

Axis promotes green efforts on the harbor.

Healthy Harbor Initiative streams river clean-up with unique tool and engaged audience.



Organization:
Waterfront Partnership
of Baltimore

Location:
Baltimore, Maryland, USA

Application:
Live streaming, process
monitoring

Axis partner:
Skyline Technology
Solutions

Mission

Since construction of the original Water Wheel along Baltimore's Inner Harbor, the Healthy Harbor Initiative has seen strong support from the public for its efforts to clean up the Chesapeake Bay in Maryland. A large machine that operates on solar and hydro power to collect garbage from the local river, Mr. Trash Wheel has become a staple talking point around town. Because the device operates optimally during heavy storm conditions when the water flow is strong, the Healthy Harbor Initiative set out to give remote viewership of the action taking place.

Solution

Axis partner Skyline Technology Solutions assisted the Healthy Harbor Initiative in implementing an outdoor-ready and vandal-resistant AXIS P3384-VE Network Camera aboard the Water Wheel. The team pulls the stream back to its data center to then distribute on the Wheel's website for viewers to live stream 24/7.

Result

Reaction to the camera stream has been overwhelmingly positive. Not only has the Axis camera withstood strong weather conditions including being completely submerged underwater without losing power or connection, it has drummed up interest for fundraising and led to the construction of a second Wheel at another point on the river. Fans of the project capture unique objects coming through each day, and Mr. Trash Wheel has become a big hit across social media thanks to the images from its camera.

“It has been amazing to see the river overtake the camera, which is typically five feet above the water. It goes completely underwater with objects flying by, and the camera continues to live stream through the entire event. It has gone through extreme weather conditions and performed very well.”

Adam Lindquist, Director, Healthy Harbor Initiative.

Cleaning up the bay

The Inner Harbor Water Wheel, otherwise known as Mr. Trash Wheel, is a large mechanical device nestled on the water in Baltimore's Inner Harbor for the purpose of collecting trash as it flows downstream into the river. The technology developed by Clearwater Mills harnesses the power of water and sunlight through hydro and solar power to collect debris flowing down the local Jones Falls River.

Mr. Trash Wheel, in essence, is a large piece of machinery that uses natural energy sources to pick up trash as it flows by. Maintained by the Waterfront Partnership of Baltimore, Mr. Trash Wheel has seen incredible results since its initial deployment and also has drawn a sizable following across social media platforms. The Healthy Harbor Initiative designed eyeballs to be attached to the floating device, thus giving it a personality for followers and passersby.

The Healthy Harbor Initiative called on local Axis partner Skyline Technology Solutions to integrate a live streaming camera onboard the Water Wheel in order to capture any action that comes through. The team selected an AXIS P3384-VE Network Camera to give a steady and high definition image while simultaneously being able to withstand the weather conditions faced out on the water.

The live stream from the camera is sent directly to Skyline's data center where the video is transcoded and then released to the Water Wheel website. Consequently, site visitors pull data from the data center rather than creating a heavy load of traffic on the camera connection.

Camera down the stream

Though the camera stream operates 24/7, the images captured during a storm show Mr. Trash Wheel at its best as rubbish is driven downstream by rain, allowing operators and viewers to watch when the machinery is working at its peak. These images can be shared across the web where people can see the full scope of what is occurring.

Despite the outdoor conditions being very well known at the onset of the project, Skyline used only a basic enclosure for AXIS P3384-VE as it comes out-of-the-box already IP66- and NEMA 4X-rated.

“The Axis camera has performed really well,” remarked Adam Lindquist, Director of the Healthy Harbor Initiative. “We’ve been hit with some pretty major floods and there is footage of the river swelling so fast and high. It has been amazing to see the river overtake the camera, which is typically five feet above the water. It goes completely underwater with objects flying by, and the camera continues to live stream through the entire event. It has gone through extreme weather conditions and performed very well.”

From the integration side, Skyline, well aware of the extreme weather conditions, purposefully selected the Axis camera.

“We knew the install was unique, so we needed a very reliable camera,” noted Aaron Kahn, Business Developer for Skyline Technology Solutions.

Promoting green efforts

Lindquist and his team see this effort as a major proof of concept for the Water Wheel project and believes the camera has played a major role in fundraising, leading to a second wheel on another part of the bay and the acceleration of sales for Clearwater Mills globally.

“The time lapses are great because in just three minutes they show the wheel picking up trash over a six hour period, so people can effectively see just how much stuff is collected,” Lindquist added. “The wheel is cool to look at but seeing the videos coming from it turns people into believers that it is actually doing a needed job.”

The Healthy Harbor Initiative finds oddities pop up now and then on Mr. Trash Wheel; over the last year, observers have spotted the wheel collecting a live python, a guitar and a hula hoop on separate occasions.



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