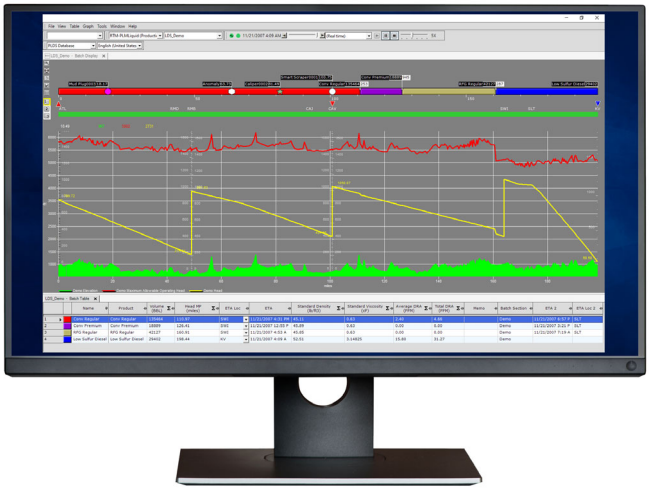
Data Sheet
February 2026
D352896X012

DeltaV™ PipelineManager™ Software for Batch Tracking

A Comprehensive Solution for Batch and Scraper Tracking



Accurately model and track product by batch using DeltaV PipelineManager Software with real-time transient modeling (RTTM).

Track Batches Hydraulically

- Efficiently track products in real time throughout your pipeline system using RTTM
- Accurately predict batch arrival times by synchronizing the batch tracker with the RTTM
- Monitor inventory levels in real time as product hydraulic properties change
- Prevent contamination by effectively monitoring the batch interface

Monitor Pig/Scraper Activity

- Gain valuable insights from analytics that interpret the data collected by pigs
- Apply this data-driven knowledge to enhance how scrapers are being used throughout the pipeline
- Use the software's intuitive dashboard to view estimated time of arrival at intermediate stations and scraper receipt points

Track Batches Commercially

- Enhance communications and drive greater efficiencies between planning, scheduling, operations, and accounting departments
- Reliably account for batch volumes by integrating with ticketing and SCADA systems
- Prevent contamination by scheduling and monitoring which batches should be injected with DRA

Effectively Manage DRA

- Reduce costs by modeling when, where, and how much drag reducing agent (DRA) to inject into the pipeline
- Monitor how much DRA to use by simulating the effect of DRA on the pipeline's hydraulics
- Proactively calculate and manage DRA degradation across the pipeline

EMERSON™

A Flexible Approach for Tracking

Track batches using hydraulic modeling and/or commercial properties with Emerson's flexible DeltaV™ PipelineManager™ Software. Three modules are available to meet your unique operational requirements. The Hydraulic Batch Tracking module implements our real-time transient modeling (RTTM) technology to ensure accurate modeling of your pipeline's hydraulic properties. This modeling increases pipeline operator confidence by providing accurate prediction of batch arrival times, continuous monitoring of inventory in real time, and contamination prevention between batches. Pipelines can realize significant cost savings by efficiently managing drag reducing agents and the number of injections needed to move product through the pipeline with the Hydraulic Batch Tracking module.

Our Commercial Batch Tracking module seamlessly integrates with necessary software and systems, providing data unification across your planning, scheduling, operations, and accounting teams. It includes detailed models for various pipeline components and can estimate real-time tickets. This module tracks critical operation details, including products, fluid composition, and ownership. Our Scraper module enables operators to track different types of scrapers within a pipeline and report their estimated time of arrival so they can quickly restart operating after maintenance. While each module can operate independently, utilizing all three delivers greater operational efficiencies while improving DRA usage and scraper management.

Track DRA

DRA concentrations will gradually reduce and become inactive as they travel with fluid. Our software tracks Head DRA, Active DRA, and Total DRA, giving complete visibility into all DRA circulating in the pipeline.

Hydraulic Batch Tracking

Accurately track every product batch in your pipeline system using our DeltaV PipelineManager Software for Hydraulic Batch Tracking module. The software focuses on product properties such as composition, density, viscosity, and DRA concentration to develop accurate hydraulic models by product type. The module also offers an intuitive GUI that displays estimated arrival times at various stations as well as batch details in graphical or tabular form. The flexibility of DeltaV PipelineManager Software for Hydraulic Batch Tracking module allows for tracking of any product quantity by using a mixing algorithm for multiple injections and deliveries. It can also mark anomalies and monitor contaminated batches. Inventory changes are determined using pressure and temperature profiles, with rigorous and accurate calculations for both liquids and gases, while remaining easy to set up. Our advanced software also updates product properties to accurately track inventory changes.

Efficiently Manage DRA

Tracking and managing drag reducing agent in pipelines ensures efficiency and cost savings. DeltaV PipelineManager Software for Hydraulic Batch Tracking module models DRA injection and its effects on hydraulics by tracking DRA concentration throughout the pipeline. It notes DRA effectiveness changes due to pipeline conditions and simulates Active DRA concentration. The software calculates DRA degradation based on product type, DRA type and concentration, and pipeline size, assuming product breakdown during turbulent flow. These calculations are generated as the DRA travels across the pipeline and through pumping stations, with pump station activity taken into consideration as part of the Total DRA and Active DRA management process. Our software also indicates when DRA injections should occur and calculates DRA properties in any section of the pipeline.

Track Products in Real Time

Monitor product properties and determine the hydraulic state by efficiently tracking fluid components within your pipeline system. Our Hydraulic Batch Tracking module uses real-time data to calculate flow and inventory, allowing batch tracking by IDs, product types, volumes, DRA concentrations, and estimated arrival times. This capability ensures operators can identify where components are in the pipeline, how they mix, and when they will arrive. Knowing the arrival time in advance helps operators adjust production schedules to minimize shutdowns and maximize profits. With an accurate simulation model that tracks, represents and predicts product quality in real time, operators can quickly make data-driven decisions to avoid costly mistakes.

Track Gas Composition

Our software uses RTTM for accurate composition tracking. This helps recalculate compressibility and assess gas properties for hydraulic calculations. Data from inlets can come from chromatographs or be manually entered. The system tracks components to provide data such as density and viscosity. Compositions move with fluid velocity, varying by location and time. Gas from different points mixes at junctions, with the outlet composition being a weighted average. Standard calculations determine calorific and heating values, which help find the pipeline's inventory.

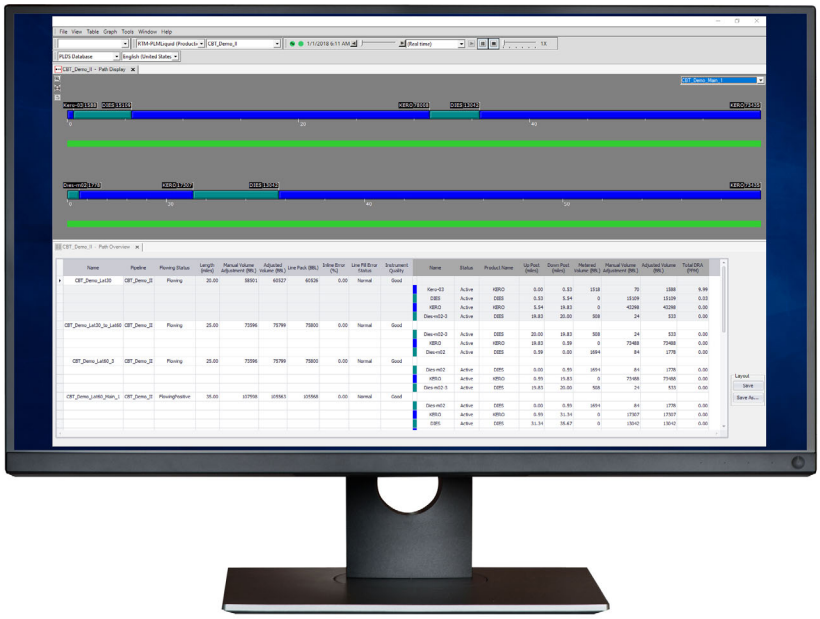


Figure 1: View and edit product movements in a line segment in real-time.

Commercial Batch Tracking

Our DeltaV PipelineManager Software for Commercial Batch Tracking module focuses on ticketed volumes rather than product properties or characteristics. It analyzes flow accumulator data to track product quantities and integrates with SCADA systems to ensure accuracy by using SCADA generated data to determine batch sizes and locations. This functionality allows our software to confirm if a batch that is set for delivery can supply the required volume while avoiding contamination. In cases where changes have not yet reflected in the SCADA system, operators can manually adjust batch properties. Our Commercial Batch Tracking module can also work alongside our Hydraulic Batch Tracking module to offer a comprehensive and robust batch tracking solution for pipeline operators.

Configuring the Batch Tracker

Batch tracking is integrated with the RTTM. It automatically imports all relevant information related to instrumentation and connectivity from the model configuration. Only options specific to batch tracking need to be configured.

Synchronize Batch Editing

An RTTM requires accurate product tracking for multi-product pipelines so the batch product properties that affect hydraulics, such as density, viscosity, and DRA concentration, can be accurately modeled. Our software's batch tracker continuously syncs with the RTTM technology, resulting in a detailed model that provides a complete product tracking report including arrival times. Operators can quickly edit batches in a simple table format. Each row in the table editor shows a distinct batch, allowing easy addition, deletion, and editing of batches. Line fills can be imported from a file, or the model generated by our RTTM technology and exported to update the batch lineup. Synchronizing hydraulic and commercial batch tracking enables operators to efficiently model the pipeline while improving batch tracking proficiency. Our batch tracking software maintains historical information for each delivery, making it possible to see details for each historical batch, including when it started and completed delivering, scheduled volumes versus actual volumes, and more.

Figure 2: Easily track and edit batches in a simple table format.

Correct for Metering Bias

Metering bias and instrumentation errors can cause issues in modeling and batch tracking. Our Hydraulic Batch Tracking module calculates line pack to counteract these biases. The difference between the RTTM and meter values, referred to as inline error, can be viewed by segment or across the system. Our software's inline error function monitors for thermal modeling errors during shutdowns or data outages. The resulting diagnostic data allows operators to efficiently perform advanced analysis when needed.

Seamlessly Integrate with Scheduling Software

Our Commercial Batch Tracking module seamlessly integrates with DeltaV SchedulingManager™ Software for Pipelines or third-party scheduling software to eliminate manual data importing. Our software uses an SQL interface to connect with external systems or can display schedules in our VisualPipeline™ GUI. Smaller pipelines can manage schedules directly in VisualPipeline without interfacing with external systems. Schedules can be grouped by injection, destination, or product, and can include accounting and ownership details. Real-time tracking helps operators analyze discrepancies and facilitates updates to future orders.

By integrating our DeltaV SchedulingManager Software with batch tracking, operators can capitalize on real-time updates and accurate initialization, with automatic or on-demand imports of pump schedules and volume reports. This tight integration between batch tracking and scheduling systems enhances order fulfillment by minimizing or even eliminating human error.

Prevent Contamination

The Commercial Batch Tracking module uses accurate location of batches and DRA permissibility settings to prevent contamination during multi-product pipeline transport. Batch volumes help verify inventory accuracy and streamline arrival time management. DRA contamination is eliminated by using alarms seamlessly integrating with SCADA systems to track pump and product compatibility in the pipeline. Our software configures DRA tolerance as an attribute of the product being transported to enable different levels of permissibility. Batch positions relative to a DRA injector are carefully monitored to avoid contamination of products that cannot have DRA injected, such as jet fuel. DeltaV PipelineManager Software for Batch Tracking changes the DRA status to a warning as a batch approaches the DRA injection point and triggers an alarm when it gets closer, remaining in alarm until the batch safely passes the location. This status is returned to SCADA and is used to lock out DRA pumps.

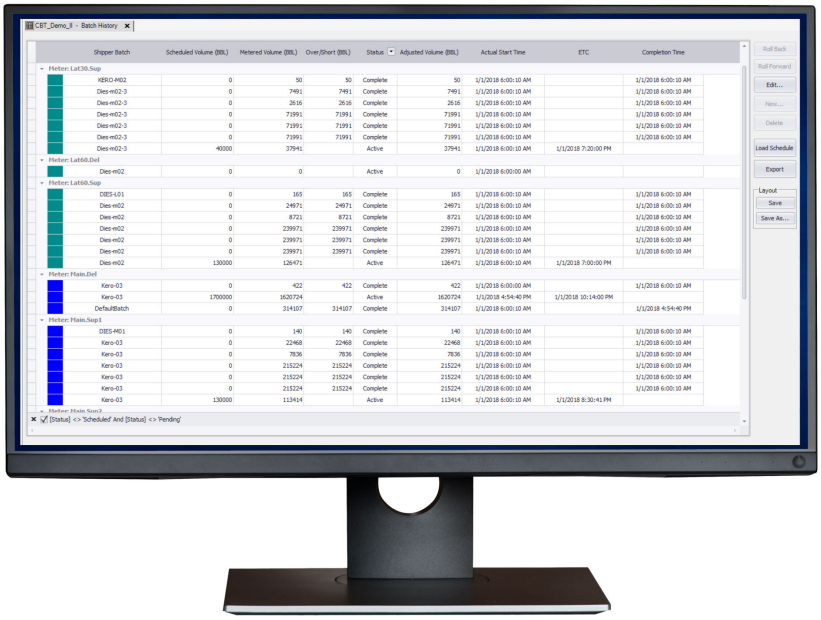


Figure 3: Improve communications and efficiencies by sharing real-time scheduling data.

Track Scrapers Accurately

Tracking scrapers within the pipeline system helps operators collect data, monitor maintenance, and quickly respond to issues. DeltaV PipelineManager Software includes a Scraper Tracking module that tracks different types of scrapers used in the pipeline. Scrapers are tracked from launching to receiving traps through individual pipe legs, using pig signals from SCADA or manual triggers to launch and trap. A slippage factor can be assigned prior to launch to track the velocity relative to the fluid being transported. The scraper's location, including milepost and offset in the leg or a section, and its ETA to designated downstream locations between the traps are computed.

The scraper's position can be edited by changing the volume or location from the launching trap to the scraper, and it can be plotted on a profile if needed. Additionally, scrapers can be parked at an intermediate trap, which has signals upstream and downstream of the trap to trigger a relaunch. Our software displays data graphically or in tables, making it easy for operators to review and edit scraper details. Improve the health of your pipeline system by allowing operators to make real time adjustments, resulting in greater pipeline integrity and efficiency operating the pipeline.

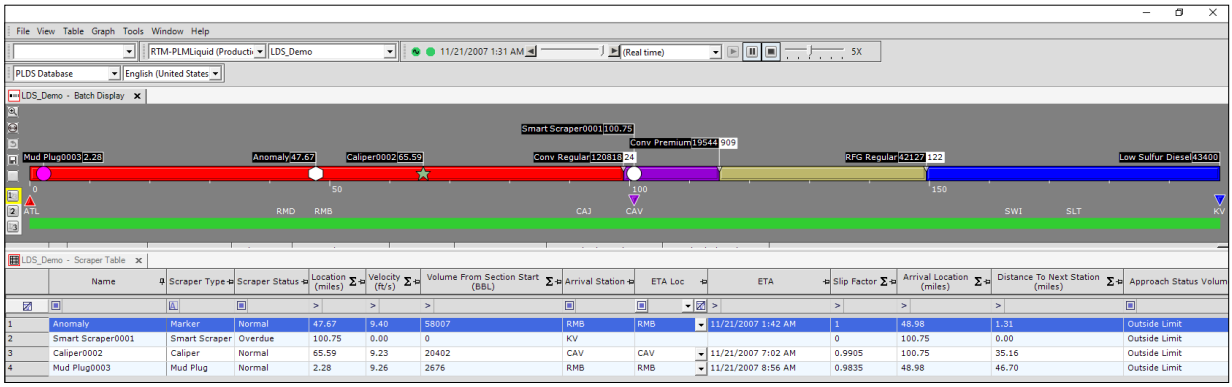
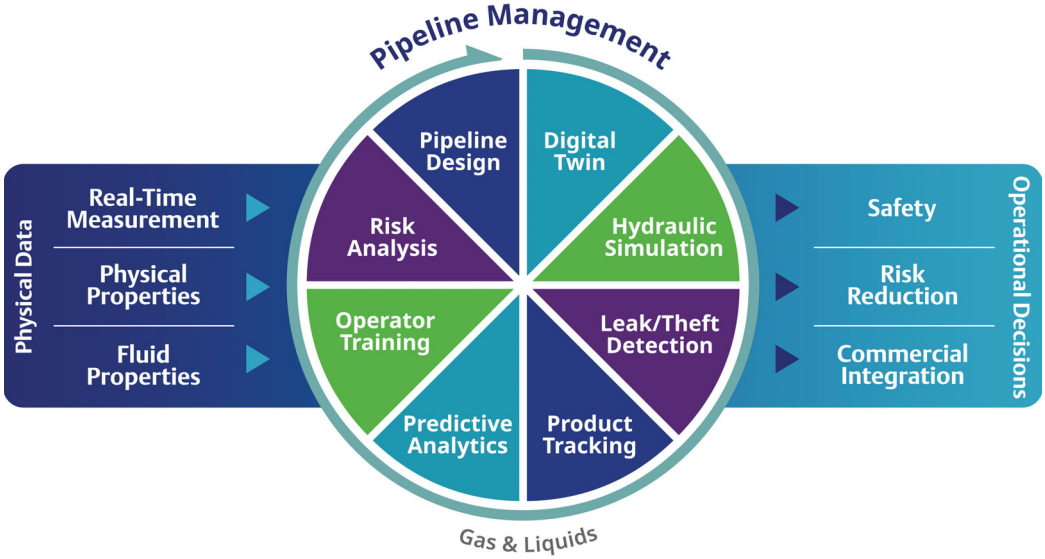


Figure 4: Instantly see the location of your scrapers in the Tracking Overview dashboard.

Agile Software Solutions for an Evolving Industry

Pipelines will continue to play a critical role in the future of energy transportation. Companies transporting hydrogen and CO_2 will likely use existing natural gas pipeline infrastructures. Carbon capture and sequestration programs will also rely on existing gas pipelines for transport. Emerson's software is built for the energy transition and will continue facilitating the transport of all products, including hydrogen, along the energy value chain as the transition to a low-carbon economy continues.



Streamline opportunities and overcome limitations by meeting commercial and operational objectives and regulatory requirements with our agile, field-proven software portfolio for gas and liquids pipelines.

North America and Latin America
Global Headquarters
Emerson
Energy and Transportation Solutions
6005 Rogerdale Road
Houston, TX, USA 77072
T: +1 281 879 2699

Europe
Emerson
Energy and Transportation Solutions
Unit 1, Waterfront Business Park
Dudley Road, Brierley Hill
Dudley, UK DY5 1LX
T: +44 1384 487200

Middle East and Africa
Emerson
Energy and Transportation Solutions
Emerson FZE
PO Box 17033
Jebel Ali Free Zone - South 2
Dubai, UAE
T: +971 4 8118100

Asia Pacific
Emerson
Energy and Transportation Solutions
1 Panda Crescent
Singapore 128461
T: +65 6777 8211

Visit us online at **Emerson.com/EnergyLogistics**

Emerson Industrial Software
Energy and Transportation Solutions