

Application Story

Québec 400th Anniversary



The Image Mill (Le Moulin à Images) took more than two years to create and is believed to be the world's longest video projection display.

The Image Mill brings 400 years of Québec history to life

Throughout 2008, Québec City is hosting international events that relate to its history and culture. From June 20 to August 24, 2008, the Image Mill – a sound and image spectacular created by Robert Lepage and Ex Machina with E/T/C Paris – provided a visual display of the history of Québec during the summer festivities. The Image Mill recounted the history of the city with what is believed to be the world's longest video projection display.

Each evening at sundown, on the banks of the Bassin Louise in Québec's Old Port, 81 Bunge company grain silos were transformed into an immense projection screen – the ultimate in widescreen viewing. The Image Mill was visible from many vantage points, including across the St. Lawrence River.

Patrice Bouqueniaux, E/T/C's sales and marketing director commented, "E/T/C is proud to participate in such a ground breaking event. Associating the flexibility of Onlyview® and the reliability of Christie has certainly helped us to achieve such a great technical feat".

Robert Lepage's vision was to share the story of Québec City, which he calls "the best kept secret in North America", with the world. He wanted everyone to remember the different views of the city, the people who built it and the challenges of building the city while keeping its culture and heritage. He wanted to share its hidden treasures and show the beauty of the natural environment that surrounds the city and sought to accomplish this through imagery and sound.

This project took E/T/C and Ex Machina more than two years to create and was part of Lepage's four-part vision of Québec's history. Lepage believed that the river was such an important part of living in the city and he knew that he wanted to use the river as the main location of his production – but the grain silos were blocking the landscape.

Client:

Ex Machina with the Society of the 400 anniversary

Industry/Market:

Events and large venues

Partner:

E/T/C Paris

Summary:

The Image Mill (Le Moulin à Images) – a sound and image spectacular created by Robert Lepage and Ex Machina – was created to provide a visual display of the history of Québec during the festivities marking the 400th anniversary of Québec City, the birthplace of French civilization in North America and a UNESCO World Heritage site.

The Solution:

- 27 Roadster S+20K projectors in portrait orientation to reach full height of the silos
- E/T/C's Onlyview® software
- Local radio station to broadcast the supporting audio
- Existing buildings and custom towers were used as platforms for the projectors
- A second control room was installed on the other side of the Port to adjust for the main control being located directly in front of the silos
- Kilometers of network and fibre optic cable to run between projectors, as well as the control rooms

"The Image Mill is a magnificent gift from Robert Lepage to his city – an event that thousands of people will enjoy night after night during this summer. They will discover the history of Québec City through Lepage's eyes and famous creativity, which is a real privilege."

Luci Tremblay, director of communications for the Society of the 400 anniversary.

Since removing them would be too difficult and expensive, Lepage had to find a creative solution. To work with the silos meant that they would need to become transparent, but also move with the fluidity of the projected images to create the illusion of movement and life.



The Château Frontenac overlooks the Image Mill.

The Challenge

The challenges encountered by the design and engineering teams included:

- Size of projection surface – the grain silos are 0.4mi (2/3 km/657.0 m) long by 108ft (33.0 m) high
- Amount of equipment - 27 projectors using several kilometers of cabling to create the network
- Display quality - the images varied between flat and round, and included movement on the uneven concrete surface
- Number of locations that the images could be viewed (ie. across the St. Lawrence River)
- Coordination of the programming, blending, transmission and broadcast of the images, animations, videos and sound during the 40-minute show – every night
- Image brightness - explosive flour powder in the silos dictated that the equipment be a distance away from the structure
- Keystone, brightness, clarity of images needed to be considered because of the size of the projection surface
- Obstructions – trees, buildings, hydro wires and poles – needed to be considered in order to provide clear, blended images and compensate for shadows
- Outdoor environment – weather (rain, fog, and summer temperatures) and other environmental issues that would affect the equipment and clarity of the images
- Main control room was directly in front of the silos so the entire projection surface could not be seen. A second control station was built on the other side of the Port

The Performance

To accomplish the feat, E/T/C Paris installed 27 Christie Roadster S+20K projectors to create a continuous image across the silos and around one side of the structure. E/T/C's Onlyview, a multimedia control platform, managed the programming, transmission and broadcasting of more than 400 images, animations and videos in the 40-minute show, as well as handle the synchronization of the soundtrack which was broadcasted on a local radio station.

The spectacular imagery and sounds of the Image Mill showcased the history and culture of Québec every evening for 10 weeks. It will be remembered by everyone as a stunning work of art and made possible by state-of-the-art technology.

The Result:

The project, which was more than two years in the making, is believed to be the world's longest projected image.

- The projection surface was 0.4mi (2/3 km/657.0 m) long by 108ft (33.0 m) high (approximately 40 million pixels)
- Superb brightness and image definition
- Visible from many vantage points, including across the St. Lawrence River
- Images, video and animations were the focus, the grain silos became transparent during the 40-minute production

The Product:

Christie Roadster S+20K projectors

- 20,000 ANSI lumens
- 3-chip DLP® technology
- SXGA+ 1400 x 1050 resolution
- 1800:1 contrast ratio enabling highly enhanced image detail, with blacker blacks and whiter whites
- 10-bit image processing providing broader color spectrum and wider input signal compatibility
- Built-in stacking and rigging
- Xenon Bubble lamp system providing photo-realistic color with the ability to edge-blend and tile images
- ChristieNET™ networking



Existing buildings and custom towers were used as platforms for the 27 Christie Roadster S+20K projectors.

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