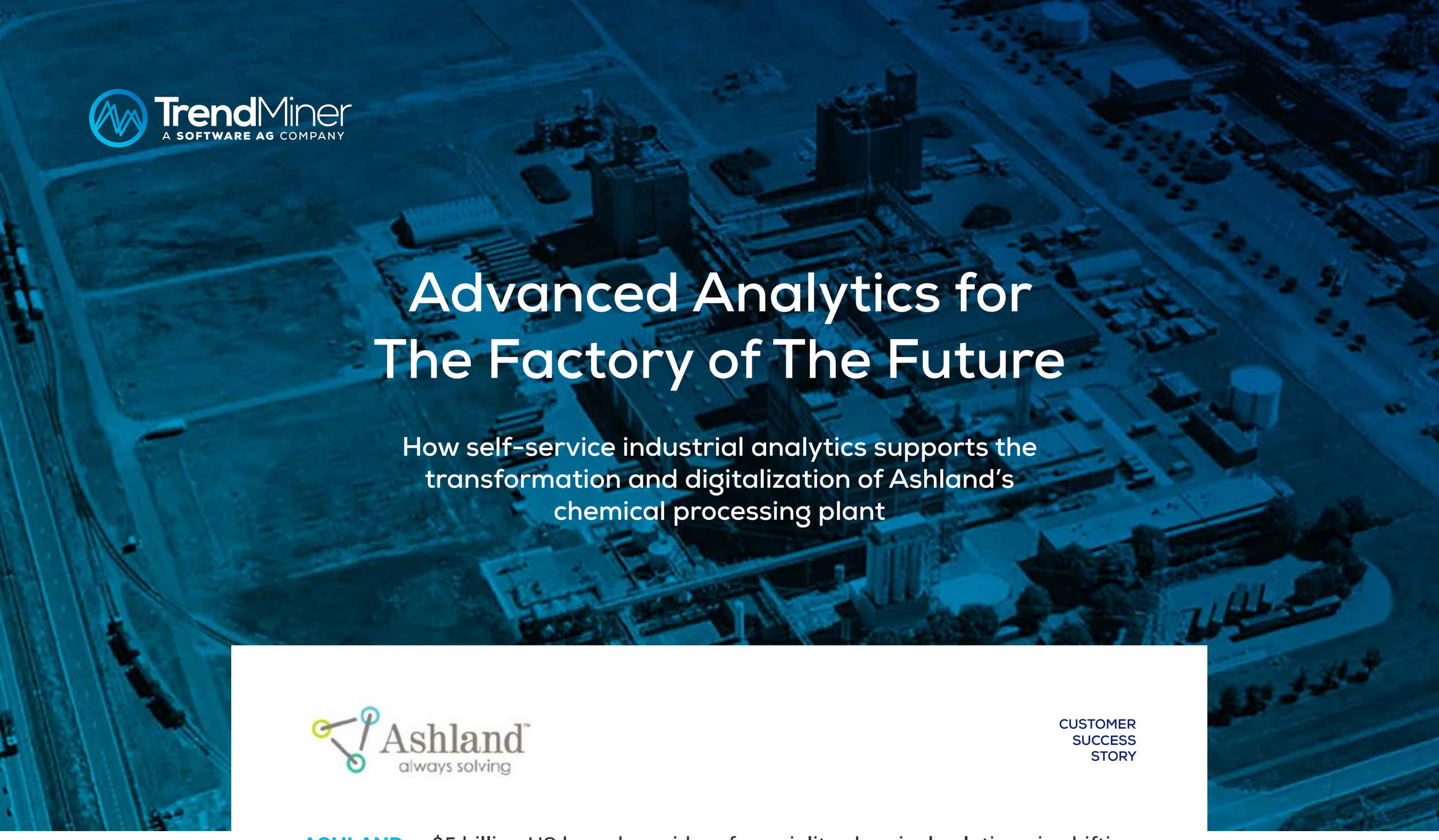

Advanced Analytics for The Factory of The Future

How self-service industrial analytics supports the transformation and digitalization of Ashland's chemical processing plant

CUSTOMER SUCCESS STORY

ASHLAND, a $5 billion US based provider of speciality chemical solutions is shifting the company focus from the construction market to the pharmaceutical market. In this success story, Jan Meireleire, Engineering Manager at Ashland explains how the plant in Doel, Belgium benefits greatly from implementing TrendMiner's self-service industrial analytics software – including solving previously unsolvable production issue, enhancing their reliability, quality and profitability, and increasing GMP production throughput.

THE JOURNEY

SHIFTING TOWARDS HIGHER ADDED VALUE AND LOWER THROUGHPUT

Providing speciality chemical solutions, Ashland strives to amplify the efficacy, refine the usability, ensure integrity and improve the profitability of customer products and applications worldwide. The $5 billion US based company employs 7,000 people worldwide.

Ashland consists of two commercial units: performance materials and specialty ingredients. Their plant in Doel, Belgium executes the latter. It has manufactured metal cellulose as a water retaining agent in construction materials since the 70s. Through the years, the plant slowly changed their product towards use for personal care and pharmaceuticals.

Naturally, transitioning their plant towards an entirely new market sparks new challenges. A shift towards realizing a higher added value and a lower throughput of the product was needed, as well as maintaining a highly controlled – rather than automated – process. Next to that, manufacturing for the pharmaceuticals market means complying to strict regulations and control regarding product quality. For supporting the transformation and digitalization of their chemical processing plant, Ashland chose to benefit from TrendMiner's self-service industrial analytics solutions.

Jan Meireleire

Engineering Manager at Ashland

Jan Meireleire is a chemical engineer with experience in plant operations as well as process design and technology. He has more than 17 years' experience in the industry, mainly as a process engineer. Jan has been working at Ashland since 2008. Today, he manages the Ashland Process Engineering department as well as the Engineering department of the Doel plant. He is responsible for optimizing the present assets in terms of quality, cost and throughput. Jan holds a chemical engineering degree from KU Leuven.

BUSINESS ISSUES

A RELIABLE PROCESS EQUALS A RELIABLE PLANT

In order to succeed in the digital transformation, Engineering Manager Jan Meireleire identified four key points of focus regarding people, process and tooling:

- Further automate the plant in order to allocate more resources to pharmaceutical products;
- Use proven methodologies such as Six Sigma and the DMAIC cycle;
- Make capital available for improvement projects;
- Equip the people with the right tools, such as Computer Aided Engineering and Advanced Analytics.

Meireleire: “A steady process is the main driver of maintaining a steady quality. Therefore we need to familiarize ourselves with the equipment, and be very aware of the influence the process has on the end product. As we work for pharmaceutical customers, we need to be compliant to GMP standards. One common factor in all those challenges is the data that we use to resolve these challenges. This raised an important question: how do we use and transform large quantities of data into something that our product engineers can actually use? And even develop new ideas?”

SOLUTION

ANALYSE, MONITOR AND PREDICT ON PRODUCTION DATA

Self-service industrial analytics proved to be the solution that could help Ashland to analyze and understand their data better and leverage it to profit from digitalization. How? Historical data is brought to AspenTech software on a dedicated server. TrendMiner’s self service analytics platform is put on top of it, which enables engineers to analyze and monitor the data.

The following two use cases show how Ashland solved previously unsolvable production issues, enhanced their quality, and increased GMP production throughput.

1. Data analysis: stabilize production by thinking outside the (data) box

One important goal in the transition of the plant in Belgium to further stabilize production. TrendMiner software helped engineers discover which factors in the process have possible influence on the quality of the finished product. Moreover, they’re often different from the ones they would’ve considered without TrendMiner.

In this particular case, TrendMiner identified the most stable runs of production by filtering out data from some specific products. While all the relevant parameters in these production runs turned out to be stable, searching the entire database showed factors of influence at the very beginning of the process.

> “Producing a product within specifications is not enough. Industrial analytics is crucial for optimizing our production process and meeting our organizational objectives.”
>
> **Jan Meireleire**
> Engineering Manager at Ashland

These so-called influence factors assisted with root cause analysis, helping the engineers to determine unknown correlations upstream.

With help from the software, process engineers didn't need to extract tons of data and figures into an Excel sheet. The time that process engineers manipulate data is greatly reduced, while production is further stabilized.

2. Data monitoring: run a smooth plant

The monitoring capabilities within TrendMiner enables process and production engineers to raise certain 'red flags' in time, and prevent incidents from happening in the future. Based on patterns, engineers can highlight Golden Fingerprints and are notified when an incident occurs.

At one given point in time, the process engineering group was warned about a specific event. Further analysis showed it had occurred several times the past. Instead of manually analysing data, data monitoring from TrendMiner software helped solve the incident, as well as preventing similar future ones. This is an important step towards a highly controlled process.

BENEFITS

ON-TARGET PRODUCTION OF GMP PRODUCTS INCREASED FROM 70% TO 95%

Implementing TrendMiner's self-service industrial analytics platform has helped Ashland to solve previously unsolvable production issues and enhance quality. Also, the on-target production of GMP products increased from 70% to 95%.

The goal of Ashland is to keep moving forward with self-service industrial analytics. This means focusing more on real-time monitoring and real-time prediction of asset performance in the near future. Meireleire: "Trendminer enables us here, too. You don't need any IT skills or software knowledge to work with the platform. We wouldn't be where we are today in over-achieving our goals without Trendminer. Analytics on today's process data leads our plant into the future."

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

Structuring your self-service analytics project well is essential for a successful outcome and gaining business value. To make sure you make the most out of your self-service analytics project, at TrendMiner we always use three essential building blocks.

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