CUSTOMER CASE STUDY

CEMEX builds enterprise intelligence with PI Integrator for business analytics

CEMEX - www.cemex.co.uk
Industry - Mining, metals, and materials

Goals

- Improve performance and visibility
- Integrate and analyze operations data to improve operational intelligence
- Add context to data for better reporting and analyses

Challenges

- Every plant used different equipment and practices
- No standard procedure in place to integrate and analyze operations data
- The data extraction process was slow, discouraging user participation

Results

- Standardized and contextualized data across plants
- Enabled users to perform their own analyses
- Reduced data extraction time from 740 hours to just one hour

Solutions

- AVEVA™ PI System™
- AVEVA™ Server

Twenty years ago, CEMEX started the process to achieve visibility throughout every one of its 70 plants in more than 50 countries around the world. However, the company faced major challenges: Each site had different equipment and varying practices, and there was no standard procedure for integrating and analyzing operations data. To achieve its goals of improving performance, reducing costs, and providing reliable data to decision-makers, CEMEX needed to find tools and processes that would enable more efficient, standardized, and comprehensive data practices. The company used AVEVA™ PI System™ to standardize its operations data and integrate data from across plants to achieve global visibility.

"We had plants, every one of them with different equipment, with different practices. We set out on the journey to begin standardizing the [data] infrastructure, defining standards, and standardizing the tag nomenclature."

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Rodrigo Quintero
Operations Model and Planning Manager, CEMEX

Cementing a foundation for better data

CEMEX's global technology department is integral in building new plants and expanding existing plants. The global technology department also sets and drives the technology agenda for cement operations and governance for some cement operations. "That means defining policies, procedures, systems, and tools for the different plants," said Rodrigo Quintero, Operations Model and Planning Manager at CEMEX. The department undertook a series of projects designed to support three principal goals for CEMEX operations: improve performance, reduce cost, and provide reliable data to decision-makers.

To reach these principal goals, the CEMEX technology department embarked on a three-phase plan to increase visibility, add context to data for reporting and analysis, and integrate and analyze operations data at scale to generate overall enterprise intelligence.

Standardization, context, and access

Cemex had long benefited from using AVEVA PI System. However, to achieve global visibility, the company signed an enterprise agreement. "To give you an idea, a regular [AVEVA] PI Server has 10,000 to 15,000 tags for each cement plant," said Quintero. "Multiply that by 70 sites. It is a lot of information that we manage. After a couple of years, we were able to have [AVEVA] PI [System] infrastructure across all of our cement plants, so we achieved global visibility. After we finished the global implementation, we stayed there for more than 10 or 15 years."

Once CEMEX standardized data in AVEVA PI System across its plants, it was critical for the company to add context to that data. Using an asset framework, CEMEX added context to the data to standardize data analysis, process analysis, and reporting across its plants. "We began using [an] asset framework three years ago with this new model," Quintero said, noting a significant improvement. Once the asset framework was in place, CEMEX achieved its goal of creating a standard practice for reporting information and how it was being analyzed.

Next, CEMEX needed to overcome another major challenge: ensuring employees were using available data. Quintero and his team began producing corporate benchmarks and consolidated reports. Soon, people wanted to know more information. "They say, 'How does this help?' and 'Can you cross-reference to this?' and 'How do we match this process data versus maintenance data versus quality data?'" Quintero said.

"By giving out reports and different dashboards, people are starting to ask more questions," Quintero added. "They want additional analysis, and they want additional data. We don't have the capabilities to serve 70 sites or the regional offices or country offices. That is where democratization of data comes in. We want people to be able to perform their own analysis given their own global access so they can start doing all of their different benchmarks. We want every end user to be able to produce their own. That is where we are trying to go here."

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> **Rodrigo Quintero**
> Operations Model and Planning Manager, CEMEX

Express data extraction

Even with centralized and contextualized data, employees were spending too much time and effort extracting and manipulating AVEVA PI System data for several business applications. This included data validation and merging AVEVA PI System data with CEMEX's enterprise resource planning systems.

For example, extracting information from all 70 production sites as part of the validation process took two months. "It was a lengthy and painful process," Quintero said. When Cemex was offered the opportunity to participate in beta testing of the PI Integrator for Business Analytics, "We jumped in immediately," he added.

Cemex saw results quickly. Before PI Integrator for Business Analytics, data extraction typically took 740 hours. After the company moved to PI Integrator for Business Analytics, employees could complete the extraction process in just one hour. Once CEMEX removed the complexity around data extraction, users were no longer afraid or discouraged by the process.

> "The tool itself is very intuitive to use – it is almost an out-of-the-box solution. Since it uses the asset framework structure, it is based on templates, so it is very easy to replicate and just very fast to get everything. It takes the complexity out of the equation."
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> **Rodrigo Quintero**
> Operations Model and Planning Manager, CEMEX

"In the end, you are shortening this continuous-improvement cycle because you have really fast information and you can validate your information really fast," Quintero said. "You don't have to wait one month or two months to get results from reports. Finally, CEMEX saw results outside of their corporate offices. People are starting conversations. We are tearing down all the barriers across different departments because everybody is looking at the same data – and they are sharing information and experiences."

For more information about AVEVA PI System, please **click here.**