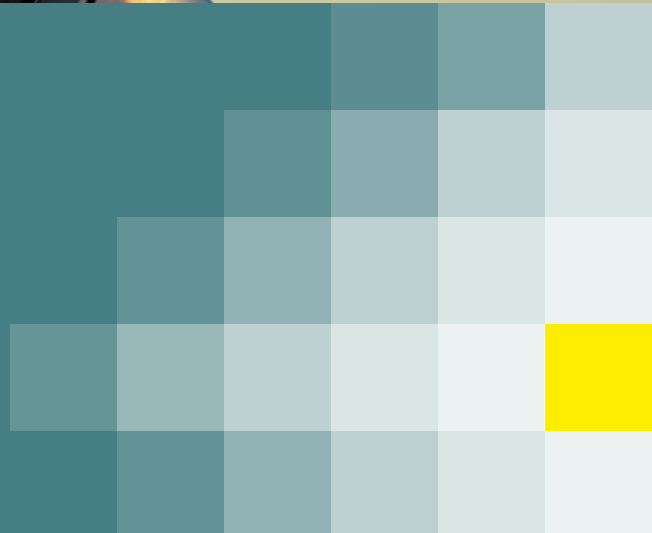


EPMS

The Enterprise Pipeline Management Solution



The Enterprise Pipeline Management Solution

Overview

The Enterprise Pipeline Management Solution "EPMS" provides a collection of standard pipeline applications to facilitate the management and operations of gas/liquids pipeline systems. Applications can be seamlessly plugged into the FAST/TOOLS real-time system platform similar to SCADA monitoring and control environment. EPMS consist of two packages; Gas Enterprise Management Suite and Liquid Enterprise Management Suite.

Benefit

The EPMS package brings the following benefits based on 20 years of experience in engineering medium to large complex pipeline automations.

Pipeline Management System Implementation

- Better and faster implementation
- Knowledge centralization, retention and documentation
- Enhanced lifecycle management
- Reliable system using proved functions
- Dedicated consultant and product support

Cost of Integration

- Prevent application vendor and integration technology lock-in
- Establish a standards-based and IT/Security compliant application platform

Reduced Cost of Ownership

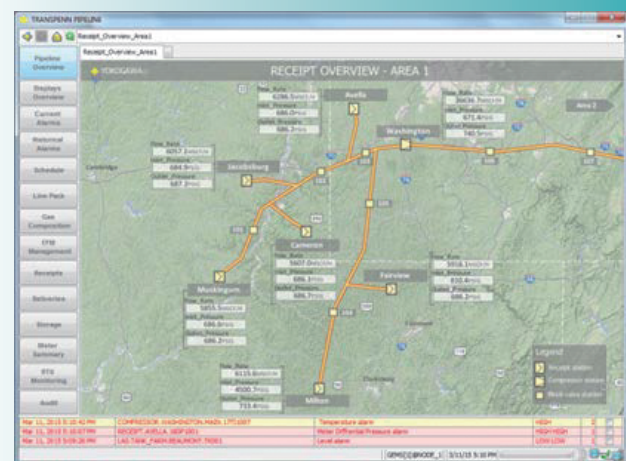
- Standard technology
- Scalable, flexible, reusable
- Lifecycle management

Industry Standards Support

- Implement best practices from pipeline industry standards
- Provide foundation for regulatory support and compliance

Future Proof

- IT architecture hedges against disruptive technologies and trends
- Increased process and data variety, volume, and velocity



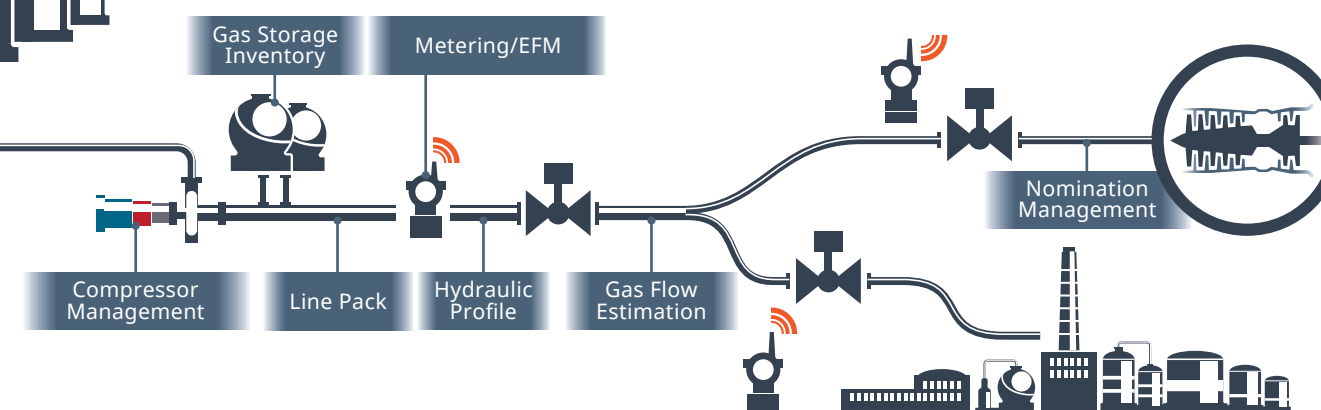
Functional Specifications

EPMS delivers the following interrelated and integrated functions;

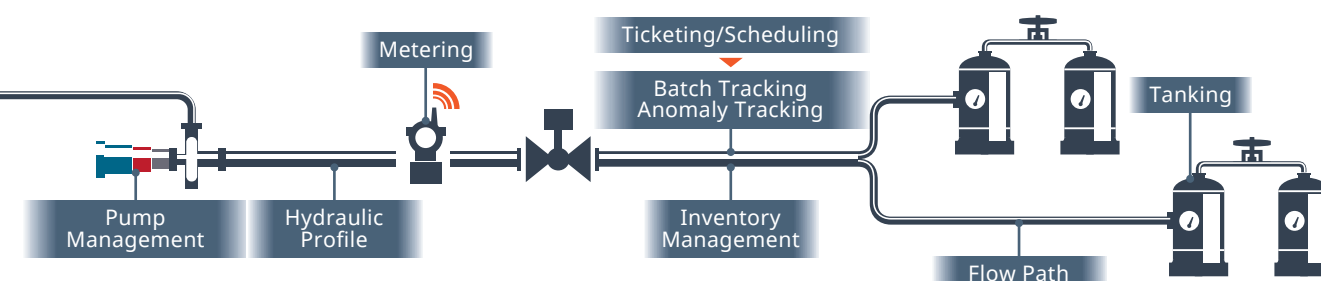
- Processing of meter inputs for accurate measurement and flow calculations
- Management of gas data with the device scheduler and EFM log up-loader
- Schedule and monitor gas nominations
- Monitor the line-pack along the pipelines and segments
- Maximum Allowable Operating Pressure, MAOP, monitoring
- Pipeline balance, storage and inventory calculations
- Schedule and track batches for efficient transportation of liquid products
- Monitor liquid pipelines for leaks, inventory and hydraulic profiling
- Drag reducing agent management and power management on compressors and pumps
- Controlling a manifold with the flow path manager
- Tracking and management of anomalies like pigs/scrapers, merge/hot spots and interfaces

Gas and Liquid Enterprise Pipeline Suite

Pipeline applications covered by "Gas Enterprise Management Suite"



Pipeline applications covered by "Liquid Enterprise Management Suite"



System Architecture



EPMS plugs into the FAST/TOOLS platform and inherits the FAST/TOOLS advantages in one common environment;

- One system/user management and configuration environment
- Same layout of pipeline displays can be used for process displays
- Same user authorization can be used within the whole application
- Standard features like reporting, history and configuration are available in the same environment

FAST/TOOLS Features

Strong Data Model

- High Performance with Multi-Million Tags Multi-Platform
- Windows, LINUX, and UNIX Support

Web-based HMI

- 24/7 Online
- Mobile Device Support

Scalability and Distributed Control

- Station HMI to Multi-Million Tags
- Redundancy to Quadruple

Report by Exception

- Minimize the CPU Load
- Only 2% to 4% of Total CPU load with 10,000 I/O per Second

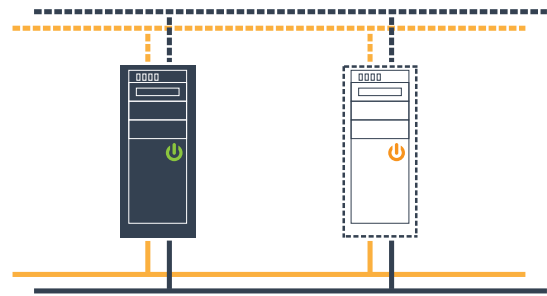
Regular Upgrade

- Latest Technology Support

The Enterprise Pipeline Management Solution
<http://www.yokogawa.com/industries/oil-gas/pipeline/>

FAST/TOOLS
<http://www.yokogawa.com/solutions/products-platforms/control-system/supervisory-control-and-data-acquisition-scada/>

Contact Us
pipeline@cs.jp.yokogawa.com



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YOKOGAWA ELECTRIC CORPORATION

World Headquarters

9-32, Nakacho 2-chome, Musashino-shi, Tokyo 180-8750, Japan
<http://www.yokogawa.com/>

YOKOGAWA CORPORATION OF AMERICA

12530 West Airport Blvd, Sugar Land, Texas 77478, USA
<http://www.yokogawa.com/us/>

YOKOGAWA EUROPE B.V.

Euroweg 2, 3825 HD Amersfoort, The Netherlands
<http://www.yokogawa.com/eu/>

YOKOGAWA ENGINEERING ASIA PTE. LTD.

5 Bedok South Road, Singapore 469270, Singapore
<http://www.yokogawa.com/sg/>

YOKOGAWA CHINA CO., LTD.

Room 1801, Tower B, THE PLACE, No.100 Zunyi Road, Changning District, Shanghai, China
<http://www.yokogawa.com/cn/>

YOKOGAWA MIDDLE EAST & AFRICA B.S.C.(c)

P.O. Box 10070, Manama, Building 577, Road 2516, Busaiteen 225, Muharraq, Bahrain
<http://www.yokogawa.com/bh/>

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