

Global Building Materials Leader Saint-Gobain Finds Effortless Energy Savings with AI-Powered Energy Storage

For over 350 years, Saint-Gobain has operated as one of the world's largest building materials companies and manufacturers of innovative material solutions. Originally founded in France during the reign of Louis XIV, the Group is present in 67 countries with more than 179,000 team members, of which more than 15,000 employees support in North America, generating approximately \$6.1 billion in sales for 2017.

In Garden Grove, California, Saint-Gobain maintains a 230,000 square foot manufacturing plastics plant that crafts critical sealing and polymer parts for high-performance aerospace and space rocket technology as part of their Seals business. The plant is full of energy-intensive equipment, including injection molders, conveyor systems, semiconductors, and chillers.

Operating six days a week, Saint-Gobain's energy bills add up to become a topline expense, especially with summer demand spikes from heat waves and wildfires. By identifying opportunities for optimization within its energy infrastructure, Saint-Gobain gains access to new cash flows that can be leveraged for key strategic initiatives.

A culture of innovation and sustainability led Saint-Gobain to Stem's energy storage service powered by Athena, the world's first artificial intelligence (AI) for energy storage. Athena learns energy usage patterns and then manages grid reliance automatically, activating the battery system before costly demand spikes occur. All of this happens without interrupting operations, requiring no capital outlay from Saint-Gobain while generating new cash flows.

Location

Garden Grove, California

Building Type

Manufacturing Facility

Activation Date

July 2018

System Size

500 kW / 1,000 kWh

Applications

Generate new cash flows and support sustainability goals

Year 1 Annual Savings

\$20,800

10-year**Estimated Savings**

\$284,260



"Stem's artificial intelligence, backed by long project development experience, is in line with the innovative technology spirit that we celebrate at Saint-Gobain, which helps us adapt to changing electricity rates and markets."

Ryan Spies

Director of Energy, Sustainability and Stewardship at Saint-Gobain





Achieving energy flexibility without disrupting operations

“We’re always trying to make things more efficient,” explained Eduardo Martinez, Facilities and Production Manager at the Garden Grove site. This includes converting to LEDs, and other energy efficiency measures throughout the plant. Despite such upgrades, operating heavy machinery throughout the plant creates excessive heat that’s expensive to control. “We run the chillers most of the time, so we’re consuming a lot of energy,” said Martinez.

Adding to that, equipment startup at the beginning of shifts can create huge demand spikes. “We try to start equipment in sequence to avoid demand spikes,” said Martinez, “but it’s always a challenge—everyone arrives at the same time.”

With strict production demands to meet, the business can’t afford to restructure operations just to manage time-of-use charges on the plant’s energy bill, making Stem’s service a perfect fit for their needs.

Powered by Athena’s superintelligence, Stem’s energy storage system calculates the plant’s rate structure, energy consumption, and other factors to optimize automatic deployment of stored energy, reducing grid demand and shielding Saint-Gobain from unnecessary costs.

While Athena keeps Saint-Gobain’s energy bills in check, Martinez and his operations team are able to focus on what matters most: keeping the plant running smoothly.

Supporting community sustainability

Saint-Gobain’s tradition of community support runs deep, from extensive training and development programs for their employees to direct grants given to community organizations in the neighborhoods where Saint-Gobain operates. Stem’s AI-powered energy storage system was a perfect fit as it allowed the Garden Grove plant

to join the world’s largest energy storage network that complemented their continual environmental and safety objectives.

When signaled by the grid, Stem’s network of storage systems responds to provide instantaneous grid relief. This delivers extra revenue to Saint-Gobain, and allows the grid to reduce reliance on expensive, high-polluting forms of emergency energy, like gas-fired power plants. With Stem, Saint-Gobain can offer Southern California Edison much needed support during times of extreme strain, such as record-breaking heat or devastating wildfires.

Optimizing usage through insights and support

With such a wide range of energy-intensive equipment, Saint-Gobain needed a way to adjust their energy consumption in real-time and maximize their operational efficiency.

“The good thing about the smart system is that I don’t even notice when it’s working. It helps us eliminate those peaks—we can see the data and the thousand of dollars of savings—but there’s literally no problem at all on the floor.”

Eduardo Martinez

Facilities and Production Manager at Saint-Gobain

With Athena, Saint-Gobain not only automatically saves on its operation costs but also its facilities team now gains deeper insight into the plant’s energy use more than ever before. With a real-time view into the plant’s consumption and demand, Martinez and his team are able to shift the plant’s energy use in a more practical way.

Stem’s team of energy experts also gives Martinez and his team new avenues to better manage energy use at the plant. “Everyone has been very professional and interested in our needs—we know who to contact to get an answer within 24 hours,” he said. “We’re very satisfied with the service.”

About Stem

Stem pairs artificial intelligence with energy storage to help organizations manage expenses, reduce risk, and support sustainability goals. As the market leader in real-time energy optimization, Stem has created new cash flows for hundreds of customers, including many Fortune 500 enterprises. Athena by Stem is the first AI for energy storage.