

Customer Success

Lafarge Increases Quality While Reducing its Environmental Impact with Gensym

Company

Lafarge

Number of Employees

65,000

Industry

Manufacturing

Line of Business

Cement

Featured Product

G2 2011 Enterprise

Customer Website

www.lafarge.com/en

Present in 78 countries across the globe, Lafarge is a true international leader. The world's largest producer of building materials, Lafarge is specifically known as a mammoth force in the field of cement, maintaining 125 cement plants in 50 countries.

Lafarge is driven by the needs of its customers, shareholders, local communities and architects, but also firmly believes in leaving a lighter trace on the earth as it extracts such valuable resources. This is no easy feat, as cement production is quite an energy-intensive process. With a goal of upholding high product quality while reducing emissions, Lafarge is always searching for more efficient methods and processes.

Challenge

While cement manufacturing has been around for decades, it has never been a simple process. The severe operating conditions and intense energy consumption required have always created a need for significant human judgment and interaction. This is especially true for companies such as Lafarge that uphold high product quality while maintaining a focus on the environment. Automated process control has long been impossible, as sufficient sensor readings have not been trustworthy enough.

Enter the opportunity for a powerful expert system.

Expert systems are designed exactly for the types of processes that have challenged Lafarge for years. Simply put, they combine human expertise, which is captured in knowledge bases, with advanced control strategies. And lucky for Lafarge, Gensym has built an expert system environment specifically designed for such mission critical processes as cement production. With Gensym's G2, hundreds of cement plants are able to use technology to safely and efficiently monitor such a challenging, continuous process while upholding high product and environmental standards.



“As the world’s largest producer of cement, process automation and control is critical for efficiency and safety. We have been partnering with Gensym for over 25 years to build and deploy robust control applications that automate process knowledge into real-time execution. **We continue to create significant value at each of our plants using Gensym’s powerful G2 Expert System Platform.**”

— Goran Martincevic, Lafarge
Senior Automation/Process Engineer



Solution

Now recognizing the need for a robust expert system, Lafarge turned to Gensym’s G2, the world’s leading expert system development platform. Lafarge has been working with its Gensym G2-based solution for so long that the company has given her a name - LUCIE. Already successfully implemented in roughly 35 cement plants, Lafarge is in the process of rolling out LUCIE to all plants and plant lines in 125 worldwide locations. This long term, corporate partnership is not uncommon for Gensym, and is becoming even more prevalent with the company’s G2 2011 release.

LUCIE has an important role in the cement production process. She automates the raw mills, pre-heaters, precalciner kilns, coolers and the cement mills. She ensures that certain ingredients are measured precisely, mixed in a specific manner, and heated at exact temperatures – producing optimum quality cement at the lowest possible cost and minimal energy consumption and emissions. LUCIE knows what to do thanks to advanced process models running complex statistical strategies. These models combine with an intelligent approach that includes reasoning models and fuzzy logic. Gensym’s G2 is the only solution that can take all of this data from research.

Results

With LUCIE in so many locations and expanding throughout Lafarge, the company is working with expert systems to do exactly what they were designed to do – in this case, to efficiently and expertly run the cement plants so that product quality remains at its highest while energy consumption and related emissions are reduced by 5%. For such a superpower in the cement industry, 5% truly adds up.

Beyond these large energy savings, Lafarge has seen several additional positive results from LUCIE. Product quality variability has been dramatically reduced, and process deviations as a whole have been cut by 50%. Ball mill performance has improved by 5% and equipment life has been extended. LUCIE has been ensuring 95% uptime, while offering the security and uniform procedures that are leading to the commissioning of new plants and knowledge. As well, Lafarge personnel have been freed from this once resource-intensive process to work on other key production tasks.

Learn More

To find out more about how Gensym’s G2 can help you operate better, contact an account representative today at success@gensym.com

