Our Industrial Automation and Control Business

November 7, 2012
Shuzo Kaihori, President and Chief Executive Officer
**FY12 1H Financial Results**

(Billion ¥)

<table>
<thead>
<tr>
<th></th>
<th>FY12 1H budget</th>
<th>FY12 1H results</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orders</td>
<td>183.0</td>
<td>176.0</td>
<td>(7.0)</td>
</tr>
<tr>
<td>Sales</td>
<td>164.0</td>
<td>164.6</td>
<td>0.6</td>
</tr>
<tr>
<td>Operating income</td>
<td>7.5</td>
<td>8.8</td>
<td>1.3</td>
</tr>
<tr>
<td>Ordinary income</td>
<td>5.5</td>
<td>7.3</td>
<td>1.8</td>
</tr>
<tr>
<td>Net income</td>
<td>5.5</td>
<td>7.8</td>
<td>2.3</td>
</tr>
<tr>
<td>Exchange rate (¥)</td>
<td>1$= 79.00</td>
<td>1€= 78.98</td>
<td>(0.02)</td>
</tr>
<tr>
<td></td>
<td>100.00</td>
<td>99.70</td>
<td>(0.30)</td>
</tr>
</tbody>
</table>

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2012/11/7
## FY12 Budget

<table>
<thead>
<tr>
<th></th>
<th>FY11 results (A)</th>
<th>FY12 budget (8/10) (B)</th>
<th>FY12 budget (11/6) (C)</th>
<th>Difference (C-A)</th>
<th>Difference (C-B)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Orders</strong></td>
<td>344.1</td>
<td>356.0</td>
<td>356.0</td>
<td>11.9</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Sales</strong></td>
<td>334.7</td>
<td>347.0</td>
<td>347.0</td>
<td>12.3</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Operating income</strong></td>
<td>16.6</td>
<td>20.0</td>
<td>20.0</td>
<td>3.4</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Ordinary income</strong></td>
<td>14.0</td>
<td>17.0</td>
<td>17.0</td>
<td>3.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Net income</strong></td>
<td>6.0</td>
<td>13.5</td>
<td>13.5</td>
<td>7.5</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Exchange rate (¥)</strong></td>
<td>$1= 78.82</td>
<td>$1= 79.00</td>
<td>$1= 79.00</td>
<td>(0.18)</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>€1= 109.34</td>
<td>€1= 100.00</td>
<td>€1= 100.00</td>
<td>(9.34)</td>
<td>0.00</td>
</tr>
</tbody>
</table>

(Billion ¥)
## FY12 Budget

### Orders Forecast

<table>
<thead>
<tr>
<th></th>
<th>Forecast (8/10)</th>
<th>Forecast (11/6)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA and control business</td>
<td>304.0</td>
<td>304.0</td>
<td>0.0</td>
</tr>
<tr>
<td>T&amp;M business</td>
<td>31.0</td>
<td>31.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Other businesses</td>
<td>21.0</td>
<td>21.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>356.0</strong></td>
<td><strong>356.0</strong></td>
<td><strong>0.0</strong></td>
</tr>
</tbody>
</table>

### Sales Forecast

<table>
<thead>
<tr>
<th></th>
<th>Forecast (8/10)</th>
<th>Forecast (11/6)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA and control business</td>
<td>294.0</td>
<td>294.0</td>
<td>0.0</td>
</tr>
<tr>
<td>T&amp;M business</td>
<td>30.0</td>
<td>30.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Other businesses</td>
<td>23.0</td>
<td>23.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>347.0</strong></td>
<td><strong>347.0</strong></td>
<td><strong>0.0</strong></td>
</tr>
</tbody>
</table>

### Operating income Forecast

<table>
<thead>
<tr>
<th></th>
<th>Forecast (8/10)</th>
<th>Forecast (11/6)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA and control business</td>
<td>22.5</td>
<td>20.5</td>
<td>(2.0)</td>
</tr>
<tr>
<td>T&amp;M business</td>
<td>(3.0)</td>
<td>(1.0)</td>
<td>2.0</td>
</tr>
<tr>
<td>Other businesses</td>
<td>0.5</td>
<td>0.5</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20.0</strong></td>
<td><strong>20.0</strong></td>
<td><strong>0.0</strong></td>
</tr>
</tbody>
</table>
Our Industrial Automation and Control Business
FY11 sales by segment
(total: 334.7 billion yen)

Industrial automation and control

<table>
<thead>
<tr>
<th>Segment</th>
<th>Sales (billion yen)</th>
<th>Sales Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test and measurement</td>
<td>34.6</td>
<td>10%</td>
</tr>
<tr>
<td>Industrial automation and control (IA and Control)</td>
<td>277.2 (83%)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>22.9 (7%)</td>
<td></td>
</tr>
</tbody>
</table>

Sales Ratio of IA and Control Business

- 80% @2008
- 70% @2006
- 60% @2004
- 59% @2002

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2012/11/7
Non-Japan sales:
Grew 3 times in 10 years  (in dollar terms)

Non-Japan sales
$686M

Non-Japan sales
82.4 billion yen

Non-Japan sales
173.7 billion yen

Source: Company data
Global Network

54 countries / 85 branches

Employees worldwide 19,437

Group employees outside Japan 10,609

Group companies in Japan 4,617

As of March 31, 2012

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2012/11/7
Automating processes and facilities

Automation

Process automation

- PA Continuous processes
- PA Batch processes

Plant equipment

Factory automation

- FA Mechanical equipment

Sensors (temperature, flow rate, pressure)
- Machine tools, robots

Control systems
- Sensors
- Valves
- PLCs
## Process automation product layers

<table>
<thead>
<tr>
<th>Category</th>
<th>Product name</th>
<th>Hardware</th>
<th>Software</th>
<th>Engineering</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERP</td>
<td>Not a Yokogawa business</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MES</td>
<td>RPO</td>
<td></td>
<td></td>
<td>⬤</td>
<td>⬤</td>
</tr>
<tr>
<td>PIMS</td>
<td>Exaquantum</td>
<td></td>
<td></td>
<td>⬤</td>
<td>⬤</td>
</tr>
<tr>
<td>APC</td>
<td>Exasmoc</td>
<td></td>
<td></td>
<td>⬤</td>
<td>⬤</td>
</tr>
<tr>
<td>Control systems</td>
<td>CENTUM</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
</tr>
<tr>
<td></td>
<td>ProSafe-RS</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
</tr>
<tr>
<td>Sensors, transmitters</td>
<td>EJX/EJA ADMAG</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
</tr>
</tbody>
</table>

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Example: Oil Refinery

Long-term support for safe and stable operations
Product Lineup

Data Acquisition/Recorder
- Paperless Recorder
- Chart Recorder
- Data Acquisition and Monitoring

Controller
- Single Loop Controller
- Temperature Controller
- Signal Conditioner
- Power Monitor

Analytical
- Turbidity Analyzer TB 750G
- 2-Wire Liquid Analyzer FLXA21
- Process Gas Chromatograph GC8000
- Near Infrared Analyzers NR800
- Laser Analyzer TDL200
- Gas Density Meter GD402G
- Oxygen Analyzer ZR402G

Pressure Level
- Pressure/Differential Pressure EJA/EJX
- Differential Pressure EJA/EJX
- Remote Seal
- Advanced Valve Positioner YVP
- I/P Converter PK200

Flow
- Variable Area Rota Meter
- Coriolis Rota Mass
- Vortex DYF
- Differential Pressure EJA/EJX
- Magnetic AXR
- Ultrasonic US300
- DTSX 200

Temperature
- Temperature Transmitter YTA50/70
- YTA100/300

Optimize
- Production Management
- Asset Management and Operational Efficiency

Control
- Production Control and Safety Management
- Data Acquisition and Logic Control

Measure
- Analysis and Quality Control
- Sensing and Actuation

Analysis and Quality Control
- Production Management
- Asset Management and Operational Efficiency
- Production Control and Safety Management
- Data Acquisition and Logic Control
- Analysis and Quality Control
- Sensing and Actuation

YOKOGAWA
2011 Global Market Share: Pressure Transmitters

Source: ARC Pressure Transmitter Worldwide Outlook 1998-2010

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2011 Global Market Share: DCS

**2011 global market share**

- Chemical: 37.2%
- Petrochemical & chemical: 9.8%
- Other (food & beverage, pharmaceutical, cement & glass, etc.): 7.9%
- Water & wastewater: 6.4%
- Power: 17.0%
- Refining: 17.9%
- Metals & mining: 3.2%
- Pulp & paper: 8.3%
- LNG, oil & gas: 17.2%

Source: ARC Distributed Control Systems Worldwide Outlook MARKET ANALYSIS AND FORECAST THROUGH 2016

**2011 Yokogawa DCS sales:** 160.0 billion yen

Source: Company data
Our Engineering

After processing project order (Yokogawa)

Order

Specifications
- Systems
- Sub-systems
- Documentation
  - Specs
- Documentation
  - Designs
- Software
  - Structural design
- Database design
- Unit testing
- Integration testing
- Testing / reporting
- Inspection
- Shipping
- Fine tuning (on site)
- Delivery
- Start of operation

Specifications

Deliver value to customers by integrating hardware and then “bringing systems to life” to complete their construction
Yokogawa provides a total automation solution, covering all project phases from initial design to start-up, in cooperation with the customer.

Definitions

**MAC:** Main Automation Contractor

**EPC:** Engineering, Procurement & Construction

**PMC:** Project Management Consultant
The main objectives of the MAC are to reduce:
- CAPEX
- Project development time
- Spec changes

MAC/MICC: involvement from a very early stage

**Definitions**

**MAC:** Main Automation Contractor
**MICC:** Main Instrumentation and Controls Contractor
**FEED:** Front End Engineering Design
**EPC:** Engineering, Procurement, & Construction
**PMC:** Project Management Consultant

An automation contractor is selected at the conceptual design phase.
The MAC provides consulting service from the FEED phase and formulates a control plan to accomplish the project’s business goals.
Realizing the VigilantPlant concept: Helping customers achieve the ideal plant.
Providing value-added services over the entire plant lifecycle.

From instrumentation maintenance
+

to high value-added consulting services that enhance safety and productivity.

Opportunity identification
Solution implementation
Lifecycle effectiveness

find
solve
improve
Key Success Factors

Customer needs

Support for safe and stable operations with minimum downtime
Ability to adjust to changes in the business environment

Yokogawa provides highly reliable products and services.

Ensuring long-term stability with minimum downtime

- Stable operations with maximum energy efficiency
- No lost business opportunities
- Reduced maintenance and operating costs

Why companies choose Yokogawa:

- Highly reliable long-term solutions → Hardware, software, engineering, services
- Responsive → Timely and accurate assistance
- Trustworthy → Follows through on all commitments, from start to end

+ Localization
## Key Success Factors

### Importance of localization

1. Enhances ability to work across cultures, for improved collaboration
2. Ensures provision of local support over the entire plant lifecycle
   - Maintaining smoothly running control systems
   - Responding to changes in processes
3. Maintains the same quality worldwide (products, services, delivery)
4. Contributes to development of skills and capabilities of local process automation support personnel
5. Assures 24/7/365 support

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**Our commitment to industry:**

*to provide highly reliable and quality solutions*

**A Yokogawa Commitment to Industry**

**vigilantplant®**

*The clear path to operational excellence*

Our mindset  
Our vision
Results of Our Industrial Automation and Control Business
Global Purchasing Agreements

- Bayer (Germany, Pharmaceutical)
- EVONIK (Germany, Chemical)
- AIR LIQUIDE (France, Gas)
- GAZPROM NEFT (Russia, Oil)
- TOTAL (France, Oil)
- ExxonMobil (United States, Oil)
- Pfizer (United States, Pharmaceutical)
- KBR (United States, Engineering)
- Dow (United States, Chemical)
- LyondellBasell (Germany, Chemical)
- Saint-Gobain (France, Glass)
- Sibur (Russia, Oil)
- ConocoPhillips (United States, Oil)
- BP (United Kingdom, Oil)
- Shell (Netherlands, Oil)
- Petronas (Malaysia, Oil)
- Andritz (Austria, Engineering)
- Vopak (Netherlands, Tank terminals)
- Solvay (Belgium, Chemical)
- LANXESS (Germany, Pharmaceutical)
- Petrobras (Brazil, Oil)
- Saudi Aramco (Kingdom of Saudi Arabia, Oil)
- Lanxess (Germany, Pharmaceutical)
- ANDRITZ (Austria, Engineering)
- LyondellBasell (Germany, Chemical)
Evolution of IA Industry

1990: 27 vendors
- Yokogawa
- Control Bailey
- Rosemount
- Fisher Controls
- Intellution
- Westinghouse
- Daniel
- SAAB
- ABB
- CE Taylor
- August Systems
- Fisher & Porter
- Hartmann & Braun
- Siemens
- Texas Instruments
- Foxboro
- Triconex
- APV
- Wonderware
- Eurotherm
- Honeywell
- Leeds & Northrup
- Measurex
- Endress+Hauser
- Krohne
- Yamatake+Honeywell
- Toshiba

1995: 18 vendors
- Yokogawa
- Fisher Rosemount
- Intellution
- Westinghouse
- SAAB
- ABB
- Hartmann & Braun
- Siemens
- Siebe
- Wonderware
- Eurotherm
- Honeywell
- Leeds & Northrup
- Measurex
- Endress+Hauser
- Krohne
- Yamatake+Honeywell
- Toshiba

Global Players 27 ⇒ 6

Today: Global Big 6 + niches
- Yokogawa
- Emerson
- ABB
- Siemens
- Honeywell
- Invensys

Full digital revolution
- Endress+Hauser
- Krohne

Sensor niche
- Azbil
- Toshiba

Focus on Japan/Asia

Globalization
Supplier downsizing

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The information pertaining to our business plans and forecasts that has been provided in this presentation and at analyst meetings contains forward-looking statements that are based on our management’s current knowledge and require the making of assumptions about future events. As such, it cannot be guaranteed that these statements will not differ materially from actual results.