0.2 Deterioration of real profitability

-1.1 Increase in SG&A expenses after excluding the impact of yen appreciation

17.9
FY 2019 1st half

Exchange rate effect was -0.7 billion yen. Excluding such exchange rate effects, the effect of real sales increases was 2.4 billion yen. Real decrease in profitability was 0.2 billion yen, with a 1.1 billion yen real increase in expenses.
Sales and Income by Business Segment

- **AMI:** Achieved record first-half sales, but operating income was flat, due to increased selling and administrative expenses.
- **MED:** Achieved record net sales and operating income, with major increases in Japan.
- **IM:** Strong hydraulic equipment and vacuum heat treatment furnace sales were not enough to compensate for decreased TMP sales, resulting in lower overall sales and income.
- **AE:** Sales and income increased for both commercial and defense aircraft equipment.

<table>
<thead>
<tr>
<th>(Billions of yen)</th>
<th>FY 2019</th>
<th>FY 2018</th>
<th>Changes</th>
<th>Percent Increase/ Decrease</th>
<th>Excluding Exchange Rate Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AMI</strong></td>
<td>113.4</td>
<td>111.1</td>
<td>+2.3</td>
<td>+2%</td>
<td>+4%</td>
</tr>
<tr>
<td><strong>MED</strong></td>
<td>34.9</td>
<td>32.6</td>
<td>+2.2</td>
<td>+7%</td>
<td>+8%</td>
</tr>
<tr>
<td><strong>IM</strong></td>
<td>19.5</td>
<td>22.8</td>
<td>-3.3</td>
<td>-15%</td>
<td>-14%</td>
</tr>
<tr>
<td><strong>AE</strong></td>
<td>15.2</td>
<td>12.4</td>
<td>+2.8</td>
<td>+22%</td>
<td>+23%</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>3.5</td>
<td>3.9</td>
<td>-0.4</td>
<td>-10%</td>
<td>-10%</td>
</tr>
<tr>
<td><strong>Adjustments</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>186.5</td>
<td>182.9</td>
<td>+3.6</td>
<td>+2%</td>
<td>+3%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FY 2019</th>
<th>FY 2018</th>
<th>Changes</th>
<th>Percent Increase/ Decrease</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating Income</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FY 2019</strong></td>
<td><strong>FY 2018</strong></td>
<td><strong>Changes</strong></td>
<td><strong>Percent Increase/ Decrease</strong></td>
<td><strong>Excluding Exchange Rate Effects</strong></td>
</tr>
<tr>
<td>15.6</td>
<td>15.6</td>
<td>+0</td>
<td>+0%</td>
<td>+3%</td>
</tr>
<tr>
<td>1.4</td>
<td>0.7</td>
<td>+0.7</td>
<td>+106%</td>
<td>+117%</td>
</tr>
<tr>
<td>1.1</td>
<td>2.2</td>
<td>-1.1</td>
<td>-49%</td>
<td>-44%</td>
</tr>
<tr>
<td>0.3</td>
<td>-0.2</td>
<td>+0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.6</td>
<td>0.2</td>
<td>+0.4</td>
<td>+185%</td>
<td>+185%</td>
</tr>
<tr>
<td>-1.2</td>
<td>-1.0</td>
<td>-0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17.9</td>
<td>17.4</td>
<td>+0.4</td>
<td>+2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FY 2019</th>
<th>FY 2018</th>
<th>Increase/ Decrease</th>
<th>Excluding Exchange Rate Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating Margin</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FY 2019</strong></td>
<td><strong>FY 2018</strong></td>
<td><strong>Increase/ Decrease</strong></td>
<td><strong>Excluding Exchange Rate Effects</strong></td>
</tr>
<tr>
<td>13.8%</td>
<td>14.0%</td>
<td>-0.2 pt</td>
<td>-0.0 pt</td>
</tr>
<tr>
<td>4.0%</td>
<td>2.1%</td>
<td>+1.9 pt</td>
<td>+2.1 pt</td>
</tr>
<tr>
<td>5.8%</td>
<td>9.7%</td>
<td>-3.9 pt</td>
<td>-3.4 pt</td>
</tr>
<tr>
<td>2.0%</td>
<td>-1.8%</td>
<td>+3.8 pt</td>
<td>+3.7 pt</td>
</tr>
<tr>
<td>13.7%</td>
<td>4.4%</td>
<td>+9.3 pt</td>
<td>+9.3 pt</td>
</tr>
<tr>
<td>9.6%</td>
<td>9.5%</td>
<td>+0.1 pt</td>
<td>+0.3 pt</td>
</tr>
</tbody>
</table>
(1) FY 2019 1H  Financial Position

(2) FY 2019 1H  Results by Business Segment

(3) FY 2019  Forecast

(4) Key Business Strategies
Analytical & Measuring Instruments
Net Sales by Sub-Segment

- **Key models:** 61.9 billion yen; +2.4 billion yen (+4 %)
  MS sales were strong in academia/government, pharmaceutical, clinical fields. LC sales were also strong.

- **Other models:** 51.6 billion yen: Flat
  Despite a reactionary decline after special demand for water quality monitoring models in China the previous year, overall sales were flat, due to increased testing machine and other sales.

- **AM sales:** 36.1 billion yen; +1.7 billion yen (+5 %)
  AM sales ratio: 32 %; +1 pt

### Analytical & Measuring Instruments Net Sales (billion yen)

<table>
<thead>
<tr>
<th></th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Models</td>
<td>58.6 (+13 %)</td>
<td>59.5 (+2 %)</td>
<td>61.9 (+4 %)</td>
</tr>
<tr>
<td>Other</td>
<td>45.5 (+9 %)</td>
<td>51.6 (+14 %)</td>
<td>51.6 (-0 %)</td>
</tr>
<tr>
<td>Key models: Liquid chromatographs (LC), mass spectrometers (MS), gas chromatographs (GC)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Analytical & Measuring Instruments Products

- **Key Models:**
  - LC Nexera Series
  - LCMS-9030
  - Nexis GC-2030
  - GCMS-QP2020 NX

- **Other:**
  - TOC Analyzer
  - Testing Machine
  - X-Ray Photoelectron Spectrometer
  - X-Ray Fluorescence Spectrometer

(Value in parentheses are yen-basis year-on-year percent change.)
Analytical & Measuring Instruments
Net Sales by Region

• **Japan:** +6 %  **Strong sales of key models**
• **Outside Japan:** 0 %  **Decrease in China was offset by strong sales in Europe and Southeast Asia, resulting in overall flat sales.**
• **Overseas sales ratio:** 60 %  **Decreased 2 pts (year-on-year), due to strong sales in Japan.**

<table>
<thead>
<tr>
<th>Region</th>
<th>FY 2019 Q2</th>
<th>FY 2018 Q2</th>
<th>Increase/Decrease</th>
<th>Percent Increase/Decrease</th>
<th>Excluding Exchange Rate Effects</th>
<th>Overview</th>
</tr>
</thead>
</table>
| Japan                   | 45.7       | 43.0       | +2.7              | +6 %                      | +6 %                           | • Sales of key models increased by a large 14 %.  
• Sales of other models also increased, due to higher sales of testing machines, etc.                                                |
| Other Asian Countries   | 13.8       | 12.2       | +1.6              | +13 %                     | +15 %                          | • Southeast Asia: +22 %, due to strong sales of key models for pharmaceuticals  
• India: +3 % with recovery trend, due to strong sales for contract analysis                                                            |
| Europe                  | 12.0       | 11.7       | +0.4              | +3 %                      | +10 %                          | • Strong sales for clinical, academic/research institutions, and pharmaceuticals  
• By region, sales were particularly strong in Russia.                                                                                   |
| North America           | 12.1       | 12.4       | -0.3              | -3 %                      | -1 %                           | • Strong sales for cannabis and pharmaceuticals  
• MS sales to hospitals decreased.                                                                                                          |
| China                   | 25.0       | 27.0       | -2.0              | -7 %                      | -6 %                           | • Strong double-digit increase in MS sales to academia/research institutions and clinical fields  
• Sales decreased due to special demand for environmental monitoring in the previous year.                                                   |
Analytical & Measuring Instruments

Ratio of Net Sales by Market

- **Academia/government**: Academic sales were strong in Japan, China, and Europe, and government sales increased significantly in Japan.
- **Industry**: Sales were strong in Japan.
- **Healthcare**: Demand for food applications decreased in China.

### Markets and Main Industries

<table>
<thead>
<tr>
<th>Markets and Main Industries</th>
<th>YoY</th>
<th>Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthcare</td>
<td>-3%</td>
<td>- Clinical sales were strong, but demand for food applications decreased in China.</td>
</tr>
<tr>
<td>Healthcare - Pharmaceuticals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthcare - Foods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthcare - Institutions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td>+1%</td>
<td>- Strong testing machine and other sales in Japan offset decreases outside Japan.</td>
</tr>
<tr>
<td>Industry - Chemicals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry - Materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry - Electrical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry - Automotive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academia/Government</td>
<td>+11%</td>
<td>- Government sales increased significantly in Japan.</td>
</tr>
<tr>
<td>Academia/Government - Japan</td>
<td></td>
<td>- Academic sales were strong in Japan, China, and Europe.</td>
</tr>
<tr>
<td>Other</td>
<td>+2%</td>
<td>- Scope of analytical instrument customers expanded.</td>
</tr>
</tbody>
</table>

- **Sales Ratio**
  - Healthcare: 31%
  - Industry: 22%
  - Academia/Government: 18%
  - Other: 29%
Medical Systems
Net Sales by Sub-Segment

- **X-ray systems**: 24.1 billion yen
  - Increased by +0.8 billion yen (+3 %)
  - Sales of all models increased, but were strong for angiography systems in particular. By region, sales increased significantly for all three model categories in Japan.

- **Other**: 10.8 billion yen
  - Increased by 1.5 billion yen (+16 %), due to strong sales in Japan

- **AM**: 10.8 billion yen
  - Increased by 0.9 billion yen (+9 %)
  - AM sales ratio: +1 pt to 31 %

### Medical Systems Net Sales (billion yen)

<table>
<thead>
<tr>
<th></th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-Ray Systems</td>
<td>22.0 (+2 %)</td>
<td>23.3 (+6 %)</td>
<td>24.1 (+3 %)</td>
</tr>
<tr>
<td>Other</td>
<td>8.6 (+9 %)</td>
<td>9.3 (+8 %)</td>
<td>10.8 (+16 %)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30.6 (+4 %)</strong></td>
<td><strong>32.6 (+7 %)</strong></td>
<td><strong>34.9 (+7 %)</strong></td>
</tr>
</tbody>
</table>

(Values in parentheses are yen-basis year-on-year percent change.)

### Medical Products

- **Medical Systems**
  - **X-Ray Systems**
    - General Radiography System
    - Mobile System
    - Angiography System
    - Fluoroscopy System

- **Other**
  - Dedicated Breast PET System
  - Near-Infrared Fluorescence Imaging System
  - Near-Infrared Imaging System
  - Radiotherapy-Related System
### Medical Systems
**Net Sales by Region**

- **Japan**: +20%
- **Outside Japan**: -9%
- **Overseas sales ratio**: 36%

X-ray system sales increased, due to improved reputation for image processing technology and applications. Downturn particularly in North America and China. Decreased 7 pts (year-on-year), due to strong sales in Japan.

<table>
<thead>
<tr>
<th>Region</th>
<th>FY 2019 Q2</th>
<th>FY 2018 Q2</th>
<th>Increase/Decrease</th>
<th>Percent Increase/Decrease</th>
<th>Excluding Exchange Rate Effects</th>
<th>Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>22.3</td>
<td>18.6</td>
<td>+3.8</td>
<td>+20%</td>
<td>+20%</td>
<td>• Strong sales for both X-ray systems and other products.</td>
</tr>
<tr>
<td>Other Asian Countries</td>
<td>2.2</td>
<td>2.3</td>
<td>-0.1</td>
<td>-3%</td>
<td>-2%</td>
<td>• Strong angiography system sales in India were not enough to compensate for the reactionary decline after large projects the previous year.</td>
</tr>
<tr>
<td>China</td>
<td>2.5</td>
<td>2.8</td>
<td>-0.3</td>
<td>-11%</td>
<td>-10%</td>
<td>• Preferential policies for domestic products and bidding delays continued.</td>
</tr>
<tr>
<td>Europe</td>
<td>1.7</td>
<td>2.1</td>
<td>-0.4</td>
<td>-21%</td>
<td>-16%</td>
<td>• Reactionary decline after large projects in the previous year</td>
</tr>
<tr>
<td>North America</td>
<td>3.6</td>
<td>4.5</td>
<td>-1.0</td>
<td>-22%</td>
<td>-20%</td>
<td>• Demand for mobile and general radiography systems slowed due to continued reactionary decline after measures to promote switching to digital models.</td>
</tr>
</tbody>
</table>
**Industrial Machinery Net Sales by Sub-Segment**

- **TMP**: 7.0 billion yen  
  Decreased by 2.5 billion yen (-26 %), due to semiconductor market downturn.
- **Hydraulic**: 6.6 billion yen  
  Flat (+1 %), due to decrease in North America and China offset by strong sales in Japan.
- **Other**: 5.9 billion yen  
  Decreased by 0.8 billion yen (-12 %). Vacuum heat treatment furnace sales were strong, but glass winder sales decreased due to capital investment reluctance in China.
- **AM (TMP)**: 1.7 billion yen  
  Increased by 0.2 billion yen (+11 %)  
  AM sales ratio: 25 %; +8 pts

### Industrial Machinery Net Sales (billion yen)

<table>
<thead>
<tr>
<th>Sub-Segment</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMP</td>
<td>8.9</td>
<td>9.6</td>
<td>7.0</td>
</tr>
<tr>
<td>Hydraulic</td>
<td>6.3</td>
<td>6.7</td>
<td>5.9</td>
</tr>
<tr>
<td>Other</td>
<td>5.3</td>
<td>6.7</td>
<td>6.6</td>
</tr>
</tbody>
</table>

(Values in parentheses are yen-basis year-on-year percent change.)

### Industrial Machinery Products

- **TMP**: Turbomolecular Pump, Hydraulic Gear Pump, Control Valve
- **Hydraulic Equipment**: High-Speed Sputtering System, Balancer
- **Other**: Vacuum Heat Treatment Furnace

(values in parentheses are percentages change from the previous fiscal year)
Aircraft Equipment

- **Commercial aircraft:** 3.0 billion yen
  - Sales increased by 0.6 billion yen (+23%), due to strong demand for small-medium aircraft and increased sales of service parts to airlines.
  - Demand for small-medium aircraft and increased sales of service parts to airlines.

- **Defense:** 12.1 billion yen
  - Sales increased by 2.2 billion yen (+22%), due to increases for new transport aircraft, etc.

### Aircraft Equipment Net Sales (billion yen)

<table>
<thead>
<tr>
<th></th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Commercial Aircraft</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aircraft Equipment</td>
<td>13.2 (+12%)</td>
<td>12.4 (-6%)</td>
<td>15.2 (+22%)</td>
</tr>
<tr>
<td>+0.6 billion yen</td>
<td>+2.2 billion yen</td>
<td>3.0 (+23%)</td>
<td></td>
</tr>
<tr>
<td><strong>Defense</strong></td>
<td>11.1 (+16%)</td>
<td>9.9 (-11%)</td>
<td>12.1 (+22%)</td>
</tr>
</tbody>
</table>

(Values in parentheses are yen-basis year-on-year percent change.)
(1) FY 2019 1H Financial Position
(2) FY 2019 1H Results by Business Segment
(3) FY 2019 Forecast
(4) Key Business Strategies
**FY 2019 Forecast**

- Achieve seventh consecutive year of increased sales and income and fifth consecutive year of record sales by expanding investment for achieving growth, such as by strengthening R&D and expanding capital investment.

<table>
<thead>
<tr>
<th>Business Results</th>
<th>Units: Billions of yen</th>
<th>FY 2019</th>
<th>FY 2018</th>
<th>Changes</th>
<th>Percent Increase/Decrease</th>
<th>Excluding Exchange Rate Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net Sales</strong></td>
<td>410.0</td>
<td>391.2</td>
<td></td>
<td>+18.8</td>
<td>+5%</td>
<td>+25.2</td>
</tr>
<tr>
<td><strong>Operating Income</strong></td>
<td>47.0</td>
<td>44.5</td>
<td></td>
<td>+2.5</td>
<td>+6%</td>
<td>+4.7</td>
</tr>
<tr>
<td><strong>Operating Margin</strong></td>
<td>11.5%</td>
<td>11.4%</td>
<td></td>
<td>+0.1 pt</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td><strong>Ordinary Income</strong></td>
<td>47.0</td>
<td>45.5</td>
<td></td>
<td>+1.5</td>
<td>+3%</td>
<td></td>
</tr>
<tr>
<td><strong>Profit Attributable to Owners of Parent</strong></td>
<td>34.0</td>
<td>32.5</td>
<td></td>
<td>+1.5</td>
<td>+5%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exchange Rates</th>
<th>Units: Billions of yen</th>
<th>FY 2019</th>
<th>FY 2018</th>
<th>Changes</th>
<th>Percent Increase/Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Rate: USD (Yen)</td>
<td>107.0</td>
<td>111.0</td>
<td></td>
<td>- 4.0</td>
<td>-3.6%</td>
</tr>
<tr>
<td>Euro (Yen)</td>
<td>120.0</td>
<td>128.4</td>
<td></td>
<td>- 8.4</td>
<td>-6.6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major Investments</th>
<th>Units: Billions of yen</th>
<th>FY 2019</th>
<th>FY 2018</th>
<th>Changes</th>
<th>Percent Increase/Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>R&amp;D Expenses</strong></td>
<td>19.0</td>
<td>16.6</td>
<td></td>
<td>+2.4</td>
<td></td>
</tr>
<tr>
<td><strong>CAPEX</strong></td>
<td>22.0</td>
<td>21.7</td>
<td></td>
<td>+0.3</td>
<td></td>
</tr>
<tr>
<td><strong>Depreciation and Amortization</strong></td>
<td>13.5</td>
<td>11.5</td>
<td></td>
<td>+2.0</td>
<td></td>
</tr>
</tbody>
</table>
FY 2019 Forecast by Business Segment

- Achieve record net sales for both Analytical & Measuring and Medical Systems segments.
- Increase Analytical & Measuring Instruments sales and income for a seventh consecutive year.
- Also plan to increase both sales and income for Medical Systems and Industrial Machinery segments.

<table>
<thead>
<tr>
<th>Business Segment</th>
<th>FY 2019 (Billions of yen)</th>
<th>FY 2018 (Billions of yen)</th>
<th>YoY Changes (Billions of yen)</th>
<th>Percent Increase/Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMI</td>
<td>256.5</td>
<td>241.4</td>
<td>+15.1</td>
<td>+6%</td>
</tr>
<tr>
<td>MED</td>
<td>71.0</td>
<td>69.1</td>
<td>+1.9</td>
<td>+3%</td>
</tr>
<tr>
<td>IM</td>
<td>45.0</td>
<td>45.4</td>
<td>-0.4</td>
<td>-1%</td>
</tr>
<tr>
<td>AE</td>
<td>30.0</td>
<td>27.3</td>
<td>+2.7</td>
<td>+10%</td>
</tr>
<tr>
<td>Other</td>
<td>7.5</td>
<td>8.0</td>
<td>-0.5</td>
<td>-6%</td>
</tr>
<tr>
<td>Adjustments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>410.0</td>
<td>391.2</td>
<td>+18.8</td>
<td>+5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operating Income</th>
<th>FY 2019 (Billions of yen)</th>
<th>FY 2018 (Billions of yen)</th>
<th>YoY Changes (Billions of yen)</th>
<th>Percent Increase/Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMI</td>
<td>41.5</td>
<td>38.8</td>
<td>+2.7</td>
<td>+7%</td>
</tr>
<tr>
<td>MED</td>
<td>2.7</td>
<td>2.3</td>
<td>+0.4</td>
<td>+16%</td>
</tr>
<tr>
<td>IM</td>
<td>3.7</td>
<td>4.5</td>
<td>-0.8</td>
<td>-17%</td>
</tr>
<tr>
<td>AE</td>
<td>0.9</td>
<td>0.1</td>
<td>+0.8</td>
<td>+656%</td>
</tr>
<tr>
<td>Other</td>
<td>1.3</td>
<td>1.4</td>
<td>-0.1</td>
<td>-5%</td>
</tr>
<tr>
<td>Adjustments</td>
<td>-3.1</td>
<td>-2.6</td>
<td>-0.5</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>47.0</td>
<td>44.5</td>
<td>+2.5</td>
<td>+6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operating Margin</th>
<th>FY 2019 (%)</th>
<th>FY 2018 (%)</th>
<th>YoY Increase/Decrease (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMI</td>
<td>16.2%</td>
<td>16.1%</td>
<td>+0.1 pt</td>
</tr>
<tr>
<td>MED</td>
<td>3.8%</td>
<td>3.4%</td>
<td>+0.4 pt</td>
</tr>
<tr>
<td>IM</td>
<td>8.2%</td>
<td>9.8%</td>
<td>-1.6 pt</td>
</tr>
<tr>
<td>AE</td>
<td>3.0%</td>
<td>0.4%</td>
<td>+2.6 pt</td>
</tr>
<tr>
<td>Other</td>
<td>14.0%</td>
<td>14.1%</td>
<td>-0.1 pt</td>
</tr>
<tr>
<td>Adjustments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>11.5%</td>
<td>11.4%</td>
<td>+0.1 pt</td>
</tr>
</tbody>
</table>

(1) FY 2019 1H Financial Position
(2) FY 2019 1H Results by Business Segment
(3) FY 2019 Forecast
(4) Key Business Strategies
FY 2019 Key Business Strategies

**Analytical & Measuring Instruments**
1. Deploy new products (LC, high-resolution MS, etc.).
2. Strengthen IT solutions and aftermarket businesses.
3. Promote R&D collaborations.

**Medical Systems**
1. Deploy new products (angiography, digital general radiography, etc.).
2. Strengthen aftermarket business.

**Industrial Machinery**
1. Strengthen TMP business (such as by strengthening service business).
2. Expand industrial furnace business, etc.

**Aircraft Equipment**
1. Launch new businesses.

**Expand Demand by Developing New Fields and Strengthening Business and Product Bases**
1. Develop new AI-based products.
2. Develop new systems based on synergies between different businesses.
3. Develop new fields based on collaborations with outside organizations.
Key Businesses Strategies: Analytical & Measuring Instruments
Expand Businesses by Expanding Analytical & Measuring Instruments Product Lines

- **Gas Chromatographs**
  - HPLC
  - GC
  - SFC

- **Mass Spectrometers**
  - LC/MS
  - PESI MS
  - MALDI-TOF MS

- **Molecular Spectrometers**
  - UV/VIS
  - FT-IR
  - RF

- **Atomic Spectrometers**
  - ICP MS
  - TOC
  - EDX

- **Life Science**
  - Cell Culture Analysis System
  - MCE Microchip Electrophoresis System
  - Cell Picker

- **Materials Testing Machines**
  - Testing Machine
  - Thermal Analyzer
  - Particle Analyzer

- **Surface Analysis Systems**
  - ESCA
  - EPMA
  - SPM

- **General Analyzers**
  - Balance
  - Moisture Analyzer
  - Static Eliminator

- **Software & Network**
  - Client PC
  - iPad
  - Server

**LabSolutions**
Progressive Configuration of Laboratories System
Analytical Network Data System Compliant with EDIUS Regulation
Reliability and Security
Key Businesses Strategies: Analytical & Measuring Instruments

1. Deploy New Products

- **New products:** Strengthen/expand product line (with features for full automation, on-site analysis, data integrity, etc.).
- **Analytical Intelligence:** Strengthen functionality for assisting analysis with more intelligent instruments.
- **Aftermarket:** Expand reagent and consumables businesses and strengthen service business.

#### “ANALYTICAL INTELLIGENCE”
- Unique new concept only available from Shimadzu
- By automating processes that involve analytical expertise that requires extensive experience, Analytical Intelligence offers more advanced value in terms of analytical assistance functionality.

#### “LabTotal” Aftermarket Business
- Release reagent products for monitoring drug levels in blood.
- Expand aftermarket businesses, such as consumables and maintenance services.

<table>
<thead>
<tr>
<th>LC</th>
<th>Supercritical Preparative LC</th>
<th>Direct MS</th>
<th>GC</th>
<th>Testing Machines</th>
</tr>
</thead>
</table>
| **Nexera Series**
  • Higher sensitivity, faster, and easier to operate due to AI technology
  Released Mar. 2019 | **Nexera UC Prep**
  • Preparative LC system for recovering compounds more easily
  • Developed in collaboration with U.S. pharmaceutical consortium.
  Released Oct. 2019 | **DPiMS-8060**
  • Enables analysis with only simple pretreatment.
  • Forensics, contaminant analysis, etc.
  Released Jan. 2019 | **Nexis SCD-2030**
  • High-sensitivity detection of impurities that contain sulfur
  • Petroleum refining, petrochemicals, etc.
  Released Feb. 2019 | **AGX-V**
  • Faster speed, higher accuracy, and easier operability
  • Prevents data tampering by using a network.
  Released Apr. 2019 |
Strengthen Businesses by Developing New Products in China
New Products Released at the 2019 BCEIA Conference in China

- New high-end products developed in Japan
  - Nexera LC-40: A new high-end LC with Analytical Intelligence (AI)
  - DPiMS (PESI-MS): Direct probe ionization MS with quick and easy operation
  - Nexis SCD-2030: Sulfur chemiluminescence detection GC with high sensitivity and stability

- New products developed in China (Designed to better satisfy markets in China)
  - Essentia IC-16 Ion Chromatograph
  - LCMS/MS Microchip Cellular Analysis System
  - Fully Automated Robotic EDX System
    - Fully inert suppressor IC system with high stability
    - Automated cell culture and metabolite analysis system with microchip LC/MS/MS
    - Automated EDX system with 540 samples per cycle
Key Businesses Strategies: Medical Systems

**Product Line and Direction for Increasing Competitiveness**

- **Expanding Diagnostic Functionality**
  - General Radiography System
  - Mobile X-Ray System
  - Fluoroscopy System

- **Improving Procedure Support Functionality**
  - Surgical Fluoroscopy System
  - Angiography System

**Fluoroscopy/Video Recording Functions**

**Medical Service Efficiency Improvement Solutions**
- Electronic Medical Records System
- Returning Patient Reception System

**Advanced Diagnostic Solutions**
- PET System
- Near-Infrared Imaging System

**New Procedure Support Solutions**
- Near-Infrared Imaging System
- Radiotherapy System
1. Deploy New Products

- **Strengthen angiography systems.**
- **Differentiate diagnostic X-ray systems** (Deploy digital general radiography systems for diagnostic kinetic chest analysis.)
- **Strengthen business in North America and aftermarket business.**

### Key Businesses Strategies: Medical Systems

#### Angiography Systems
- **Trinia’s unity smart edition**
  - Automate procedure support starting with examination of lower extremities.
  - Released Apr. 2018
  - (Software released in Oct.)

#### General Radiography
- **RADspeed Pro with kinetic analysis capability**
  - Lung function visualization, breathing function assessment, etc.
  - Released Feb. 2019

#### Fluoroscopy
- **SONIALVISION G4**
  - World’s first precision BMD measurement system based on AI technology
  - Released Aug. 2019

#### Proximity-Type R/F Tables
- **FLUOROspeed X1**
  - Digital FPD with high image quality and state-of-the-art radiation dose reduction
  - Released in second half of 2019

**Increase/Strength Production Capacity and Reduce Costs.**
- New building completed at the Shimane Shimadzu medical instruments plant (Feb. 2019) (1.7 billion yen investment).
Develop AI-Based Products

Analytical & Measuring Instruments

- **Liquid Chromatograph Mass Spectrometer (LC/MS)**
  
  **Automatic MS data analysis.**
  
  (Released in Sep. 2019)

  Uses AI to quickly and accurately read data without depending on operators.

Analytical & Measuring Instruments

- **Cell Culture Analysis System**
  
  **Automatic area measurement**
  
  (Released in Sep. 2019)

  Uses AI to automatically measure area for confirming cell growth status.

Analytical & Measuring Instruments

- **Rapid Cancer Diagnostic Support System**
  
  **Automatically identifies cancer.**
  
  (Currently in clinical trials)

  Uses AI to rapidly determine the probability of cancer being present.

Medical Systems

- **Fluoroscopy System**
  
  **Dects femur area for BMD measurements.**
  
  (Released in Aug. 2019)

  SmartBMD AI Assist

  Uses AI to automatically isolate the outline of femurs in X-ray images.
Integrating Analytical and Medical Technologies

Advanced Healthcare

Extend healthy life expectancy by integrating healthcare with visualization by imaging and quantitative analysis using a mass spectrometer.

Offer Shimadzu technologies for research and development of solutions for each stage of overcoming diseases, such as cancers and lifestyle diseases, and achieving a healthy life cycle, including early diagnosis, diagnosis, treatment, and prognosis.
New System Products Based on Both Analytical and Medical Systems
An Integrated System that Displays Both Medical Images and Mass Spectrometry Data in the Same Window

- Joint development with Tohoku University: Primary aldosteronism diagnosis and surgery
- Reducing the burden on patients by performing both the examination and surgery on the same day → Conventional methods involve acquiring blood via a catheter, blood testing outsourced before the surgery. Then one week later, surgery is performed by viewing LCMS data.

Medical: Angiography system  Analysis: LCMS

Integrated Software Window

Image data
Mass spectrometry data (numeric)
Data integration software
(Integrates medical imaging data with analytical mass spectrometry data.)

Blood acquired from five locations
Mass spectrometry data (numeric values from multiple locations)
Medical image (blood acquisition from multiple locations)
New System Products Based on Both Analytical and Medical Systems
An Integrated System that Displays Both Medical Images and Mass Spectrometry Data in the Same Window

Refer to the following URL:
https://www.shimadzu.co.jp/advanced-healthcare/
Contribution to SDGs through Business Activities

For each goal, change from current to future status is represented as a vector.

New Initiatives for the Future
- Promote individualized/preemptive medicine.
- Analysis of biological components and treatment plan for preventive medicine
- Support the development of functionally-enhanced foods.

New Initiatives for the Future
- Support the development of more efficient renewable energy generation.
- Support the development of new materials that reduce automobile and aircraft weight.
- Support the development/manufacturing of fuel cells.

New Initiatives for the Future
- Inspect infrastructure structural members using sound and light waves.
- Develop new sensors based on quantum science.
- Develop materials informatics technologies.

Shimadzu developed a simple technique that can detect beta-amyloids, a substance said to cause Alzheimer’s disease, in a small 0.5 mL sample of blood.

**Analysis Method for Predicting Beta-Amyloid Plaque Levels in the Brain**

- Acquire blood
- Mass spectrometry

- Minimal invasiveness and low cost → Enables convenient patient screening and is useful for providing clinical healthcare.

**Adrenal Vein Sampling Support System**

1. Load X-ray image.
2. Read barcode on vial with blood sample.
3. Register and display blood acquisition location on X-ray image.
4. Receive and display measurement results.
5. Create, display, and send AVS report.

**Legend**
- Past
- Future

**Note:** SDGs 16 and 17 were excluded because they relate to overall activities.

**Unmet Medical Needs and Initiatives for Ultra-Early Diagnosis**

**Identifying Diseases Scientifically**

Scientifically close in on the causes of disorders by analyzing the masses of substances sampled from inside the body using a catheter or other medical device in combination with an angiography system.
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