



**KEY BENEFITS**

**30X reduction in project time & costs**

**3 days to standardized data for 500+ assets across 35 process units**

**4X improvement in engineering productivity**

*“Data is data to most people. But what is not understood is that a tremendous amount of effort & labor is needed to make it actionable.”*

OSIsoft PI Administrator

# ‘Digital Ready’ Deepwater Platform

The market challenges of operating a new class of deepwater platform are significant. This world-class oil and gas organization recognized early in the design phase that by enabling the platform to be ‘Digital Ready’ from day one, they could dramatically improve future operating performance using advanced analytics. The key to achieving their goal was to build an asset data model by aggregating and contextualizing production data with maintenance data and operating constraints in a way that was both sustainable and met projects timeframe and costs. This improved context would create a 360-degree view of their asset, giving them a standardized, scalable approach that would allow them to identify and respond to future anticipated conditions found on such a complex facility.

## Challenges

While previous attempts to model smaller, less complex facilities had been successful, they established that those manual methods would not work in this instance. Not only would it cost prohibitive on this class of platform, they also determined that they would not be able to provide a sustainable approach for the engineering and remote operations teams to perform ongoing improvement analysis. The customer had two hurdles. First, accelerate the creation of an asset model to export as OSIsoft PI Asset Frameworks (AFs) and second, ready the data for Matlab analysis. Based upon the anticipated exponential volume of the combination of production, maintenance and engineering design data, they set out to explore a new approach to not only extract data for analysis but also extend the model without burdening the engineering team with post project re-work. From their experience, their team also found that 30% of the metadata in prior models was either redundant or had data quality issues that required manual intervention from site engineers. In addition, with the overall project timeline slipping, there was a growing need to reduce risk and free up resources to improve other project work streams.

## Solution

The customer recognized that a new approach was needed and sought out a state of the art software solution. By way of introduction from Microsoft and OSIsoft, the customer rapidly accelerated their approach with Element AssetHub to create Asset Twins with hierarchies exportable in the form of OSIsoft PI AFs supporting both equipment and instrumentation views, as well as, both hierarchies and raw data for Matlab users. This was achieved through the following activities.

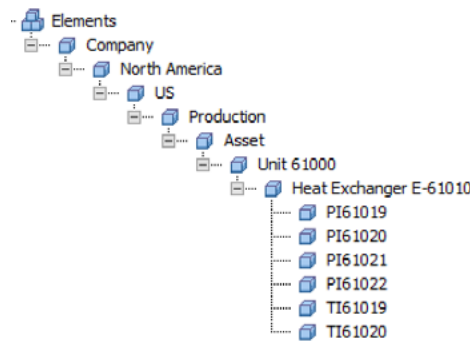
Connect	Manage	Share
Element AssetHub hosted within Element’s Azure tenant  Ingest metadata from OSIsoft PI data archives, SAP PM, and engineering data sheets	Design and build equipment-centric Asset Twins defined by their own corporate engineering standards  Transform and contextualize process, maintenance and safety data	Exporting Asset Twin metadata in the form of OSIsoft PI Asset Frameworks (AFs)  Export various hierarchies and raw data to the customers Azure storage for use with Matlab

“We were spending a tremendous amount of effort to make our data actionable, and of a high enough quality by others. By using AssetHub, we not only identified missing sensor data but we’ve also streamlined our process. This helps us assess data quality, and ultimately makes for smarter decision making when prioritizing CapEx.”

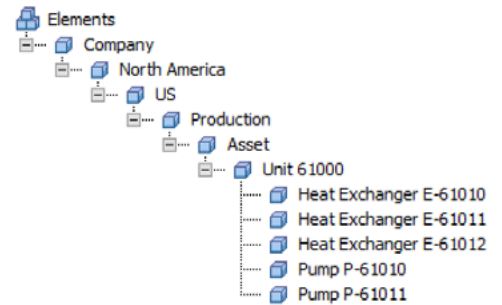
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## Outcome

For the first time ever, the customer was able to prepare a complete Asset Twin of their platform ahead of schedule. This solution complemented their existing OSIsoft PI System infrastructure and also took advantage of capabilities within Microsoft Azure. The customer’s project team created an Asset Twin of the new platform by modeling 1000s of tags across 500+ equipment types operating within 35 process units. This Twin was then exported as 2 AFs - an equipment view and an instrumentation view. With the work completed in 3 days, down from the anticipated 3 months, this resulted in an efficiency increase of 30X. In addition, Element AssetHub Data Integrity Report Cards also revealed areas for improvement around instrumentation coverage gaps, data quality, and units of measure mismatches.



*OSIsoft PI Asset Framework (AF) for an Instrumentation View: This view allows users to blend Hi and Low limits to determine when a sensor is in an outlier condition.*



*OSIsoft PI Asset Framework (AF) for an Equipment View: This view allows OSIsoft PI Visualization Suite users to build and run analytics.*

Engineers are now freed up from the burdensome data preparation tasks to address improvements and abnormal conditions, increasing their productivity 4X (by lowering their typical data prep time from 80% down to 20%). The project team also eliminated the cost and time of external consultants that built Excel VBA macros to identify and match different sensor naming conventions.

Various production engineering and data science teams now enjoy an up-to-date, 360-degree view of their production data using the visualization tool of their individual choice.

With an efficient, cost-effective asset solution in place to help improve their latest offshore platform, they are ready to unlock powerful new use cases that can dynamically adapt to changes by taking advantage of combining production, maintenance and design data to build Asset Twins.

## ABOUT

Element unlocks industrial data, enabling modern analytics systems to find insights that transform operational performance, resulting in hundreds of millions of dollars of value for customers. Today, asset data is siloed and underutilized. Element AssetHub connects, manages, and shares asset data across the enterprise by developing Asset Twins – dynamic digital representations of equipment. With Element, any person or system can have a 360-degree view of every asset.