Productivity paradox for the process industries

- Inexperienced Workers
- Larger, More Complex Processes
- Fewer Specialists
- Fewer Incoming Workers
- More Technology
- Retiring Workforce
Capital Projects Challenges

- Larger, complex & multifaceted
  - More severe consequences for failure
- Schedules are getting shorter
- Production stops limited or non-existent
- New processes and technology
- Many players involved
  - Owners
  - EPCs
  - Suppliers
Capital Projects Opportunities

- Choose technologies and select strategic partners early
- Select world-class team members to implement the latest project delivery methodologies
- Future-proof your plant by design
- Implement Smart Operations
- Plan for comprehensive process automation and asset lifecycle support
Global project execution and expertise applied locally.

Presenter: Mats Nilsson
Sales Director PSG NEE.
Emerson Project Excellence: Globally Capable and Consistent Organization

- **Standard best practices** – processes and tools, deployed to a trained and capable workforce.

- **High productivity** – global execution capability facilitates project schedule reduction.

- **Reduced risk** – use of field-proven standards and tools reduces need for project-specific development while maintaining high quality level.

- **Increased workforce flexibility** – trained global resources allows for faster response to project demands.
Emerson Project Excellence: Built on four main pillars

- Global project execution processes
- Global engineering standards
- Global project organization
- Global engineering backbone
Emerson’s Project Management processes bring all of our project related business processes together into a single, lean, easy to use process that adds value to our clients.

The purpose is to bring all our processes, initiatives and tools together, to drive the standardization of all processes and tools in the project lifecycle and identify and deploy best practices within a common structure.
**PMO Work Processes:**

*Global execution methods*

**Core processes**

- Project Management
- Project Procurement
- DeltaV Engineering
- DeltaV SIS Engineering
- Syncade Engineering
- Project Proposals

**SIS Processes**

IEC 61511 Certified
Standard PMO Process

- Each major step has
  - Detailed steps
  - Well-defined deliverables
  - Templates and Tools
- Assures consistency and quality

PMO Safety and Automation Processes
Global Project Tools: Consistent execution with minimized risk

Clarity – Project Management

<table>
<thead>
<tr>
<th>Week</th>
<th>Task Name</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
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<td>07/06/2019</td>
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<td>Internal Project Control</td>
<td>06/20/2019</td>
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</tbody>
</table>

EDMS – Document Management

Sirius – Project Engineering

PMMT – Materials Management
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Standard Application Building Methodology: Consistent, high quality around the globe

PCSD

(Small) DeltaV Function Blocks

(Large) PCSD Modules (e.g., Control Modules, Equipment Modules)

Application (e.g., Fermentor, Boiler, Column)

High Granularity

Low Granularity
Engineering Standards Library: Configuration based on the “best of the best”

- PCSD = PMO Configuration Standard for DeltaV
  - the global solution
  - for better project delivery
  - by experienced DeltaV engineers

- Design objectives are more fully achieved within given schedule and cost constraints:
  - Better Project Performance
    - higher quality
    - less risk
    - less cost
    - faster
  - Post Project
    - easier commissioning
    - more maintainable
    - Emerson supported
Emerson Project Excellence: Built on four main pillars

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Emerson Project Excellence:
North Sea Project and Support Locations

- Karlstad
- Porsgrunn
- Stavanger
- Aberdeen
- Leicester
- Rijswijk
- Copenhagen
- Copenhagen
Global Engineering Centers

North & Latin America
Costa Rica

Europe & MEA
Cluj, Romania

Russia & Eastern Europe
Chelyabinsk, Russia

Asia Pacific
Manila, Philippines

Global Engineering
Pune, India
European Engineering Center – Cluj, Romania

- European engineering hub
  - Over 250 systems engineers
  - Resources dedicated to specific offices and general resource pool
  - 3 currently dedicated to North East Europe
Global Engineering Centers

- Completed 15+ years of successful operations
- Handled over several thousand major projects
  - Oil & Gas, Fine and Bulk Chemical, Batch Pharma, Petrochemical/Refining, Power, Pulp & Paper
  - Migration Engineering Center
  - New software product testing
  - Center of excellence for PCSD
- More than 1500 engineers
Global Engineering Centers: Core competences

- DeltaV Engineering
  - Continuous, Batch, Displays, Database, Hardware
  - FEED, FDS/DDS, Implementation, Internal test, FAT
- Safety Instrumented System (DeltaVSIS, HIMA)
- Migration – Legacy System (Provox, RS3, Fix32)
- Transition – Competitors systems (Siemens, Bailey, Honeywell, Foxboro, Invensys, Yokogawa, Hartmann & Braun)
- Syncade Development and Engineering
- Electrical & Instrumentation Engineering
- Commissioning/Start-up Support
- Large & International Project
- Project Planning, Resource Management
- Project Administration & Procurement
- Supports PMO organization
- Development of Standards & Tools
Emerson Project Excellence: Built on four main pillars

- Global project execution processes
- Global engineering standards
- Global project organization
- Global engineering backbone
Remote Virtual Office Collaborative Engineering

- **Common Processes**
  - supported by
- **Common Infrastructure**
  - WAN connected DeltaV
  - Voice
  - Video
  - Data

- **Lean & Best Cost**
  - common process and tools
  - better communication
  - reduced travel and expenses
  - more work transferred to best cost

- **Agile & Responsive**
  - demand leveling / resource sharing
  - extended day / compacted schedules
RVO2 Architecture

Local development & testing, e.g. Copenhagen, Leicester, etc.

Cabinet construction, i.e. Cluj

External testing, e.g. customer, skid suppliers, etc.

Project system virtualized in server farms during development and test
Working Together...
History has shown that we can have:

30% Automation Project Savings by Reducing...
Thank you for attending!
Enjoy the rest of the conference.

Our global customer knowledge sharing event and technology exhibition.

300+ papers and work shops.