AI Pipeline Flow Optimization

Make pipeline transportation autonomous, energy-efficient, and optimized in real time.

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BaysData
Consulting

The Challenge

Global oil and gas pipelines transport enormous volumes:

- 4+ million km of pipelines worldwide
- thousands of compressor stations
- massive energy consumption

Yet most operations still rely on:

- manual scheduling
- static hydraulic models
- rule-based compressor operations
- conservative pressure margins

Consequences:

- excessive compressor energy costs
- underutilized pipeline capacity
- unnecessary equipment wear
- inefficient pressure management

For large operators, compressor energy costs alone can exceed **$200M per year**

Our Solution

A real-time optimization engine that continuously determines the optimal operating regime of the pipeline network.

Core capabilities:

Compressor optimization

- optimal start/stop sequences
- load balancing
- speed control

Pressure optimization

- optimal pressure setpoints
- linepack management
- surge avoidance

Flow scheduling

- optimal product movement
- congestion avoidance
- demand-driven scheduling

Energy optimization

- compressor efficiency monitoring
- tariff optimization
- peak power reduction

Value Proposition

Even small efficiency improvements create massive financial impact.

Expected improvements:

Value Driver	Impact
Energy optimization	2–5% reduction
Pipeline throughput	+1–3%
Maintenance reduction	5–10%
Operational reliability	major improvement

Example:

Large pipeline network with Compressor energy cost of $200M per year
3% improvement leads to up to $6M annual savings

Total expected value including throughput gains is $8M–$15M per system annually

Contacts

Inquiries

For any inquiries, questions or commendations, please fill out the following form at www.baysdata.com or email: info@baysdata.com

To investors

We invite the potential Investors to join our team. Please send your inquiries: angel@baysdata.com