

Covestro Turns Process Data into a Competitive Advantage with Self-service Industrial Analytics

Learn how Covestro uses self-service industrial analytics to improve control, increase production efficiency and continuously reduce energy consumption, enabling them to overachieve their corporate operational targets



CUSTOMER
SUCCESS
STORY

Formerly Bayer Material Science, **COVESTRO** is a leading chemical company producing polyurethanes, polycarbonates and specialty chemicals. One of their corporate goals is to control and even reduce the overall energy consumption and reduce the CO2 footprint. To meet organizational objectives, data analytics was required to not only analyze the large energy consumers, but to monitor and reduce the energy consumption.

In this success story, Tim Timmermans shares the industrial analytics journey of Covestro, which led to better control and reduction of energy consumption at their site. Additionally, TrendMiner has also been used for many other use cases on a daily basis. Their gained insights led to extended use of OSIsoft PI within their entire organization as well as a further increase of data resolution for higher analytics accuracy. TrendMiner helps Covestro to improve production and reduce costs while complying with applicable regulations.

JOURNEY & BUSINESS CHALLENGES

HARNESSING FOR GROWTH

Covestro is a world-leading supplier of high-tech polymer materials and is considered to be innovative, sustainable and diverse. Thanks to their global presence and close proximity to customers, they are the partner of choice for a wide variety of industries. In the years that lie ahead, the key polymer industry segments in which Covestro is active will continue to grow faster than the global economy. To harness this potential for growth, Covestro defined the following strategic pillars:

- Promoting sustainability
- Boosting innovative capability
- Maintain efficient production
- Realizing competitive costs

Covestro realized that in order to achieve these objectives, they needed to take advantage of the possibilities of Industry 4.0., Industrial IoT and Big Data - it would be inevitable if they wanted to continuously improve process performance and maintain competitive costs.



**Tim
Timmermans**

Operational Expert,
Covestro Antwerp

Tim Timmermans is a process engineer who has been working at Covestro for more than five years. As Covestro's Operational Expert PET in Antwerp, Tim is responsible for overall plant performance optimization and cost reduction through analytics-based process analysis. His work focuses on key areas including DCS migration, defect elimination and root cause analysis. Tim holds a Master's degree in Industrial Sciences, with special focus on polymer and sustainable engineering.

Tim Timmermans, Operational Expert at Covestro is responsible for capturing process data with the help of OSIsoft PI. Timmermans:

“The PI system makes a massive amount of process data available for analysis. However, turning our most valuable asset into knowledge is a different story. Ideally, analyzing big data should be simple, easy and fast and provide knowledge with context. Conventional methods such as Excel sparked too many complications. Moreover, it would obstruct Covestro from entering the digital age.”



Covestro was facing two main issues: First, big-data analytics was being done in MS Excel which is a slow process and obstructs engineers from using all available data and required supercomputers for the team to get work done. Second, they were turning to their analytics experts for data-modeling when dealing with complex problems. That not only demands a lot of investigation and modeling time, but also leads to potential knowledge loss at the plant.

To leverage OSIsoft PI to the max, Timmermans and his team started looking for a way to advance the use of data. In order to do so, they selected TrendMiner's self-service industrial analytics software. From day one, TrendMiner software provided tangible benefits:

- No data modeling needed
- No Excel needed
- Risk of data loss was greatly reduced
- Simple and easy to use
- Direct answers to issues
- Graphical visualization of data
- Fast – no super computer needed

With TrendMiner there was no complex integration needed to get the software up and running. The plug-and-play architecture allowed for TrendMiner to simply be put on top of OSIsoft PI to start working.

LEVERAGING TIME-SERIES PROCESS DATA TO THE MAX WITH TRENDMINER

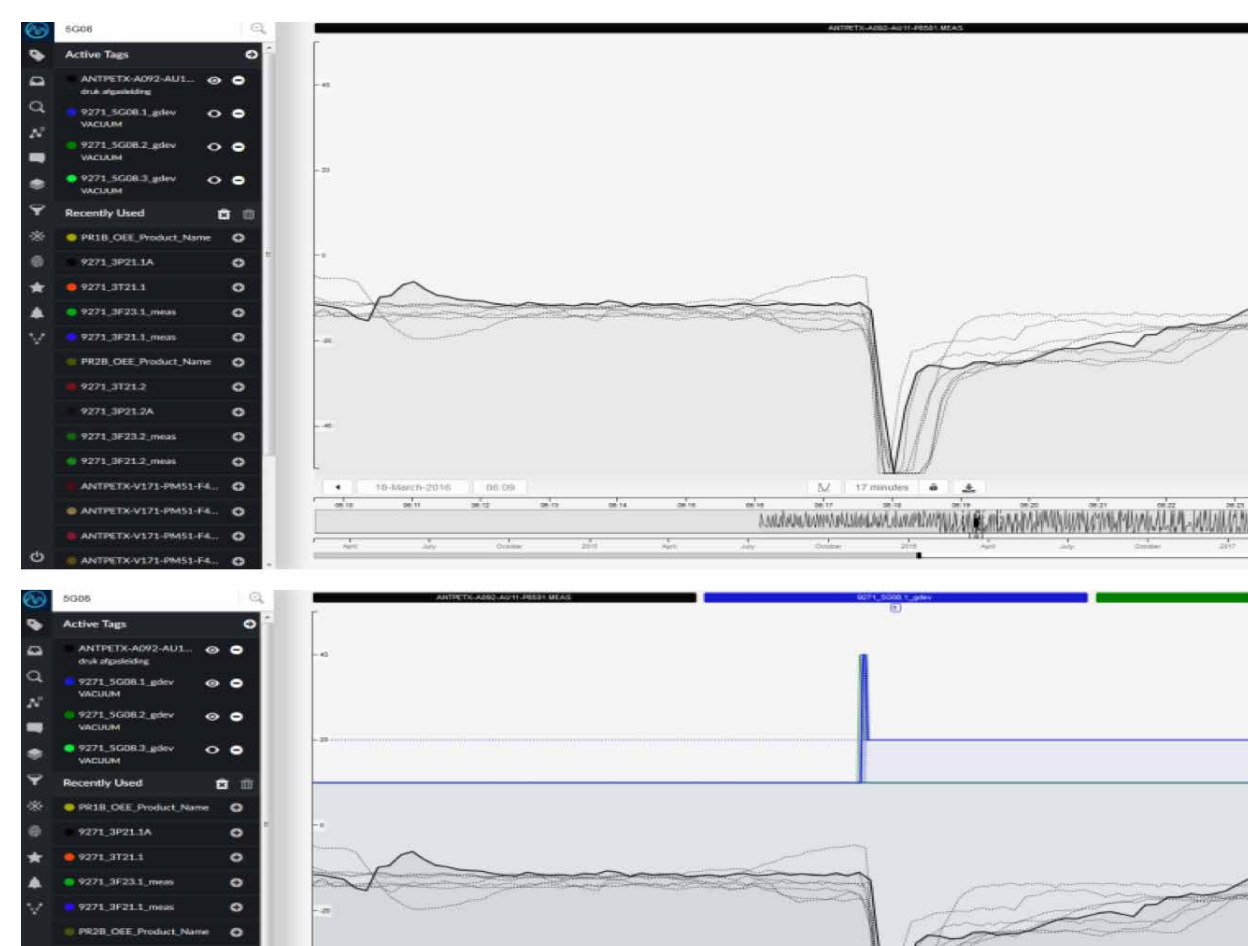
The use cases below describe how TrendMiner's self-service industrial analytics software enabled process engineers to contribute to their strategic growth pillars:

1. Reduce emissions by improving off-gas treatment

Covestro was experiencing problems during off-gas treatment. With data from the PI System and TrendMiner's search and discovery analytics, Covestro was able to do a hypothesis check easily and fast. Confirming their hypothesis enabled the team to decrease problematic situations with off-gas treatment with 63% and by doing so, greatly reducing emissions, too.

FOCUS ON SUSTAINABILITY

"With TrendMiner we are able to do a hypothesis check easily and fast. We were able to decrease problematic situations by 63%."

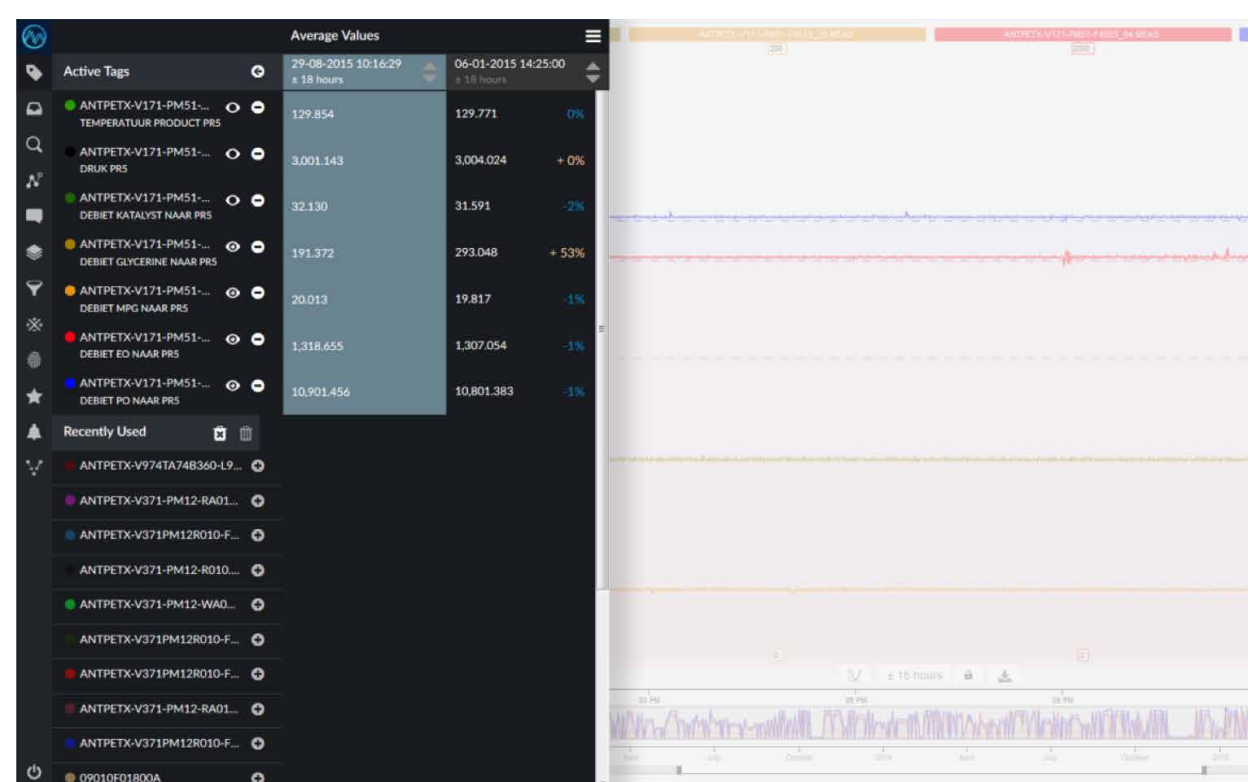


2. Efficient production

In this case, Timmermans experienced a bad quality production run in which the root cause was not clear. He used TrendMiner software to compare good quality periods with bad quality periods in production runs. Through TrendMiner's layer compare feature, he was able to easily identify what caused the problem. It helped him to ensure high quality production runs in the future.

EFFICIENT PRODUCTION

"With TrendMiner we are able to easily identify the problem. Comparing good quality periods with bad quality periods leading to the root cause."

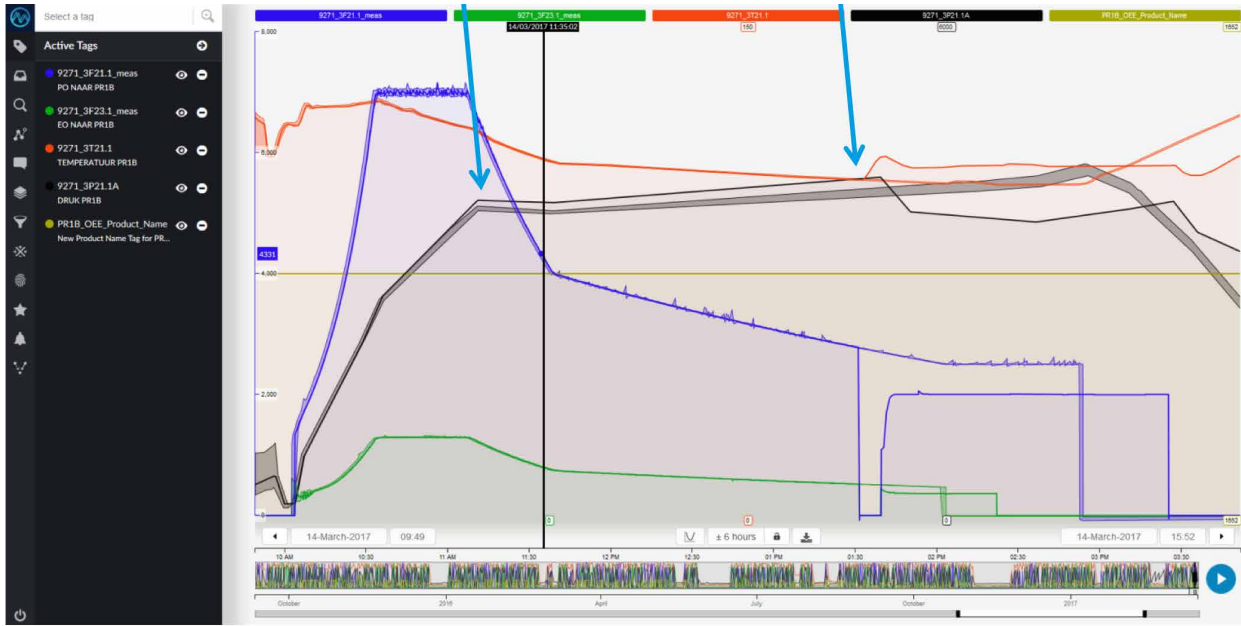


3. Eliminate a potential production loss of 125 tons

Process engineers were experiencing unwanted production stops. By tagging good batches as “Fingerprints” in TrendMiner’ software, they were soon able to identify deviations in production runs – leading them to a problem in the control system. Finding the root cause with fingerprints helped them eliminate a potential production loss of 125 tons or €255K.

COMPETITIVE COSTS

“With TrendMiner we were able to easily identify the problem. We were able to eliminate a potential loss of €255.430.”

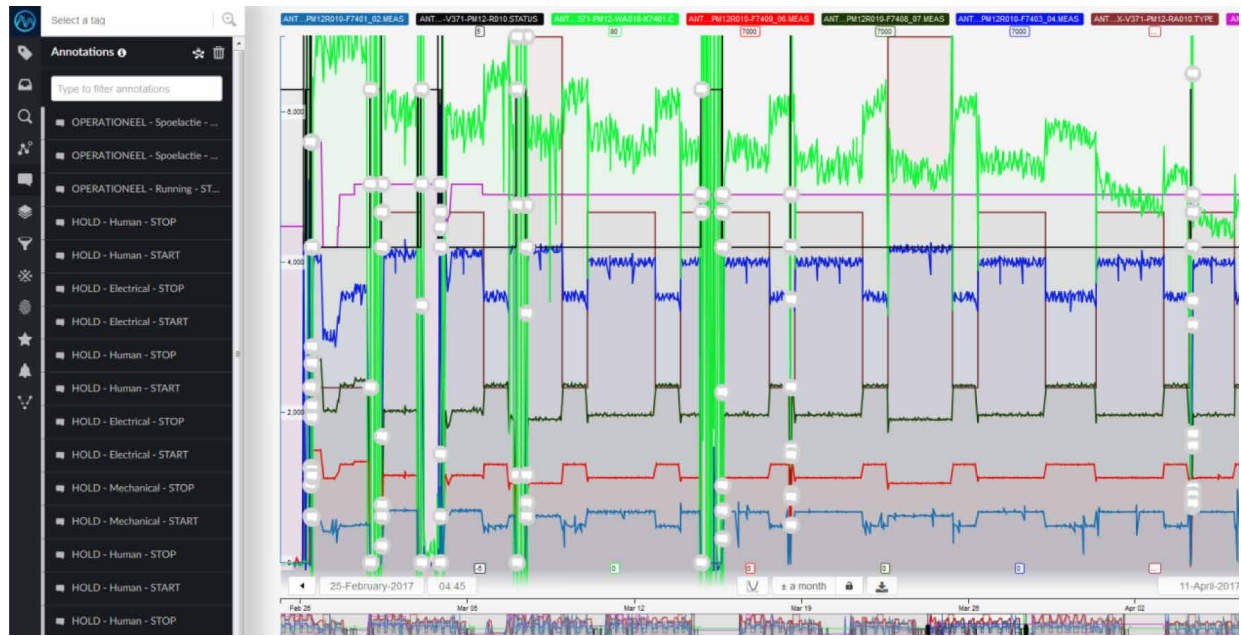


4. Knowledge transfer leads to innovation

By saving all information behind the process data into the TrendMiner system, Covestro was able to not only transfer data, but also the knowledge behind it to its employees. As a result, they saw a rapid increase in people’s learning curve. With this, innovation could truly become a core element of Covestro.

INNOVATION AS A CORE ELEMENT

“With TrendMiner we are able to capture the stories our process data tells. This leads to a maximum of knowledge transfer.”

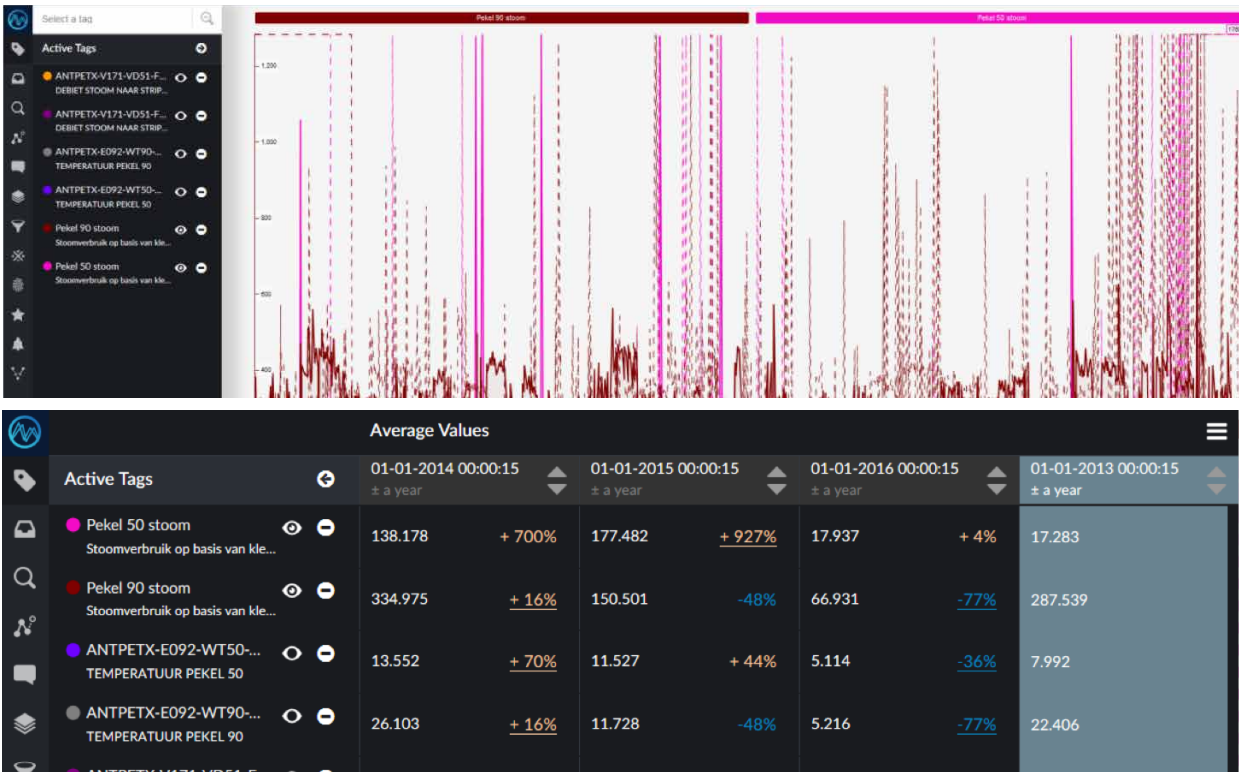


5. Energy monitoring without Excel

Energy monitoring is an important factor when addressing sustainability. In the past, Covestro would use Excel files to manually compare energy consumption data from one year to another. TrendMiner allows the engineers to easily bring a certain year into focus. By adding the following years of energy consumption as layers, they were able to easily compare large periods of time - without needing to use Excel.

FOCUS ON SUSTAINABILITY

“With TrendMiner we are able to do an energy monitoring and consumption check without Excel-files. It’s a simple, easy, and fast tool for project verification.”



BENEFITS

IMPROVE CONTROL, INCREASE PRODUCTION EFFICIENCY AND REDUCE ENERGY CONSUMPTION

Implementing TrendMiner's self-service industrial analytics on top of their current OSIsoft PI data system helped the process engineering team in Belgium directly contribute to achieving Covestro's strategic goals and harness their potential for growth:

"Process data tells stories – all we need to do is capture them. By implementing TrendMiner's self-service analytics on top of OSIsoft PI, we are able to turn process data into competitive advantage."

Tim Timmermans
Operational Expert at Covestro

- Focus on sustainability: Decrease problematic situations and do project verification in a simple, easy and fast way, instead of juggling around with data in MS Excel.
- Innovation as a core element: Push boundaries by quick and intuitive knowledge transfer. New hires are quickly up and running with their production "secrets" and get the lessons learned during their process performance analysis work.
- Efficient production: Identify and mitigate problems which had previously decreased productivity, leading to increased dollar value production.
- Competitive costs: Bring potential costs down to a minimum by avoiding unnecessary waste and increasing process reliability.



WHAT DOES A SELF-SERVICE ANALYTICS PROJECT WITH TRENDMINER LOOK LIKE?

Structuring your self-service analytics project smartly is essential for both a successful outcome and for gaining business value, and we at TrendMiner want to make sure you get the most out of your journey.

Curious what self-service industrial analytics with TrendMiner looks like?

[DOWNLOAD E-BOOK](#)

Want to see TrendMiner in practice? Then it's time to request a demo:

[REQUEST A DEMO](#)