



## DELEK BRINGS REFINERIES INTO SYNCHRONIZED DIGITAL MATURITY

*Since the company was founded in the early 2000s, the business strategy at Delek US Holdings, Inc. has focused on rapid growth through acquisition of downstream energy assets. In 2017, Delek purchased Alon Energy and added two crude oil refineries to its portfolio. With this acquisition, the company worried that existing data management challenges, which impacted the productivity of its existing refineries, would worsen.*

*The key problem: each Delek refinery operated off a distinct set of systems — such as maintenance management, lab information management, yields and accounting — without modeling standards or sufficient transparency. With siloed operations and data often landlocked in multiple systems, inefficiencies and natural gas purchase price spikes could produce compounding losses as the company acquired more refineries. By signing an Enterprise Agreement (EA) with OSIsoft in 2015 and adopting the PI System™ across its operations, Delek streamlined digital transformation of its refineries, ensured company-wide data visibility and more efficient operations, and enabled a successful acquisition strategy for continued growth.*

“We saw things were calculated a number of different ways, with a lot of units of measurement,” said John Arney, a Delek Coordinator of Process Information, during PI World 2018 in San Francisco. “There were a lot of data integrity issues.” With OSIsoft’s Enterprise Agreement, Delek could now integrate data capture and analysis processes across multiple refinery sites and successfully pursue a growth strategy through greater visibility and operations standardization. “The EA forced us to say, we’re going to go with the PI System,” said Frank Simmons, Delek Vice-President of Refining Operations.

### ACHIEVING DIGITAL INTEGRATION WITH ASSET FRAMEWORK

The Enterprise Agreement helped Delek create a strategic roadmap for its digital transformation. With technical support from OSIsoft and RoviSys, Delek implemented Asset Framework (AF), part of the PI Server, to create a digital replica of its refinery operations. Asset Framework offered rich context for data streams by providing consistent data modeling that made operations transparent and centrally accessible from any location.

#### CHALLENGE:

Refineries operated off distinct systems without modeling standards or transparency.

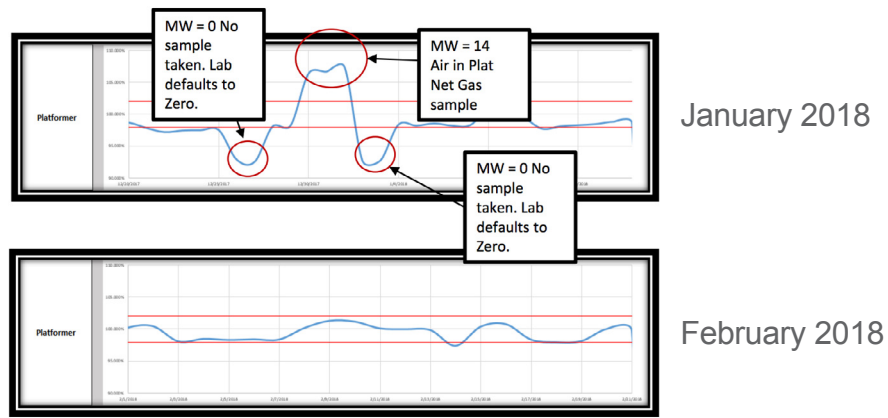
#### SOLUTION:

Enterprise Agreement (EA) with OSIsoft to adopt the PI System as an enterprise system.

#### BENEFIT:

Improved data integrity & analytics & company-wide data visibility.

## PI / AF Assisted Data Integrity



Delek uses Asset Framework to streamline and improve data validation and integrity.

Once real-time data is collected in the PI System and structured with Asset Framework, the data is fed into Delek's enterprise-wide platform known as Minerva (Massive Information Nexus Enterprise Reporting Via Automation). Minerva is Delek's new standard for data capture and integration. "If it's a number and we want to track it, it's going into Minerva," said Bob Gonzales, Director of Refining Business Practices and another PI World 2018 presenter.

The PI System has helped to democratize operational data that was previously confined in Excel spreadsheets and siloed in each refinery site. In the process, measurements and data streams have been standardized across operations and refinery personnel now receive training commensurate to their level of engagement with the PI System. "With the EA we have training coupons, which we use to get everyone's digital competency at the same place," said Gonzales.

### REMOVING ROADBLOCKS AND BUILDING MOMENTUM

With the PI System installed at the El Dorado and Tyler refineries, Delek engineers now have critical overlap of expertise. Working off the same architecture, they are able to cover for each other and establish shared best practices. In one example, the integrity of data exchanged by refinery labs and process engineers

improved through use of Event Frames and simple validation procedures. "We didn't trust our data; a lot our sample points were getting old," Arney noted. With KPI data integrity improved, the PI System allows the refinery teams to deepen their gas stream analysis and launch new economic studies to improve their yields and profits."

"We were able to construct a complete model of our fuel gas system for the Tyler and El Dorado refineries," said Arney. "Now we can be notified and fix errors, rather than finding out about them by having a natural gas purchase spike and a high monthly bill."

With two refineries setting a new standard, Delek's recently acquired sites can build out on a proven digital infrastructure. The company also plans to deploy Minerva within other refinery business systems and to integrate the PI System with a preventative maintenance program for multiple asset systems. Refinery operators will continue to hone the system through further use. "The more people in the system," said Simmons, "the more we understand PI System capabilities."

*For more information about Delek and the PI System, watch the full presentation [here](#).*

**PARTNER:**  
RoviSys

#### PI System Components:

##### PI Server™

- Asset Framework
- Data Archive
- Event Frames
- Asset Analytics

##### PI Vision™

##### PI ProcessBook™

##### PI DataLink™

##### PI WebParts™

##### [Enterprise Agreement \(EA\)](#)



*All our process engineers want this. They don't like chasing their mass balances... PI does this for them. It saves them hours of work every morning."*

— John Arney,  
Coordinator of Process Information, Delek

Arney, John; Simmons, Frank; Gonzales, Bob. "Enabling Delek's Digital Transformation with the Enterprise Agreement" <<https://www.osisoft.com/Presentations/Enabling-Delek-s-Digital-Transformation-with-the-Enterprise-Agreement-1x/>>