



CLIENT

Carnegie Museums of Pittsburgh are four museums that are operated by the Carnegie Institute headquartered in the Carnegie Institute complex in the Oakland neighborhood of Pittsburgh, Pennsylvania.

CHALLENGE

The Innovation Studio of Carnegie Museums wanted to create a physical interactive installation on the museum's public plaza and main entrance.

SOLUTION

The museum installed two Evolution-12 cameras back-to-back to produce a picture of the entire plaza outside the museum, using custom stitching to bring the images together into a 360-degree sphere that would be projected within the interior.

RESULTS

The museum created a work of art, giving visitors the ability to see themselves in the clock and experience their participation in this current moment and has been a huge success with the public.

At the Innovation Studio for the four Carnegie Museums of Pittsburgh, Director Jeffrey Inscho and Creative Technologist Caroline Record are tasked with making the experience of the museums welcoming to the public, focusing on the technology, building Web and mobile applications, spearheading physical interactions and engaging the public. In 2016 the Innovation Studio created a new initiative called The Light Clock.

The Light Clock concept was part of an initiative called LIGHTTIME that investigates photography as it relates to both light and time. As part of the LIGHTTIME initiative, the Innovation Studio wanted to create a physical interactive installation on the museum's public plaza and main entrance. In December 2015, the Innovation Studio developed the concept of the Light Clock. The installation is comprised of two components:

1. The clock itself, which stands in the plaza outside of the Carnegie Museum of Art. Sitting on top of the clock is a camera that captures a 360-degree image every five minutes of the museum plaza. It does this 24/7, for 15 months, and all of the images taken are sent inside the museum.
2. The second component of the installation is an interactive visualization, where the photos are used to provide an interactive experience with the art. Visitors walk up to the display, which consists of three 70-inch monitors positioned in a semi-circle. There is a camera above the display that senses the movement and triggers the display to react as the person physically spins their body to control their point-of-view and the length of time.

To accomplish the initiative, however, the Innovation Studio needed a camera that would take images as close as possible to 360 degrees. Other requirements included: full sphere of imagery, weatherproof

enclosure, wired network connection and external power, such as power over Ethernet (PoE). The display, according to the Innovation Studio Web site, "blurs the lines between art object, gallery interpretation, marketing strategy and museum technology."

"After months of searching for existing products, nothing met what we wanted to do," Record said. She found the Oncam Evolution-12 360-degree camera online and decided to contact the company to see what they could do. Oncam worked with the Innovation Studio to "invent" a rig that would work for the museum's purpose. The museum installed two Evolution-12 cameras back-to-back to produce a picture of the entire plaza outside the museum, using custom stitching to bring the images together into a 360-degree sphere that would be projected within the interior.

"Fairly early on, I realized that IP security cameras might work the best for this project because they are already designed to function outside, are remotely controllable and have external power," Record said.

Record said the quality of video captured on the Oncam technology is exceptional, and the museum is pushing the limits of what the cameras can do. "We're blowing these up on full-size monitors, and the image is still clear and visually appealing," she said. "From what I saw in other cameras, the edges were a problem, but Oncam's cameras didn't have that problem. The black form factors are also aesthetically appealing, and fit our design plan well."

"Oncam was great to work with and open to all of our questions," Record said. "I confused a lot of camera manufacturers with our technical questions, but the Oncam team remained a great resource and extremely supportive throughout the process."

The installation will be up in the Carnegie Museum of Art throughout 2017. Click for more information [here](#).

