

Helping Evonik Scale Digital Transformation

\$110k saving from one analytic at one plant

80% faster model development

40% less deployment effort

At-a-Glance¹

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- Leading global specialty chemical company
- >33,000 employees
- €12.2 billion revenue
- >100 countries with operations
- Data stack includes SAP, Aspentech, Excel, Emerson EMS, SQL server, PowerBI

THE CHALLENGE

Evonik is one of the leading global specialty chemical companies. It prides itself on innovation and is on a digital transformation path (from Smart Connected Operations to AI-Driven Operations) under the leadership of the Technology Deployment and Digitalization team. The team is charged with driving adoption of technology both developed in-house and procured from vendors. As a major supplier for many industries, ensuring asset reliability and preventing unplanned downtime are critical challenges. Although plants held vast amounts of operational data in various systems, the data was difficult to sort through and use with data engineers spending as much as 70% of their time on data wrangling and connectivity. Creating integrated views of time-series and transactional data was very painful and not scalable resulting in inefficient “one-off” implementations that were difficult to govern. The manual processes required technical expert effort, were time consuming, introduced possibility of errors, and slowed the testing phase. This hindered the team's ability to innovate quickly, try new technologies and solutions, and decide which ones to bring to bear.

THE SOLUTION

Element Unify's technology is the perfect solution for process-based operations looking to scale digital transformation. The software snaps into existing IaaS Cloud environments – with no “rip and replace” – complementing existing and next gen Industrial IoT services. For Evonik's data scientists, the days of painstakingly cleaning and combining data are over.

What's more, Element Unify allows data scientists to easily build, deploy, and maintain asset data models for the plant's pumps and other asset classes they decide to model. Rather than wrangling new data for each analytics use case, the team can build the models once and use them over and over again.

After ranking potential use cases by the value they would return to the business, the Evonik team decided to focus on building these key analytics:

1. Condition-based monitoring
2. Predictive maintenance
3. Root cause analysis

“Until we met Element, we didn’t know there was a way to automate combining all our data sources and making our data consistent. We just assumed that we would have to hire all these people and one day we’ll get there. As soon as we saw how Element Unify works, we knew we should be using it.”

Arpan Seth, Process Engineer-Data Scientist | Evonik

THE OUTCOMES

I By adopting Element Unify Evonik realized four key benefits:

- 1. Digital Foundation** — through standardizing data availability and connectivity, the team can achieve digitalization projects much faster (more than twice as fast as before) and with lower investment because they avoid repeated data connectivity costs and allow the experts to focus on continuous improvement. Thanks to Unify’s governance capabilities, Evonik uncovered hidden data issues including faulty sensors and misclassified work orders.
- 2. Domain Knowledge** — the availability of clean and easy to access data allows plant personnel to do considerable analysis themselves reducing their dependency on data specialists and speeding their ability to reap benefits. Since implementing Element Unify, the operations team at the first plant can predict equipment failure and pinpoint root causes for plant downtime using Power BI dashboards. Plant engineers can view a dashboard showing recent asset performance - they can see the amperage of a pump or compressor and if it’s running. On the same dashboard, the engineer can see operator logs and work orders, in addition to vibration history. With all this information at their fingertips, they can make informed decisions about equipment maintenance during the shift. And because the information from Element Unify is always clean and up-to-date, they trust the data. Plant engineers can now anticipate when a pump is approaching failure based on its history. This means they can proactively schedule maintenance and avoid pump failures before they happen.
- 3. Innovation** — it has become much easier and faster to explore, test, and prove out vendor and in-house solutions for addressing various digitalization use cases; the availability of clean, reliable data allows the focus to be on the assessment and suitability of the tools.
- 4. Deployment and Results** — increased connectivity and a single asset data management system lends itself to faster deployments. Specific results from one plant alone include 80% less time to build asset models, 40% less analytics deployment work, and estimated maintenance cost savings of \$550k over 5 years. Further, solutions that would have been “one-offs” are now more scalable and generate impact in a fraction of the time.

“Element Unify has helped us build a solid data foundation. We are thrilled to be able to help speed up innovation and bring best of breed technology to help Evonik.”

Tracey Mole, Director of Technology Deployment | Evonik