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DESIGNERS
Ex Machina
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Ambiances Design
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PROJECT
Aurora Borealis

**Quebec City,
Quebec**

“It used to be a beauty in terms of engineering, but it’s not a beauty of architecture.”

Urban Canvas

A group of artists and designers paint an outside industrial building in Quebec City with light.



To help beautify its old port, Quebec City didn't try to hide the 81 unsightly concrete silos that stand 98 feet high and nearly 2,000 feet wide in a grain terminal along the St. Lawrence River. Instead, it decided to make them the center of attention. Since the end of last October, city residents have been enjoying a nightly ambient light show that transforms the silos into a shifting wash of blue, yellow, green, and red. Designed by Robert Lepage and his performing-arts group, Ex Machina, with the lighting firm Ambiances, the Aurora Borealis installation is a digital re-creation of the elusive northern lights.

“It’s a key point in Quebec City in many ways,” Michel Bernatchez, a producer with Ex Machina, says of the site. “It was the junction for the railroads that came all the way from western Canada and the boats that were going all the way to Europe.” The silos, built in 1913 and operated by Bunge of Canada, may no longer be the progressive economic symbol they once were, but they remain an important grain depot. “It used to be a beauty when they first built it, in terms of engineering, but it’s not a beauty of architecture,” says Martin Gagnon, the principal designer at Ambiances. “There’s a park along the water with a view of the building, and the city was interested in creating a nicer environment for people.”

In celebration of Quebec City’s 400th anniversary in 2008, the city government decided to transform the concrete shell. Initially, it commissioned Ex Machina to create a temporary show of projected images and sound. Named the Image Mill, the presentation drew thousands of viewers to the waterfront

every night. When asked to continue the program for five more summers, Ex Machina lobbied officials to make the silos a year-round attraction. Aurora Borealis now illuminates the structure from dusk to 11:30 p.m., all year long.

Because the silos are still operational, lighting them was challenging. “When it’s very dry and hot, it’s a potentially explosive environment,” Gagnon says. To minimize the chance of an accident, the designers attached 574 color-changing LED spotlights, which don’t emit much heat, to the tops and bottoms of the silos. One thousand dimmable white LEDs, each two inches square, were installed in the crevices between the silos to create a starlight effect. A computer program automatically changes color shifts and dimming with every performance, so no two evenings are alike. “It took over 500 hours of programming,” Gagnon says. “We wanted it to look natural, where people wouldn’t see patterns. There are layers and layers of effects stacked on top of each other.”

The team readily admits that although it spent months studying the science behind the real northern lights, its creation only roughly approximates the phenomenon. “It’s a challenge to mimic nature,” Gagnon says. That’s especially true when your canvas is an industrial-age dinosaur. ■

To beautify Bunge of Canada’s silos, which dominate the old port in Quebec City, Ex Machina bathed them in colors inspired by the northern lights.

The silos hold U.S. and Canadian grain that is headed to the Atlantic coast, the Mediterranean, and the Middle East.

