Our Industrial Automation and Control Business
Advantages for expansion of our business

November 8, 2013
Takashi Nishijima, President and Chief Operating Officer
## FY13 1H results

<table>
<thead>
<tr>
<th></th>
<th>FY13 1H budget (A)</th>
<th>FY13 1H results (B)</th>
<th>Difference (B-A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orders</td>
<td>190.0</td>
<td>216.1</td>
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<tr>
<td>Sales</td>
<td>185.0</td>
<td>179.6</td>
<td>(5.4)</td>
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<tr>
<td>Operating income</td>
<td>9.5</td>
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<td>Ordinary income</td>
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</table>
Priority measures

- Improving profitability

1. Expand high value-added solution service business in Japan market

2. Enhance in-house product business

3. Raise the efficiency of the entire IA and control business

- Responding to changes in target markets

To further expand IA and control business:

1. Reinforce organizations in North America

2. Reinforce organizations in emerging and resource-rich nations and regions
Priority measures

Improving profitability

2. Enhance in-house product business

A great opportunity to expand in-house product sales

- Dept. responsible for promoting in-house products (Give greater authority to)
  - Set product sales quotas
    - Increase sales of in-house products

- Set up system for monitoring progress
- Assign person in charge with following roles/responsibilities:
  - Sharing of info on current situation and challenges/negotiation of delivery, price/provision of technical support
  - Ensure strong cooperation between affiliates and production/IA division

- Expand local modification function
  - Final assembly, range setting/adjustment/inspection
  - Affiliates in North America and other regions

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Priority measures

1. Expand high value-added solution service business in Japan market
2. Enhance in-house product business
3. Pursue a more efficient IA and control business as a whole

Responding to changes in target markets

To further expand IA and control business:
1. Reinforce organizations in North America
2. Reinforce organizations in emerging and resource-rich nations and regions
Responding to changes in target markets

1. Reinforce organizations in North America to further expand business

In North America, a booming market with surging growth in shale gas and oil development/production:

“How can Yokogawa compete and what are the company’s advantages?”
Our advantages

Global market share in 2012

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

Global chemical market share in 2012

2012 Yokogawa DCS sales: 218 billion yen

- Petrochemical & Chemical: 36%
- Refining: 19%
- LNG, Oil & Gas: 18%
- Water & Wastewater: 7%
- Power: 8%
- Metals & Mining: 3%
- Pulp & Paper: 2%
- Others (Food & Beverage, Pharmaceutical, Cement & Glass and others): 7%

Source: Company data

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Our advantages

① Line-up of highly reliable, high quality products
② Superior project management capabilities
③ Extensive knowledge of industries and high-level engineering capabilities

Target markets

- Large and high growth markets
  - Upstream, electric power, specialty chemicals
- Markets where we already have a strong position
  - Downstream, LNG

Deep industry-specific know-how acquired through extensive experience in Japan market
→ Apply globally
### Our advantages

1. **Line-up of highly reliable, high quality products**

<table>
<thead>
<tr>
<th>ERP</th>
<th>Optimize</th>
<th>Control</th>
<th>Measure</th>
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<tbody>
<tr>
<td>Production</td>
<td>Asset Management</td>
<td>Production Control &amp; Safety</td>
<td>Analysis and</td>
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<td>Management</td>
<td>and Operational Efficiency</td>
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<td>Quality Control</td>
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<td>Data Acquisition and Logic Control</td>
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<td></td>
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<td>Sensing and</td>
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<td></td>
<td>Actuation</td>
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**ERP**
- **Optimize**
  - Production Management
  - Asset Management and Operational Efficiency

**Control**
- Production Control and Safety Management
- Data Acquisition and Logic Control
- Paperless Recorder
- Chart Recorder
- Data Acquisition and Monitoring
- Single Loop Controller & Temperature Controller
- Signal Conditioner
- Power Monitor

**Measure**
- Analysis and Quality Control
- Turbidity Analyzer
- 2-Wire Liquid Analyzer
- Process Gas Chromatograph
- Near Infrared Analyzers
- Laser Analyzer
- Gas Density Meter
- Oxygen Analyzer
- I/P Converter

**Other Products**
- Enerize EconoPilot
- Advanced Control
- CAMS for HIS
- Energy saving system
- Enerize
- EconoPilot
- Measure
- Sensing and Actuation
- ISA100 wireless
- Pressure/ Differential Pressure
- ISA100 wireless
- Variable Area Rota Meter
- Magnetic AXR
- Vortex Differential Pressure
- Flow
- EJA/EJX
- Temperature
- US300
- Temperature Transmitter
Our advantages

② Superior project management capabilities

From 2000: Upgrading of project management capabilities to ensure reliable implementation of super-large projects

- Global optimization of engineering resources
- Provision of support and guidance to upgrade affiliates’ project management capabilities
Our advantages

③ Extensive knowledge of industries and high-level engineering capabilities

Strong experience and track record

Accumulated industry-specific application/system integration expertise and know-how

Standardization

Improving engineering/service efficiency and quality

Positioning engineering centers as a global function and globally utilizing expertise and know-how gained through delivery of projects and services.

Transform tacit knowledge into explicit knowledge, and standardize and share it for higher efficiency.
Our advantages

④ Localization

① Line-up of highly reliable, high quality products
② Superior project management capabilities
③ Extensive knowledge of industries and high-level engineering capabilities

Why localization is important

① Collaboration
   → Greatly influenced by the culture of a country or region
② Provision of local support over the entire plant lifecycle
   • Keeping control systems healthy
   • Responding to changes in processes
③ Maintaining the same quality worldwide (products, services, delivery)
④ Development of personnel who can provide process automation support
⑤ Provision of 24/7/365 support
Our advantages

Localization of customer support

54 countries
200 sales offices
121 service offices
Our advantages

Localization of engineering: Global workforce of over 4,000 engineers

Global Engineering Centers:
- Global operation of engineering resources
- Sharing of lessons learned (success stories) with other affiliates

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Our advantages

① Line-up of highly reliable, high quality products
② Superior project management capabilities
③ Extensive knowledge of industries and high-level engineering capabilities
④ Localization

Use these four advantages to expand mainly in those markets where we already have a strong position.

MAC* contracts require high-level project execution capabilities.

The capability to consistently provide these four benefits to customers is key to our acquisition of MAC contracts.

MAC* = Main Automation Contractor
Promising up/midstream markets

- Huge shale gas investment is expected in North America
- North America is turning into a “low-cost” fuel/feedstock supplier, which is driving large projects for the production of fertilizers, ethylene, etc.
- Low priced shale gas will stimulate the entire energy supply chain: wellheads, LNG terminals, FPSO/LNG carriers, pipelines

An MCAA* report states:
Major industries may maintain a 8-9% CAGR for the next 5 years.

* MCAA= Measurement, Control & Automation Association


Source: MCAA “Market Forecast for Process Instrumentation and Automation in the US and Canada”
North America

- **Global major accounts**
  - **Investment** returns to North America

- **Downstream** (ethylene, fertilizer)
  - **Local accounts, EPCs**
    - **Active**

- **Shale gas & oil**
  - **Local accounts, EPCs**
    - **Active**

- **LNG**
  - **Global EPCs**
    - **Participate in mega-PJT**
North America has become a market that can demonstrate Yokogawa’s advantages

Experience and track record

Yokogawa now enjoys a higher profile in the North American market

① Line-up of highly reliable, high quality products
② Superior project management capabilities
③ Extensive knowledge of industries and high-level engineering capabilities
④ Localization

How to strengthen our project execution capabilities based on the above four factors:
This is key to our business expansion
Our advantages

① Line-up of highly reliable, high quality products

DTSX200 distributed temperature sensor  ProSafe-RS safety instrumented system

- Combines optical measurement and environmental resistance technologies
- In 1 m increments, can accurately measure temperature at sites up to 6 km away, and can be used in locations that lack a secure power supply and have widely varying temperatures.
  → Highly applicable for non-conventional resource applications
- Suitable for a wide variety of applications including tank and pipeline leak detection, detection of conveyor belt overheating, solar power generation, and desert site oil/gas extraction

- Prevents accidents at safety critical plants by detecting operating failures and initiating emergency shutdowns
- Complete integration with CENTUM series process control systems
- Very well received in the marketplace; has been implemented in more than 1,200 projects to date
- Meets customer needs for everything from upstream to downstream
Our advantages

Localization in North American market

- Localization started in 1957
  → Building trust-based relationships "near the customer"

- After constructing a production plant in Georgia, built relationships with local sales distributors
  → Established sales network and grew non-system product business

- Headquartered in Houston, center of the petrochemical industry
  → Focus on sales and engineering
  → Functions as North American HQ, overseeing U.S., Canadian, and Mexican subsidiaries, with a total of 800 personnel

Strengthen local resources
- Strengthening of local sales, marketing, and engineering capabilities

Expand local modification
- Quickly provide customers with products that meet their needs
### Sabine Pass LNG Project

<table>
<thead>
<tr>
<th>Project: Sabine Pass LNG</th>
<th>Customer: Cheniere Energy Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant: Facility for liquefaction/export of natural gas and gasification of imported LNG</td>
<td></td>
</tr>
</tbody>
</table>

**Start of operation:** Undecided  
**Location:** Cameron, LA  
**Production facilities:** 4 x 4.5 mtpa liquefaction trains  
(mtpa: million tons per annum)

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**Yokogawa’s scope**
- Integrated production control system  
- Safety instrumented system

**Why the customer selected Yokogawa**
- Long-term relationship with Cheniere Energy Partners  
- A leading provider of LNG plant solutions  
- Highly reliable control system with easy to use HMI  
- A pioneer in the development of integrated monitoring, control, and safety systems
Implement the following 3 strategies:
Trend of global sales

Non-Japan sales: Grew 2.5 times in 10 years (in dollar terms)

Non-Japan sales: Grew 2.5 times in 10 years (in dollar terms)

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### FY13 budget

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<th>FY12 results</th>
<th>FY13 budget</th>
<th>Change</th>
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<tr>
<td>Orders</td>
<td>354.5</td>
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<tr>
<td>Sales</td>
<td>347.9</td>
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<tr>
<td>Operating income</td>
<td>18.4</td>
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<tr>
<td>Ordinary income</td>
<td>18.0</td>
<td>23.0</td>
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<tr>
<td>Net income</td>
<td>14.7</td>
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**Exchange rates**

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<tr>
<td>¥83.33</td>
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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.