

## Case Study: SUNY Maritime College

# Samsung Video Wall Displays Help Bring Tugboat Simulation Center to Life



## Overview

### Customer Need

The State University of New York (SUNY) Maritime College wanted to build the only ship simulation center in the United States that would recreate the experience of working on a tugboat and barge. Other simulation centers provided general training to navigate ships, but they lacked the unique settings of a tugboat and barge bridge. SUNY Maritime needed a display solution that would create a lifelike 360-degree view from a tugboat bridge that could simulate weather and sea conditions at some of the country's busiest ports.

### Samsung Solution

SUNY Maritime partnered with Kongsberg Maritime to create a highly realistic tugboat bridge using its Sea View simulation technology and Samsung ultra-narrow bezel video wall displays. They worked with Electric Picture to stack the 55-inch displays in a seamless, virtual window with a 270-degree arc on the bow. In the stern, 65-inch displays were placed to serve as a back window for the cabin. Together, they provide a 360-degree virtual view from the cabin.

### Results

The new SUNY Maritime tugboat simulation center enables students to confidently train for almost any location or weather condition. Just like aircraft flight simulators, the tugboat simulation center prepares students for high-risk tugboat operations by providing near-real experiences at a fraction of the cost. With the Samsung displays and Kongsberg technology, SUNY Maritime has created one of the most realistic tugboat and barge simulators in the world.

**SAMSUNG**



The State University of New York (SUNY) Maritime College is the oldest maritime college in the United States. The four-year college with over 1,800 students is located at the historic Fort Schuyler, a 169-year-old granite fort in Throggs Neck, New York, surrounded by New York's East River.

Maritime College prepares students for careers in the global maritime industry through undergraduate and graduate studies in engineering, maritime studies, global maritime business, security and supply chain management, and environmental science. Nearly 100 percent of graduates from SUNY Maritime are employed within three months of graduation.

As part of the school's tug and barge training curriculum, future tugboat captains train at the Bouchard Transportation Tug & Barge Simulation Center. The simulation center provides students with hands-on experience operating tugboats in a variety of weather and traffic conditions in some of the world's busiest ports.

## The Customer Need: A Realistic View from the Bridge

In the United States, more than 6,000 tugboats and 25,000 barges help cargo ships and freighters deliver their valuable contents safely to port. Drivers of these vessels encounter severe and unpredictable weather conditions, in addition to fluctuating sea and river levels. A simple navigational error can lead to millions of dollars in cargo and ship damages, lost time and even casualties.

That's why it's important for SUNY Maritime students to have hands-on training driving these vessels in a controlled and simulated environment. For years, SUNY Maritime College trained students in general ship simulation centers. However, these simulation centers lacked the unique settings of a tug barge and harbor assist evolutions.

SUNY needed a state-of-the-art simulation center for students to train for the complexities and variables involved in operating tug and barges in all kinds of weather and port conditions. Bouchard Transportation, a tug and barge company in New York State also wanted to raise the professional capabilities of its employees. Together, they set out to build the industry's only simulation center dedicated to tug and barge operations and Articulated Tug Barge operations.

"The Bouchard Simulation Center provides a unique and realistic training platform for seasoned towing officers and the growing number of cadets at Maritime choosing careers in the towing industry," says SUNY Maritime Captain Eric Johansson.

"Bouchard funded this unique simulation center so that upon graduation, students could be well educated, trained and ready to operate tugboats and barges in any situation. We wanted our students to feel as if they were on a tug right here so that when they get on a real one, they'll be ready," Johansson says.

To bring this new simulation center to life, SUNY needed a cutting edge simulation program paired with a video wall of high-definition displays that could recreate in vivid detail the 360-degree view from a tugboat deck.

Because the simulation center would be built inside a small portion of the 169-year-old Fort Schuyler, space was limited. The displays would also have to be designed in a way that could be conjoined seamlessly to create the illusion of large bay windows from the bridge deck.

# The Samsung Solution: Lifelike Tug Simulation Center with Samsung Displays

After a competitive review, SUNY selected Kongsberg Maritime's Sea View simulation technology and Samsung LED-lit video wall displays to create the Bouchard Transportation Tug & Barge Simulation Center.

The center offers full mission bridge simulators, instruction stations, and a de-briefing area where instructors can discuss topics including navigation, seamanship and bridge resource management skills.

Kongsberg worked with Electric Picture in Melbourne, Fla. to integrate nearly 40 Samsung displays on the bow and stern of the simulation center. Electric Picture engineered the arrangement to stack 55-inch UD Series video wall displays vertically in pairs to form a 270-degree arc at the bow.

The front displays sit behind a floor stand of window frames to allow the pilot to look up and down from the bridge at the simulation rendered on the screens. The ultra-narrow bezel width of the displays enables them to be combined into a seamless wall.

The displays are factory-tuned for color uniformity and can be daisy chained with four displays over one port to achieve 4K x 2K resolution. Two 65-inch Smart Signage displays are

placed on the stern to serve as a back window for the cabin, providing a full 360-degree view from the bridge.

"It's a fantastic arrangement of displays," says Herb Taylor, Kongsberg vice president of operations. "The way they are set up really resembles the front and aft view an operator has on a tug bridge. It's very realistic because the displays are not in your face, they're outside the window frames showing what would normally be seen outside a tugboat window, whether it's a ship in tow, heavy seas or a busy port."

To enhance the simulation, visuals are matched with the sounds of the ship, water and weather through a quadraphonic sound system. When pilots throttle the engine, they hear the actual sounds of a tugboat engine. Wind, rain and thunderstorms are also paired through the sound system and displays to give the pilot a real sensation of navigating the tugboat through a storm and choppy waters.

"The software, audio and displays all work together to add to the realism of any scenario," Taylor says. "The quality and sharpness of the Samsung displays help bring it all together. Anyone who takes a run in the simulator thinks they're in the wheelhouse of a real tugboat."

## SAMSUNG COMMERCIAL DISPLAY PORTFOLIO

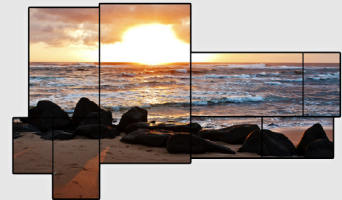
Broad portfolio of smart commercial displays from 10" to 98", featuring energy efficient LED backlighting technology.

## SMART SIGNAGE DISPLAYS



High definition displays featuring Samsung's system-on-chip processor, eliminating need for external media player. Select models feature built-in Wi-Fi.

## VIDEOWALL DISPLAYS



Ultra-thin bezels for virtually seamless videowalls. Achieve UHD resolution when you daisy chain multiple displays through Display Port 1.2.

See full line up of Samsung Commercial Displays here:  
[samsung.com/smartsignage](http://samsung.com/smartsignage)



## The Results:

# Tugboat Simulator Charts Course for Others to Follow

To assess the new simulator's capabilities, SUNY Maritime invited Bouchard's leading tugboat captain to take it out for a spin. Captain Johansson said the feedback was astounding.

"One of the best tugboat captains in the industry told us he was awestruck by the realistic and detailed capabilities of this simulation center," he says. "He found the experience was about as realistic as anyone could imagine. The Samsung displays and Kongsberg simulation software sets us apart from other simulators and their ability to articulate functional tug barge simulations. It's head over heels better than any other simulator."

The Kongsberg Sea View software and Samsung displays enable students to virtually experience any location or weather condition. If a student is participating in a session centered in

the Mississippi River in New Orleans, each display seamlessly connects to show a single image that the students would see if they were actually in that location.

"It's all seamlessly connected so the buildings are connected, the water lines are connected and the target vessels appear real and complete. There's no disconnection as you look across the horizon," Johansson says.

The Samsung displays enable students to experience weather, traffic and other operational variables. The simulator can factor in snowstorms, rains, heavy seas, and water levels while the displays present a clear, crisp and lifelike view from the perspective of a tugboat captain at work.

"Samsung displays really are a big part of the virtual environment we've created," Taylor says. "It's about the

wheelhouse being just like a tug and having controls mirror the real tug controls. The software we have for the visual and dynamic modeling all come together with the Samsung displays that are configured to provide students with a 360-degree view of their virtual environment."

"The Samsung displays and Kongsberg software sets us apart from other simulators and their ability to articulate functional tug barge simulations. It's head over heels better than any other simulator."

– Capt. Eric Johansson  
SUNY Maritime



Learn more: [samsung.com/digitalsignage](https://samsung.com/digitalsignage) | [insights.samsung.com](https://insights.samsung.com) | 1-866-SAM4BIZ

Follow us: [youtube.com/samsungbizusa](https://www.youtube.com/samsungbizusa) | [@SamsungBizUSA](https://twitter.com/SamsungBizUSA)

©2016 Samsung Electronics America, Inc. All rights reserved. Samsung is a registered trademark of Samsung Electronics Co., Ltd. All products, logos and brand names are trademarks or registered trademarks of their respective companies. Screen images simulated. This case study is for informational purposes only. Samsung makes no warranties, express or implied, in this case study.

CASEST-GAL-SUNY-MAY16L

**SAMSUNG**