...People and Ability to Create Value for Our Customers

**World-class People and Expertise**

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automation Solutions Employees</td>
<td>58,000</td>
</tr>
<tr>
<td>Engineering &amp; Development</td>
<td>3,250+</td>
</tr>
<tr>
<td>Industry Consultants</td>
<td>100+</td>
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<tr>
<td>Lifecycle Services Professionals</td>
<td>4,000+</td>
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<tr>
<td>Salespeople</td>
<td>9,250+</td>
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<tr>
<td>Project Services Personnel</td>
<td>4,400+</td>
</tr>
<tr>
<td>Service Centers</td>
<td>200+</td>
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</tbody>
</table>

**Solutions Enabling Top Quartile Performance**

**Project Certainty**
Enable customers to eliminate cost, reduce complexity, and accommodate late changes on capital projects.

**Operational Certainty**
Help customers optimize production, improve reliability, minimize emissions, and ensure safety.

We Have Unique Capabilities to Bring Customers Predictable Success From Project Design Through The Entire Operational Lifecycle
Emerson’s Strength Is Our Technology…

- Reservoir Modeling
- Operations & Alarm Management
- Advanced Process Control
- Planning & Scheduling
- Plant Asset Management

- Control Engineering
- Training & Simulation
- Real-time Optimization
- Energy Management
- Asset Integrity Management

- Engineering & Design
- Control Software
- Production Management
- Asset Reliability & Performance

- Process Control & Safety Systems
- Wellhead Control
- Modular & Machine Control
- Machinery Health

- Measurement & Flow
- Analytical
- Solenoids & Pneumatics
- Final Control
Emerson Is Trusted with the Largest, Most Complex Projects in the World

- North West Redwater
  First new Canadian refinery in 30 years

- Petrobras COMPERJ
  Largest SA MAC

- MWRD – Chicago
  World’s largest WW treatment plant

- BP Whiting
  Automation upgrade and expansion at BP’s largest refinery

- Saudi Polymers
  Large integrated petrochemical facility

- BASF-YPC
  10-plant chemical complex

- Qatargas
  World’s largest LNG trains

- Fujian Refining and Ethylene
  China’s largest integrated refining / petrochemical facility

- Vale
  World’s largest truckless mine

- PGE Belchatow
  Largest fossil power plant in Europe

- Conoco Phillips Bohai-II
  Six platforms and large FPSO

- Shell Prelude FLNG
  Largest floating structure built in the world

- Santos ACE
  Largest on shore gas plant in Australia

- Sasol
  World-scale ethane cracker and derivatives complex

- Braskem-Idesa
  1M+ metric ton/yr ethylene plant

- Vale
  World’s largest truckless mine

- Petrobras COMPERJ
  Largest SA MAC

- Shell (SPEX)
  Unmanned remote facility

- Huaneng Group
  Four 1000MW ultra-supercritical power plants

- Equinor (Statoil)
  Platform hot cutover upgrade

- Conoco Phillips Bohai-II
  Six platforms and large FPSO

- Fujian Refining and Ethylene
  China’s largest integrated refining / petrochemical facility
Session Overview

LNG is the fuel of the new generation, and this is playing a vital role in refining relations across borders driving demand for technology enhancements.

During this session you will discover our vision for the next LNG solution that support the business process and operations procedures for LNG Import, Regasification and Distribution.
LNG Value Chain

**UPSTREAM**
- NG Production
- Gas Liquefaction / Refining
- Storage
- Loading
- Transport

**MIDSTREAM**

**DOWNSTREAM**
- Unloading
- Storage at Receiving Terminal
- Regasification (Boil – Off / Send Out)
- Transmission Pipeline
- ISO container
- LNG Vaporizer
- Loading
- Distribution
- Commercial
- Industrial
- LNG Fuel Stations
- LNG Powered Vessels

**EMERSON’S SOLUTION FOR LNG DOWNSTREAM**
LNG Distribution
The overall solution

Sales and operations

Logistics and execution
Concept:
1. Standard ISO container – easy logistics on standard truck/rail/ship
2. Certified according dangerous goods logistic rules
3. Full data transfer to operations center about process data and position
4. Solution development in partnership with Western Baltic Shipyard (OEM)

Intelligence
1. Energy and process monitoring
2. Emission management – monitoring of safety relief valves
3. Data transfer using GSM network – 24/7 visible at operation center
4. Operator/driver interface to be sure that process is safe
The huge challenge is combining this with the ability to schedule, measure and account for terminals and distribution.

The solution requires account for boil-off gas, liquid to gas conversion, LNG/natural gas allocation, inventory and imbalance calculations.

Competitive LNG importers are demanding an integrated solution that includes marine operations for delivery of cargos and a facility processing system.
LNG Management Solution – Features

Main Features - LNG

- Receive month-ahead LNG ship arrival/unloading plan from shippers, including quantity and projected gas composition
- Validate feasibility of shippers’ LNG arrival/unloading plan
- Confirm plan to shippers
- Daily update of ship arrival, quantity and gas composition
- Accept offloaded LNG volume into shore tanks

EMERSON LNG Management Solution will automate the business processes for key business challenges to bring an integrated solution that cover all the requirements of the LNG Value Chain.