

# FLOW

## GLOBAL USER GROUP MEETING

Presented by EnergySolutions

October 23 – 25, 2019

Westin Memorial City Hotel, Houston, TX

### WEDNESDAY, OCTOBER 23, 2019

3:00 pm (4 <sup>th</sup> Floor Lobby)	Registration Opens
6:00 pm (Azalea Pre-Function)	Reception
7:00 pm (Azalea Ballroom)	Customer Appreciation Dinner

### THURSDAY, OCTOBER 24, 2019

7:00 am to 8:00 am (Azalea Ballroom)	Breakfast Buffet
8:30 am to 8:45 am (Azalea Ballroom)	Welcome to FLOW 2019
8:45 am to 9:30 am (Azalea Ballroom)	<i>Technology Showcase – Midstream Digital Transformation</i>
9:30 am to 10:00 am (Azalea Pre-Function)	Break: Coffee Social & Expo
10:00 am to 11:30 am	<b>Breakout Session I</b>
(Azalea IV- V)	<i>PipelineManager, PipelineStudio</i> <b>Digital Transformation in Operational Pipelines</b> <i>Presenters: Paul Dickerson, Product Manager &amp; Phanindra Kanakamedala, Product Execution Manager</i>

Digital transformation is affecting how organizations operate, such as how to manage and analyze data, learning and understanding the performance indicators and the convergence between information technology and operational management.

### **Leak Detection - The Forward View**

*Keynote speaker: Philip Carpenter, Author of Pipeline Leak Detection Handbook*

The economic infrastructure of the entire world is heavily dependent on the existence of pipelines to transport commodities of various kinds, however there are risks in that transportation including the potential hazards of leakage. Analysis of the operating risk due to hazardous liquid pipeline spills is a challenging task. In this presentation the data sources are reviewed, risks determined and recommendations on leak detection and leak detection program management made.

(Hibiscus I, II)

*PipelineScheduler*

### **Holly Energy Partners - Schedule/Nominations Seamless Integration**

*Introduction: Tyler Capell, Product Release Manager*

*Presenters: Chris Riggs, Scheduler and Manuel Madrid, Product Scheduler with Holly Energy Partners*

- Nomination Technical Overview
- Customer Use Case Presentation
- Single Platform, Multi-system Integration for Efficient and Scalable Planning Practices

“With the rapid addition of new systems, outdated Excel spreadsheets had become inadequate for the efficient integration and modification of different scheduling practices. Ultimately Emerson’s PipelineScheduler© application was able to meet HEP’s needs to provide exceptional scheduling services within the organization as well as to our customers.” – Chris Riggs and Manuel Madrid, Scheduler, Holly Energy Partners

(Hibiscus III)

### **Synthesis Mobile and It’s Application in Terminal, Pipeline, and Marine**

- Workshop, Training and Idea Exploration

*Presenter: Amir Omidvari, Product Manager, Synthesis*

- Learn about the latest features of Synthesis Mobile App for Terminals.
- Idea Exploration and Collaborative discussion on the application of Synthesis Mobile in a Pipeline environment

	<ul style="list-style-type: none"> <li>• Customer Use Cases – customer driven usage patterns in the pipeline and terminal space.</li> </ul>
(Pine)	<p><i>GasLoadForecaster, PipelineTransporter, TransactionManager</i></p> <p><b>Digitization of Gas Management Systems</b></p> <ul style="list-style-type: none"> <li>• Applying Machine Learning in Commercial Gas Solutions</li> <li>• Gas Management Solutions Technology Initiatives</li> </ul> <p><i>Presenter: Muru Arumugam, Development Manager</i></p> <p>Join us for a session on the application of machine learning techniques in commercial gas load forecasting, predictive allocation and inventory projection. In this session you will learn how to create neural network, train it and use it as a predictive tool.</p> <p><b>New Message Exchange Protocols (AS4, Web Services)</b></p> <p><i>Presenter: Muru Arumugam, Development Manager</i></p> <p>Gain an understanding of the new message exchange protocol EDIG@s using AS4 technology. The audience will learn about the safe and effective way of transmitting nominations using this industry standard. The message exchange implemented for different Energy Identification Codes (EIC) will be also be covered in this session.</p>
(Pecan)	<p><i>GeoFields</i></p> <p><b>Pipeline Integrity and Risk Management Plenary Session</b></p> <p><i>Presenters: Al Brown, Sr. Director; Daniel Longmatey, Director of Software Development; Christy Lee, Product Manager</i></p> <p>Gain a greater understanding of GeoFields’ data and integrity management software and services to the pipeline industry. We’ll discuss our latest company updates, current technology and industry trends around pipeline integrity and GIS data management and our product enhancements and roadmap.</p>
11:30 am to 1:00 pm (Azalea Ballroom)	Networking Lunch [ <i>Azalea Ballroom</i> ]
1:00 pm to 2:30 pm	<b>Breakout Session II</b>

(Azalea IV- V)

*PipelineManager*

## **Real Time Pipeline Modeling and Leak Detection Experiences in Crude Gathering Systems**

*Customer Presentation: Jody Kennedy with Inter Pipeline (IPL)*

Operating gathering lines presents several challenges that are hard to simulate using an online model. In this session we discuss a few challenges and the various tools used by both controllers and engineers.

## **Key Performance Indicators for Pipeline Operations**

*Presenter: Dr. Greg Morrow, Lead Developer*

We give an introduction to industry definitions of Key Performance Indicators (KPIs), apply that to KPIs specific to RTTM and leak detection performance, and demonstrate specific examples with our LDPA tool. We open a discussion with the audience on what KPIs are most important to their operations

(Azalea VI)

*PipelineStudio*

## **Surge Analysis using Logical Rules**

*Customer Presentation: Augusto Garcia-Hernandez, Pipeline Systems Planning with Enterprise Products*

Surge in PipelineStudio can be controlled using the built-in scripting tools. Using the tools can appear daunting, however in this session the best practices and examples of their use are offered.

## **Economic Analysis Using UDL**

*Customer Presentation: Brad Thompson with Holly Energy*

A model that determines the most cost-efficient operating scenario on a pipeline using PipelineStudio's User Defined Logic feature. An additional model to evaluate surge pressures along a pipeline.

(Hibiscus III)

*Synthesis*

## **Voice of Customers and Best Practices**

*Presenter: Collaborative presentation by Customers*

In this session, we will explore real-world scenarios and challenges that our partners face followed by a collaborative discussion amongst stakeholders (Product Development, Services Team, and Partners) to share best practices, product improvement ideas, and road map items.

(Hibiscus I – II)

*TerminalScheduler*

**Terminal Operations Management and Value Proposition of the Realtime Feature Set**

*Presenter: Tyler Capell, Product Release Manager*

In this workshop, we will demonstrate the enhancements of route optimization with the use of pre-pumping volumes. Four types of flush movements will be discussed; tank to tank movements, tank to external movements, parallel pumps/meters and the use of Realtime Scheduling.

(Pine)

*PipelineTransporter, TransactionManager, GasLoadForecaster*

**The Adaptability of Commercial Gas Solutions in Keeping Up with Changing Market Conditions**

*Customer Presentation: César Bernal, Commercial Manager of Natural Gas with Fermaca*

The shale revolution has changed the game for the natural gas market over the past decade. Learn about some of the pro-active measures that have been implemented in anticipation of the gas market deregulation/liberalization initiatives in some countries and how our Gas Management Solutions suite can quickly adapt to rapidly changing market conditions and regulatory environments.

**Gas Commercial Solution – What's New?**

*Presenter: Martha Rendon, Product Manager*

Learn how customers are making the best use of GMS on their gas transmission and distribution system. This session focuses on the improvements that have been made in the most recent releases of the Gas Management Solutions suite.

(Cypress)

*Services*

**Synthesis and Scheduler Upgrades and Best Practices -**

*Presenters: Project Managers*

Join us for the debut session of Upgrading Synthesis and Scheduler in which we share lessons learned and optimal upgrade practices in an informative and collaborative session.

(Cedar)

*GeoFields*

**The Next Generation of Pipeline GIS Data Models**

*Presenter: John Minassian, Product Manager*

Learn about the ESRI Advanced Pipeline Referencing (APR) and Utility Network technology drivers behind the new industry data models. Dive into the core concepts behind PODS 7, and UPDM, and understand the roadmap ahead in this new landscape. See how

GeoFields is working towards solutions to meet the everyday needs of pipeline data managers and integrity specialists.

(Pecan)

*GeoFields*

### **Beyond Risk Ranking: Using RF-Modeler for Everyday Integrity Management Analysis**

*Presenter: Greg Cameron, Sr. Software Engineer and Tom Carrol, Project GIS Analyst*

RF-Modeler was designed from the ground up to be a general integrity algorithm tool -- not just a risk tool. To that end, RF-Modeler currently includes six different model types that can be configured and run to answer questions and summarize risk-related data:

- Risk
- Point-To-Linear
- Ad Hoc
- Aggregate
- Point, and
- Merge

This year's session will focus on explaining the differences between these model types and present several examples of how each can be used in an integrity management program.

2:30 pm to 4:00 pm  
(Azalea Ballroom)

### **Product Expo & Ice Cream Social**

4:00 pm to 5:30 pm

### **Breakout Session III**

(Azalea IV- V)

*PipelineManager & Gas Management Integration*

### **Gas Management Solutions with PipelineManager Integration**

- Seamless Integration of Control Room and Enterprise Management for Natural Gas Transmission Systems

*Presenter: Clara Johnson, Sr. Technical Product Specialist*

Integration of contractual demands satisfaction and operating environments is challenging, and in the natural gas business attention to maximize current capacity and future loads must also be considered from both commercial and operational positions. In this presentation we provide a more in-depth insight into the natural gas transmission customers we have been able to help addressing effectively these challenges.

## **Implementation of a Predictive Virtual Model (Digital Twin) on TGI Gas Network**

*Presenter: Omar Efrén Caro Vargas and Jesús Vargas Torres with Transportadora de Gas Internacional (TGI)*

Operating a large gas pipeline network requires from the operator the delivery of the contracted quantities with safety, inside contractual parameters, and regulations. Also, the timely handling of daily planned and unplanned situations. In this presentation we will show how the implementation of a virtual model (digital twin) of the gas network, enabled TGI to forecast scenarios and design immediate and precise responses.

(Azalea VI)

*PipelineStudio*

### **How PLS helps to quickly derive a cost-effective solution with an optimal heavy crude pipeline system design**

*Customer Presentation: James Yang, Sr. Pipeline Engineer with Wolf Midstream*

Development of heavy crude pipeline has been challenging in the most recent years largely due to uncertainty of regulation and commercial environment. The development group needs to cope with the quick changing variables such as flow rates, fluid property, delivery points etc. Comparing with other tools, Pipeline Studio helps us to come up with a design in short turnaround with satisfactory accuracy.

### **Modelling Utilizing History Matching and Equivalent Length Techniques**

*Customer Presentation: Mary Goodreau, Manager System Planning with Enterprise Products*

It is a challenge to simulate certain pipeline behavior accurately and handle the “minor frictional losses”. This presentation discusses the use of an advanced simulation method to match real time suction surge pressure trends for worst case terminal scenarios

(Hibiscus I, II )

*PipelineOptimizer, PipelineScheduler*

### **Batch Schedule and Operations Optimizations**

*Presenter: Dr. Jennifer Worthen, Product Manager*

Current trends are moving away from manually creating and testing a batch plan and towards using system requirements and complex algorithms to generate optimal schedules. Complementary to the optimized schedule is the need to determine optimized operational procedures, including optimal unit selection and DRA injection rates, to increase line utility and profitability. We will examine both of these complex optimization problems using features in PipelineScheduler and PipelineOptimizer.

(Hibiscus – III)

*Synthesis*

**Your Enterprise Hub**

*Presenter: Randy Lisle, Enterprise Solution Architect*

- Deep dive into how Synthesis interacts with the following;
- DCS / SCADA
- ERP Systems
- TerminalScheduler
- PipelineScheduler
- Data Historian
- 3rd Party Nomination Exchanges
- Truck and Rail Rack Management Solutions
- Rail / Yard Management Solutions

(Cypress)

*Services and Customer Support*

**Agile Software Implementation Best Practices and Best-in-class Customer**

*Presenter: Cecilia Nguyen, Sr. Director, Operations*

Join us for an interactive discussion on best practices on implementing enterprise wide software solutions using agile methodology and best practices.

**Make the Most of Your Software Investment – The Customer Care Experience**

*Presenters: Carolyn Green, Director, Global Customer Care*

In today’s technology driven business environment your software dollars are a significant percentage of your IT organization’s expenditure. To ensure your investment is working for you, platform utilization should be maximized across the stakeholder community. Going beyond the project implementation phase, there are some key elements that come into play that will assist you in developing a roadmap and ultimately getting on a pathway towards optimum platform utilization. We will explore and discuss some of the key elements of this process facilitated through continuous engagement with Customer Care at Emerson.

(Pecan)

*GeoFields DataFrame: Alignment Sheet Generator*

**A Practical Guide to Managing Alignment Sheet Templates and Sheet Indexes**

*Presenter: Christy Lee, Product Manager*

Effectively manage sheet templates when pipelines and data assets are changing constantly. Find out how you can streamline the

	<p>process of updating sheet indexes (film windows). Learn best practices, tips, and tricks to updating alignment sheet templates.</p>
(Cedar)	<p><b>GeoFields</b>  <b>Hands-on-Support</b>  <i>Team Lead: Allen Horele, Product Specialist</i></p> <p>GeoFields staff will be available for one-on-one application support with all applications. GeoFields training lab will be ready to use for practice, support, and any general end user application help requested.</p>
6:30 pm to 7:00 pm	Begin Boarding Limo Busses
7:00 pm	Dinner – A Night on the Town

**FRIDAY, OCTOBER 25, 2019**

8:00 am to 9:00 am (Azalea Ballroom)	Breakfast Buffet
9:00 am to Noon	<b>Advanced Product Exploration and Discussion</b>
(Azalea IV- V)	<p><b>PipelineManager Workshop</b>  <b>Workshop and Training</b>  <i>Collaborative Team Session: Dr. Greg Morrow, Lead Developer; Hugh Robinson, Director of Development and Architecture &amp; Phani Kanakamedala, Product Execution Manager</i></p> <p>In this session we will be offering training on new and upcoming features of PipelineManager:</p> <p><u>Scripting using PipelineManager</u></p> <p>We demonstrate a new feature for PLM: Scripting, user-defined logic to do custom pre-processing for instrumentation. We show how you create and apply scripts, give examples, show live hot-swapping of scripts, and discuss how scripts can be used.</p> <p><u>Pipeline Leak Detection</u></p> <p>Discuss and demonstrate alternative and complimenting leak detection methodologies to RTTM.</p> <p><u>User Interface</u></p>

	<p>Demonstration of new updates to the user interface. Guidelines and best practices to follow when designing the user interface to custom fit your control room environment.</p>
(Azalea VI)	<p><b><i>PipelineStudio Workshop</i></b>  <b>Workshop and Training</b>  <i>Collaborative Team Session: Paul Dickerson, Product Manager; Rob Keller, Development Manager; Kenny Wade, Development Manager, Mike McCain, Sr. Developer; Dr. Mingang Jin, Numerical Software Developer</i></p> <p>In this session we will be offering training on new and upcoming features of PipelineStudio:</p> <p><u>Slack line flow in PipelineStudio</u>  PipelineStudio 5.0 sees the inclusion of support for a full slack line flow model for both steady-state and transient simulation. In this session we will offer training and support for how to model slack, and how to interpret the results of a simulation.</p> <p><u>PipelineStudio 5.0</u>  In this session we will be offering training and support on all of the new features of PipelineStudio 5.0. SMEs will be in hand to ask the expert or help dig into specific simulation questions you may have.</p>
(Hibiscus III)	<p><b><i>Pipeline Scheduling Workshop</i></b>  <b>Build a Pipeline from Scratch</b>  <i>Presenter: Dieter Sticht, Sr. Application Engineer</i></p> <p>Deep dive into the latest features of PipelineScheduler and get training on how to build a new Pipeline Model from a blank configuration. Show batch plan optimization that suggests pipeline batch volumes needed to balance external terminal inputs and outputs for distributions or gathering systems. Tutorial from Engineers on multi-installer.</p>
(Hibiscus I - II)	<p><b><i>Terminal Scheduling Workshop</i></b>  <b>Build a Terminal from Scratch</b>  <i>Bring your laptop</i>  <i>Presenter: Matt Stangl, Software Developer</i></p> <p>Deep dive into the latest features of TerminalScheduler and get training on how to build a new Terminal Model from a blank configuration. Show advancement in flushing operations and tracking liquid quality data throughout the Terminal.</p>
(Cypress)	<p><b><i>Synthesis</i></b>  <b>Artificial Intelligence and Beyond</b>  <i>Presenters: Amir Omidvari, Product Manager; Randy Lisle, Enterprise Solution Architect in collaboration with all Customers</i></p>

This will be another fully collaborative session to explore proof of concepts, potential areas for product improvement, and road map items.

The goal is to:

- Discuss Synthesis Road Map with the stakeholders (internal and external)
- Showcase AI/ Machine Learning Proof of Concepts;
  - Ship Berth Optimization
  - Revenue Projection models
  - Inventory Forecasting
- Explore Synthesis365: From idea to product
  - Responsive Design
  - UX (User Experience)
  - Upgrade Challenges
  - Architecture
- Discuss Consolidated Tickets feature

(Pine)

*TransactionManager, PipelineDashboard, PipelineTransporter, TransactionManager*

### **Workshop and Training (Next Gen – New Functionality, Ad-Hoc Reporting, Dashboard)**

*Collaborative Team Session: Clara Johnson, Sr. Technical Product Specialist; Tunde Olagunju, Sr. Business Analyst; Muru Arumugam, Development Manager*

The Gas Management Solutions Suite is being re-architected under a completely new technology stack. Join us for an in-depth look at the next generation of fully integrated and highly scalable solution that is built to support all aspects of your day-to-day commercial operations. This session will also cover the new look and feel and technology roadmap of GMS products.

(Pecan)

*GeoFields*

### **Data Creation and Manipulation with DataFrame – Data Maintenance and DataFrame-Loader**

*Presenter: Allen Hoerle, Product Specialist*

Centerline creation, modification and data loading made painless. Learn about the latest DF-DM workflows for centerline modification: Splitting, Flipping, Rerouting, Merging, Refinement and Recalibration. Explore data loading functionality, facility features and pipeline survey alignment with DF-L.

See how our developers are integrating DF-DM and DF-L into our suite of centerline management products that will allow you to better manage your operations. Get a practical glimpse at how we are positioning our solutions to be enterprise ready.

(Cedar)

**GeoFields**

**Hands-on-Support**

*Team Lead: Christy Lee, Product Manager*

GeoFields staff will be available for one-on-one application support with all applications. GeoFields training lab will be ready to use for practice, support, and any general end user application help requested.

Product Expo	Azalea Ballroom
1	PipelineManager
2	PipelineStudio
3	GeoFields
4	Synthesis
5	PipelineOptimizer
6	PipelineDashboard
7	PipelineTransporter / TransactionManager / GasStream / GasloadForecaster
8	PipelineScheduler
9	TerminalScheduler
10	TerminalManager

For more information, contact [info.energysolutions@emerson.com](mailto:info.energysolutions@emerson.com)  
or visit [www.Energy-Solutions.com/Flow](http://www.Energy-Solutions.com/Flow)