CROSS-INDUSTRY

SUCCESS STORIES

TrendMiner
A SOFTWARE AG COMPANY

HOW LEADING MANUFACTURERS BENEFIT FROM ADVANCED INDUSTRIAL ANALYTICS

CHEMICAL INDUSTRY
OIL & GAS INDUSTRY
DREDGING INDUSTRY
ENERGY INDUSTRY
FOOD & BEVERAGE INDUSTRY

E-book

How Leading Manufacturers Benefit From Advanced Industrial Analytics

Companies from around the world choose TrendMiner to optimize their production performance.

Author: TrendMiner, a Software AG company
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SUCCESS STORY

GET STARTED

LEVERAGING DIGITALIZATION AT THE OPERATIONAL LEVEL

ARLANXEO
Performance Elastomers

ARLANXEO wanted to decrease costs and energy consumption by leveraging time-series data in its OSIsoft PI historian. But the task of realizing these improvements while maintaining consistent product quality proved to be a challenge. The reason? The company's software environment was fragmented, which meant information became siloed and was not available to everyone who needed it.

As a result, the company began a digitalization journey fueled by the need for data democratization. It found a partner in TrendMiner and its advanced industrial analytics software. The solution empowered ARLANXEO engineers with time-series and contextual data to make more informed decisions. Upon success, the company rolled out six additional sites and has plans for global deployment.

"The digitalization wave is rolling."

"You cannot wait until you have a final perfect solution before you start using big data tools. It's better to do it in parallel: start using analytics while you continue to gather data."

HERMANN SCHUSTER
Chief Digital Officer
at ARLANXEO

REDUCED EXPENSIVE ASSET REPAIR COSTS BY AVOIDING CORROSION

DETERMINED ROOT CAUSES FOR UNPLANNED DOWNTIME

ABATED ENVIRONMENTAL HARM BY REDUCING SPILLS

CREATED FINGERPRINTS TO MONITOR PROCESS BEHAVIOR

READ FULL SUCCESS STORY >>>

SUCCESS STORY

EXPLORE

PUTTING ENGINEERS AT THE CENTER OF DIGITAL CHANGE

ARKEMA

Early in its digitalization journey, Arkema selected TrendMiner as its partner to provide more engineers with insights from advanced industrial analytics software. After rollout, the chemical company asked its operational experts for their feedback. Arkema wanted to know how it could support users who were just beginning to understand the value of data.

With those answers, the company created a website specifically for all TrendMiner users. Those less familiar with the software could connect with superusers and they could search for a use case that matched their situation.

Now, Arkema engineers have a combination of strategies to help make daily data-driven decisions.

"At the beginning, people thought that TrendMiner was only a tool for process engineers or maintenance guys. When they saw our TrendLab presentation, they saw that it was more than that, and we had more things to do with it."

NINA MAS SOLER
Technical Division Digital Officer at Arkema

OPTIMIZED PRODUCTION WITH A WIDE RANGE OF USE CASES

IMPROVED COLLABORATION AMONG SOFTWARE USERS

SHARED KNOWLEDGE THROUGHOUT THE ORGANIZATION

DEMOCRATIZED OPERATIONAL DATA ACROSS SITES

READ FULL SUCCESS STORY >>>

SUCCESS STORY

DISCOVER NOW

ON-TARGET GMP PRODUCTION WENT FROM 70% TO OVER 95%

Ashland™ always solving

Specialty chemical company Ashland makes pharmaceutical and personal care items at one of its sites. Production consistency is important to protect human life and meet stringent regulations.

By using TrendMiner, Ashland's on-target production of GMP products increased from 70% to 95%. In one case, engineers determined why a pump was causing bottlenecks. The process goes through both batch and continuous phases. During the continuous phase, the pump would fail and production would stop. Each hour lost translated to $2,000 to $3,000 in downtime costs.

By applying advanced industrial analytics to operational data collected through the company's AspenTech historian, engineers were able to determine the root cause and get production back on track.

"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."

JAN MEIRELEIRE
Engineering Manager
at Ashland

SOLVED PREVIOUSLY UNSOLVABLE PRODUCTION ISSUES

IMRPROVED ON-TARGET GMP PRODUCTION FROM 70% TO MORE THAN 95%

REDUCED THE TIME SPENT MANIPULATING OPERATIONAL DATA

ESTABLISHED A MONITORING SYSTEM FOR FUTURE ANOMALY ALERTS

READ FULL SUCCESS STORY >>>

SUCCESS STORY

LEARN MORE

IMPROVING POTATO STARCH QUALITY AND YIELD WITH OPERATIONAL DATA

Avebe, the top potato starch and protein company globally, wanted to digitalize its operations to remain an industry leader. It also was facing an aging workforce. After Avebe changed its ERP software to interface with a new manufacturing execution system, it also selected OSIsoft PI as its historian. Soon, it realized it also needed a partner to help them leverage the data locked inside the historian.

The company chose TrendMiner to be its partner for advanced industrial analytics. In one case, engineers used TrendMiner's similarity search to determine why a coagulator unit tripped 44 times during a three-month period. In just four hours, operational experts were able to reduce the tripping by 50% and eliminate an ongoing problem.

"They do not have to be a data scientist…we believe TrendMiner gives them more opportunities to grab more low-hanging fruit."

TOM WASSINK
IT Engineer at Avebe

OPTIMIZED PROCESSES TO REDUCE OPERATIONAL COSTS

IMPROVED OVERALL PRODUCT QUALITY AND INCREASED CAPACITY

ELIMINATED FREQUENT SHUTDOWNS IN PRODUCTION

INCREASED PRODUCT THROUGHPUT AND PRODUCTION YIELD

READ FULL SUCCESS STORY >>>

SUCCESS STORY

LET'S TALK

USING OPERATIONAL DATA TO INCREASE PRODUCTION BY 10%

Whipped cream might sound like a delight, but not when the material in a chemical reactor looks and acts like it. Engineers at a Bayer Crop Science plant struggled with a sticky mass that resembled the popular dessert topping when they added starting material to a reactor. Instead of processing correctly, it changed into a viscous phase.

Bayer had deployed TrendMiner in an AWS cloud environment that collected local, regional, and centralized process data from various historians. Using TrendMiner and its partner eschbach's software, io.performance, Bayer's operational experts learned the reason behind the anomaly. By ensuring that the starting material would have a consistent flow and not get too thick, they were able to increase production capacity by 10%.

"Using a reporting system that checks overall equipment efficiency, it was possible to identify the process step where the delays occurred. Then, using TrendMiner, a deeper analysis of this process step was carried out, and the reason for the problem was found."

MARITA BEYER-WEITKUS
Plant manager of Bayer AG's Crop Science plant in Dormagen, Germany

FOUND THE ROOT CAUSE OF A VISCOUS PHASE IN A CHEMICAL REACTOR

IMPROVED PRODUCTION TIME BY ADJUSTING PROCESS PARAMETERS

INCREASED THE REACTOR'S PRODUCTION CAPACITY BY 10%

PROVIDED GREATER ACCESS TO DATA BY STORING IN THE CLOUD

READ FULL SUCCESS STORY >>>

SUCCESS STORY

BOOK A DEMO

FINDING BENEFITS HIDING DEEP INSIDE OF OPERATIONAL DATA

CLARIANT

At Clariant, the company wanted to dig deep into operational data. Its chemical engineers realized early in their digitalization journey that advanced industrial analytics software could help them determine how and why process events occurred. Then, they decided they wanted to predict when these events might happen so they could intervene before they caused problems.

With TrendMiner, the company employed the use of machine learning through the software's integration with a Python notebooks environment. Clariant used machine learning models to establish soft sensors. Much like their digital counterparts, these sensors helped operational experts learn more about process behavior. The company then used them to establish more monitors and alert systems to detect and advise of process anomalies.

"With TrendMiner, we can decrease the amount of raw material and decrease the cycle time of batches. That was the main takeaway during our trial, and what really drove people to use it afterward. They could see with their own eyes that it is faster."

NIMET STERNEBERG
Data Scientist at Clariant

CREATED PRESCRIPTIONS TO CHANGE PROCESS BEHAVIOR

REDUCED THE CYCLE TIME OF BATCH PROCESSES

DEVELOPED MACHINE LEARNING MODELS TO ESTABLISH SOFT SENSORS

DECREASED THE AMOUNT OF RAW MATERIAL USED

READ FULL SUCCESS STORY >>>

SUCCESS STORY

TRY FOR FREE

REDUCING PROCESS DEVIATIONS POTENTIALLY SAVES $1M ANNUALLY

CP Kelco
A HUBER COMPANY

It's not every day that you can find a way to save $1 million, but that's exactly what happened when specialty hydrocolloids producer CP Kelco began to look more closely at improving process behavior. The company already had been collecting time-series data in its OSIsoft PI historian. As it grew in analytics maturity, its engineers wanted to get deeper insights.

The company turned to TrendMiner to apply advanced industrial analytics. CP Kelco engineers found they could reduce the use of raw materials, save energy through performance optimization efforts, and produce more efficiently with better control of quality. With improvements in place, the company is on track to save $1 million every year.

"TrendMiner had the functionality and usability that we needed. It's very menu-driven and simple for the engineers to pick it up."

"TrendMiner was a key support tool in identifying deviations within our process."

NORMAN RIDGLEY
Chief Digital Officer
at CP Kelco

REDUCED THE USE OF RAW MATERIALS WITH BETTER CONTROL

IMPROVED OPERATIONAL EFFICIENCY BY REDUCING PROCESS DEVIATIONS

PROMOTED ORGANIC GROWTH ACROSS SITES BY SHARING SUCCESSES

PERFROMED ROOT-CAUSE ANALYSIS WITHOUT COMPLEX DATA MODELING

READ FULL SUCCESS STORY >>>

SUCCESS STORY

START NOW

ACHIEVING NEW LEVELS OF SUSTAINABILITY MANAGEMENT

CURRENTA

In a highly regulated market environment, CURRENTA is challenged with transforming its chemical services offerings in a sustainable way. Safety is a top priority. The control systems of the different facilities play a crucial role in meeting this objective. To learn more about its own processes, including using operational data to improve safety, CURRENTA deployed TrendMiner.

Engineers used TrendMiner's pattern recognition technology to find the root cause of a creeping leak that the plant's control system could not detect. It caused wastewater to run slowly from a stacking tank into the treatment plant. Once they found the source, engineers created a monitor that sends alerts whenever it detects a new leak. This gives operational experts enough time to correct the issue before it becomes a problem.

"With the help of TrendMiner, we can detect deviations early and counteract them. That makes an important contribution to improving the sustainability of water treatment plants."

ANNE GRIGOLEIT
Plant Engineer at CURRENTA

FOUND A LEAK THAT HAD PREVIOUSLY GONE UNDETECTED

ELIMINATED DOWNTIME, AND REDUCED ENERGY-CONSUMING PROCESSES

ACHIEVED GREATER EFFICIENCY INSIDE THE PLANT

REDUCED COSTS THROUGHOUT PRODUCTION

READ FULL SUCCESS STORY >>>

SUCCESS STORY

START FREE TRIAL

POWERING INSIGHTS INTO CLEAN ENERGY EFFICIENCY

ENERJİSA
Türkiye'nin Enerjisi

Enerjisa Üretim has wind, hydroelectric, solar, natural gas, and lignite power plants. Clean energy is an essential part of its business, and the operational data these plants generate is critical to ensuring efficient performance. But plant managers were getting frustrated with the number of anomalies that they could not solve. They needed a solution that would help them further optimize their plants.

Within the first week of using TrendMiner, the company already had found four use cases for the advanced industrial analytics software. Engineers discovered the root cause of 12 anomalies, established a predictive maintenance schedule for axial shafts, and optimized pump performance.

"At Enerjisa Üretim, our new self-service data analytics tool has enabled us to go from data visualization to data interrogation across multiple systems and sources. Now plant engineers can set alarms triggered by efficiency tags. This is driving our corporate strategy to achieve operational excellence and meet sustainability targets."

EMIN SAHIN
Power Plants Performance Monitoring and Development Mentor, Enerjisa Üretim

ACHIEVED FOUR COMPELLING USE CASES IN LESS THAN A WEEK

ESTABLISHED A PREDICTIVE MAINTENANCE SCHEDULE FOR NECESSARY CLEANING

DETECTED 12 UNIDENTIFIED FAILURES

RAN FAST ROOT CAUSE ANALYSIS ON COMPLEX DATASETS

READ FULL SUCCESS STORY >>>

SUCCESS STORY

REQUEST A DEMO

FROM TRIBAL KNOWLEDGE TO DAILY DATA-DRIVEN DECISIONS

HUNTSMAN

Historically, Huntsman engineers used their experience rather than data-driven insights to analyze operational performance. They decided they needed a solution to help them make the most of their sensor-generated data. Plant managers also wanted an analytics partner that would fit within their management and standardization model to help encourage adoption.

With TrendMiner, Huntsman was able provide engineers with an advanced industrial analytics solution that could help them make data-driven decisions. Early in 2016, the company's teams used TrendMiner to build soft sensors on operating conditions to predict product quality for certain Isocyanates. Process experts also have used TrendMiner since 2018 to create fingerprints to check batch quality against specifications.

"TrendMiner provides us with 24-hour engineering support, so we are able to optimize processes and asset reliability and run our plants more stably … a more reliable and stabler site is a safer site."

JASPER RUTTEN
Advanced Analytics Manager and Global Excellence Team Member for Huntsman Polyurethanes

BECAME FULLY ANALYTICS ENABLED TO MAKE DATA-DRIVEN DECISIONS

ELIMINATED SILOS THAT PREVENTED ACCESS TO DATA

OPTIMIZED EACH PHASE OF THE DMAIC CYCLE FOR CONTINUOUS IMPROVEMENT

REDUCED OFF-SPEC BATCHES TO INCREASE PRODUCTION

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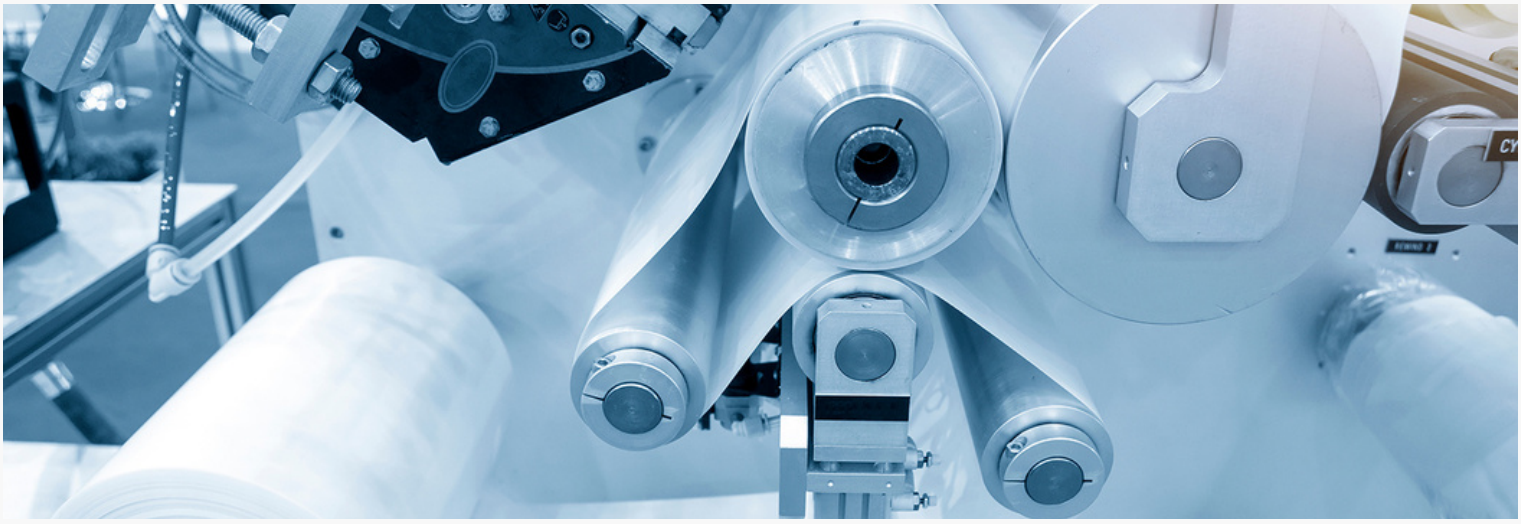
SUCCESS STORY

JOIN TODAY

ANALYZING YEARS OF PLANT DATA IN SECONDS

kuraray



Process experts at Kuraray struggled with spreadsheets that contained years of time-series data. After realizing the need to make its data analysis more efficient, Kuraray turned to TrendMiner for its advanced industrial analytics solution.

Kurary first launched TrendMiner at its Bayport plant in Texas. Engineers quickly embraced the ability to analyze data for themselves. The company used TrendMiner to perform root cause analysis, set up monitors and alerts, and predict the right time to perform maintenance. Because TrendMiner exceeded Kuraray's expectations, the company now uses the software to improve plant safety and mitigate environmental concerns.

"Effective communication is key for any industrial manufacturing process. And it plays a vital role in delivering a quality product to the customer. On the other hand, lack of communication causes many disruptions and problems."

SUKHPAL SINGH
Product Engineer at Kuraray America

CUT 14 HOURS FROM EACH START-UP BY SAVING THE BEST START-UP PROFILE

ADOPTED A PREDICTIVE MAINTENANCE SCHEDULE

USED MONITORS AND ALERTS FOR CHANGES IN PROCESS BEHAVIOR

ESTABLISHED A MORE HOLISTIC VIEW OF OPERATIONS

READ FULL SUCCESS STORY >>>

SUCCESS STORY

DISCOVER SOLUTION

CATCHING ANOMALIES EVEN WHEN DIGITAL READINGS APPEAR OK

LANXESS
Energizing Chemistry

LANXESS had been using TrendMiner for some time when it encountered an anomaly that it could not solve. The company had flooding issues with its field compressors. Because digital sensor readings appeared to be normal, they were unable to find a root cause or prevent it from occurring.

Engineers worked with data scientists in TrendMiner's MLHub to build an anomaly detection model. Despite the normal readings from digital sensors, these soft sensors notified personnel well in advance of flooding.

Since adopting TrendMiner, LANXESS has saved more than €1 million by eliminating data silos, giving engineers real-time access to data and analytics, establishing predictive maintenance schedules, optimizing energy efficiency, and identifying golden-batches.

"The use of data analytics tools in production is a clear business case. Tests with TrendMiner have proven this. With the successful roll-out, LANXESS is now leveraging the optimization potential throughout the Group"

JÖRG HELLWIG
Chief Digital Officer, LANXESS

- IDENTIFIED MULTIPLE USE CASES WITH UP TO SIX-FIGURE SAVINGS
- APPLIED MACHINE LEARNING TO SOLVE A TOUGH ANOMALY
- ENABLED QUICK DECISION-MAKING BASED ON UP-TO-DATE INSIGHTS
- IMPROVED CAPACITY USE AND EFFICIENCY ACROSS PLANTS

READ FULL SUCCESS STORY >>>

SUCCESS STORY

CLAIM YOUR FREE TRIAL

USING OPERATIONAL DATA TO SAVE $2.4M IN 4 HOURS

sitech services

Sitech already had been running some analysis on its time-series data. But when the Sitech Asset Health Center was founded, the company realized they needed a stronger solution to find insights in its operational data. Its mission was to predict the performance and conditions of its assets at all times.

The company chose TrendMiner to help them gain more value from sensor-generated data. Using TrendMiner, Sitech engineers were able to save $2.4 million by finding the root cause of carbon dioxide peaks during the process to make ammonia. In another case, the company scheduled timely maintenance to improve fouling of heat exchangers that were using different recipes for each product grade.

"I believe in working with data scientists, but the belief that Sitech achieves enormous results with self-service industrial analytics software is even stronger. Our pilot was a great success thanks to TrendMiner"

MARC PIJPERS
Principal Process Control Engineer at Sitech

COMPARED SIMILAR EVENTS FOR UNDESIRABLE PARAMETERS

IMPROVE PROCESS INSIGHTS WITH ROOT CAUSE ANALYSIS

CLEANED DATA TO CREATE RELEVANT SUSBSETS FOR ANALYSIS

ELIMINATED REPETITIVE TASKS BY USING NOTIFICATIONS

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SUCCESS STORY

UNLOCK THE POTENTIAL

ACCESSING OPERATIONAL DATA FROM ANYWHERE IN THE WORLD

'TORAY'
Innovation by Chemistry

Toray wanted to get rid of paper, so it invested in sensors to retrieve time-series data from its manufacturing processes. The company then determined it needed an advanced industrial analytics solution that would put data-driven insights in the hands of its operational experts.

To obtain data insights on a global scale, Toray chose TrendMiner. The advanced industrial analytics solution democratized data across the organization. Engineers soon learned that using TrendMiner was as easy off site as it was in the plant. The software's monitoring and alerts system allows them to stay up-to-date on production even when they cannot be at the plant. It also allowed engineers to perform their jobs in a safe environment instead of the hot and dangerous conditions of the field.

"I've seen the whole transition of where we started, using paper, and Excel, from where we were just typing numbers in to where we are now with TrendMiner. It's been a fun ride. I really support it, management supports it, Toray Industries supports it, and they are really looking to use all the data we collected."

DOUG BOWER
Principal Process Engineer at Toray Plastics

- CREATED DASHBOARDS FOR A QUICK VISUALIZATION OF OPERATIONAL PERFORMANCE
- IMPROVED THE QUALITY AND SAFETY OF THE OPERATION
- REDUCED ONBOARDING TIME WITH A FRIENDLY, INTUITIVE ENVIRONMENT
- FOUND THE ROOT CAUSE OF ANOMALIES QUICKLY

READ FULL SUCCESS STORY >>>

SUCCESS STORY

START DIGITAL TRANSFORMATION

TREND ANALYSIS GIVE BETTER QUALITY RESULTS THAN DATA MODELS

TotalEnergies

Like many companies, Total had been collecting operational data for years and the only solution it had to analyze the data was a spreadsheet. The company decided it needed a partner to help engineers derive greater insights from its manufacturing processes. After an extensive search of the analytics landscape, Total selected TrendMiner because of its seamless integration with existing assets, including its OSIsoft PI historian.

More than 80% of Total's process engineers found TrendMiner's software helpful just during its initial trial period. Since then, the company has used TrendMiner to create golden fingerprints, achieve faster root cause analysis, and gained greater understanding of influence factors on process behavior.

"TrendMiner is a user-friendly self-service analytics tool that provides us with tremendous time savings. This tool not only saves us time, it delivers better quality results than data models."

FABRICE LECLERCQ
Rotating Machinery Engineer a Total Energies

PERFORMED EXTENSIVE REAL-TIME SEARCHES TO PROCESS DATA

CREATED ANNOTATIONS FOR PATTERN RECOGNITION

SET UP ALERTS FOR DEVIATIONS FROM A GOLDEN FINGERPRINT

GOT A QUICK VISUAL ANALYSIS OF PROCESS BEHAVIOR

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CHOOSE YOUR PATH AND EMBARK ON A JOURNEY TO REDEFINE YOUR DATA-DRIVEN DECISIONS AS MANY HAVE DONE BEFORE!

START NOW

At Trendminer, we are dedicated to helping companies leverage the power of data to drive transformation and growth. We hope this document has given you new insights and ideas for how you can achieve your goals. If you have any questions or would like to learn more about our solutions, please don't hesitate to reach out. We look forward to working with you on your journey to success.

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