



CUSTOMER CASE STUDY

Votorantim Cimentos transforms operations in its first year with AVEVA

Votorantim Cimentos - www.votorantimcimentos.com
Industry - Construction materials

Goals

- Cut costs for corrective maintenance and maintenance (MRO) inventory
- Increase productivity through Predictive Maintenance
- Increase operational reliability and reduce downtime
- Achieve autonomous and automated scaling of solutions between plants

Challenges

- Need for rapid implementation and a user-friendly interface
- Creating a sense of ownership allowing for future scalability without relying on a supplier
- Meaningful return on investment
- Adapting to COVID-19 Scenario, with 100% remote deployment

AVEVA Solution

- AVEVA™ Predictive Analytics

Results

- 10% of reduction in recurring maintenance compared to previous years (see recurring maintenance chart)
- Savings of BRL16M per site, equivalent to US\$5.5M savings per site and a total of US\$88M savings in total
- Reliability boosted by 6%, achieving target values of 85.9% to 91.2%
- Reduced unplanned maintenance from 52% to 42% for global maintenance costs, achieving targets
- Implemented successful change management strategy, improving collaboration
- Improved asset transparency, enabling comparative analysis between plants and sharing of best practices
- Improved instrumentation quality

A new maintenance strategy

Votorantim Cimentos, a Brazilian company founded in 1933, has grown into an international business with a presence of 11 countries instead of 19: They are Argentina, Bolivia, Brazil, Uruguay (South America); Canada e United States (North America); Luxembourg and Spain (Europe); Turkey (Europe/Asia); Marocco e Tunisia (Africa). With a focus on construction materials, the Global company has a production capacity of 52.8 million tons of cement per year, with revenue of BRL 16.7 billion in 2020.

In 2018, Votorantim Cimentos put out a call for guidance on how to make its asset performance more transparent through condition-based maintenance and machine learning. The team selected AVEVA Predictive Analytics owing to the user-friendly interface that enabled the team to operate independently, ensuring that Votorantim had full control of its data at every stage of the optimization process.

“We selected AVEVA because of the quality of their software and the quality and experience of their team. We knew they had the capabilities we needed, but more importantly they had the knowledge and expertise to help us implement quickly and achieve ROI on the project within months. Now, our team has embraced digital ways of working we simply can’t imagine going back to the way we worked before.”

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Marcio Krasinski
Technical Board at Votorantim Cimentos

Gaining transparency and lowering maintenance costs

Votorantim Cimentos had three primary goals in selecting a new solution for predictive maintenance:

- Reducing the cost of maintenance, including lowering its inventory of maintenance, repair, and operations tools and decreasing expenses on emergency corrective maintenance

- Increasing productivity by reducing existing preventive routes and allowing more focus on specific equipment through complete diagnostics of AVEVA Predictive Analytics
- Increasing operational reliability through online monitoring of critical equipment, reducing downtime and improving measurable objectives

Naturally, the company also wanted to achieve this with a quick return on investment while maintaining autonomy over the systems being implemented. Once AVEVA completed its proof-of-concept phase, Votorantim Cimentos immediately saw that these goals were achievable, along with a rapid implementation.

“Using AVEVA predictive analytics we wanted to realize a vision of our next-generation plant operations, using data to shape our decision-making. Because AVEVA’s software is agnostic we were able to click in the systems within days, and see benefits within weeks, driving unparalleled optimizations that spanned our entire operations and our network of plants.”

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Fabio Eduardo Scarlassari
Global Maintenance General Manager at Votorantim Cimentos

The road to asset excellence

With AVEVA Predictive Analytics, the company was quickly on the road to achieving asset excellence through its predictive maintenance programs. By offering a single source of reliable data and information, AVEVA Predictive Analytics centralized management of corporate assets and implemented the machine-learning-based maintenance strategy Votorantim Cimentos was seeking.

Through predictive analytics, the company was able to overhaul its existing maintenance strategy and dramatically reduce maintenance-related costs while improving asset reliability, virtually eliminating the need to make emergency maintenance purchases. Votorantim Cimentos also gained the capability of comparing asset maturity across different sites and maintenance teams.



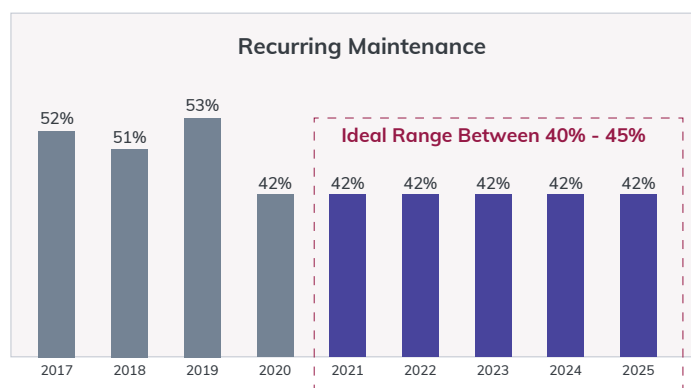
Significant savings and scalability

The implementation was quick and efficiently delivered by AVEVA's team. The plant operations team began to see benefits almost immediately.

Across six sites, predictive analysis-driven “catches” avoided BR\$23 million expenditure in corrective maintenance costs per site in the first year alone.

Total maintenance cost = Planned maintenance + Unplanned maintenance.

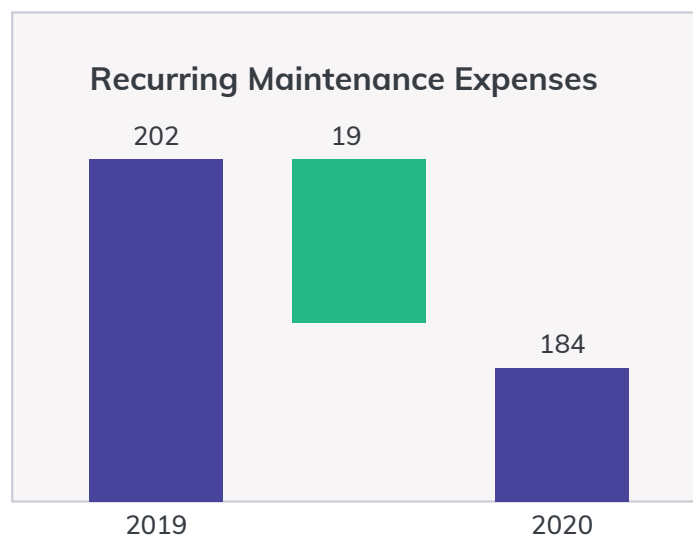
Unplanned maintenance costs achieved target values after AVEVA Predictive Analytics.



This helped to reduce maintenance costs by 10%, equivalent to BR\$19 million in savings, and also cut the plant's maintenance backlog. At the same time, with better data the team was able to drive a 6% improvement in asset reliability.

Maintenance backlog reduction

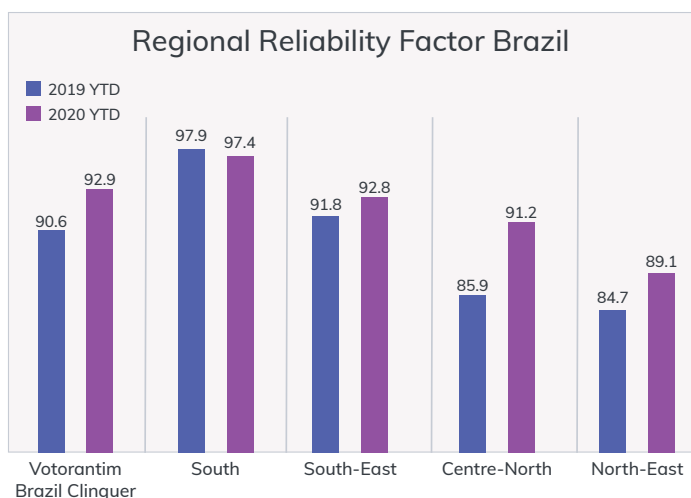
As time went on, AVEVA Predictive Analytics enabled teams not just to manage immediate maintenance needs but also to plan and scale their processes as needed, using the cloud to execute operations remotely which was an important consideration during the COVID-19 pandemic. In this way, the digital solutions also helped the team to manage and minimize operational risk and cut unscheduled downtime across the fleet of assets at a particularly critical time.



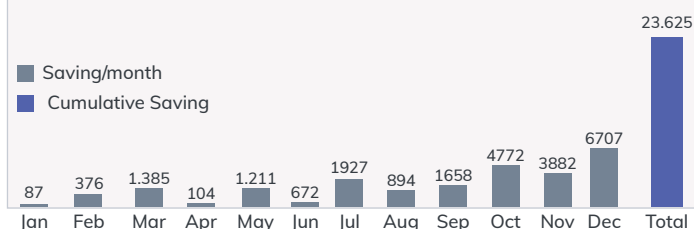


Avoided corrective maintenance cost per site

Digital transformation is about more than just software. At heart it is about change management and embracing new ways of working as part of a full connected worker vision. In parallel to the technology installation, Votorantim Cimentos' leadership led and successfully implemented a cultural change program to underpin the new digital maintenance strategy, promoting closer, more frequent collaboration across its maintenance workforce and standardizing best practices to boost safety and elevate performance across multiple sites using intelligent, data-led operating models.



Avoided costs at one of the 16 sites



"At heart, digital transformation is about people being able to embrace new ways of working and truly become data-led experts in all that they do. Working with AVEVA we were able to make that shift in our thinking and the benefits for our team have been truly transformational. We have elevated our performance and now we can operate with greater efficiency and operational agility than ever before."

- Fabio Eduardo Scarlassari

Global Maintenance General Manager, Votorantim Cimentos

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To learn more about AVEVA's solutions, please visit: [aveva.com](https://www.aveva.com)

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