

## All hands on deck with Axis.

Great Lakes Maritime Academy uses live video from Axis cameras to train merchant marines.



**Organization:**

Great Lakes Maritime Academy

**Location:**

Traverse City, MI, USA

**Industry segment:**

Education

**Application:**

Remote training, safety and security

**Axis partners:**

ROK Systems, Milestone

### Mission

While its simulation exercises had put the Great Lakes Maritime Academy at the forefront of merchant marine training, school officials felt that providing cadets with real-time information about conditions on the Great Lakes would help them more quickly master the complex skills needed to sail these complicated waterways. The Academy began searching for an innovative solution that would integrate live video footage of constantly changing weather patterns, water conditions and river environments into its unique, hands-on Coast Guard licensing program.

### Solution

The Academy approached ROK Systems, an integrated security and process monitoring provider and Axis partner, to devise a solution that would augment extensive lab and classroom time with real-time learning opportunities.

ROK installed four Axis HDTV-quality network cameras aboard the Academy's training ship to gather live video data as the ship is underway. The cameras are managed by a Milestone XProtect® video management system that can be accessed by students while at sea and onshore in classrooms and labs.

### Result

Unlike a flight simulator used to train pilots and astronauts, the network camera system provides cadets with live information about the waterways they are sailing to help them learn how to safely navigate and dock their ship. When in port, the cameras double as a security system to protect the \$40 million training vessel from intruders.



In the past, the Academy instructors used still images and simulation systems in the classroom to provide students with snapshots of conditions on the Great Lakes waterways. But constantly changing factors such as weather, river channels and hazards required constant updating of those images and simulations to maintain relevancy for learning. "We've been on the forefront of simulation systems since the early 1970s," explained John Berck, Director of Enrollment Management for Great Lakes Maritime Academy. "But to continue growing and developing as an educational facility we were looking for new ideas that could help us improve our real-life learning environment."

## Charting the course with network video

ROK Systems installed a ruggedized network video system aboard the Academy's training vessel that would help trainers and cadets gather real-time visual data about current conditions on the waterways. "To capture the level of detailed required, we needed network cameras that could deliver HDTV-quality images and be able to withstand the harsh environment of a ship at sea," said Scott Kohsel, Premise Sales Manager, ROK Systems. "An Axis-Milestone solution was ideally suited on both counts."

Compounding the challenge, strict maritime regulations dictated where ROK was allowed to drill holes or add technology to the ship. "To ensure accurate vision from the cameras, we also had to consider wiring and whatever current technology the ship already had in place," explained Chris DeYoung, account executive, ROK Systems. To help with the camera wiring, ROK partnered with Feyen-Zylstra, a premier structured cable provider.

ROK installed four AXIS P1346-E Network Cameras to capture 1080p HDTV-quality images. The three megapixel cameras support an automatic day/night feature to compensate for the extreme variances in lighting conditions aboard the ship throughout the day. The precise iris technology enables the camera's sensor to take in just the right amount of light and create a detailed depth of field whether a storm is on the horizon or the sun is high in the sky. Because the cameras use Power over Ethernet, a single cable both powers the camera and transmits video.

The remote focus feature allows installers and trainers to fine-tune the focus remotely from a computer instead of climbing the rigging to manipulate the image quality – a feat that would have been especially challenging when the ship was underway.

### Cinéma vérité in maritime training

Trainers primarily use the Axis cameras to chronicle the waterways of the Great Lakes during the Academy's annual training cruise. Being able to watch and record the entire transit – including three primary river systems – gives cadets a realistic view of the different approaches, specific channel topography, lighthouses, buoys and other challenges they need to understand to navigate safely. The expanded viewpoints, coupled with enhanced two-way audio, also provide information to the ship's engineers in the control room as they make their approach to the dock.

Because the new network camera system is pre-programmed before the ship sets sail, trainers and students no longer have to use handheld cameras to gather visual data while underway. According to John Berck, this means that cadets get to spend more time in real-time ship exercises and classroom training with up-to-the-minute, hands-on data.



### Protecting the maritime security zone

"While security of our dock wasn't initially a concern, we quickly realized that we could leverage the Axis cameras for more than just video recording and data gathering," recalled Berck. When the training ship is docked, the Academy repurposes the cameras to monitor the harbor area.

"One of our goals is to keep wandering cadets and civilians away from the maritime security zone when our \$40 million training vessel is in port," explained Berck. "In a harbor you're vulnerable to different types of risks and need to be prepared. Based on the functional placement of the cameras on the ships, they're able to monitor the entire gangway area while docked."

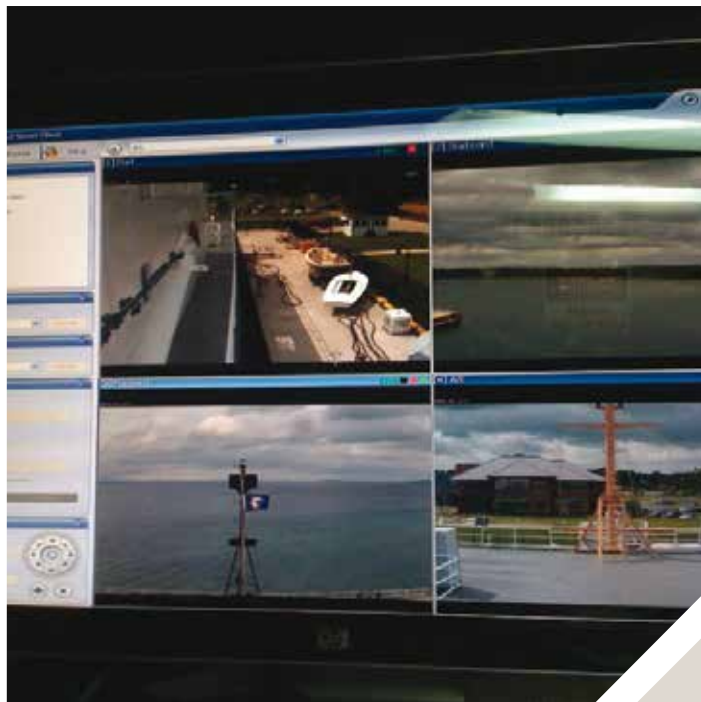
Because of the system's intelligent features such as motion detection with Milestone XProtect software, audio detection and a camera tampering alarm, harbor staff can be alerted automatically to any potential security breach.

### Training a new generation of technically savvy cadets

"As technology changes in today's world, we want – and ultimately need – to keep up and cater to this changing generation of students," said Berck. "We pride ourselves on being on the forefront of maritime education as this is what continues to make our program so appealing to future merchant marine officers. With our new IP camera system from Axis, we're showing our students and faculty and the entire maritime industry what educational innovation is truly all about."

**"The live HDTV-quality images we get from the Axis cameras truly raise the standards for maritime training. It's one of the things that makes our program so appealing to future merchant marine officers."**

John Berck, Director of Enrollment Management, Great Lakes Maritime Academy.



# About Axis Communications

Axis offers intelligent security solutions that enable a smarter, safer world. As the global market leader in network video, Axis is driving the industry by continually launching innovative network products based on an open platform – delivering high value to its customers and carried through a global partner network. Axis has long-term relationships with partners and provides them with knowledge and ground-breaking network products in existing and new markets.

Axis has more than 1,600 dedicated employees in more than 40 countries around the world, supported by a network of over 65,000 partners across 179 countries. Founded in 1984, Axis is a Sweden-based company listed on NASDAQ OMX Stockholm under the ticker AXIS.

For more information about Axis, please visit our website [www.axis.com](http://www.axis.com).