



# Ontario Tech University creates virtual reality simulations with MuxLab AV over IP solutions

## Success Story



*Sigma Innovation Lab teams with companies to utilize student creativity to simulate real-world solutions in a technologically rich environment*

**T** enhanced student learning environment within the Sigma Innovation Lab at Ontario Tech University is live with an immersive digital experience that taps into virtual and augmented reality to empower students at a given time. The Lab's objective is to provide a digital methodology in which outside companies team up with undergraduate and graduate students/student teams to solve "next step" real world business (technical) challenges.

Armed with 12 75-inch Samsung displays that can be individually operated or combined to deliver AV in various video wall configurations, students learn to tackle conceptual solutions and present them in a legitimate laboratory environment. Students learn to exercise and improve their ability for creative thinking, "quick" sharing of developments and in so doing, develop expertise in using digital platforms to envision solutions, which can result in employment opportunities for them.

The Sigma Innovation Lab was created with 12 MuxLab 4K Video Wall over IP transmitters and receivers that distribute 4K video resolutions around the lab routed through two LAN switches with stacking cables. The displays can be assigned to students individually or routed in 3x3 or 2x2 video wall configurations for more immersive presentations. To enable mobility and access

to the system from one controlled Android tablet, a MuxLab ProDigital Network Controller was installed. Thorvin Electronics, a MuxLab distributor, teamed up on the project and created a custom Tap to Wall Control software that works with the Controller. This system gives students complete control of all connected equipment riding on the IP network.

Ontario-based HDTV and Electronics installed the system. Mark Williamson, HDTV and Electronics AV Manager, analyzed the University's needs and recommended MuxLab for the project. He says, "MuxLab's 4K AV over IP products came highly recommended due to their reliability in the field, their ease of set-up and use, plus MuxLab's reputation for providing continuous support throughout the entire installation process."

The Sigma Innovation Lab technicians knew they wanted to install a streamlined system with control software that would be able to handle the various project demands. Robert Ulrich and Callan Brown (laboratory technicians) selected MuxLab due to the Tap to Wall software and the ease it worked with the MuxLab system. "It gives access to any screen from our lab controlled android tablet, and the solutions' ability to enable video wall configurations or straight to screen distributions."

Ontario Tech University's Dean and Professor of Energy

Systems and Nuclear Science, Akira Tokuhira, explained that *“future applications were to include conference and video calls with other students on our campus and at different Universities/industries for collaboration purposes on joint projects. We will continue to expand and explore utilization of the Lab to enhance experiential learning.”*

Today, the Sigma Innovation Lab provides both industrial virtual reality environment in conjunction with simulated

working conditions, project challenges and potential outcomes with considerations of conceptual lower risk methods of testing and creating real-world solutions. For example, the Lab might address whether, *“VR can be used in radiation training in nuclear plant maintenance”*. The Lab provides a safe space in which ideas can incubate to determine scenarios, options, trade-offs and eventually direction, and students can be engaged in digital simulations to meet realistic challenges.



#### EQUIPMENT USED

12 - 500759-TX 4K Transmitters  
12 - 500759-RX 4K Receivers  
12 - 75" 4K Samsung Displays

1 - 500920 16-port rackmount transceiver chassis  
1 - Control Tap to Wall Customized Tablet App  
1 - 500811 network-controller

**About MuxLab:** MuxLab is a leading designer of value-added connectivity solutions for the pro AV and broadcast markets. Since 1984, MuxLab has supported its main mission to provide customers with innovative, dependable and industry leading designs that are engineered in Canada. A forerunner of the AV over IP evolution, MuxLab continues to deliver comprehensive, game changing IP-enabled systems for both commercial and residential installations of all shapes and sizes.

**About Sigma Innovation Lab:** The Sigma Innovation Lab is a multi-purpose teaching and experimental learning facility in a technology enriched environment. The lab features Virtual and Augmented Reality plus diverse collaboration, data visualization and hands-on learning with new and ongoing multi-disciplinary projects. The goal of the lab is to engage students from first year through fourth, graduates and industry partners to give students an opportunity to learn on all levels. This on-campus experimental learning space with industry focus, reinforces in-class learning that is different from co-op and internships. The lab is an innovation access point for industry and subject matter experts which help students “incubate” solutions at conceptual phase with low risk but potentially high impact.



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